# A Lengthy Sentence: Judging the Prolixity of the Novels 

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## Genesis

The beginnings of this project lay in reading, and reacting to, the work of Gottskálk Jensson on Petronius (Jensson 2002 and 2004). On his view, which I find overwhelmingly convincing, Petronius based the Satyrica on a lost Greek predecessor. If that was the case, then was there some way of detecting more about this evidently remarkable text? Such texts had after all existed sufficiently for Peter Parsons to speak of the Iolaos fragment (fr. 21 López Martínez) as coming from 'a Greek Satyricon'. Overall, the fragments of unknown Greek novels are not actually very numerous: there are 48 papyrus fragments altogether in López Martínez 1998, they are unnumbered but no more numerous in Stephens \& Winkler 1995, and less numerous again in Kussl 1991. In the excellent Leuven database of ancient books, ${ }^{1}$ a search by genre for 'novel' discovers 91 references, but 25 are from surviving works. ${ }^{2}$ They descend rapidly from recognised and recognisable novels to scraps from narrative that might possibly be novel. It is hard to believe that any of them contain anything from the Satyrica, though the Asklepios fragment, if a sarcastic portrayal of a devotee like Petronius' Lichas, has very much the right character. ${ }^{3}$

[^0]This is not to deny the existence of 'Ps-Enkolpios'. The volume of wholly lost work from antiquity should not be underrated, as I have argued elsewhere - in connection with citations of authors which have been judged bogus amongst fragmentary Greek historians (Schwindelautoren). ${ }^{4}$ But it does mean that we are not, by ordinary means, going to learn much more than Jensson has already excavated from the text of Petronius.

This led me to wonder whether perhaps the rhythm and style of the original had left its mark on Petronius' own text, a supposition which might at first sight seem implausible given the apparent gulf between Apuleius and the Onos, which on Jensson's hypothesis is a parallel case. ${ }^{5}$ Nevertheless, to help answer this question, I developed a tool for measuring what I will term the 'prolixity' of authors, one which quickly had an interest well beyond the speculative issue - the nature of Ps-Enkolpios - from which I had started. The tool itself is very simple in concept, maybe far too simple, but it does process huge volumes of text and raise new, interesting questions. In what follows the reader will find an unusual number of suggestions and hypotheses. They cannot all be valid, and few of them can count as definitive, but I hope it will be agreed that they are challenging and deserve consideration.

## Numbers

I have started with publicly available Latin texts and, for Greek texts, with the $T L G$ CD-ROM (with the kind permission of Maria Pantelia) and considered the question of the length, in words, of sentences, on which more below. This has involved the following stages:

1. The writing of a program (despite some limitations, in Microsoft Visual Basic 6) to convert the TLG texts to plain, unmarked-up, chapter num-ber-free, Unicode.
2. The writing of a further program to parse the Unicode (or Latin) text file by sentence, and write a Microsoft Excel worksheet to hold in each row (a) the sequential number of the sentence, (b) a formula for the word count of the sentence, (c) the sentence itself. In addition the Excel worksheet is set to Unicode and the average word count per sentence for that text is generated. This needs some manual intervention to deal with un-

[^1]anticipated effects (ellipses counting as sentences; speaker names counting as words ...).
3. Programming Excel to generate from these worksheets:

- a set of statistics for each text, giving the percentage of sentences that have a given number of words between 1 and 250; I give an extract from this table as Appendix 2 below.
- a choice of graph based on the statistics, some of which I reproduce here.
In this process a sentence is defined by heavy punctuation - a full stop, a colon, a semi-colon, a question mark, or rarely an exclamation mark. This may seem a choice of editors and therefore liable to lead to inconsistency, but in fact in Greek the use of particles underpins these choices rather more than one might imagine. There are some problems caused around the practically parenthetical use of $\varepsilon \not \subset \eta$ ('he said') and it is a real question whether a sentence can actually be announced by кai ('And'). For the most part I have taken the view that, given the volume of text, these considerations become part of the 'noise' rather than a serious problem. But it is interesting to note that on these principles the longest sentence of Xenophon of Ephesos, some 84 words long, is not caused by syntactic complexity but by free-flow Kal's:








And, then, throwing all his gear into a big Ephesian ship, he put out to sea with Anthia, and being glad to have completed the voyage in only a few days he put in at Rhodes while it was still night and there found accommodation with an old lady by name Althaia near the sea, and both took Anthia to the landlady and himself he rested for that night but on the next day was already pressing on with the business of the voyage, but there was a magnificent festival being celebrated publicly which the Rhodians perform in honour of the Sun and there was procession and sacrifice and a mass of citizens en fête.

There is a sort of acceleration towards closure visible in the momentum of this sentence, a technique worth observation. And the recognition of its 'sentencehood' does in fact assist us to make this observation. But there is admittedly an underlying difficulty of knowing when to judge the start of sentences in this stylistic environment (should the previous 'sentence' have been included too?), which is relinquished by this method to editors.

What, then, might we reasonably hope to discover by this measure? Internally, for any one author, we are able to see a pattern of choices and distributions - we will see this, in the case of Apuleius, at the end of this article. But the more immediate interest lies in the comparison between authors, the only way in which distributions can be understood and accounted for. One author may be more 'mannered' than another. One may choose a more expansive, Asianic, style. Also, perhaps to an extent that neither authors nor we ourselves have been conscious, tastes within a genre, the stylistic attributes of the genre itself, change over time and, to the extent that such change may be regarded as constant over a period, the tool can be used to support, or at least cast light on, dating hypotheses. From this last point of view, I have constructed a further set of figures in order experimentally to sequence authors, from which I give extracts in the course of this article.

I should, however, underline that my aim here is to raise questions, make suggestions, not to declare some hard and fast 'scientific' method.

## Contrasts

## 1. Extremes

Instinctively we know that Chariton is not Heliodoros: the one stylistically simple, the other complex and luxurious. This recognised contrast is reflected in the figures and it will help to start by seeing precisely how it is reflected, in order to know how to use the figures in less clear cases.

Chariton presents an awesome peak: sentences of 6 words constitute $7 \%$ of his sentences. He then falls away fairly steeply: after 29 words, no sentence length will ever again constitute more than $0.5 \%$ of all sentences (with Heliodoros, you must reach 49 words first - with an exception at 59 words $=$ $0.501 \%$ ). These two patterns need to be visualised: early, Himalayan, peak, with fast decline; and a more restrained mountain range, a sort of gradually declining sierra. The Himalayan pattern is the simpler, whether through 'true' simplicity or through mannered restraint. The panoramic decline is the luxuriant, developed model.


## 2. Languages meet

What happens if we compare the graphs of Greek authors with Latin? Should we expect a correlation? On the face of it, it would be very odd to expect the sentence patterns of the speakers of one language to correspond with those of another. Yet within a common cultural area, with a prevalence of bilingualism, one language can undergo a certain amount of assimilation to another. Vocabulary - the part lovingly detailed in histories of the Romance languages, in lists of words borrowed from Greek - is only the obvious part. The situation of Latin and Greek is actually one where one might expect linguistic convergence, i.e. assimilation of structures - of which sen-tence-length in artistic prose might well be part. ${ }^{6}$ Something similar can be seen in the influence of Greek rhythms on Latin poetry, observed in a linguistic context by G. Devoto, ${ }^{7}$ something which may well reflect the influence of Greek rhythm overall on the Latin language. It is a small step from here to discussion of the rise of the Latin periodic sentence and its symbiosis with Greek artistic prolixity.

[^2]Thus it is perhaps not so absurd to suppose that the Satyrica of Petronius might display a prolixity, or lack of it, comparable with that of Ps.-Enkolpios if he existed, and of comparable Greek narratives if he did not. In the case of Apuleius, it is true that the impression created by the Metamorphoses is very dissimilar to the more jaunty nature of the Onos, and that their registers are often appreciably different, though maybe we exaggerate them in accordance with our literary perceptions. But prolixity is possibly a more subconscious thing, more a matter of the era and overall genre in which they were composed. With a view to these questions I present a second chart, measuring Chariton and Petronius against Apuleius and the Onos:


It is clear from this chart that Petronius and Chariton are a pair and that Apuleius and the Onos are a pair. The former pair is Himalayan, the second more panoramic, if not so panoramic as Heliodoros. Chariton in some sense 'goes with' Petronius, and the usual view is that they are chronologically reasonably close. Apuleius and the Onos are closely comparable and themselves are surely also chronologically close. The spikes on the graph of the Onos are due to the shortness of the text, where a longer one might have smoothed the graph. But the trend is unmistakeable. There would therefore seem to be a prima facie case that whether a text is in Greek or Latin does not greatly affect these statistics. Indeed, the comparability of Onos and Metamorphoses suggests that the fuller Greek Metamorphoses of 'Loukios of Patrai' might not have been so different, and that Jensson's predecessor of Petronius,
surely a nearly contemporary text, might have been simply a slightly snappier version of Chariton in this respect.

## 3. Dating questions

We have, then, three levels of prolixity: (1) Petronius-Chariton, (2) Apu-leius-Onos, and (3) Heliodoros, in that order. This corresponds to their chronology and there appears in general to be a progressive increase in the use of lengthy sentences. However, it is worth stating some of the grounds for caution at this point. First, the increase may not be uniform. Second, length of sentence is not absolute at any one time: individual authors may by stylistic predilection defy the 'normal' drift in length; and finally in a case such as the novel, authors may not see their work with the same generic eyes that we do or that other 'novelists' did. So, if we discover that the graph of Apuleius' Metamorphoses, Heliodoros and Julian's Orations shows Julian a bit closer to Apuleius than we might expect, we should allow for the rhetorical genre of Julian's work.


Both exhibit a certain lift in the $9-15$ word range, a range maybe helpful for the attention of audiences. Julian is, however, restrained somewhat by his era in this range, in comparison to Apuleius, and settles into the pattern of lengthier sentences that allies him with Heliodoros. This is reflected in these statistics:

$$
\begin{array}{lcccc} 
& \text { Chariton } & \text { Apuleius, Golden Ass } & \text { Julian, Orationes } & \text { Heliodoros } \\
\hline \text { median (words) } & 11 & 16 & 18 & 19 \\
\text { average (words) } & 12.30 & 19.02 & 23.21 & 23.92
\end{array}
$$

## 4. The dating of Xenophon of Ephesos



If we can somehow use these statistics to help us with dating authors, then it should be possible to gain some sense of the position of Xenophon of Ephesus relative to Chariton and Apuleius. The graph does indeed position Xenophon between the two of them. The initial peak is lower than Chariton's; they then all cross over at a similar proportion (just over 4\%) for 15 words per sentence; and finally, ironing out the peaks, Xenophon's declines at a rate midway between Apuleius and Chariton. So far, this confirms what most scholars now think. ${ }^{8}$ But can we gain any more precise sense from the figures to guide us on where Chariton and Xenophon fall relative to Petronius and Apuleius?

Assuming Petronius is Nero's Petronius, then he wrote the Satyricon by AD 66 and presumably over a significant period of time, given its original length. ${ }^{9}$ Chariton is, as we have seen above, of comparable antiquity to Petronius, but the figures do not align exactly. If we take as our measures the

[^3]average sentence-length in words and the median sentence-length, they come out like this:

|  | Petronius | Chariton | Xenophon | Apuleius, Golden Ass |
| :--- | :---: | :---: | :---: | :---: |
| median (words) | 9 | 11 | 14 | 16 |
| average (words) | 10.79 | 12.30 | 15.95 | 19.02 |

This can only lead to one of three conclusions. (1) These statistics do not help dating. (2) Chariton is rather later than Petronius and the reference in Persius 1.134 is to be discounted. (3) There is some stylistic peculiarity of one of these texts, maybe Petronius, that affects the figures. Turning to Apuleius, I have argued (Dowden 1994) that the date of Apuleius' Golden Ass is around AD 155, but the usual view is that it is late - and perhaps AD 170 represents that view adequately. If we take account of these variables and assume a relatively even progression in sentence-length between the times of Petronius and Apuleius, the following tables result (based on the average and the median respectively):

| Date of Chariton | Apuleius is 155 | Apuleius is 170 |
| :--- | :---: | :---: |
| Petronius writes 'normally' | $82-91$ | $84-95$ |
| Petronius writes with studied <br> brevity, Chariton a little earlier | eg 58-61 | eg 57-61 |
|  |  |  |
| Date of Xenophon | Apuleius is 155 | Apuleius is 170 |
| Petronius writes 'normally' | $121-129$ | $131-140$ |
| Petronius writes with studied | $111-118$ | $118-126$ |
| brevity, Chariton a little earlier |  |  |

Like everything else in this discussion, these figures are indicative rather than rock-solid. But what they deliver in the case of Xenophon is support for a conventional dating, during or after Trajan's reign and after the possible introduction then of the office of Eirenarch (Ephesiaka 2.9.5, 2.13.3), shaky argument though that is (Bowie 2002, 57). In the case of Chariton, it is only by taking a very 'silver' view of Petronius - and adjusting Petronius' statistics to reflect the view that he is artificially less prolix than might have been expected - that we can avoid Chariton heading towards the times of Domitian. This may not be the Hadrianic date favoured by some, ${ }^{10}$ but it is head-

[^4]ing that way and coincides with the view presented on the basis of the analysis of vocabulary by Consuelo Ruiz-Montero. ${ }^{11}$

## 5. Problems concerning the dating of Achilles, and Longus

|  | Petronius | Chariton | Xenophon | Achilles | Longus | Apuleius |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| median (words) | 9 | 11 | 14 | 10 | 12 | 16 |
| average (words) | 10.79 | 12.30 | 15.95 | 12.08 | 14.82 | 19.02 |

If we now look at the 'sophistic novelists', Longus emerges from this table as significantly later than Achilles Tatius, as is generally thought. But it is impossible, surely, to believe that both antedated Xenophon. The reason for these statistics is clearly their sententious, sophistic style, which has driven down the indicators I am working with in this discussion. $7.99 \%$ of Achilles' sentences, roughly one in twelve, have 6 words; over half his sentences have between 4 and 11. This is the flavour of Achilles:

You seem to me, he said, to be raging with incurable madness.

So they stood making no noise behind the doors.

Do not think that I am a slave, Thersandros!
$\pi \alpha \lambda \alpha ı o ̀ v \gamma \alpha ̀ \rho$ हैp $\omega \tau \alpha \mu \alpha \rho \alpha i ́ v \varepsilon ı v \varepsilon ́ o \varsigma ~ ह ै \rho \omega \varsigma ~(6.17 .4) ~$
New love makes old love wither away.

Anger and love are two torches.
غ̇ү⿳亠 $\mu \varepsilon ́ v ~ \sigma \varepsilon ~ \kappa \alpha i ̀ ~ \pi \varepsilon \pi о \rho v \varepsilon v ิ \sigma \theta \alpha ı ~ \delta о к \widehat{~(6.20 .2) ~}$
I think you have even prostituted yourself.
Longus peaks at 10-11 words per sentence (see Appendix 2) and a typical Longan sentence is more like this:

The table quickly became empty of bread and meat.
 દ̇б $\tau \varepsilon \varphi \alpha-v \omega \mu \varepsilon ́ v o l ~(3.11 .1)$

[^5]And making preliminary offering to Dionysos from the mixing-bowl, they ate, their heads wreathed with ivy.

And they [the flowers], nourished by the West wind and warmed by the sun, had just come out.
弓оviєऽ' (3.12.4)
They made preliminary offering of syrinx music, as though challenging the nightingales in music.
 (3.13.2)

And each [goat] kept their own [wives] and watched to see no-one succeeded in adultery with theirs.

Deciding then to enjoy himself with her in the usual way, he left the wood.

But in both cases the sort of allowance that I suggested above might be made for Petronius' predilections clearly does in fact have to be made here. Otherwise the graphs would make Achilles and Chariton contemporaries. Making an arbitrary, but substantial, allowance - and the same one - for Achilles and Longus, and at the same time applying the adjustment to Petronius that was attempted in earlier tables, the dates then come out:

| Date of | Apuleius is 155 | Apuleius is 170 |
| :--- | :---: | :---: |
| Achilles Tatius | $127-136$ | $137-148$ |
| Longus | $167-174$ | $183-192$ |

The extent of the adjustments made is, as I have said, arbitrary and these dates should certainly not be relied on, given the sequence of assumptions on which they rest. However, it is very hard to apply an adjustment to Longus sufficiently less than the adjustment applied to Achilles to result in an earlier date for him than for Achilles. And you need a savage adjustment of Achilles and a special combination of assumptions (Apuleius late, Petronius unadjusted) to get Achilles much into the second half of the second century. ${ }^{12}$

[^6]I have also attempted to give some consideration to the Ninos Romance and to Iamblichos's Babyloniaka. Both of these, however, are too problematic. Ninos is hard to punctuate, too fragmentary, and of short scope (around 150 sentences). There is also too little of Iamblichos (103 sentences). For comparison, there are 2804 sentences in Apuleius, 1040 in Xenophon, 2839 in Chariton, 3192 in Heliodoros, and even 2479 in Petronius. For what it is worth, on the basis of what we have, Iamblichos' average sentence length (see Appendix 2) comes between Achilles and Longus, and he seems, on other grounds, to date to the 170 s or 180 s . ${ }^{13}$

## 6. The shape of Apuleius' Metamorphoses

The smaller the sample, then, the less useful the data collected and in this sense a single book of Apuleius's Metamorphoses would clearly not be representative of the whole. At the same time, however, the prolixity of the individual books relative to each other may be a factor worth considering for our understanding of the shape and nature of the composition.


The dip in the middle is clearly caused by the special register of Cupid and Psyche. Otherwise, the work proceeds in two crescendi, displaying in these statistics the pattern I argued to be present by a quite different approach, comparison of the structure with that of Plato's Symposium (Dowden

[^7]2006, esp. 53). A first half accelerates towards Cupid and Psyche; meanwhile a second half begins (with Charite) and grimly rises to the tenth book and the transition to the eleventh. The particularly low level of the first two books might possibly be related to the closeness with which Apuleius is at this stage following the Metamorphoses of 'Lucius of Patrai' and, though the register of Cupid and Psyche is a magical feature of this text, that register may also owe something to a lost Greek predecessor, for all we know, 'Aristophontes' of Athens (Fulgentius, Mitologiae 3.6). ${ }^{14}$ The eleventh book is distinctly prolix, as we might imagine, given its independence, closural role and Apuleian verve. But the tenth book is slightly more so and Maaike Zimmerman rightly underlines its special significance in the novel and for the novel (GCA 2000, e.g. 5, 15-16).

## 7. Chronology, and the evolving genre

Why should sentence length be a criterion for dating? If it is a criterion for dating within a genre, why should it not apply regardless of genre? Yet Chariton, maybe around AD 95, has an average sentence-length of 12.30 words, while his apparent contemporary Plutarch has an average of around 20.9 in his Moralia, and, a figure beyond Heliodoros, 24.4 in his Parallel Lives. Genre is clearly crucial and what we are uncovering is the evolution of a genre, the novel, towards a more ambitious form of expression - from narratio, with its characteristic brevity, ${ }^{15}$ to the fullness of Heliodoros, to the novel become Plutarch, whose last desire it was in the Lives simply to narrate. Crossing genres, and periods, in the search for an example this time of affinity, we come to the Cyropaedia of Xenophon of Athens (15.91 average), astonishingly close to the novel of Xenophon of Ephesus (15.95). Was Xenophon a nom de plume?

[^8]
## Conclusions

This article has used the length of sentences in words to display variations in character between the preserved ancient novels. It has suggested a chronological development in length, and in conception of a genre, from Chariton to Heliodoros. Some authors constitute exceptions to this pattern because of their deliberate choice of a differently elaborated style, one that is ostentatiously brief - possibly Petronius, certainly Achilles and Longus. It does not, however, seem to matter much whether the text is Greek or Latin. Though the method is far from decisive, it offers suggestive support to some views of the dating of novelists. It also, internally within Apuleius, offers a contribution towards a view of the structuring of the novel which matches that reached in a wholly different way.

## Appendix 1: Record sentences

As readers may be curious to know which actually are the longest sentences in our various texts, I record them here:
 $\tau \alpha v ิ \tau \alpha \dot{\varepsilon} v \tau \varrho ิ \pi \rho o ́ \sigma \theta \varepsilon v \lambda o ́ \gamma \varrho \delta \varepsilon \delta \dot{\eta} \lambda \omega \tau \alpha$. This is the resumptive sentence opening the second half of the novel. The pattern goes back ultimately to Odyssey 23.310-43.

The longest non-resumptive sentence is the third longest ( 60 words), at
 of this sentence, however, is contestable, given that it includes a significant new utterance in direct speech.

XENOPHON 5.11.1-2 ( 84 words): $\kappa \alpha \grave{l} \delta \eta ̀ ~ \varepsilon ̇ \mu \beta \alpha \lambda \grave{v} v \pi \alpha ́ v \tau \alpha ~ \tau \grave{\alpha} \alpha \dot{v} \tau 0 \hat{\varepsilon} \varepsilon i \zeta v \alpha \hat{v}$ $\mu \varepsilon \gamma \alpha ́ \lambda \eta v$ 'Е甲єбíav ... каì $\pi о \mu \pi \eta ́ ~ \tau \varepsilon ~ \kappa \alpha i ̀ ~ \theta v \sigma i ́ \alpha ~ к \alpha i ̀ ~ \pi о \lambda ı ิ ิ v ~ \dot{\varepsilon} о \rho \tau \alpha \zeta o ́ v \tau \omega v$ $\pi \lambda \eta$ $\theta o s$. On this sentence, see above, p. 135.
 $\delta \dot{\varepsilon} \delta \alpha ́ \kappa \rho v \alpha$ દ̇ $\delta i ́ \omega \xi \varepsilon \tau \hat{\omega} v o ̉ \varphi \theta \alpha \lambda \mu \hat{\omega} \nu \mu \alpha \kappa \rho \alpha ́ v$. This delightful and characteristically Achillean description of how deep emotion works, wells up in a huge sentence echoing the overwhelming of Kleitophon by his so far restrained emotion at hearing the (false) tale of the murder of Leukippe. The whole, though poten-
tially capable of being dismantled by its articulating and's and but's ( $\kappa \alpha i, \mu \varepsilon ̀ v$, $\delta \grave{\varepsilon}$ ), is held together as a total system by its 'just as' and 'even so'.





 observes that 'the ascending tricolon enacts Daphnis' mounting concern' (Morgan 2004, 190) and clearly, as in the case of Achilles 7.4.4, the length of the sentence is a product of the emotional intensity of the story at this point.

HELIODOROS 2.28.2-2.29.1 (222 words): 'E $\mu$ ov̂ $\delta \varepsilon ̀ ~ \alpha ̛ \pi \varepsilon \rho ~ \varepsilon ́ \gamma i ́ v \omega \sigma \kappa o v ~ \varepsilon i \pi o ́ v \tau o \varsigma ~$ ... " $\theta \alpha v \mu \alpha \sigma i \omega \varsigma " ~ ' ॄ ้ \varphi \eta$ " $\lambda \varepsilon ́ \gamma \varepsilon 1 \varsigma . . . "$. This curious sentence purports to be resumptive and this generates its length. But it also creates a sense of the involvement of Kalasiris in his vast erudition, a level of reality to which Charikles, on his first appearance, now startlingly responds. It is a remarkable artistic effect.

The sentence one might recall more readily, the magnificent period as Kalasiris arrives to prevent his sons from killing each other, at 7.6.4-5, is in fact the second longest ( 152 words): $\dot{\alpha} \lambda \lambda$ ’ ő $\tau \varepsilon \delta \grave{\eta} \tau \rho i ́ \tau \circ \varsigma ~ \alpha v ̉ \tau o i ̂ \varsigma ~ \eta \ni v v ́ \varepsilon \tau о ~ к v ́ к \lambda о \varsigma ~ \mid ~$ каı̀ 兀ò $\gamma \eta ิ \rho \alpha \varsigma \beta 1 \alpha \sigma \alpha ́ \mu \varepsilon v o v$.

PETRONIUS $\S 1.3$ (64 words): Et ideo ego adulescentulos existimo in scholis stultissimos fieri ... et omnia dicta factaque quasi papavere et sesamo sparsa. This is the longest surviving sentence, where Encolpius seeks to cadge a dinner out of Agamemnon by showing his knowledge of declamation, ${ }^{16}$ here enumerating its clichéd topics and by enumeration reaching this length.

APULEIUS 11.2 (114 words): Regina caeli, sive tu Ceres alma frugum parens originalis ... quoquo nomine, quoquo ritu, quaqua facie te fas est invocare. This powerful Latin address to the goddess at the key moment of recognition of the divinity draws on the prolixity of the Isiac aretalogy for its model.

[^9]
## Appendix 2: Statistics

I give here an extract from my figures, giving the percentage of sentences in a given work or author that contain the number of words stated in the first column. The second row gives the average number of words per sentence. The bold figures give the position of the median sentence.

|  | Pet. | Char. | Xen. | Onos | Ap.Met. | Ach. .. Luc. VH | Iambl. | Long. | Hel. | Jul. Or |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Ave | 10.79 | 12.30 | 15.95 | 17.77 | 19.02 | 12.08 | 15.81 | 13.10 | 14.82 | 23.92 | 23.21 |
| 1 | 1.29 | 0.39 |  | 0.18 | 0.86 | 0.35 |  |  | 0.08 | 0.53 | 0.27 |
| 2 | 2.78 | 1.87 | 0.87 | 1.11 | 1.64 | 1.33 | 0.14 | 1.96 | 0.52 | 0.66 | 0.55 |
| 3 | 5.12 | 3.98 | 1.25 | 0.92 | 1.39 | 3.78 | 1.14 | 2.94 | 1.42 | 1.35 | 1.36 |
| 4 | 7.10 | 5.60 | 2.50 | 2.03 | 1.71 | 5.83 | 1.99 | 6.86 | 3.51 | 2.22 | 1.39 |
| 5 | 6.82 | 6.16 | 4.42 | 3.50 | 2.75 | 7.16 | 3.40 | 4.90 | 4.63 | 3.01 | 2.45 |
| 6 | 7.74 | 6.97 | 4.13 | 5.34 | 2.85 | 7.99 | 4.97 | 8.82 | 5.53 | 3.13 | 2.92 |
| 7 | 8.23 | 6.62 | 4.80 | 4.42 | 3.99 | 6.78 | 5.11 | 5.88 | 5.75 | 3.76 | 3.62 |
| 8 | 6.73 | 6.34 | 5.57 | 3.68 | 3.96 | 5.97 | 5.39 | 6.86 | 6.12 | 3.32 | 2.64 |
| 9 | 5.89 | 6.02 | 4.80 | 4.05 | 5.31 | 6.26 | 5.11 | 7.84 | 5.53 | 2.98 | 4.20 |
| 10 | 6.33 | 5.14 | 5.00 | 4.97 | 4.21 | 6.43 | 4.82 | 4.90 | 6.42 | 3.10 | 3.49 |
| 11 | 4.96 | 5.78 | 4.23 | 4.42 | 3.96 | 5.11 | 6.67 | 2.94 | 6.27 | 2.60 | 3.49 |
| 12 | 5.65 | 5.81 | 6.24 | 2.76 | 4.31 | 4.96 | 5.82 | 4.90 | 4.48 | 2.94 | 3.98 |
| 13 | 3.71 | 4.75 | 5.28 | 4.24 | 4.21 | 5.05 | 5.39 | 3.92 | 3.81 | 3.48 | 3.65 |
| 14 | 4.23 | 4.33 | 3.27 | 4.60 | 3.64 | 4.13 | 4.97 | 5.88 | 4.03 | 3.19 | 3.76 |
| 15 | 3.79 | 4.26 | 4.04 | 3.87 | 4.17 | 3.43 | 5.39 | 0.98 | 5.00 | 2.35 | 3.35 |
| 16 | 2.82 | 2.61 | 3.75 | 2.58 | 3.85 | 3.23 | 4.97 | 2.94 | 3.88 | 2.94 | 3.27 |
| 17 | 2.10 | 3.24 | 4.04 | 3.50 | 2.96 | 2.65 | 3.55 | 2.94 | 2.91 | 3.45 | 3.49 |
| 18 | 2.02 | 2.36 | 4.90 | 4.79 | 3.28 | 2.48 | 3.12 | 5.88 | 3.29 | 2.76 | 2.72 |
| 19 | 1.82 | 2.54 | 4.23 | 2.95 | 3.03 | 2.11 | 4.40 | 1.96 | 2.47 | 2.54 | 2.83 |
| 20 | 1.45 | 1.87 | 2.31 | 3.13 | 2.82 | 2.02 | 2.55 |  | 2.76 | 2.76 | 3.11 |
| 21 | 1.25 | 1.37 | 1.63 | 2.21 | 2.42 | 1.90 | 1.70 | 1.96 | 2.84 | 2.44 | 2.37 |
| 22 | 1.01 | 1.51 | 3.17 | 3.13 | 2.42 | 1.44 | 1.99 |  | 2.02 | 2.00 | 2.40 |
| 23 | 1.17 | 1.48 | 2.69 | 3.32 | 1.89 | 1.21 | 1.70 | 0.98 | 1.57 | 2.57 | 1.77 |
| 24 | 1.17 | 1.23 | 1.44 | 2.95 | 2.57 | 1.15 | 1.84 | 1.96 | 2.02 | 2.10 | 2.02 |
| 25 | 0.61 | 1.02 | 1.15 | 1.11 | 2.14 | 1.53 | 1.14 |  | 0.90 | 1.85 | 2.07 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |


|  | Pet. | Char. | Xen. | Onos | Ap.Met. | Ach.T. | Luc.VH | Iambl. | Long. | Hel. | Jul. Or |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ave | 10.79 | 12.30 | 15.95 | 17.77 | 19.02 | 12.08 | 15.81 | 13.10 | 14.82 | 23.92 | 23.21 |
| 26 | 0.32 | 1.13 | 1.06 | 2.21 | 1.64 | 0.72 | 0.71 |  | 1.34 | 2.04 | 1.39 |
| 27 | 0.77 | 0.78 | 1.63 | 1.11 | 1.53 | 0.72 | 1.56 |  | 0.82 | 1.69 | 1.85 |
| 28 | 0.44 | 0.60 | 0.87 | 1.29 | 1.68 | 0.40 | 1.14 | 0.98 | 0.97 | 1.91 | 1.58 |
| 29 | 0.40 | 0.67 | 1.25 | 1.47 | 1.36 | 0.49 | 1.28 | 0.98 | 0.97 | 1.82 | 1.39 |
| 30 | 0.28 | 0.49 | 1.15 | 0.92 | 1.43 | 0.17 | 0.43 | 0.98 | 0.45 | 1.60 | 1.53 |
| 31 | 0.36 | 0.32 | 0.77 | 0.74 | 1.78 | 0.43 | 0.71 | 1.96 | 0.90 | 1.66 | 1.61 |
| 32 | 0.12 | 0.46 | 0.38 | 0.92 | 0.93 | 0.46 |  | 0.98 | 0.75 | 1.10 | 1.34 |
| 33 | 0.32 | 0.32 | 0.19 | 1.47 | 1.03 | 0.46 | 0.28 | 0.98 | 1.05 | 1.41 | 1.23 |
| 34 | 0.24 | 0.21 | 1.06 | 1.11 | 0.75 | 0.23 | 0.71 |  | 0.75 | 1.35 | 1.36 |
| 35 | 0.12 | 0.21 | 0.38 | 0.74 | 0.86 | 0.12 | 0.28 |  | 0.37 | 1.10 | 1.12 |
| 36 | 0.08 | 0.18 | 0.87 | 1.29 | 0.68 | 0.06 | 0.57 | 0.98 | 0.37 | 0.97 | 1.36 |
| 37 | 0.12 | 0.25 | 0.67 | 0.37 | 0.78 | 0.17 | 0.28 | 0.98 | 0.60 | 1.32 | 0.95 |
| 38 | 0.20 | 0.11 | 0.38 | 1.66 | 0.78 | 0.09 | 0.57 |  | 0.37 | 0.97 | 0.74 |
| 39 | 0.12 | 0.04 | 0.29 |  | 0.50 | 0.09 | 0.14 |  | 0.37 | 0.72 | 0.90 |
| 40 |  | 0.14 | 0.48 | 0.37 | 0.71 | 0.09 | 0.28 |  | 0.30 | 1.00 | 0.82 |
| 41 |  | 0.11 | 0.29 | 0.18 | 0.71 | 0.06 | 0.43 |  | 0.37 | 0.94 | 0.74 |
| 42 | 0.04 | 0.11 | 0.48 | 0.74 | 0.71 | 0.17 | 0.28 |  | 0.15 | 0.50 | 0.68 |
| 43 |  | 0.11 | 0.38 | 0.18 | 0.64 | 0.14 | 0.43 | 0.98 | 0.08 | 0.78 | 0.84 |
| 44 | 0.04 | 0.14 | 0.29 | 0.55 | 0.43 |  | 0.28 |  |  | 0.69 | 0.68 |
| 45 | 0.04 | 0.07 | 0.29 | 0.37 | 0.46 | 0.06 | 0.28 |  |  | 0.69 | 0.68 |
| 46 |  |  |  | 0.37 | 0.29 | 0.06 |  |  | 0.15 | 0.97 | 0.84 |
| 47 |  |  | 0.29 | 0.18 | 0.25 | 0.06 |  |  | 0.22 | 0.66 | 0.38 |
| 48 | 0.04 |  | 0.19 | 0.18 | 0.18 | 0.09 | 0.14 |  | 0.15 | 0.56 | 0.49 |
| 49 |  | 0.04 |  |  | 0.29 | 0.06 | 0.28 |  |  | 0.53 | 0.60 |
| 50 |  | 0.04 |  |  | 0.32 |  | 0.14 |  |  | 0.44 | 0.44 |

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[^0]:    ${ }^{1}$ W. Clarysse, The Leuven Database of Ancient Books, http://ldab.arts.kuleuven.ac.be/.
    ${ }^{2}$ Achilles $=7$, Chariton $=4$, Heliodoros $=1$, Onos $=1$, Alexander Romance $=3$, Xenophon $($ Cyropaideia $)=9$.
    ${ }^{3}$ Drawn out particularly well by Kussl 1991, 164. POxy 416; López Martínez 1998, no. 38 (pp. 347-52), Stephens-Winkler 1995, 411-5; Kussl 1991, 5.1 (pp. 163-4). For a fuller examination, see Barchiesi 1999 in English translation, or the rehandled Italian version Barchiesi 2006.

[^1]:    ${ }^{4}$ See my comments on Antipater of Akanthos FGrH 56F1b in the Brill New Jacoby (forthcoming).
    ${ }^{5}$ Jensson 2004, e.g. 271, 204, 246, 267, 276, 291.

[^2]:    ${ }^{6}$ Language 'convergence' occurs where one language is not actually driving the other out, and privileges 'typological homogeneity', see A.M.S. McMahon, Understanding Language Change (Cambridge, 1994) 213-4.
    ${ }^{7}$ G. Devoto, Il linguaggio d'Italia (Milan 1974, repr. 1999) §44, pp. 81-2.

[^3]:    ${ }^{8}$ Not, however, O' Sullivan, cf. Bowie 2002, 56.
    ${ }^{9}$ On the length of Petronius see my statistical study at Dowden 2004, 284-7.

[^4]:    ${ }^{10}$ See Bremmer 1998, 167.

[^5]:    ${ }^{11}$ Ruiz-Montero 1991, 489. For a conspectus of dates suggested for Chariton, see RuizMontero 1994, 1007-12.

[^6]:    ${ }^{12}$ On the dating of Longus, see Morgan 2004, 2. On the possibility of an early dating of Achilles, see Bowie 2002, 60.

[^7]:    ${ }^{13}$ Date of Iamblichos: Bremmer 1998, 168.

[^8]:    ${ }^{14}$ Except as a character in Plautus' Captivi, the name 'Aristophontes' does not exist and the name meant by Fulgentius or his source is therefore almost certainly Aristophon (RE 2 (1896) s.v. Aristophon (8), col. 1008. Aristophon is common enough at Athens and this 'Aristophontes' is listed as Aristophon (13) in LGPN 2 (1994). The enormi verborum circuitu to which Fulgentius refers, if it denotes prolixity (in the sentence-length sense), would suggest a later date, in which case there is most likely a common source for Apuleius and Aristophon.
    ${ }^{15}$ See the analysis of Graverini 2006, 62-3.

[^9]:    ${ }^{16}$ See G. Kennedy, 'Encolpius and Agamemnon in Petronius', AJP 99 (1978), 171-8.

