

SIGMATISM IN TIBULLUS AND PROPERTIUS¹

IT was a generally accepted tenet of ancient literary criticism that an excess of sibilants was cacophonous.² To discover if and to what extent this antipathy is discernible in the actual practice of the main Latin poets, random samples of 50 lines from each were analysed. The results of this analysis are set out in Table 1.

TABLE 1³

Ennius	139 occurrences of s	Propertius	129 occurrences of s
Lucretius	123 " "	Ovid	145 " "
Catullus	131 " "	Lucan	170 " "
Virgil	127 " "	Martial	150 " "
Horace	140 " "	Statius	148 " "
Tibullus	156 " "		

Perhaps the most startling difference revealed by this initial check, inasmuch as there is no remarkable divergence of subject, language, or metre to account for it, is that between Tibullus and Propertius. In an attempt to confirm and, if possible, explain this difference, a more comprehensive investigation, involving the counting of the total number of s's in both poets, was undertaken.⁴ Table 2 sets out the average number of s's per 100 lines.

TABLE 2

Tib. I	287
Tib. II	293
Prop. I	268
Prop. II	260
Prop. III	266
Prop. IV	271

These figures establish more firmly the initial discrepancy and indicate, when taken at their face value, that Tibullus is more sigmatic than Propertius.

POLYSIGMATIC AND ASIGMATIC LINES

It seemed that an investigation into the occurrence of polysigmatic⁵ and

¹ I wish to record here my gratitude to Dr. J. A. Richmond, to whom I am deeply indebted for his advice and constant encouragement. Any errors are entirely my own.

² For an enumeration of ancient remarks on sigmatism, see L. P. Wilkinson, *Golden Latin Artistry* (Cambridge, 1966), 13, and W. B. Stanford, *The Sound of Greek* (Berkeley, California, 1967), 8, 53-5.

³ Apart from Tibullus, Propertius, Ovid, and Martial the samples are hexameters.

⁴ My statistics were originally based on the text of J. P. Postgate, *Corpus Poetarum Latinorum* (London, 1905), to ensure uni-

formity in trivialities of orthography. (E. Hiller contributed the text of Tibullus to the *Corpus*). The accuracy of my figures has been checked by sample comparisons with the most reliable modern texts, F. W. Lenz, *Albii Tibulli Aliorumque Carminum Libri Tres* (Leiden, 1959) and E. A. Barber, *Propertius* (Oxford, 1960). My colleague, Dr. P. G. O'Regan, kindly analysed for me by computer the first two books of Propertius. His results gratifyingly agree with mine.

⁵ Arbitrarily defined as lines having 5 s's or more. Lines of 8 s's and 9 s's are not included: these occur so infrequently as to be useless for purposes of comparison.

asigmatic lines, in so far as this concentrates on accumulation rather than widespread distribution of sound, would be likely to discover some distinctive attitude on the part of our poets towards the use of *s*.¹ The results, expressed as percentages, are set out in Table 3.

TABLE 3

	5 <i>s</i>	6 <i>s</i>	7 <i>s</i>	Asigmatic
Tib. I	7.3	4.6	1.2	4.2
Tib. II	9.6	3.9	1.2	2.8
Prop. I	5.8	3.0	1.1	7.0
Prop. II	6.8	2.9	0.9	6.5
Prop. III	6.3	2.8	0.8	6.6
Prop. IV	8.0	2.6	0.9	7.0

The figures for asigmatic lines are the most striking feature of this table. We may reasonably state that the usage of our poets in this respect is clearly different, Propertius having an obvious excess of asigmatic lines over Tibullus. Until such time, if ever, as some explanation, based on considerations of grammar or prosody, is advanced for this variation, I would suggest that in this difference in the frequency of asigmatic lines is revealed a difference of attitude, on the part of Tibullus and Propertius, towards the letter *s*.

Lines of 7 *s*'s occur with more or less equal frequency in both poets. Lines of 6 *s*'s and 5 *s*'s appear more frequently in Tibullus, though Propertius in his fourth book does not differ from Tibullus in respect of lines of 5 *s*'s.

In Tibullus I and II and Propertius II and III polysigmatic and asigmatic lines are distributed among hexameters and pentameters as set out in Table 4.

TABLE 4

	5 <i>s</i>		6 <i>s</i>		7 <i>s</i>		Asigmatic	
	<i>H</i>	<i>P</i>	<i>H</i>	<i>P</i>	<i>H</i>	<i>P</i>	<i>H</i>	<i>P</i>
Tib. I	23	35	23	14	7	3	13	22
Tib. II	27	13	9	9	5		4	10
Prop. II	57	35	23	16	8	4	35	54
Prop. III	31	31	19	11	7	1	27	38

¹ It is a curious fact that J. A. Scott (*AJP* xxxix [1908], 69-77) and O. J. Todd (*CQ* xxxvi [1941], 29-39) arrived at different conclusions when, in discussing sigmatism in the Greek dramatists, the former based his argument on lines of marked

sigmatism, the latter on the average number of sigmas per 100 lines. (Todd used samples of trimeters, chosen at random in blocks of 100, totalling 600 each for Aeschylus and Sophocles, and a little over 700 for Euripides). Their statistics are worth comparing:

Scott		
<i>Verses with 7 or more sigmas</i>		
Aesch.	6	to a play (average)
Soph.	8	" "
Eur.	11	" "
Ar.	14	" "

Todd	
<i>Average number of sigmas per 100 lines</i>	
Aesch.	283
Soph.	275
Eur.	289
Ar.	233

Scott (unjustifiably, in my view) concludes that 'the sigmatism of all four of these poets is essentially the same' (he does not take into account the variations in the lengths of

plays). Todd on the other hand, is led by his figures to state that 'the comic poets . . . definitely reduced the amount of hissing sounds by some 40 to 50 per 100 lines'.

Naturally we expect the greater number of polysigmatic lines to be hexameters, since these have the greater number of syllables. It is therefore surprising to find that lines of 5 *s*'s in Tib. I are far more often pentameters.¹ Asigmatic lines are distributed as we should expect.

S-COLLISION

The term *s*-collision is used in this paper to designate the concurrence of final and initial *s*.² The frequency of this phenomenon (per 100 lines) in Tibullus and Propertius may be seen from Table 5.

TABLE 5

Tib. I	5.4
Tib. II	5.3
Prop. I	6.5
Prop. II	5.2
Prop. III	5.9
Prop. IV	4.4

Only one feature worth noticing emerges here, that is, an apparent tendency of Propertius to avoid *s*-collision in his last book. This book, which cannot have appeared earlier than 16 B.C., is much later than the others and exhibits a distinct change of style generally.³

Tables 6A and 6B set out the distribution of *s*-collision throughout the metrical feet. Notation used will be: 2s (i.e. strong caesura in second foot), etc., C (i.e. main caesura of pentameter), D (i.e. diaeresis = the coincidence of word-ending with foot-ending).

TABLE 6A—HEXAMETER

	2s	3s	4s	D
Tib. I	4	7	10	2
Tib. II	4	5	4	1
Prop. I	4	11	9	2
Prop. II	5	18	16	6
Prop. III	8	14	11	1
Prop. IV	3	12	9	1
Totals	28	67	59	13

¹ Perhaps this arises from a tendency in Tibullus to place the perfect infinitive active in the pentameter.

² Cicero, *Or.* 149, in discussing the proper collocation of words in accordance with euphonic principles, urges that special care be devoted to the relations between the last syllable of one word and the first syllable of the next, so as to avoid the clash of harshly sounding consonants. Quintilian, *Inst.* 9. 4. 37, condemns the hissing sound produced by the combination *ars studiorum*. He tells us that

Servius, being influenced by Lucilius, dropped final *s* whenever the next word began with a consonant and that Luranus disapproved of this practice while Messalla defended it. (Servius and Luranus cannot be identified.) It is noticeable that in the sole instance of elision of final *s* before a consonant in Catullus (*tu dabi' supplicium*, 116. 8) the elided *s* precedes another *s*.

³ For evidence as to date of composition, see H. E. Butler and E. A. Barber, *The Elegies of Propertius*, pp. xxvii–viii.

TABLE 6B—PENTAMETER

	2s	C	3s	4s	D
Tib. I	1	18		1	
Tib. II		11			
Prop. I	2	16	1		1
Prop. II	1	21	1	1	1
Prop. III	4	18			1
Prop. IV	2	15			
Totals	10	99	2	2	3

We notice that in the hexameter *s*-collision coincides in the vast majority of cases with the two most common metrical pauses in the line, i.e. at the third and fourth strong caesura. Similarly we find it almost exclusively at the major metrical pause of the pentameter. P. B. Whitehead (*AJP* li [1930], 358–71) endeavours, without much success, to prove that Ovid was careful to avoid unpleasant consonantal word-junctures except where the line was interrupted by a sense-pause.¹ I have found that in Tibullus and Propertius *s*-collision coincides with a sense-pause in only a negligible number of instances. (By a sense-pause I mean the end of a sentence or clause marked by a full stop, a colon, or a semicolon.)

INITIAL *S*

Table 7 illustrates the frequency of initial *s* per 100 lines.

TABLE 7

Tib. I	59
Tib. II	59
Prop. I	50
Prop. II	56
Prop. III	54
Prop. IV	55

The usage of Tibullus is constant. In the case of Propertius, who shows a slight preference for initial *s* in his last three books, the widest variation exists between books I and II, but this is statistically significant only at the 76 per cent level, a level not considered adequate for the purposes of this paper.² A difference, however, significant at the 96.3 per cent level is observed between the whole of Tibullus and the first book of Propertius.

¹ He gives statistics only for the combination *s* + *n*.

² For our present purpose a level of at least 90 per cent. has been deemed necessary.

For a discussion of the statistical method employed, see P. G. Hoel, *Introduction to Mathematical Statistics* (1954), 109.

MEDIAL *s*

Table 8 illustrates the frequency of medial *s* and double *s* per 100 lines.

TABLE 8

	Medial <i>s</i>	Double <i>s</i>
Tib. I	97	16.1
Tib. II	91	11.6
Prop. I	79	12.6
Prop. II	81	12.6
Prop. III	82	11.1
Prop. IV	84	11.9

We observe that Tibullus has a noticeable excess of medial *s*'s over Propertius. This difference arises perhaps in part, at least, from a preference of the former for the perfect infinitive active, the figures for which are:

Tibullus: 5.7 per 100 lines; Propertius: 2.2 per 100 lines.¹

But the question remains as to why Tibullus II and Propertius III and IV are approximately equal for double *s*. Conclusive proof that verbal forms hold the key to an explanation of this difference in our poets' use of medial *s* would involve an analysis of all verbal forms which contain double *s*, an analysis too exhaustive to lie within the scope of the present work.

FINAL *s*

The average number of final *s*'s per 100 lines is shown in Table 9.

TABLE 9

Tib. I	131
Tib. II	143
Prop. I	140
Prop. II	123
Prop. III	130
Prop. IV	132

The pattern which emerges conforms with the general tendency revealed by the earlier analysis of the total number of *s*'s. The variations between the different books of each poet, apart from that between Propertius III and IV, are statistically significant.² The following conclusions are therefore justified: (a) Tibullus (consciously or unconsciously) either avoided final *s* in his first book or sought it in his second. (b) A similar change of attitude, though in his case operating in the opposite direction, took place in Propertius.

CONCLUSION

On the average Tibullus has 290 *s*'s per 100 lines, while Propertius has 266 *s*'s. This difference, which is statistically significant, arises from the com-

¹ The percentages per book are: Tib. I: 6.3, Tib. II: 4.7, Prop. I: 2.4, Prop. II: 2.3, Prop. III: 2.1, Prop. IV: 1.9.

² See Hoel, loc. cit.

parative rarity of asigmatic lines in the former as well as from his higher frequency of words containing medial *s* and of lines containing 5 *s*'s and 6 *s*'s. It is barely possible, perhaps, that lines of 5 *s*'s and 6 *s*'s constituted for Propertius a kind of border area in which the sigmatic element tended to become pronounced enough to obtrude itself upon his sensitivity, so that consciously or, more likely, unconsciously, he reacted and cast about for an alternative form of expression which would dispense with at least one of the *s*'s.

In so far as the letter *s* was a primary element in the ancient concept of cacophony, we are justified, I believe, in assuming that an ancient critic, furnished with the evidence here set forth, would pronounce Tibullus more cacophonous than Propertius.¹ But this evidence is the product of a minute investigation and one may well ask whether the difference it reveals, though recognizable through statistics, was pronounced enough to be appreciated by the ear of a Roman audience.² We can only appeal to the uniqueness among consonants accorded to *s* by the ancients and to the strong testimony that the judgement of the Roman ear was indeed a *iudicium superbissimum*.³ At the same time one has to admit that the verdicts of ancient critics on our poets—critics whose principal criterion was style—give no indication that their authors sensed the difference our study has revealed. Quintilian, *Inst.* 10. 1. 93, indeed gives the palm of elegy to Tibullus but the epithets, *tersus atque elegans*, which he applies to him, do not necessarily prove that he regarded him as more euphonic, for they are not confined in their connotation to the limits of mere sound.

The question may also be asked whether it is not far fetched to expect that a poet could have a mental record of the frequency with which he has used a particular letter. Far be it from me to suggest that any poet worthy of the name could descend to such banal mathematical gymnastics. It is necessary, however, to emphasize here the essential difference which exists between the memory of a poet and that of his audience. The latter's memory will range over a couple of lines at most, whereas the poet, from whose experience and inmost consciousness they have sprung, must always have moving in the forefront of his memory countless lines, an immediate record of the sounds he has employed.⁴

¹ Quintilian, *Inst.* 1. 7. 35, records that Messalla, patron of Tibullus, wrote a book on the letter *s*. Unfortunately we cannot know what the attitude of Messalla was but the reference in Quintilian suggests there was an interest in the subject among the literary group of which he was the head.

Tibullus and Propertius differed in other aspects of poetic technique. The following are a few:

- (a) Tibullus never permits hexameter to end with a double spondee. Propertius occasionally does. Cf. M. Platnauer, *Latin Elegiac Verse* (Cambridge, 1951), 39.
- (b) Tibullus shows a tendency to use a weak caesura in the 3rd foot of hexameter, the percentages being: Tibullus, 20; Propertius, 5.4. Cf. Platnauer, *op. cit.* 9.
- (c) Tibullus has 3 per cent trisyllabic end-

ings in pentameter, Propertius has 1.5. Cf. Platnauer, *op. cit.* 15.

² Ancient poetry was intended primarily to be read aloud. The importance of this for the appreciation of sound effects needs to be borne in mind.

³ Cf. Cic. *Or.* 150 and *Auct. ad Her.* 4. 32.

⁴ For the notion of the poet's omnipresence in his work, see T. S. Eliot, *The Use of Poetry and the Use of Criticism* (London, 1933), 118–19: 'What I call the "auditory imagination" is the feeling for syllable and rhythm, penetrating far below the conscious levels of thought and feeling, invigorating every word; sinking to the most primitive and forgotten, returning to the origin and bringing something back, seeking the beginning and the end.' I am indebted for this reference to my colleague, Professor S. Lucy.

APPENDIX

SIGMATISM IN LYGDAMUS AND 'TIBULLUS' IV¹

TABLE 1

Average number of s's per 100 lines

	Initial	Medial	Final	Total
Lygd.	51	64	112	227
'Tib.' IV	65	90	121	276

TABLE 2

Frequency of polysigmatic and asigmatic lines—expressed as percentages

	5 s	6 s	7 s	Asigmatic
Lygd.	6.2	2.1	0.7	10.3
'Tib.' IV	12.1	2.7	0.5	5.5

TABLE 3

Frequency of s-collision per 100 lines

Lygd.	4.5
'Tib.' IV	6.0

The inescapable conclusion is that Lygdamus used *s* much more sparingly in the medial and final positions than did Tibullus or Propertius or the authors of 'Tibullus' IV. This restraint together with the startlingly high frequency of asigmatic lines leaves no doubt in my mind that Lygdamus had a quite positive aversion for the letter *s*.

The content of 'Tibullus' IV is not sufficiently large to enable us to draw a safe statistical conclusion. Besides, the situation is confused by the fact, now generally accepted, that these poems are the work of at least three authors.

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¹ 'Tibullus' IV denotes the poems of *lus* or Pseudo-Tibullus. The *Panegyricus* (a) Amicus Sulpiciae; (b) Sulpicia; (c) Tibul-
Messallae is not included.