

METER IN ACCENTUAL CLAUSULAE OF LATE IMPERIAL LATIN PROSE

STEVEN M. OBERHELMAN and RALPH G. HALL

I

IN a previous article in this journal¹ we examined the Latin prose style known as the *cursus*, or the use of accentual rhythms in clausulae. We undertook this project because the identification of the *cursus* system, detected in the late nineteenth century by N. Valois and others after him,² was never put on a sound methodological basis;³ moreover, no consensus existed among scholars concerning the date of origin, the provenance, and the extent of the usage of the *cursus* in imperial Latin prose.⁴

The *cursus* system can be described succinctly as follows. There are three rhythmical cadences—*planus*, *tardus*, and *velox*⁵—each of which can be thought of in terms of the distance between and after the last two accents of a sentence or clause.⁶ The *planus* consists of two unaccented syllables between the last two accents and one unaccented syllable after the final accent (e.g., *pórtam clausérunt*). The *tardus* comprises two

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1. "A New Statistical Analysis of Accentual Prose Rhythms in Imperial Latin Authors," *CP* 79 (1984): 114–30.

2. "Étude sur le rythme des bulles pontificales," *Bibliothèque de l'École des Chartes* 42 (1881): 161–98 and 257–72. He was followed by L. Couture, "Le *cursus* ou rythme prosaïque dans la liturgie et la littérature de l'église latine du IIIe siècle à la renaissance," *Revue des questions historiques* 51 (1892): 253–61; L. Havet, *La prose métrique de Symmachus et les origines métriques du "cursus"* (Paris, 1892); and W. Meyer, "Die rhythmische lateinische Prosa," in *Gesammelte Abhandlungen zur mittellateinischen Rhythmik*, vol. 2 (Berlin, 1905), pp. 236–86.

3. The exception to this generalization is T. Janson, *Prose Rhythm in Medieval Latin from the Ninth to the Thirteenth Century* (Stockholm, 1975). Janson used statistical methods (in particular, the χ^2 -test) to demonstrate the presence of the *cursus* in writings of the early medieval period.

4. For a summary of views, see F. Novotný, *État actuel des études sur le rythme de la prose latine*, *Eus Suppl.* 5 (Lwów, 1929); M. G. Nicolau, *L'origine du "cursus" rythmique et les débuts de l'accent d'intensité en latin* (Paris, 1930), pp. 13–29; and G. Lindholm, *Studien zum mittellateinischen Prosarhythmus: Seine Entwicklung und sein Abklingen in der Briefliteratur Italiens* (Stockholm, 1963), pp. 7–13.

5. There are other *cursus* patterns, notably the *trispondaicus*. They are, however, rare and should be considered as irregular clausulae: see "A New Statistical Analysis," p. 115, n. 6.

6. For a detailed discussion of these three forms of the *cursus*, see Lindholm, *Studien*, pp. 39–54.

unaccented syllables between the two accents and two unaccented after the final accent (*ómnibus débeant*). The *velox* finds four unaccented syllables between the two accents and one following the last (*pátriam vastabántur*).⁷

No discussion of the *cursus* exists in imperial Latin literature except the brief *De structuris* by the third-century grammarian Sacerdos.⁸ Consequently, the existence of accentual rhythms must be demonstrated by the application of an objective methodology to the primary sources. For this purpose we devised a statistical model that incorporated the comparative method and the laws of inductive statistics.⁹ This model was applied to the clausulae in the works of various authors of the first through fifth centuries A.D., since scholars have surmised that the origins of accentual prose must lie somewhere in that era. Seventy works were studied: the proportions of the three *cursus* forms were noted in each work and were tested for the presence of intentional accentual rhythms.

The test data elaborated in our previous study found the *cursus* in four works doubtfully ascribed to Apuleius.¹⁰ The first text which we definitively identified as accentual was the *Octavius* of Minucius Felix, a composition datable to the first half of the third century. Minucius is followed by his fellow Africans Cyprian and Arnobius, whose works display the *cursus*, and Lactantius, who like Ambrose, Jerome, and Augustine later in the fourth century used accentual rhythms in some works. We found the *cursus* also in all the Gallic or Gallic-trained writers datable from the late third to the late fourth century, namely, the Latin panegyrists, Ausonius, and Symmachus. With regard to the *cursus*, the prose of Ammianus showed a remarkable resemblance to the *Orationes* of his contemporary Symmachus, in that both displayed the highest incidence of accentual clausulae. The presence of accentual rhythms in these African and Gallic authors suggested that the *cursus* was inspired by provincial speech patterns which were more attuned to the natural intensity of stress in Latin and little appreciative of the metrical clausulae introduced from Greek models by Cicero and other orators.

Our former study ascertained that accentual prose rhythms appeared in forty of the seventy works surveyed. We left unanswered the question whether the clausulae were also meant to be acceptable metrically, that is, whether the *cursus mixtus* was intended, since no methodology had yet been devised to answer this question. *Cursus mixtus* has been defined

7. Janson, *Prose Rhythm*, p. 52, points out that Meyer, *Abhandlungen*, 2:267–69, was correct in his belief that the *cursus* system was described only in these terms and was not concerned with typology. Cf. L. Laurant, *Études sur le style des discours de Cicéron, avec une esquisse de l'histoire du "cursus"*, vol. 3 (Paris, 1927), p. 357.

8. *GL* 6:492–95. See Nicolau, *L'origine du "cursus" rythmique*, pp. 101–22, for a good discussion of the importance of the *De structuris* for the history of the *cursus*.

9. For details, see "A New Statistical Analysis."

10. The *De Platone*, *De mundo*, *Περὶ ἐμπνεύσεως*, and *Asclepius*: see "A New Statistical Analysis," p. 127, n. 35.

by modern scholars as a type of prose rhythm in which the clausula is structured along both accentual and metrical lines.¹¹ Specifically, the clausula is one of the three forms of the *cursus* (*planus*, *tardus*, and *velox*) and simultaneously one of the standard metrical forms (cretic-spondee, dicretic, cretic-tribrach, and ditrochee).¹² Moreover, the clausula occasionally may be structured only accentually, without regard for the metrical scheme, and at other times may be formed only metrically.¹³

A major feature of the *cursus mixtus* is the high coincidence of ictus and accent¹⁴ and the exact correspondence of the number of syllables required for both the metrical form and the accentual form. For example, accentually the clausula *mīssā pērvēnērīt* is a *cursus tardus*, while metrically it is a dicretic: the two rhythms have a common caesura (after the second syllable of the first word) and an identical number of syllables (six); moreover, the two accents coincide with the first syllables of the two cretics. Likewise, the *cursus planus* clausula *fāctā dē pōmō* has the same caesura-placement and number of syllables as its corresponding metrical scheme, a cretic-spondee, while the accents on *facta* and *pomo* coincide with the first syllables of the cretic and spondaic feet. The system of the *cursus mixtus* allows two exceptions to this coincidence of accent and ictus: in the case of the *cursus velox* with a cretic-spondee (*tempōribūs mīnūs fāustā*) and the *cursus planus* with a ditrochee (*ēssēnt māgīstrī*).

11. For the *cursus mixtus*, see H. Hagendahl, "La prose métrique d'Arnobé: Contributions à la connaissance de la prose littéraire de l'Empire," *Göteborgs Högskolas Årsskrift* 42 (1937): 24–26 and 75–78; Meyer, *Abhandlungen*, 2:269; Nicolau, *L'origine du "cursus" rythmique*, pp. 42 and 128–30; A. M. Harmon, *The Clausulae in Ammianus Marcellinus* (New Haven, 1910), pp. 197–200; H. B. Dewing, "The Origin of Accentual Prose Rhythm in Greek," *AJP* 31 (1910): 314–17; Novotný, *État actuel*, pp. 74–75; A. C. Clark, *The Cursus in Medieval and Vulgar Latin* (Oxford, 1910), pp. 10–13; S. H. Ballou, "The Clausula and Higher Criticism," *TAPA* 46 (1915): 151–71; R. Badali, "Premessa ad uno studio sulla natura delle clause simmachiane," *RCCM* 8 (1966): 16–17; W. H. Shewring, "Prose Rhythm and the Comparative Method," *CQ* 24 (1930): 172–73, 25 (1931): 16–17, and "Prose Rhythm in the Passio S. Perpetuae," *JTS* 30 (1928–29): 56–57; W. H. Shewring and K. J. Dover, s.v. "Prose Rhythm," *OCD*², p. 889; and J. Gullén, "Origen y constitución del census ritmico," *Helmantica* 8 (1962): 309–50.

12. These standard metrical forms were patterned on the metrical forms used by Cicero: see L. P. Wilkinson, *Golden Latin Artistry* (Cambridge, 1970), pp. 157–59 and 162–63. The cretic-tribrach, however, was not a preferred clausula in Cicero's prose; it occurred in only 21 of 908 clausulae in our sample of his speeches. But it does become a desired clausula in the prose of imperial Latin; in fact, it is the third most frequent metrical form in some of the *Panegyrici Latini*. The increase in its popularity can be traced to the coincidence of the metrical scheme and the accentual pattern (*cursus tardus*). Moreover the cretic-tribrach was viewed as a resolution of the cretic-spondee of Cicero: cf. M. C. Herron, *A Study of the Clausulae in the Writings of St. Jerome* (Washington, D.C., 1937), p. 7.

Cicero had a much more varied system of prose rhythm and did not limit himself only to cretic and trochaic patterns: for his usage, see A. Primmer, *Cicero Numerosus* (Vienna, 1968), and H. Aili, *The Prose Rhythm of Sallust and Livy* (Stockholm, 1979).

13. For examples in Arnobius' prose, see Hagendahl, "La prose métrique d'Arnobé," pp. 70–73 and 76–77.

14. Hagendahl, "La prose métrique d'Arnobé," pp. 57–82; *OCD*², p. 889; and Novotný, *État actuel*, pp. 63–66. The issue of an ictus in metrical prose is, to say the least, complicated and unresolved. See Nicolau, *L'origine du "cursus" rythmique*, pp. 44–64, and "Quelques considérations sur l'ictus et sur rapports avec l'accent," *REL* 7 (1929): 148–69; Wilkinson, *Golden Latin Artistry*, pp. 142–48; and W. S. Allen, *Accent and Rhythm: Prosodic Features of Latin and Greek: A Study in Theory and Reconstruction* (Cambridge, 1973), pp. 341–42 with notes. We here use the term ictus merely to denote the first syllable of each metrical unit in a prose clausula; e.g., in the clausula *Cāēsārēm mīsit* we place an ictus on *Cae-* and *mi-*, which are respectively the first syllables of the cretic and of the spondee.

The ideal *cursus mixtus*, therefore, contains the following simultaneous occurrences of accentual and metrical patterns. Under the *cursus planus* falls the cretic-spondee (*sōrtē vērsārī*); under the *cursus tardus* the dicretic or cretic-tribrach (*ēgērīni cētērī* or *habērē iūdicium*); and under the *cursus velox* the ditrochee (*silēntio dēsītūtām*).¹⁵ It is not uncommon for the ditrochee to fall under the *cursus planus* (*insignītūs dēcōrē*) or for the cretic-spondee to fall under the *cursus velox* (*testimōniō pētēbāntūr*).¹⁶

The difficulty heretofore has not been the existence of the *cursus mixtus*, but rather the systematic demonstration of its presence in a given prose text. As Nicolau pointed out long ago,¹⁷ a two-fold methodology must be employed to prove the presence of the *cursus mixtus*. One procedure must show that accentual rhythms are present; the other, metrical rhythms. Caution must be exercised, however, in the formation of this methodology. Previous researchers of the *cursus mixtus* merely observed the rather high occurrence of metrical forms in an accentual text and thereupon assumed that the metrical rhythms were intended along with the accentual.¹⁸ But a truly accentual text by necessity will produce a correspondingly high percentage of fortuitous metrical forms: as we will argue, the penultimate law of Latin accentuation causes many accentual clausulae to yield equally acceptable metrical clausulae, even though the latter may not have been intended. The methodology to be used, therefore, should demonstrate that the number of metrical forms in an accentual text are significantly higher than the number that can be expected in accentual writings void of metrical tendencies.¹⁹

The reliability of such a methodology is dependent upon the correct application of the comparative method and inductive statistics. The comparative method assumes that, although a text may have been written without any intention of achieving prose rhythm, it will nonetheless contain a certain number of accidental clausular forms. Once the frequency-range of these forms is determined, it can then be used as a standard in

15. Writers of the *cursus mixtus* were indifferent to the syllables preceding the ditrochee. Cicero himself favored the cretic before the ditrochee: see A. W. de Groot, *La prose métrique des anciens* (Paris, 1926), p. 9, and *Der antike Prosarhythmus* (Groningen, 1921; repr. 1967), pp. 106–7. Later writers, however, took no similar pains.

16. As noted above, some clausulae are exclusively metrical, others accentual. For example, the clausula *hōminē pōtēst* produces no metrical clausula (except perhaps a fourth paeon), but a good *cursus planus*. On the other hand, the clausula *exhauriēbār māgis* yields a dicretic, but accentually can only be taken as a *cursus dispondeicus*, a quite rare and irregular form. The metrical nature of this clausula becomes more obvious when one notes that by employing a more regular word-order the author could have written a *cursus velox* with a ditrochee falling under the accentual pattern (*māgis exhauriēbār*).

17. *L'origine du "cursus" rythmique*, p. 126.

18. See, e.g., Herron, *Jerome*; M. R. Delaney, *A Study of the Clausulae of St. Ambrose* (Washington, D.C., 1934); M. E. Mann, *The Clausulae of St. Hilary of Poitiers* (Washington, D.C., 1936); and M. B. Carroll, *The Clausulae in the "Confessions" of St. Augustine* (Washington, D.C., 1940).

19. Thus it is a grave error of methodology to consider the metrical forms only in an absolute sense. This is the major flaw in the CUA monograph series (see n. 18 above) on the prose rhythms of the early church fathers. The figures which these researchers give for the incidence of metrical forms in accentual texts are often not of great value, since no adjustment was made for the influence of the frequency of the accentual forms.

testing for intentional rhythms: for if the actual number of clausular forms in a text is significantly greater than the number that can be expected in unrhythmical prose, then the conclusion can be drawn that there has been a deliberate attempt at rhythm. The laws of inductive statistics must be used to validate any observed differences between the standard and the sample.

The comparative norm needed here must be both accentual and free of metrical intentions. The only texts which we can be confident of having these characteristics are medieval writings of the twelfth to the fifteenth centuries, when the *cursus* system became canonical throughout the Continent, England, and Scandinavia.²⁰ The entrenchment of the *cursus* in medieval literature is attested not only by all scholarship on the subject, but also by the contemporary *artes dictaminum*, grammatical handbooks on style and rhythm.²¹ We chose as a representative norm the *Epistolae* of Dante, which date from the end of the thirteenth century to the beginning of the fourteenth. The *Epistolae* were selected because their accentual nature and the absence of metrical influences are well documented.²²

A random sample of 440 clausulae was taken from the *Epistolae*. In order to avoid subjectivity in the identification of metrical forms, we followed the principles of sampling formulated by De Groot by scanning the final eight syllables of each clausula.²³ The four metrical forms of the *cursus mixtus* (cretic-spondee, dicretic, cretic-tribrach, and ditrochee) were noted. A total of 262 occurrences were found, yielding a proportion of .595 (262/440). This proportion has a 95 percent confidence interval of .549 to .641.²⁴ This confidence interval means that we can expect, 95 out of 100 times, that a sample of 440 clausulae in a solely accentual text will yield a proportion of the four metrical forms somewhere in the range .549–.641. Since these values do not admit any metrical intentions, we can reasonably assume that any proportion demonstrated statistically to be significantly beyond this range will indicate the presence of the *cursus mixtus*.

This interpretation was tested by the examination of 440 randomly selected clausulae in two other demonstrably accentual texts of the medieval period: the *Scripta breviora* of Boccaccio²⁵ and the *Epistolae* of

20. Janson, *Prose Rhythm*, pp. 35–79, gives a good history of the diffusion of the *cursus* throughout Europe until 1200. Lindholm, *Studien*, pp. 55–184, documents the *cursus* in the major authors of the medieval period in Italy.

21. For a bibliography of the medieval treatises on the *cursus*, see "A New Statistical Analysis," p. 116, n. 13.

22. Lindholm, *Studien*, pp. 76–87; P. Toynbee, "An Appendix on the *Cursus*," in *Dantis Alighieris Epistolae*, ed. P. Toynbee (Oxford, 1920), pp. 234–47, and *idem*, *Dante Studies* (Oxford, 1921), pp. 1–14.

23. Hagendahl, "La prose métrique d'Arnobe," pp. 257–60, has devised a table that describes the 128 possible combinations which can arise from scanning any eight long and/or short syllables.

24. The interested reader can find a short bibliography on confidence intervals in inductive statistics in "A New Statistical Analysis," p. 119, nn. 27–29.

25. Lindholm, *Studien*, pp. 110–23.

John of Salisbury.²⁶ The proportions of the four metrical forms were, respectively, .570 (251/440) and .584 (257/440). These figures fall comfortably within the normal range and are so close to the proportion for Dante's *Epistolae* that they confirm the latter's value as a standard. They also validate our earlier observation that a purely accentual text will produce a high frequency of fortuitous metrical clausulae. We should expect in a text void of any rhythmical tendencies a proportion of only about .364, according to our sampling of arrhythmical texts of the seventeenth and nineteenth centuries.²⁷ Yet our proportions for the medieval authors are quite a bit higher than that. They are also only slightly less than the proportions for the metrical prose of Cicero. We made two samplings from Cicero's speeches against Catiline and Antony and found that the proportions of the four metrical forms were .711 and .655.²⁸ Because the prose of Cicero is clearly metrical and that of Dante is not, we need to explain the high incidence of metrical forms in Dante's *Epistolae*.

Simply put, an accentually structured clausula very often will yield cretic or trochaic rhythms because of the penultimate law of Latin accentuation and the fortuitous combinations of syllabic quantities between the word-accent. For example, in the case of the most common form of the *cursus planus*, wherein a paroxytone trisyllable is preceded by a paroxytone polysyllable (*animâeque credēbam*), we found that nearly 60 percent of such clausulae in the medieval treatises contain the cretic-spondaic or ditrochaic rhythm. The placement of the accents guarantees a spondee at the end of the clausula, while the probability of a preceding cretic or trochee is high because of the paroxytone first word and the quantities of the intermediate syllables.²⁹

The methodology for determining the presence of the *cursus mixtus* can be summarized as follows. Clausulae are selected at random from a text and are scanned for both accentual and metrical patterns.³⁰ The frequency of the three *cursus* forms is then tested in accordance with the statistical model developed in our former study, in order to ascertain the presence of accentual rhythms.³¹ If the data indicate that the text is not

26. Janson, *Prose Rhythm*, p. 74.

27. We sampled 412 clausulae in the Latin translations in Migne, *PG* 11, and 519 clausulae in the *De civitate* of Thomas Hobbes. The number of the four metrical forms in each work was, respectively, 145 and 194.

28. In a sampling of 425 sentence-closings in Cicero's *Orationes in Catilinam* 1–IV, we found 302 occurrences of the four metrical forms. In the *Philippicae orationes* 1–II, 319 such forms were found in 483 sentence-closings.

29. Similarly, in the case of Ammianus' prose (the sample of imperial Latin prose closest to the medieval *cursus* system, in that Ammianus strictly adheres to the three main forms of the *cursus* and admits only one monosyllable between word-groups), 154 of his 259 *planus* clausulae yield a cretic-spondee (= .596 or 59.6 percent). This value increases to .629 (163/259) if the ditrochee is included.

30. In situations which involved hiatus and elision, the clausulae were noted and left aside for later consideration. Hiatus and elision must be handled in a case-by-case manner, as part of a thorough study of an author's rhythmical practices. We did not include such clausulae in our statistical counts.

31. In our first study we tested sample proportions only against Descartes' prose. Here we tested each proportion against all three normative samples (Descartes, Calvin, and Cicero) in order to make a stronger statistical model.

accentual, then the frequencies of the metrical forms are tested against the normative values of ametrical prose for the presence of metrical clausulae. But if the text is shown to be accentual, then the frequency of the four metrical forms of the *cursus mixtus* is tested against the normative values derived from the medieval treatises. If the test-results demonstrate a correlation between the frequencies of the sample and the norm, then the text is accentual only. If, however, a significant difference can be proved, then the presence of the *cursus mixtus* can be inferred.

We then reexamined the accentual texts in our first study for the presence of the *cursus mixtus*. This afforded us the opportunity to check for validity the figures which we gave in our previous study for the prose rhythms of Jerome and Ambrose. For these two authors we had taken the values from two separate studies done by others and were not certain of their accuracy.³² Six new works were sampled: the *Epistolae* and *Relationes* of Symmachus; the *Epistolae* and *Confessiones* of Augustine; the *Codex Theodosianus*; and the *Novellae* of Theodosian II, Valentinian III, Majorian, Marcian, and Anthemius. We omitted the *Sermones* of Augustine to avoid the thorny issue of the authenticity of some of the sermons.

Clausulae were taken at random from each of the works in question. First we noted the accentual pattern, and then scanned the final eight syllables for any metrical scheme. This method allowed the simultaneous observation of the three characteristics of the *cursus mixtus*: a *cursus* form; a standard metrical scheme coinciding with the *cursus* form;³³ and a high coincidence of accent and ictus.

The frequencies of the accentual and metrical forms were tested in accordance with the methodological principles discussed above. The test data are given in full in table 1. The columns and headings are as follows. C signifies the number of the three *cursus* forms occurring in the sample, and NC the number of all other clausulae. The proportion of *cursus* forms in the sample (C divided by the total number of clausulae investigated) is given in the column marked P_c. This proportion was tested against the norms of nonaccentual prose for the presence of the *cursus*.³⁴ The test statistic of the χ^2 -test for the significance of difference between proportions is given in the column χ_c^2 . Because the degree of freedom is 1 and the confidence level is 95 percent in each testing procedure, the critical value is 3.84. This means that the probability is .05 that a value of χ^2 drawn at random from a normal distribution will exceed 3.84. Thus, if the value of χ_c^2 is greater than the critical value of 3.84, we can infer that the text displays intentional accentual rhythms; if less than or equal to 3.84, then no such rhythms can be inferred. Column M gives the total number of the four metrical forms as they occurred in the clausulae surveyed. Column NM states how many clausulae in the sample

32. Herron, Jerome, and Delaney, Ambrose.

33. That is, a cretic-spondee, dactylic, cretic-tribrach, or ditrochee.

34. For our testing procedure, see "A New Statistical Analysis."

did not contain one of the four forms. The column P_m records the proportion of the four metrical forms which were found in the whole sample. The χ^2 -test measured this proportion against the norms derived from the medieval treatises for the presence of the *cursus mixtus*. The test statistic, χ^2_c , is given in the next column. A value greater than 3.84 indicates the presence of the *cursus mixtus*; a value less than or equal to 3.84, the absence of it. The next column gives the final decision on the rhythmical nature of the text: *cursus*, *cursus mixtus*, metrical prose, or no rhythm. The probability of error in each final decision is .0975, or about one in ten.

A final note: in the interpretation of χ^2 -tests caution is necessary. Not every conclusion should be deemed final because of what statisticians call subject-to-subject variability: that is, the variability of the test-results due to the idiosyncrasies of the test-subjects. In the vast majority of cases in our survey there is no difficulty in interpreting the data. The χ^2 -values for such authors as Symmachus and the panegyrists are so high that immediate conclusions can be drawn. In certain other cases, however, factors other than rhythmical considerations may well be partly responsible for the observed correlation of or significant difference between norms and sample. For example, the choice of words, syntactical constructions, grammatical forms, or subject-matter peculiar to a given author can cause a lower or higher statistical count of accentual and metrical forms. Or, an author may have only a moderate inclination to the strict forms of the *cursus mixtus* and will use by-forms like the *cursus trispondaicus* and the trochee-cretic. Or, an author may from personal preference use a tempered *cursus mixtus*; Augustine himself, for example, says that he used prose rhythms only *modeste*.³⁵ Or, finally, linguistic factors, such as dialectal features and isoglosses, can affect the numbers in the table. The optimum procedure is an investigation of all the clausular typologies in a given work in conjunction with the style, content, and audiences. Until the results of such an investigation are available, we can do no better than to quote T. Janson:

Naturally, the fact that we need a sensitive statistical method [the χ^2 -test] to show what medieval authors really wanted to do means that we are not in a position to appreciate esthetically their stylistic ambitions. This is deplorable, of course. However, an investigation of the history of the *cursus* is justified rather because it may throw some light on the history of Latin literature in general than because there is any hope of finding anything very interesting about how we apprehend the esthetical qualities of prose style.³⁶

II

Scholars have previously assumed that the dominance of the *cursus mixtus* represented a period of transition from a purely metrical system

35. See *De doct. Christ.* 4, 41–42.

36. *Prose Rhythm*, pp. 27–28.

TABLE 1

DATE (A.D.)	AUTHOR AND TEXT	C	NC	P _c	χ^2_c	M	NM	P _m	χ^2_m	DECISION
?	(?)Apuleius									
	<i>De Platone</i>	218	90	.708	16.35	215	93	.698	13.55	<i>cursus mixtus</i>
	<i>De mundo</i>	206	84	.710	16.20	197	93	.679	9.01	<i>cursus mixtus</i>
	<i>Epil' épurpetas</i>	114	53	.683	6.18	103	64	.617	0.86	<i>cursus</i>
	<i>Asclepius</i>	245	106	.698	15.46	200	151	.570	0.51	<i>cursus</i>
fl. 200-240	Minucius Felix	421	162	.722	32.67	460	123	.789	74.78	<i>cursus mixtus</i>
ob. 258	Cyprian									
	<i>De lapsis</i>	236	41	.852	69.72	221	56	.798	44.10	<i>cursus mixtus</i>
	<i>De mortalitate</i>	193	39	.832	51.12	198	34	.853	60.39	<i>cursus mixtus</i>
fl. 295	<i>De habitu virginum</i>	203	58	.778	34.51	205	56	.785	37.07	<i>cursus mixtus</i>
240-320	Arnobius	402	39	.912	155.73	377	64	.855	106.72	<i>cursus mixtus</i>
	Lactantius									
	<i>Inst. divinae</i>	327	212	.607	1.15	357	182	.662	118.75 ^a	metrical prose
	<i>De opificio Dei</i>	291	118	.711	21.63	275	134	.672	10.26	<i>cursus mixtus</i>
	<i>De mortibus persec.</i>	315	129	.709	22.29	304	140	.685	14.20	<i>cursus mixtus</i>
	<i>De ira Dei</i>	199	81	.711	15.83	199	81	.711	15.44	<i>cursus mixtus</i>
	<i>Epitome inst. div.</i>	288	147	.662	8.81	298	137	.685	14.08	<i>cursus mixtus</i>
21 April 289	<i>Panegyricus Latinus X</i>	155	50	.756	22.14	158	47	.771	25.62	<i>cursus mixtus</i>
21 July 291	<i>Panegyricus Latinus XI</i>	171	55	.757	24.26	173	53	.765	26.40	<i>cursus mixtus</i>
1 March 297	<i>Panegyricus Latinus VIII</i>	182	47	.795	36.49	194	35	.847	56.87	<i>cursus mixtus</i>
Spring 298	<i>Panegyricus Latinus IX</i>	135	64	.678	6.66	144	55	.724	13.88	<i>cursus mixtus</i>
31 March 307	<i>Panegyricus Latinus VII</i>	151	40	.791	29.89	151	40	.791	29.47	<i>cursus mixtus</i>
July 310	<i>Panegyricus Latinus VI</i>	172	50	.775	29.12	178	44	.802	37.61	<i>cursus mixtus</i>
312	<i>Panegyricus Latinus V</i>	125	35	.781	23.24	123	37	.769	19.97	<i>cursus mixtus</i>
313	<i>Panegyricus Latinus XII</i>	176	56	.759	25.38	172	60	.741	20.26	<i>cursus mixtus</i>
1 March 321	<i>Panegyricus Latinus IV</i>	257	65	.798	50.20	259	63	.804	53.44	<i>cursus mixtus</i>
1 June 362	<i>Panegyricus Latinus III</i>	226	49	.822	54.40	210	65	.764	30.75	<i>cursus mixtus</i>
389	<i>Panegyricus Latinus II</i>	347	78	.816	73.98	350	75	.824	80.18	<i>cursus mixtus</i>
ob. ca. 395	Ammianus Marcellinus	525	29	.948	235.66	321	233	.579	0.29	<i>cursus</i>
ob. ca. 395	Ausonius, <i>Gratiarum actio</i>	195	37	.841	54.77	192	40	.828	49.14	<i>cursus mixtus</i>
ob. 402	Symmachus									
	<i>Orationes</i>	449	39	.920	178.71	452	36	.926	190.14	<i>cursus mixtus</i>
	<i>Epistolae</i>	583	62	.904	199.94	583	62	.904	207.24	<i>cursus mixtus</i>
	<i>Relationes</i>	432	36	.923	176.06	427	41	.912	168.09	<i>cursus mixtus</i>

ob. 397	<i>Vita Malchi</i>	68	39	.636	1.13	45	62	.421	1.06 ^a	no rhythm
	<i>Vitae Paul. et Hil.</i>	190	99	.657	5.69	159	130	.550	1.34	<i>cursus</i>
	<i>Contra Rufinum</i>	321	102	.759	41.45	255	168	.603	0.69	<i>cursus</i>
	<i>Epistolae</i>	347	86	.801	65.45	322	111	.744	35.40	<i>cursus mixtus</i>
	<i>De vir. ill.</i>	166	151	.524	2.57 ^b	133	184	.419	1.79 ^a	no rhythm
	<i>Adversus Pelag.</i>	330	110	.750	38.49	252	188	.573	0.45	<i>cursus</i>
	<i>Comment. in Isaiam</i>	338	101	.770	48.21	266	173	.606	0.87	<i>cursus</i>
	Ambrose									
	<i>De excessu fratris</i>	239	75	.761	33.65	210	104	.669	7.64	<i>cursus mixtus</i>
	<i>De paradiso</i>	254	104	.709	18.93	219	139	.612	1.10	<i>cursus</i>
ob. 430	<i>De virginibus</i>	336	72	.824	76.18	297	111	.728	27.34	<i>cursus mixtus</i>
	<i>De officiis</i>	176	158	.527	2.35 ^b	138	196	.413	2.06 ^a	no rhythm
	<i>De mysteriis</i>	131	44	.749	17.60	111	64	.634	1.76	<i>cursus</i>
	<i>In Psal. 118 exp.</i>	276	116	.704	18.64	220	172	.561	0.90	<i>cursus</i>
	<i>Hexaemeron</i>	235	92	.719	20.23	200	127	.612	1.04	<i>cursus</i>
	<i>De bono mortis</i>	251	103	.709	18.64	197	157	.556	1.11	<i>cursus</i>
	<i>Epistolae</i>	229	83	.734	24.07	177	135	.567	0.57	<i>cursus</i>
	<i>De obitu Theod.</i>	228	50	.820	54.12	193	85	.694	11.61	<i>cursus mixtus</i>
	<i>De sacramentis</i>	226	82	.734	23.76	173	135	.562	0.77	<i>cursus</i>
	<i>De lapsu virg.</i>	135	45	.750	18.36	96	84	.533	1.85	<i>cursus</i>
438 5th century	Augustine									
	<i>Confessiones</i>	151	136	.526	2.15 ^b	115	172	.401	1.07 ^a	no rhythm
	<i>Epistolae</i>	366	108	.772	52.30	316	158	.667	10.07	<i>cursus mixtus</i>
	<i>De civitate Dei</i>	323	88	.786	54.12	268	143	.652	6.15	<i>cursus mixtus</i>
	<i>Codex Theodosianus</i>	811	89	.901	251.13	657	243	.730	50.48	<i>cursus mixtus</i>
	<i>Novellae of Theodosius II,</i>	452	48	.904	163.96	370	130	.740	37.84	<i>cursus mixtus</i>
	Valentinian III, Majorian,									
	Marcian, and Anthemius									
	Ennodius, <i>Panegyricus</i>	248	48	.838	66.05	235	61	.794	45.01	<i>cursus mixtus</i>
	ob. 521									

^aBecause the text in question has been identified as nonaccentual, the frequencies of the four metrical forms in the text were tested against the normative values for nonmetrical prose derived from Thomas Hobbes' *De civitate* and the translations of Origen's works in *PG* 11. The χ^2 -test statistic, given here in column χ^2 , was compared against the critical value of 3.84. A value beyond 3.84 indicates metrical intentions; a value less than 3.84, no such intentions.

^bThe χ^2 -value appears deceptively close to the critical value, and thus could lead one to surmise that some degree of accentual rhythm is indicated. However, the sample proportion is noticeably lower than the normative values of Descartes, Calvin, and Cicero, which are approximately .570. We are here concerned only with those cases in which the sample proportion is significantly beyond the normal range. Therefore a moderately high value of χ^2 , if the proportion is less than the norm, is not important, since that value tells us only that the text is in fact unaccentual.

to purely accentual rhythms. A transition implies experimentation and a stage of development, during which one system is ultimately forsaken for another. To be sure, experimentation and development in prose rhythms are detectable in the era in question; however, it would be a mistake not to recognize the individuality, originality, and success of the *cursus mixtus*.

Our test data demonstrate that the majority of Latin authors in the period from the third through the fifth centuries used a rhythmical system that was accentual and, at the same time, accommodated certain metrical forms as well. On the basis of the available evidence, we can identify Minucius Felix as the earliest writer who used the *cursus mixtus*. The presence of the same style in works by Cyprian and Arnobius suggests that the *cursus mixtus* was fully entrenched as a stylistic device among authors of the third century. We should be wary, however, of regarding Minucius' *Octavius* as extraordinary or innovative with respect to the rhythms employed. The dearth of surviving literature in the period A.D. 150–250 warns against drawing many conclusions about that age. Moreover, if there were more agreement about the genuineness of the *De mundo* and the *De Platone* attributed to Apuleius, we would be obliged to move back by several generations the first extant examples of the *cursus mixtus*, since both works contain this system. While our research so far sheds no light on the question of the possible spuriousness of the *De mundo* and the *De Platone*, we can at least discount a reservation about their authenticity which is based solely on the argument that the genuine works of Apuleius employ a purely metrical system:³⁷ for we have detected differing rhythmical styles in the works of Lactantius, Jerome, Ambrose, and Augustine.

Contemporary with Arnobius and extending down to the end of the fourth century is a series of panegyrical and other texts by Gallic writers. We may include in their number the works of Ausonius and even Symmachus, since the latter was a panegyrist himself and was trained by a Gallic rhetor. The Gallic writings, without exception, display the *cursus mixtus*. Datable to A.D. 313–468, and thus roughly of the same period as the Gallic writings, are the *constitutiones* included in the *Codex Theodosianus* and the *Novellae*. Unlike other works we have surveyed, these legal writings are not the product of identifiable authors but rather of anonymous law clerks in the imperial chancery. The presence of the *cursus mixtus* in the legal texts provides excellent evidence for the general acceptability of this rhythmical system.

Most striking is the prose of Symmachus and Ammianus. Among all the authors in our survey who employ the *cursus mixtus*, Symmachus' clausulae are marked by the highest incidence of metrical and accentual

37. Cf. the reviews by R. Browning in *CR* 11 (1961): 299–300, and J. Rexine in *CP* 57 (1962): 40–41, of J. Redfors, *Echtheitskritische Untersuchung der apuleischen Schriften "De Platone" und "De Mundo"* (Lund, 1960), which discusses the role of the accentual rhythms in determining the authenticity of Apuleius' works.

forms. In his *Orationes*, *Epistolae*, and *Relationes*, respectively, metrical schemes occur at rates of 92.6, 90.4, and 91.2 percent, while accentual patterns are found at rates of 92, 90.4, and 92.3 percent. The high proportion of accentual forms in Symmachus is surpassed only by the proportion (.948) found in Ammianus. Thus both authors, who lived and wrote at Rome as contemporaries, display unparalleled adherence to accentual forms; and yet, each did so for different reasons. Symmachus, in selecting clausulae acceptable both accentually and metrically, far surpassed the tendency of his age to employ the *cursus mixtus*. Ammianus, on the other hand, eschewed the metrical forms and in fact anticipated the medieval *cursus*³⁸ more strikingly than any other author whose works we have judged to be purely accentual. What prompted Ammianus to adopt the *cursus* is not readily apparent.

The *cursus mixtus* reaches its zenith in Symmachus' prose; this in turn seems to signal the end of an era. Symmachus' Christian contemporaries—Ambrose, Jerome, and Augustine—and even the earlier Lactantius may well reflect the fact that fundamental changes are afoot in prose rhythms.³⁹ We can briefly summarize our findings to date in these authors.

Lactantius, a pupil of Arnobius, followed his master's practice in employing the *cursus mixtus* in his *De opificio Dei*, *De mortibus persecutorum*, *De ira Dei*, and *Epitome institutionum divinarum*. But, as an imitator of Cicero's classical style in general, he employed purely metrical rhythms in his *Institutiones divinae*, the only instance of such clausulae that we have detected in late imperial Latin. The choice of rhythms in this work may be dictated by the audience—pagan, as opposed to the Christian audiences of the other works.

We detected no rhythm at all in Ambrose's *De officiis*, Jerome's *Vita Malchi* and *De viris illustribus*, and Augustine's *Confessiones*. Among the eleven other works of Ambrose in our survey, the *cursus mixtus* occurs only in the *De virginibus*, the *De excessu fratris*, and the *De obitu Theodosii*; accentual forms alone characterize the remaining eight. Of the five other works of Jerome in our study, four display the *cursus*, and only the *Epistolae* have the *cursus mixtus*. The *cursus mixtus* is also present in Augustine's *Epistolae* and *De civitate Dei*. It should also be noted that, in the majority of these Christian texts which have been determined to contain the *cursus mixtus*, the incidence of metrical forms is rather low (under 70 percent) in comparison with other writings displaying the *cursus mixtus*.

It is clear that the rhythmical tendencies of Jerome, Ambrose, and Augustine are not readily definable, on the basis of the works we have tested so far. Any meaningful study and understanding of their clausular intentions must await the testing of the remainder of their considerable

38. See n. 29 above.

39. The rhythmical properties of the works by Jerome and Ambrose revealed by our investigation are in certain cases different from what we had stated in our earlier paper, for which we used values from two previous studies (see n. 18 above). Our observations here are made on the bases of our own test results and are therefore more reliable.

corpora with our statistical methodologies. Likewise, Lactantius' ambiguous rhythmical practices may be better understood when they are compared with his Christian successors as well as with his antecedent models.

The late fifth-century Ennodius, in displaying a pronounced use of the *cursus mixtus*, recalls the third-century Africans and the Gallic authors more than his immediate Christian predecessors.

III

Now that we have reached some firm conclusions about how accentual rhythms were used in the late imperial period (that is, largely in the *cursus mixtus*), we can address more confidently the question of their provenance and the means by which they were introduced. On the basis of the evidence at hand, it seems likely that at some time in the late second to early third centuries African schools (of which Minucius, Cyprian, Arnobius, and Lactantius were products) began teaching a new clausular system which incorporated both accentual and metrical patterns. Augustine, although writing some two centuries later, may suggest why African schools had paid special attention to accentual schemes. In his *De doctrina Christiana* he describes his fellow Africans' inability to distinguish between long and short vowels.⁴⁰ W. S. Allen, in fact, has shown that an appreciation of metrical clausulae would have been attained only by an elite well versed in the Greek origins of the metrical forms.⁴¹ We can easily imagine that metrical clausulae would have escaped the notice of an African audience already unsure of syllabic quantity.⁴²

We may conclude, therefore, that the schools originated a rhythmical system which reflected the speech patterns of their constituents at large and, at the same time, preserved the traditional meters for those well trained in the classics. Now the ear attuned to common speech patterns was on a par with the better-trained ear which appreciated the metrical forms imposed on Latin from Greek models, and each could recognize a clausula by the sound of a familiar cadence. The *cursus mixtus* was nothing short of revolutionary, in that it was an artistic system which could appeal to both the learned and the untrained. Although the *cursus mixtus* was a compact system, consisting of both metrical and accentual rhythms, it could still easily function as a vehicle of transition in this respect: if the memory or appreciation of the traditional meters grew faint, or if a particular author desired to eschew the metrical forms, a

40. *De doct. Christ.* 4. 24. Cf. Consentius *GL* 5: 391–92 and August. *Enarratio in Psalmum* 138 20.

41. *Accent and Rhythm*, pp. 339–40.

42. This point has been more fully developed by L. Stephens, "Some Generalizations Concerning Syllable Quantity in Late Latin Clausulae," forthcoming in *Phoenix*, and "The Shortening of Final -o in Classical Latin: A Study of Multiple Conditioning and Lexical Diffusion of Sound Change," forthcoming in *Indogermanische Forschungen*.

rhythmical system capable of being distinguished by all alike—the accentual *cursus*—would remain. Such was the course taken by Ammianus, Ambrose, and Jerome, but these appear to be exceptions:⁴³ for the evidence which we have assembled thus far demonstrates that the *cursus mixtus* was the widely accepted clausular style in late imperial Latin prose.

Texas Tech University
St. Bonaventure University

43. We exclude Apuleius from this group, since the two purely accentual works ascribed to him, the *Asclepius* and *Περὶ ἑρμηνείας*, are universally regarded as spurious.