

ON MUSIC

(De musica)

Translated

by

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INTRODUCTION

THESE SIX BOOKS *On Music* were begun, before Augustine's baptism, at Milan in 387 A.D., and finished later in Africa, after the *De magistro* in 391.¹ While they are, therefore, among the earliest work of his career, they are not the earliest, but follow the four philosophical dialogues of Cassiciacum. They also straddle the period of the *De immortalitate animae*, the *De quantitate animae* and the *De libero arbitrio*. They are, however, only one of a series of treatises on the liberal arts which Augustine started, but never finished. He speaks of finishing one on Grammar and of starting one each on Dialectic, Rhetoric, Geometry, Arithmetic, and Philosophy.² Treatises on Grammar, Rhetoric, and Dialectic which have come down to us under his name were not accepted as genuine by the Benedictines. Recent scholars accept the last one as being a draft of the original done probably by Augustine himself, and are doubtful about the first two.³

But if these six books *On Music* are only a fragment of a projected cycle on the liberal arts, they are, also, only a fragment of a larger treatise on music. They are, in the words of Augustine, 'only such as pertain to that part called Rhythm.'⁴ Much later, in writing to Bishop Memorius, he speaks of having written six books on Rhythm and of having

1 See *Retractationes*, 1.6,11, Migne 33, and Portalié, 'Augustin,' in DTC.

2 *Retract.* 1.6.

3 See Marrou, *St Augustin et la fin de la culture antique* 576-578, for a discussion of the authenticity of *De dialectica*.

4 *Retract.* 1.6.

intended to write six more on Melody (*de melo*).⁵ As we shall see, this intended part would have been a treatise on Harmonics.

It is necessary, for the understanding of these books on Rhythm, to know what the ancients meant by music, by rhythm, and by melody. It is true St. Augustine tells us that, of these six books, the first five on rhythm and meter are trivial and childish,⁶ but this is a rhetorical statement to introduce to us to the more serious business of the sixth book on the hierarchy of numbers as constitutive of the soul, the universe, and the angels. In the same letter to Memorius, written about 408 or 409 A.D., he also distinguishes the first five books from the sixth, considering them much inferior, and sends him only the sixth. This has given Westphal the opportunity to indulge in irony, to agree with Augustine, and so to dismiss his treatment of rhythm and meter as something strange and foreign to the correct ancient theories.⁷ But Westphal, in his passion for everything Aristoxenian, did not always have good judgment; in another case, that of Aristides Quintilianus, he sacrificed a really excellent treatise on music, the only complete one to come down to us from the ancient world, as only a source of fragments of Aristoxenus. Schäfke, in a recent book,⁸ has tried to bring Aristides' work back to its proper place.

It is usually dangerous procedure to ignore the technical details a thinker uses to test or suggest his general and more seductive theories. It is too easy to overlook the first five books and to concentrate on the sixth. It would seem neces-

⁵ *Epist.* 101 (Paris 1836).

⁶ *On Music*, 6.1.

⁷ R. Westphal, *Fragmente und Lehrsätze der Griechischen Rhythmiker* (Leipzig 1861) 19.

⁸ R. Schäfke, *Aristeides Quintilianus von der Musik* (Berlin-Schöneberg 1937).

sary, rather, to place these five technical books in the general picture of the theory of ancient music, and to try and read from the Augustinian variations on the ancient themes the intentions of his mind and doctrine.

As we have said, the only complete treatise on music to come down to us from the Greeks or Romans is that of Aristides Quintilianus, a Greek of probably the first part of the second century A.D.⁹ There are a good many treatises on harmonics, those written from the Pythagorean point of view such as the Harmonics of Nicomachus, of Ptolemy, and of Theo of Smyrna, and the Harmonics of Aristoxenus from a less directly mathematical viewpoint. The treatise of Aristides combines the two approaches.

The Pythagorean harmonics starts from the fact that two strings of the same material and thickness, stretched by the same weight, form the two fundamental consonances (for the Greeks the only two) when they are in length in the ratio of 2 to 3 (the perfect fifth) and 3 to 4 (the perfect fourth). Thus, in moving from the lower to the higher pitch of the perfect fourth, the ear rests and is satisfied, and in passing from the higher to the lower pitch of the perfect fifth it also rests. For ancient music, no other ratios or intervals provided such a rest. Further, if from the first pitch to the second is a perfect fourth, and from the second to the third is a perfect fifth, then from the first pitch to the third is an interval called the octave, the ratio of the string lengths being $4/3 \cdot 3/2 = 2/1$. The characteristic of this interval is that the higher pitch seems to repeat the lower pitch and vice-versa: the higher pitch can replace the lower one (and vice-versa) in its relations with other pitches without changing the essential character of the relation. The octave, therefore, furnishes a cyclic

⁹ See Schäfke, *op. cit.*, for full discussion of possible dates.

pattern for the musical relations.¹⁰ From the Pythagorean point of view the problem of musical intervals is the problem of whole-number ratios, the smallest possible numbers furnishing the octave and the next smallest the consonances.

The further musical problem was to fill in this octave, made up of the fourth and fifth, with other pitches to make a *systema* or scale. The interval between the fourth and fifth, called the tone, was taken as fundamental here, that is, in ratios of string-lengths $3/2$ divided by $2/3 = 9/8$. The diatonic scale is built by taking two pitches at intervals of a tone from the lower pitch of the fourth. What is left over of the fourth is called a leimma: $4/3$ divided by $(9/8 \cdot 9/8) = 256/243$, which is approximately a semitone. That is, two such leimmas add up nearly to a tone $(256/243)^2$ nearly equals $9/8$. This is the diatonic scheme of the fundamental tetrachord. The scale can be completed by adding a tone and then another such tetrachord to fill out the octave: $(9/8)^2 \cdot 256/243 \cdot (9/8)^3 \cdot 256/243 = 4/3 \cdot 3/2 = 2/1$. This is one mathematical and one musical solution of the problem of the octave.¹¹ There were other solutions. It is also possible to combine tetrachords in other ways: either by taking the upper pitch of the fourth as the beginning of a new tetrachord and so continuing, or by constantly jumping a tone before beginning the new tetrachord.¹² But neither of these last two ways solves the problem of the octave as the first one which alternates the two.

10 For the reader interested in a more extended account of such relations there is the introduction to Lord Rayleigh's *The Theory of Sound*.

11 See Plato, *Timaeus* 35-36, for a particularly fine derivation of this solution. See also Theo of Smyrna, for a second-hand account.

12 Aristoxenus, *Harmonica* I 17, III 59. See also introduction by Mactan to his edition, pp. 10-17.

Such principles could not be confined by Greek consonances. They could extend themselves to all kinds of relations, indeed to any relation. And although the purely Greek restrictions could be given a mathematical rationale in contradiction to what Aristoxenus and his modern supporters have had to say, since the supply of mathematical relations is seemingly inexhaustible and all plastic, yet Aristoxenus, a pupil of Aristotle, preferred to build a system which, if not totally unmathematical, preserving as it does a necessarily ordinal character, is certainly non-arithmetical. 'The science [of harmonics]' says Aristoxenus, 'is reduced to two things: hearing and reason. For by hearing we distinguish the magnitudes of the intervals, and by reason we consider the potentialities of the notes.'¹³ By potentialities of the notes, he means their functions within a system of notes, a system which in turn obeys the fundamental restriction that the only consonances are the fourth, fifth, and octave, perceived as such by the ear. The tone is the interval which is the difference between the fourth and fifth as perceived by the ear. The fourth is the invariant interval to be filled in by two movable notes and only two. The movable notes can take their places continuously within certain limits, and these limits are further subdivided so that the positions of these movable notes fall into three classes which define the three kinds of scales: the diatonic, chromatic, and enharmonic. It is not necessary for our purpose to discuss these in detail. The tetrachords so formed can be added to each other (but only those of the same kind) by disjunction, by conjunction, or by a combination of both, as we have already explained above, that is, with a tone between, no tone between, or first one way, then the other.

¹³ *Ibid.* II 33.4-9.

The upper note of the lower tetrachord, that is, the upper limit of the lower fourth, properly filled in with the two movable notes, is called the mese and is the functional center of the system of two tetrachords; the potentiality of every note in the scale is with reference to this mese.¹⁴ True, one or more of the lower notes of the lower tetrachord might be moved up an octave, or down an octave, and the pitch of the mese relative to the other notes would be different. With the survival of only the one method of combining tetrachords, by alternate conjunction and disjunction, the different relations of pitch of the mese gave rise to the *tropoi* or modes of the one series of notes.¹⁵ In these different modes the mese is no longer the center by position, but it remains the musical center.

Such, then, is the non-arithmetical Greek theory of harmonics which confines itself to principles laid down within a certain idiom of notes, abstractions from a certain ordered experience, but not constitutive of that experience as in the Pythagorean theory.

No strictly Pythagorean treatise on rhythm exists, and of the Rhythmics of Aristoxenus we have only the fragments piously and passionately collected by Westphal, first in *Fragmente und Lehrsätze der griechischen Rhythmiker* and last in *Aristoxenos von Tarent, Melik und Rhythmik des Classischen Hellenenthums*. A fragment of the Oxyrhynchus Papyri is also attributed to him. But the essential theses are repeated in Aristides Quintilianus. In both of these writers a clear distinc-

¹⁴ *Ibid.* II 33.32-34 10; Aristotle. *Problems* XIX 20; also Ptolemy, *Harmonica* II 7. quoted by Mactan in his Introduction.

¹⁵ This, at least, is the interpretation of Mactan, which certainly fits the facts and the texts better than the opposing theories of Westphal and Mommsen; see *Introd.* to *Harmonica* 21-40. See the same work also for an account of the extension of the octave and the consequent emergence of the modes as *tónoi* or keys.

tion is made between rhythmic and metrics, a distinction not so clear in Augustine and other Latin writers.

For Aristides, music is divided into theoretical and practical. The theoretical, in turn, is divided into the technical and natural, that which has to do with the art and that which has to do with the nature. The technical is divided into three parts: harmonics, rhythmic, and metrics. The natural is divided into two parts: the arithmetical and the physical. On the other hand, the practical is divided into the applied and the expressive. The first of these is divided into melopoeia, rhythmopoeia, and poetry, and the second into instrumental, vocal, and declamatory.¹⁶

And so the first book of Aristides' treatise is devoted to the discussion of the technical part of theoretic music: harmony, rhythm, and meter; the second book to ends served by the practical part of music: education and the State; the third book to the discussion of the natural part of theoretic music: whole-number ratios and cosmology. Thus, Aristides quite rightly assigns the Aristoxenian theory its place within the science of music as a technique, an art depending for its real validity on the Pythagorean theory. And he might well have added that it is only one of a possible many, a restricted set of rules, a particular idiom compared to the *mathesis universalis* of the Pythagorean theory.

Let us, then, focus our attention on rhythm. 'Rhythm,' say Aristides, 'is a scale of times collated in a certain order, and their affects we call arsis and thesis, strong and weak.'¹⁷ 'Rhythm is determined in speech by syllables, in melody by the ratios of arsis and thesis, in movements by the figures and their limits And there are five parts of the art of rhythm.

¹⁶ Aristides, *op. cit.*, ed. Meibom, I 7.8.

¹⁷ *Ibid.* I, p. 49. We give only an outline here. Detailed discussion will be found in our notes to the treatise.

For we divide it thus: (1) in primary times, (2) on kinds of feet, (3) on rhythmical tempo, (4) on modulations, (5) on rhythmopocia.¹⁸ A rhythmical foot is a part of the whole rhythm by means of which we comprehend the whole. And it has two parts, arsis and thesis.¹⁹ And there are three kinds of rhythmical foot according to the ratio of arsis and thesis: the one-one ratio, the one-two, the two-three, and sometimes a fourth, the three-four. But the inner structure of these ratios is conditioned by the order of long and short syllables and, therefore, by the thing rhythmized.

'Metres,' says Aristides, 'are constructed of feet. Then meter is a scale of feet collated of unlike syllables, commensurable in length.'²⁰ Some say meter is to rhythm as part to whole; some, as matter to form; some say that the essence of rhythm is in arsis and thesis, and the essence of meter is in syllables and their unlikeness. And for this reason rhythm is constructed of like syllables and antithetical feet, but meter never of syllables all alike and rarely of antithetical feet.²¹ Therefore, rhythm is the repeated sameness of ratio of arsis and thesis, which informs the syllables of speech, giving a variety of meters according to the variety of syllable structures and the variety of strong and weak.

If we compare Augustine's treatise with the traditional ones and, in particular, with that of Aristides, it does not appear as strange as some would make it out. The first five books deal with rhythm and meter. The last book deals with music in its cosmological and theological aspects, correspond-

¹⁸ *Ibid.* I, p. 32.

¹⁹ *Ibid.* I, p. 34.

²⁰ *Ibid.* I, p. 49.

²¹ *Ibid.* I, pp. 49-50. See note to Book 2 p. 226, for discussion of meaning of 'antithetical.' In any case, Aristides seems here to consider rhythm as only concerned with the ratio of arsis and thesis. Strong and weak as affects of the collated time of rhythm apparently belong to meter rather than to rhythm.

ing to the last book of Aristides and to the well known tradition of the *Timaeus*. The six books which were never completed would have dealt with harmony. All this is perfectly obvious and perfectly usual. It is, therefore, a grave mistake to accuse Augustine, along with Plato, of being unfortunately ignorant of musical sensibility and of the theory of it so highly developed in the nineteenth century. It is obvious that, in the case of both, the emphasis on music as a liberal art and science is the result of their being so well aware of the dangers of musical sensibility and of the consequent disorders arising from the irresponsible independence of music as a fine art. The mathematical theory of music has had a long and fruitful career, taking in such names as Ptolemy and Kepler; it has no apologies to make. The remarks of Laloy and Marrou and others like them on this subject, therefore, are quite beside the point.

If Augustine's treatise as a whole is well within the tradition, so also are the details of his treatment of rhythm and meter. The emphasis is decidedly on rhythm in the meaning of Aristides, and meter in any important sense is almost wholly ignored. For Augustine, there are two principles of rhythm which cannot be violated: the rhythmical feet must be equal with respect to the number of primary times, and the ratio of arsis and thesis within the rhythmical foot must be kept constant. The metrical foot, then, is entirely subservient to these two rhythmical principles and no deviation seems to be allowed; this subservience goes so far as to allow the complete dissolution of the molossus into its primary times for the sake of rhythm. There is no mention in Augustine of the rhythmical modulation found in Aristides, and, indeed, to some commentators trained in the tradition of certain Latin grammarians, it has seemed that Augustine tortures one line of poetry after another to fit them into the mold of his rhythmical

principles. Every pleasing appearance must be explained by them. And Augustine pushes his investigations much like a physicist who must explain every phenomenon in the light of his fundamental premises. The use of the musical rest is one of his favorite devices in accomplishing this. But the theory of the musical rest, without any application, appears in Aristides' treatise, and there is evidence that the use was quite in tradition, although in a tradition different from that of the Latin grammarians such as Diomedes and Victorinus.²² Yet the severity of Augustine's doctrine is remarkable, and, as we suggest later in our notes, seems to be the result of a deliberate attempt to restore a purely musical science of rhythmic against the usages of a whole tribe of grammarians and rhetoricians.

Given the Pythagorean themes of Augustine's dialectic in Book VI, this is not a surprising attempt. If it is also remembered that Augustine stands at the end of the classical quantitative metric and at the beginning of the stress or accentual metric, there may even be more point to it. In the quantitative metric, the thing rhythmized is informed by the rhythm through the pattern of primary times given by the syllables; in the stress metric it is the stress that determines the pattern primarily and the syllables only determine it secondarily. Since the stress is associated with each word as a whole, the stress metric gives more prominence to the word as a unit than does the quantitative metric. In the confused situation of metrics, the Augustinian theory, although it takes as its base the quantitative syllable with many protests at its mere conventionality, arrives at a pure musical rhythmic of whole-number ratios which can well apply to any system

²² The justification for these general remarks will be found in the notes to the treatise itself.

of metrics whatever. It stands above the metrical conflict of the period, therefore, and is, as Augustine continually points out, a purely musical discipline and not a grammatical one. Questions of stress, of the relative position of arsis and thesis, and even of syllabic quantity, are simply modes by which rhythm is incarnated in the rhythm; they are not of its essence. And so Augustine gives the very innocuous definition of meter as the measuring off of rhythms, but a definition wholly traditional and mentioned by Aristides Quintilianus.

At first glance, we are tempted to consider the great concern of Augustine with these details of rhythm and meter as something of a tragedy. If we think of the comparable mathematical concerns of Plato, those of Augustine seem trivial, unworthy vehicles of the weighty dialectical truths they are supposed to carry. We think of Augustine as the victim of a period which had lost the profound mathematical insight of the great Greek age and could offer little for those living in it to reason on. There was not much a deep and sensitive soul could avail itself of, to escape the all-pervading rhetoric. But such a view is, perhaps, too simple, true in part though it may be.

For anyone reading the treatise *On Music* and then Books X and XI of the *Confessions*, the dovetailing of the themes is striking. Augustine remains a rhetorician. But, from the frivolous rhetorician that he was before his conversion, he becomes the real rhetorician, he who wins the outer to the inner man, the world to number, and the soul to its Redemption. Again and again he returns to the example of the syllable as a strange arbitrary quantum of time and of motion. And, properly, the locus of this rhetorical problem is the problem of motion and time. For, if time is an irreversible succession of before and after, then there is no Redemption possible; what has been, has been. And if mind and sense

are to have a common point, it must be in memory and time, where motion as pure passage is caught in its numerableness and unchangingness, and number in its immobility is incarnate in change.

The problem of motion and time is also the focus for the problem of creation. Each moment of time, appearing ever as something new from a relative non-being, is symbolic of creation *ex nihilo*. If one is hypnotized as Aristotle by the successiveness of time, then no creation *ex nihilo* seems possible. But Plato sees not only this aspect, but the aspect of 'jump,' of the discontinuous and abrupt instant, indicative of the radical contingency of all temporal appearance. So, too, Augustine is fascinated by these instants which are and are not, and which are really understood only in so far as they are held distinct and together in the memory, just as the creation is only a whole and its parts as seen in Christ.

Memory, in the *Confessions*, is a principle of intellectual mediation like Christ. Through it the past is and the future is, and, therefore, through it repentance and salvation are possible. It is a cry of intellectual triumph, the cry of Augustine, '*In te, anime meus, tempora metior.*' For now necessity is overruled and the struggle with the implacable is won, not by denying nor escaping it, but by mediation and comprehension.

This is the train of thought begun in the treatise *On Music*, where Augustine finds his attention strained to number at the point where body meets soul and action meets passion, in the rhythmical song and speech of man.

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ON MUSIC

BOOK ONE

The definition of music is given; and the species and proportion of number-laden movements, things which belong to the consideration of this discipline, are explained.

Chapter I

(1) *MASTER*. What foot is 'modus'?

DISCIPLE. A pyrrhic.

M. And it contains how many times?¹

D. Two.

M. What foot is 'bonus'?

D. The same as 'modus.'

M. So, what is 'bonus' is also 'modus.'

D. No.

M. Why are they, then, the same?

D. Because they are the same in sound, but other in signification.

M. You say, then, the sound is the same when we say 'modus,' and when we say 'bonus'.

D. I see of course they differ in the sound of the letters, but are otherwise alike.

M. Now when we pronounce the verb 'pone' and the adverb 'pone,' except for the difference in meaning, do you perceive no difference in sound?

D. There is quite a difference.

¹ The doctrine of the *tempus*, or *prótos chrónos*, is more thoroughly examined in 2.2.

M. Where is the difference, since both consist of the same times and the same letters?

D. The difference is they have the acute accent² in different places.

M. Now to what art does it belong to distinguish these things?

D. I have always heard them from grammarians, and that is where I learnt them. But whether they are proper to this art or taken from somewhere else, I don't know.

M. We shall see later. But for the present I shall ask you this. If I should strike a drum or a string at the same intensity and speed we pronounce '*modus*' or '*bonus*,' would you recognize the times to be the same or not?³

D. I should.

M. Then you would call it a pyrrhic foot.

D. I should.

M. Where did you learn the name of this foot; wasn't it from the grammarian?

D. Yes.

² The problem of the accent is never mentioned again in this treatise. This is probably because it is considered by Augustine as belonging to the purely grammatical side of metrics and not properly to rhythmic and music. As we shall see later, Augustine's definition and treatment of meter is a purely rhythmical and musical one.

If Nicolau is right, the accent, however, played a conspicuous role in the development of the vocal ictus as distinguished from the purely mechanical ictus. See his *L'Origine du 'cursus' rythmique et les débuts de l'accent d'intensité en latin* (Paris 1930). The fusion or confusion of the vocal ictus and the accent will in turn radically change the material to be rhythmized and finally establish accentual meters in the place of quantitative meters.

³ The primacy of rhythm and beat and the complete subordination of syllable and metrics are here suggested. Quite a part of this is Augustine's war on grammar. If we remember that rhythm was treated in the discipline of grammar by Marius Victorinus, Diomedes, and other Latin writers, and that the culture Augustine lived in was declining under the weight of grammar and grammarians, this flight of a rhetorician to rhythm, and to rhythm we shall see as pure number, is not without deep significance.

M. Then the grammarian will judge concerning all such sounds. Or rather, didn't you learn those beats through yourself, but the name you imposed you had heard from a grammarian?

D. That's it.

M. And you have ventured to transfer the name which grammar taught you to that thing you admit does not belong to grammar?

D. I see the measure of the times is the only reason for imposing the name of the foot. And so, wherever I recognize the proper measure, why shouldn't I just give it its name? But even if other names can be imposed when sounds have the same measure, yet they do not concern grammarians. So, why should I bother about names when the thing itself is clear?

M. I don't wish to, either. And yet when you see a great many kinds of sound in which distinct measures can be observed, and we admit these kinds are not to be attributed to the art of grammar, don't you think there is some other discipline which contains whatever is numerable or artful in utterances of this sort?

D. It would seem probable.

M. What do you think its name is? For I don't believe it is news to you that a certain omnipotence in singing is usually granted the Muses. If I am not mistaken, this is what is called Music.

D. And I also say it's that.

Chapter 2

(2) *M.* But we want to bother as little as possible about the name. Only let us inquire, if you will, into all the power and reason of whatever art this is.

D. Let's do so by all means. For I should like very much to know the whole of this affair.

M. Now define music.

D. I shouldn't dare to.

M. Well, you can at least test my definition?

D. I'll try, if you will give it.

M. Music is the science of mensurating well [*modulandi*].⁴ Doesn't it seem so to you?

D. It might seem so, if it were clear to me what mensuration [*modulatio*] is.

M. This word 'to mensurate' [*modulari*]⁴—you have at no time heard it used anywhere, except in what has to do with singing or dancing?

D. Just so. But because I know 'to mensurate' [*modulari*] is taken from 'measure' [*modus*], since in all things well made measure must be observed, and because I also know many things in singing and dancing, however much they charm, are very reprehensible, I want to understand fully what this mensuration is. For almost in this one word is contained the definition of a very great art. And certainly we are not to study here what any singer or actor knows.

⁴ It is impossible to render *modulari* by 'to modulate,' because 'modulate' in English has a technical musical meaning: it means a change from one mode or key to another mode or key according to certain reasonable rules. It is even used in rhythemics by Aristides to denote the art of changing from one rhythm to another. The Greek word for this is *metabolé*, which is also used in Latin. We have, therefore, used the rather harsh and strange 'mensurate.' Aside from the fact that it fits well with 'measure,' its adjective 'mensurable' has a musical connotation. See the *Oxford English Dictionary*. This definition appears in Cassiodorus, *Institutiones*, II,5,2 (ed. Mynors, Oxford 1937, p. 143). In the previous chapter, Censorinus to Quintus Carellius, *de Natali eius die* is mentioned as a source for musical doctrine. The same definition is found indeed in Censorinus, *de die Natali liber*, 10,3 (ed. Hulstsch, Leipzig 1867, p. 16). Holzer therefore concludes it must be from the lost works of Varro on the liberal arts. See Holzer, *Varroniana* (Ulm 1890), 6, 14, 15.

M. Don't let this disturb you, that, as you just said, in all things made, music included, measure must be observed and yet that this is called mensuration in music. For you are aware 'diction' is properly restricted to the orator.

D. I am. But what has that to do with this?

M. Because when your servant, no matter how uncultured and peasant-like he may be, replies with as much as one word to your question, don't you admit he is saying [*dicere* something?]

D. I do.

M. And therefore he is an orator?

D. No.

M. Then he hasn't used diction when he has said something, although we admit diction is derived from saying.

D. I agree. But I want to know what all this is about.

M. For you to understand that mensuration can regard music alone, while measure, from which the word is derived can also be in other things. In the same way diction is properly attributed to orators, although anyone who speaks something, and diction gets its name from saying.

D. Now I understand.

(3) *M.* Now what you said a while ago, that many things in singing and dancing are reprehensible, and that, if we take the word mensuration from them, the almost divine art becomes degraded—and that you have very prudently observed. So, let us first discuss what it is to mensurate; then what it is to mensurate well; for that is not added to the definition without reason. Finally, too, it shouldn't be forgotten the word science has been put there. For with these three I believe, the definition is complete.

D. All right.

M. Now, since we admit mensuration is named from

measure, you never think, do you, you have to fear the measure's being exceeded or not fulfilled, except in things moving in some way or other? Or rather, if nothing move, we can't fear anything's being out of measure, can we?

D. No, not at all.

M. Then, mensuration is not improperly called a certain skill in moving, or at any rate that by which something is made to move well. For we can't say anything moves well unless it keeps its measure.

D. No, we can't, but, on the contrary, we have to understand this mensuration in all things well done. For I see nothing to be done, if not in moving well.

M. What if, perhaps, all these things are done by music, although the name mensuration is more used in connection with instruments of a certain kind, and not incorrectly? I am sure you think the thing fashioned, whether it be of wood or silver or some other material, is one thing, and the artist's movement by which these things are fashioned is another.

D. Yes, they differ a great deal.

M. Now you can't say, can you, the movement is desired for itself, and not for the sake of that which the artist wants to be fashioned?

D. That's evident.

M. But if he should move his limbs for no other reason than that they should be moved gracefully and harmoniously, we should say he was dancing and nothing more, shouldn't we?

D. It seems so.

M. When do you think a thing is superior, and you might say to rule, when it is desired for its own sake or for the sake of another?

D. For its own sake, of course.

M. Begin again with what we have just said about mensu-

ration (for we had assumed it to be a certain skill in moving) and see where this name ought rather to be applied: to that movement which is free, that is, is desired for itself and charms through itself alone, or to that which serves in some way. For all those things are somehow servile which are not for themselves but are referred to something else.

D. To that which is desired for itself.

M. Then it is now to be assumed the science of mensurating is the science of moving well, in such a way that the movement is desired for itself, and for this reason charms through itself alone.

D. That is very likely the case.

Chapter 3

(4) *M.* Why, then, is 'well' added, since there cannot even be mensuration, unless the thing move well?

D. I don't know, and I don't know how it escaped me. For it had been in my mind to ask this.

M. There could be no dispute at all over this expression, so long as we dropped 'well' and defined music only as the science of mensurating.

D. And there would be none now, if you would clear it all up.

M. Music is the science of moving well. But that is because whatever moves and keeps harmoniously the measuring of times and intervals can already be said to move well. For it is already pleasing, and for this reason is already properly called mensuration. Yet it is possible for this harmony and measuring to please when they shouldn't. For example, if one should sing sweetly and dance gracefully, wishing thereby to be gay when the occasion demanded gravity, such a person would in no way be using harmonious mensuration

well. In other words, that person uses ill or improperly the motion at one time called good because of its harmony. And so it is one thing to mensurate, and another to mensurate well. For mensuration is thought to be proper to any singer whatever if only he does not err in those measurings of voice and sounds, but good mensuration to be proper to the liberal discipline, that is, to music. Now, even if the motion itself, because it is misplaced, does not seem to you good, even though you admit it is harmonious in construction, yet let us hold to our definition and keep it the same everywhere, not to have a merely verbal battle upset us where the thing itself is clear enough. And let us not bother whether music be described as the science of mensurating or as the science of mensurating well.

D. I prefer to get beyond a mere scuffle of words and to make light of such things. After all, I don't object to this distinction.

Chapter 4

(5) *M.* Finally, we must consider why the word 'science' is in the definition.

D. All right, for I remember the order of our discourse demands it.

M. Tell me, then, whether the nightingale seems to mensurate its voice well in the spring of the year. For its song is both harmonious, and sweet and, unless I'm mistaken, it fits the season.

D. It seems quite so.

M. But it isn't trained in the liberal discipline, is it?

D. No.

M. You see, then, the noun 'science' is indispensable to the definition.

D. I see it clearly.

M. Now tell me, then, don't they all seem to be a kind with the nightingale, all those which sing well under the guidance of a certain sense, that is, do it harmoniously and sweetly, although if they were questioned about these numbers or intervals of high and low notes⁵ they could not reply?

D. I think they are very much alike.

M. And what's more, aren't those who like to listen to them without this science to be compared to beasts? For we see elephants, bears, and many other kinds of beasts are moved by singing, and birds themselves are charmed by their own voices. For, with no further proper purpose, they would not do this with such effort without some pleasure.

D. I judge so, but this reproach extends to nearly the whole of human kind.

M. Not as much as you think. For great men, even if they know nothing about music, either wish to be one with the common people who are not very different from beasts and whose number is great; and they do this very properly and prudently. But this is not the place to discuss that. Or after great cares in order to relax and restore the mind they very moderately partake of some pleasure. And it is very proper

5 We have here translated *intervallis acutarum gravumque vocum* by 'intervals of high and low notes'. These are more or less technical words in harmonics. 'Interval' is equivalent to the Greek word *diastema*, meaning difference of pitch; and *vox*, in the usage of Martianus Capella, is equivalent to the *phoné* of Aristoxenus and Aristides and includes voice and the sound of instruments, covering both the speaking voice and the singing voice, that is, the *phoné synechés* and the *phoné diastematiké* of Aristides. See Aristoxenus, *Harmonica*, I, 3, 4-5, Aristides, *De Musica*, I, 7; Martianus Capella, *De Nuptiis Mercurii et philologae* IX, 182. Therefore, *vox* strictly should not be translated by 'note,' which is equivalent to *phthóngos*, and translated by Martianus as *sonus*. There are later passages where Augustine evidently uses *sonus* for sound in general. A discussion of these terms would have belonged to the *De melo* which Augustine never wrote.

to take it in from time to time. But to be taken in by it, even at times, is improper and disgraceful.

(6) But how about this? Those who play on flutes or lyres or any other instrument of this kind, they can't be compared to the nightingale, can they?

D. No.

M. How, then, do they differ?

D. In that I find a certain art in these instrument players, but only nature in the nightingale.

M. That's true. But do you think it ought to be called an art even if they do it by a sort of imitation?

D. Why not? For imitation seems to me to be so much a part of the arts that, if it is removed, nearly all of them are destroyed. For masters exhibit themselves to be imitated, and this is what they call teaching.

M. But don't you think art is a sort of reason, and those who use art use reason? Or do you think otherwise?

D. It seems so.

M. Therefore, whoever cannot use reason does not use art.

D. I grant that, too.

M. Do you think dumb animals, which are also called irrational, can use reason?

D. Not at all.

M. Then, either you would be forced to say magpies, parrots, and crows are rational, or you have been pretty rash in calling imitation by the name of art. For we find that these birds sing and make many sounds because of their intercourse with human beings, and that they utter them only by imitation. Or do you object to this?

D. I don't yet fully understand how you have reached this conclusion and how far it invalidates my reply.

M. I have asked you whether you would say lyre-players

and flute-players or any other men of this sort had an art, even if what they do in singing they do by imitation. You have said it is an art, and you have affirmed this so true it seems to you that, if imitation were done away with, nearly all the arts would be destroyed. And from this it can be concluded that anyone who does something by imitating uses an art, although, perhaps not everyone who uses an art acquired it by imitating. But if all imitation is art, and all art reason, all imitation is reason. But an irrational animal does not use reason; therefore, it does not possess an art. But it is capable of imitation; therefore, art is not imitation.

D. I said that many arts consist in imitation. I did not call imitation itself art.

M. And so you don't think those arts consisting in imitation consist in reason?

D. Certainly, I think they consist in both.

M. I have no objection. But where do you place science, in reason or in imitation?

D. Also in both.

M. Then you suppose those birds endowed with reason which you have supposed capable of imitation.

D. I do not. For I have supposed science to be in both, in such a way that it cannot be in imitation alone.

M. Well, do you think it can be in reason alone?

D. It can.

M. Then you think art is one thing, science another. If, then, science can be in reason alone, then art joins imitation with reason.

D. I don't see that follows. For I did not say all arts, but many arts, consisted in both reason and imitation together.

M. Well, will you also call that science which consists in these two together, or will you attribute only the reasonable part to it?

D. What is to prevent me from calling it science when imitation is joined with reason?

(7) *M.* Since now we are concerned with the cither-player and the flute-player, that is to say with musical things, I want you to tell me whether, when such people do something by imitation, that is to be attributed to the body, that is, to a kind of bodily obedience.

D. I think it ought to be attributed to both the mind and the body, although the word which you used, 'bodily obedience,' was properly enough introduced by you. For it can only obey the mind.

M. I see you are very careful about not wishing to attribute imitation to the body alone. But you won't deny science belongs to the mind alone, will you?

D. Who would deny that.

M. Then you certainly would not allow anyone to attribute the science of the sounds of strings and pipes to both reason and imitation together. For, as you admitted, there is no imitation without a body; but you have also said science is of the mind only.

D. I admit this conclusion follows from the premises I granted you. But what of it? For the piper will have science in his mind. And when he happens to be imitating, which I admitted impossible without a body, this act of his does not destroy what is embraced by the mind.

M. No, it doesn't. Nor do I affirm that all those who handle such instruments lack science, but I say they do not all have science. For we are considering this question for the following purpose: to understand, if we can, how correct it is to include science in the definition of music. And if all pipers, flute-players, and others of this kind have science, then I

think there is no more degraded and abject discipline than this one.

(8) *M.* But be as attentive as possible, so that what we have been strenuously looking for may appear. For you have already granted me that science lives only in the mind.

D. And why shouldn't I?

M. Further, do you attribute the sense of hearing to the mind, to the body, or to both?

D. To both.

M. And memory?

D. To the mind, I think. For if we perceive by the senses something we commit to memory, that is no reason to think we must consider memory to be in the body.

M. This happens to be a great question, and one not proper to this discussion. But I believe you can't deny—and that is enough for the subject in hand—that beasts have memory. For swallows come back to their nests the next year, and it is very truly said of goats: 'And even goats remembering return to their sheds.'⁶ And a dog is said to have recognized the hero, his master, already forgotten by his men. And we can bring up many cases, if we wished to prove our claim.

D. I don't deny it, and I am anxiously awaiting what help this will give you.

M. Why this, of course, that whoever attributes science to the mind alone refuses it to all irrational living things, and places it neither in sense nor memory, but in the intellect alone. For sense is not without body, and both sense and memory exist in beasts.

D. And I am still waiting to see how this will help you.

M. In this way. That all who follow sense and what is

⁶ Vergil, *Georgics* 3.316.

pleasing in it commit to memory, and in this way, by moving their body, acquire a certain power of imitation; and that they do not have science even if they seem to do many things cleverly and skillfully unless they possess in the purity and truth of the intellect the very thing they profess or exhibit. And if reason demonstrate these comedians to be just people, there is no reason, I believe, why you should hesitate to deny them science, and, therefore, music which is the science of mensurating.

D. Explain this. Let's see about it.

(9) *M.* I believe you attribute the greater or less mobility of the fingers not to science but to practice, don't you?

D. Why do you believe so?

M. Because just now you attributed science to the mind alone. But, although in this case the mind commands, you see the act belongs to the body.

D. But, since the knowing mind commands this of the body, I think the act ought to be attributed to the mind rather than the servile members.

M. But, don't you think it is possible for one person to surpass another in science, even though the other person move his fingers much more easily and readily?

D. I do.

M. But, if the rapid and readier motion of the fingers were to be attributed to science, the more science anyone had the more he would excel in the rapidity of the motion.

D. I concede that.

M. Consider this, too. For I suppose you have sometimes noticed how artisans or craftsmen of this sort keep striking the same place with an axe or hatchet and how the blow is only carried where the mind intends it, and how, when we try and can't do likewise, they often ridicule us.

D. It's as you say.

M. Then, since we can't do it, do you think we do not know what ought to be struck or how much ought to be cut?

D. Often, we don't know, often we do.

M. Suppose, then, someone who knows everything artisans ought to do and knows it perfectly, and yet is less able than they in practice; who nevertheless prescribes for these same people who work with such ease, more wisely than they could for themselves. Would you deny that came from practice?

D. I shouldn't.

M. Then, not only the speed and facility of moving but also the manner itself of the motion is to be attributed to practice rather than science. For, if it were otherwise, the cleverer one were the better he would use his hands. Now, we can translate this in terms of pipes or citherns, in order not to think that what fingers and joints do in such cases, because it is difficult for us, is done by science and meditation rather than by practice and diligent imitation.

D. I have to give in. For I am always hearing how even doctors, very learned men, in the matter of amputating or binding limbs, are often surpassed by less clever men in their use of the hand or knife. And this kind of curing they call surgery. The word itself signifies a certain operative habit of curing, developed in the hands. But pass on to other things, and let's finish up this question of ours.

Chapter 5

(10) *M.* I believe it remains for us to find, if we can, the arts which please us in the practical mastery they give our hands, and which do not derive immediately from science, but from sense and memory. For of course you can tell me

that it is possible for there to be science without practice, and very frequently greater science than in those who excel in practice; but that on the other hand they can't even acquire practice without science.

D. Go on, for it is clear that ought to be the case.

M. Have you never listened carefully to actors of this sort?

D. More perhaps than I should wish.

M. How do you explain the fact that an ignorant crowd hisses off a flute-player letting out futile sounds, and on the other hand applauds one who sings well, and finally that the more agreeably one sings the more fully and intensely it is moved? For it isn't possible to believe the crowd does all this by the art of music, is it?

D. No.

M. How then?

D. I think it is done by nature giving everyone a sense of hearing by which such things are judged.

M. You are right. But now consider this, too, whether the flute-player himself is also endowed with this sense. And if it is so, he can, by following his own judgment, move his fingers when he blows on the flute, and can note and commit to memory what he decides sounds well enough; and by repeating it he can accustom his fingers to being carried about without hesitation or error, whether he gets from another what he plays or whether he finds it himself, led on and abetted as he is by the nature we spoke of. And so, when memory follows sense, and the joints, already subdued and prepared by practice, follow memory, the player sings as he wishes, the better and more easily the more he excels in all those things which reason just now taught us we have in common with the beasts: that is, the desire of imitating, sense, and memory. Have you any objections to that?

D. No, I haven't. Now I want to know what kind of disci-

pline this is I see so nicely appropriated by knowledge belonging to the lowest animals.

Chapter 6

(11) *M.* We haven't yet done enough. And I shall not allow us to pass to its explanation unless we have already agreed how actors without this science can satisfy the popular ear. And it also will have been established that actors can in no way be students of, and learned in, music.

D. It will be marvelous if you do this.

M. That is easy, but you must be more attentive.

D. Never that I know have I been even a little careless in listening from the very beginning of this dialogue. But now, I admit, you have made me more intent.

M. I am grateful, although you more or less suit yourself. But, tell me whether you think a man who wishes to sell a gold piece for a fair price, and judge it to be worth ten cents knows what it is.

D. Well, who would think so?

M. Then tell me, which is to be considered dearer, what is contained in our intellect or what is accidentally attributed to us by the judgment of an ignorant people?

D. No one doubts the first is far above all others, even those things which are not to be thought ours.

M. And so you don't deny, do you, all science is contained in the intellect?

D. Who does?

M. And, therefore, music is in the intellect.

D. That seems to follow from its definition.

M. Well then, don't the people's applause and all those theatrical rewards seem to you to be of the kind which is at-

tributed to the power of chance and the judgment of the ignorant?

D. I don't suppose anything is more fortuitous and liable to chance, or subject to the domination and pleasure of the many, than these things are.

M. Would actors, then, sell their songs for this price, if they knew music?

D. I am not a little shaken by this conclusion, but I can't gainsay it. For it doesn't seem that the seller of the gold piece ought to be compared with the actor. For when he accepts applause or when money is given him, he doesn't give up his science, if he chanced to have any, to please the people with. But, heavier with pennies and happier with the praise of men, he returns home with the same discipline entire and intact. But he would be a fool if he despised these advantages. For, if he hadn't gotten them, he would be much poorer and more obscure; having gotten them, he is no less skilled.

(12) *M.* Let's see if we can get what we want in this way. For I suppose you think that for the sake of which we do a thing is much more important than the thing we do.

D. That's evident.

M. Then he who sings or who is learning to sing for no other reason than to be praised by many or some other man, doesn't he judge the praise to be better than the song?

D. It does seem so.

M. And he who judges wrongly about a thing, does he seem to you to know it?

D. Certainly not, unless he has somehow been bribed.

M. And so he who really thinks something inferior to be superior is, no doubt, lacking in the science of it.

D. That's so.

M. Therefore, when you have persuaded me or proved to me that any actor, if he has any talent, neither has developed it nor does he exhibit it to please the people for gain or fame, then I shall concede it is possible both to possess the science of music and to be an actor. But if it is very likely all actors conceive the end of their profession in terms of money and glory, then we must admit either that actors do not know music or one is right in seeking other people's praise or some chance gain rather than his own understanding.

D. I see that in conceding the other things, I must also accept these. For I don't believe there is any way of finding a man on the stage who loves his art for itself, and not for outside advantages. For it is hard to find one even from a school of higher learning. Yet if one exists or should exist, liberal artists are not for that reason to be despised; so why isn't it possible that actors ought sometimes to be honored. And then explain, if you will, this great discipline which now can't seem to me so degraded as you make out.

Chapter 7

(13) *M.* I shall do so; or rather you will do so. For all I shall do is question you. And by your answers you will explain all of what you now seem to be after, without knowing it. And now tell me whether anyone can run both fast and for a long time.

D. It is possible.

M. How about both slow and fast?

D. By no means.

M. Then 'for a long time' signifies something different from 'slow.'

D. Quite different.

M. Again, tell me what you think is the contrary of 'longness of time,' just as 'speed' is the contrary of 'slowness.'

D. No usual word occurs to me. And I find nothing I may oppose to 'of a long duration' except 'not of long duration,' so that the usual contrary of 'for a long time' is 'not for a long time.' Because if I didn't wish to say 'fast' and said 'not slow' instead, there would be no difference in meaning.

M. That's so. For it doesn't affect the truth any when we speak this way. And as for me, if this word exists you say hasn't occurred to you, then either I don't know it or at present it doesn't come to my mind. And so let's go on, calling contraries each of the pairs, 'for a long time' and 'not for a long time,' 'slow' and 'fast.' And first, if you will, let's discuss 'of long duration' and 'not of long duration.'

D. Very well.

Chapter 8

(14) *M.* Now it is clear what is said to be done for a long time [*diu*] is done over a long period of time [*per longum tempus*], but what is said to be done not for a long time [*non diu*] is done over a short period of time [*per breve tempus*].

D. That's clear.

M. For example, doesn't a movement accomplished in two hours have twice the time of that accomplished in one hour?

D. Who would doubt it?

M. Therefore, what we call 'of long duration' or 'not of long duration' is capable of such measurements and numbers that one motion is to another as two to one; that is, that one has twice as much as the other. And again that one movement is to another as two to three; that is, that one has

three parts of time to the other's two. And so it is possible to run through the rest of the numbers in a way that avoids indefinite and indeterminate spaces, and relates any two movements by some number. Either by the same number, as one to one, two to two, three to three, four to four; or not by same, as one to two, two to three, three to four, or one to three, two to six, and whatever measurements anything is capable of.

D. I want to get this point of yours more clearly.

M. Return, then, to the hours, and apply to each case what I thought sufficiently explained, since I explained it for one hour and for two. For certainly you don't deny the possibility of a movement of one hour, or another of two.

D. That's true.

M. Well, don't you admit the possibility of two-hour movement, and another of three?

D. I do.

M. And one of three hours, and another of four, again one of one hour and another of three, or one of two hours and another of six; isn't that clear?

D. It is.

M. Then why isn't the rest clear? For I said this same thing when I said two movements could be related by some number as one to two, two to three, three to four, one to three, two to six, and any others you wish to enumerate. For when you know these, you can follow through with the others, either seven to ten or five to eight and anything else consisting of two movements having parts so measured with respect to one another they can be described as so much to so much, either with equal numbers or with one larger and one smaller.

D. Now I understand, and I admit its possibility.

Chapter 9

(15) *M.* You understand this, too, I believe, that all measure and limit is preferred to infinity and immeasurableness.

D. That is very evident.

M. Then two movements which, as I said, are related by some numerical measurement are to be preferred to those which are not.

D. And this is evident and logical. For there is a certain limit and measure in numbers which connect them one with another. And those numbers lacking this measure are not joined together by any ratio.

M. Then, if you will, let us call those which are commensurable with one another rational, and those which are not commensurable, irrational.⁷

D. I am willing.

M. Now, tell me whether the agreement doesn't seem to you greater in the case of the rational movements of those things equal to each other than of those which are unequal?

D. Who wouldn't think so?

M. Again, of those which are unequal, aren't there some of which we can say by what *aliquot* part of the greater the greater is equal to, or exceeds, the less, as two and four or six and eight? But others of which that cannot be said, as in the numbers three and ten or four and eleven? You see immediately for the first two numbers that the greater is made equal to the less by its half. For those I mentioned next that the greater is in excess of the less by a fourth part of the greater. But for the others, such as three and ten

⁷ These are not the irrational feet defined by Aristoxenus and Aristides Quintilianus, but irrational movements incommensurable in the sense of magnitude without common measure.

or four and eleven, we find some agreement, because at least the parts are so related it can be said of them so many to so many. And yet we don't see such a relation as we saw in the earlier ones. For it can in no way be said by what *aliquot* part the greater is equal to the less or by what *aliquot* part it exceeds the less. For no one would say what *aliquot* part of ten three is, or what *aliquot* part of eleven four is. And when I tell you to consider what part it is, I mean the exact part, without any addition, like a half, a third, a quarter, a fifth, a sixth, and so on; so that thirds and twenty-fourths and such divisions are in no way added on.

D. I understand.

(16) *M.* Then, of these unequal rational movements, since I have also proposed two kinds of numbers in the examples adduced, which do you think are to be preferred, those in which the *aliquot* part can be given or those in which it cannot?

D. Reason seems to force my saying those in which it is possible to say by what *aliquot* part of itself the greater is either equal to the less or exceeds it, ought to be preferred to those in which this is not the case.

M. But don't you think we ought to give them names, so that, when we have to recall them later on, we may speak of them more easily?

D. I do.

M. Then let us call those we prefer *connumerate*, and the others *dinumerate*, because the former not only have a common measure one, but also have as a common measure that part by which the greater is equal to or exceeds the less. But the latter only have a common measure one and do not have as a common measure the part by which the greater equals or exceeds the less. For in the case of these it

is impossible to say either how many times the greater contains the less, or how many times both the greater and the less contain that by which the greater exceeds the less.

D. I accept these names, and I shall try as well as I can to remember them.

Chapter 10

(17) M. Come now, let's see what division there can be of the connumerate numbers. For I think it is pretty clear. For one class of the connumerate numbers is that in which the smaller number measures the greater, that is, the greater contains it a certain number of times, just as we said the numbers two and four do. For we see that two is contained twice in four, and it would be contained three times if we compared not four, but six to two, four times if it were eight, and five times if it were ten. The other class is that in which the part by which the greater exceeds the less measures both, that is, the greater and less contain it a certain number of times, and we have already noted this in the numbers six and eight. For the part by which the less is exceeded is two and that, you see, is contained four times in eight, three times in six. And so let us also mark out and designate with names the movements we are now talking about, and the numbers which reveal what we want to know about these movements. For I believe the distinction is already apparent. And so, if you will, those in which the greater is a multiple of the less are called complicate; the others sesquate, a name already long in use. For that is called '*sesque*' in which two numbers have such a ratio to each other that by whatever *aliquot* part of itself the greater exceeds the less, so many parts does it contain with respect to the less. For if it is three to two, the greater exceeds the less by a third part of itself; if four to three, by a fourth; if five to four, by a fifth, and so on. And

we have the same kind of ratio also in the case of six to four, eight to six, ten to eight; from these we can find this ratio in the larger numbers which follow. But I should find it hard to tell you the origin of this name, unless perhaps '*sesque*' is said for '*se absque*' or '*absque se*' [from itself], because in the case of five to four the greater minus [*absque*] a fifth of itself is the same as the less. And what is your opinion of all this?

D. Why, the ratio of measurements and numbers seems very correct to me. And the names you have given seem to be suitable for remembering the things we have understood. And the origin of the name you just explained to me is not absurd, although it may not be the one followed by the person starting the name.

Chapter 11

(18) M. I approve and accept your judgment. But do you see that all such rational motions, that is, those in some relation of numerical measure to each other can go on through numbers to infinity, unless some ratio should again delimit them and keep forcing them over and over again into a measure and form? For to speak of the equal pairs first: one to one, two to two, three to three, four to four, and if I follow through, what will be the end, since number has no end? For such is the power of number that every number named is finite, and not named is infinite. And what happens in the case of equal pairs also happens, as you see, in the case of unequal pairs, either complicate or sesquate or connumerate or dinumerate. For if you take one to two, and wish to continue with multiples by saying one to three, one to four, one to five, and so on, there will be no end. Or if only the double, as one to two, two to four,

four to eight, eight to sixteen, and so forth, here also there will be no end. And so, if you want to continue with only the triple, or whatever else you wish, they will go on to infinity. And this is true also of the sesquate. For when we say two to three, three to four, four to five, you see nothing keeps us from going on, for there is no limit. Or if you wish to proceed in the same class in this way, two to three, four to six, six to nine, eight to twelve, ten to fifteen, and so on. And so, either in this class of numbers or in all the others, no limit appears. And there is no need now to speak of the dinumerate numbers, since anyone can understand from what has been said that their continual recurrence allows no limit. Doesn't this seem true to you?

(19) *D.* What could be truer? But I am now waiting anxiously to learn about the ratio which forces such an infinity back into some measure, and prescribes a form it may not exceed.

M. You will find you already know this, too, as well as the other things, when you answer my questions right. For, since we are discussing numerically ordered movements, I wonder whether we first should not consider numbers themselves, and decide that whatever sure and fixed laws numbers make manifest are to be looked for and apprehended in the movements.

D. I certainly agree. I think nothing could be more orderly than that.

M. Then, if you will, let us start considering numbers from the very beginning and see, as far as we can grasp such things with the mind's strength we have, what the reason⁸

⁸ There is a continuous play on the Latin word *ratio*, which means both ratio and reason. This intentional ambiguity runs through the whole treatise. *Lógos* in Greek gives same ambiguity. Since ratio or *lógos* is defined by Euclid as 'a certain relation according to multiplicability

is that, although as we have said numbers progress to infinity, men have made certain articulations in counting by which they return again and again to one, the beginning or principle of numbers. For, in counting, we progress from one to ten, and from there we return to one. And if you wish to follow through with the intervals of ten, so that you go on with ten, twenty, thirty, forty, then the progression is to a hundred. If with intervals of a hundred, one hundred, two hundred, three hundred, four hundred, the articulation by which you return is at a thousand. Now why go farther? You certainly see the articulation I mean, whose first rule is given by the number ten. For, as ten contains one ten times, so a hundred contains the same ten ten times, and thousand contains a hundred ten times. And so you can go as far as you wish in these articulations, in a way predetermined by the number ten. Is there any thing in these matters you don't understand?

D. It is all very clear and true.

Chapter 12

(20) *M.* Then let us examine as diligently as we can what the reason is for there being a progression from one to ten and thence a return to one again. And next I ask you if what we call the beginning or principle can be a beginning at all unless it is the beginning of something.

D. Not at all.

M. Likewise, what we call the end, can it be an end, unless it is the end of something?

D. It can't either.

M. Well, you don't think you can go from the beginning to the end without going through the middle?

between magnitudes of the same kind.' it is obvious in what dialectical direction and toward what doctrine this intentional ambiguity directs us.

D. I don't think you can.

M. Then, for something to be a whole, it must consist of a beginning, middle, and end.

D. It seems so.

M. Now tell me, then, in what number do you think a beginning, middle, and end are contained.

D. I think you want me to say the number three, for three is one of those you are looking for.

M. You think right. And so you see there is a certain perfection in three because it is a whole: it has a beginning, middle, and end.

D. I see it clearly.

M. And don't we learn from boyhood every number is either even or odd?

D. You are right.

M. Recollect, then, and tell me which we usually call even and which odd.

D. That which can be divided into two equal parts is called even; but which cannot, odd.

(21) *M.* You have it. Now, since three is the first whole odd number, and consist of a beginning, middle, and end, then doesn't an even number have to be whole and perfect,⁹ too, so that it also has a beginning, middle, and end?

D. It certainly must.

M. But this number, whichever it is, cannot have an indivisible middle like the odd one. For if it did, it could not be divided into two equal parts, for that, we said, was the property of an even number. Now, one is an indivisible middle; two is a divisible middle. But the middle in numbers is that from which both sides are equal to each other. Has

⁹ Not perfect in the technical sense of a number which is the sum of its different factors.

anything been put obscurely, and do you find it hard to follow?

D. On the contrary, this, too, is all very clear to me, and when I look for a whole even number, I first strike the number four. For how can the three things by which a number is whole, that is, beginning, middle, and end, be found in the number two?

M. You have answered the very thing I wished you to, and reason has forced you to. And now repeat the discussion beginning with the number one itself, and think. Then you will see immediately one has no middle and end, because there is only a beginning, or rather it is a beginning because it lacks a middle and end.

D. That's clear.

M. What, then, shall we say of two? We can't find a beginning and middle both in it, can we, since there can be no middle where there's no end? Nor a beginning and end both, since nothing can attain its end except through a middle?

D. Reason forces my admission, and I am very uncertain what to reply.

M. Be careful this number isn't also a beginning of numbers. For if it lacks a middle and end, as you have said reason forces us to admit, then there is nothing else for it to be but a beginning, is there? Or do you hesitate to set up two beginnings?

D. I hesitate very decidedly.

M. You would be right, if the two beginnings were made opposed to each other. But in this case the second beginning is from the first, so that the first is from none, but the second is from the first. For one and one are two, and so they are both beginnings in such a way that all numbers are really from one. But because they are made by combination and

addition, and the origin of combination and addition is rightly attributed to two, therefore it is this first beginning from which [*a quo*], but the second through which [*per quod*], all numbers are found to be. Or have you objections to the things you are discussing.

D. I have none. And I ponder them with admiration, even though I am answering them myself under your questioning.

(22) *M.* Such things are more subtly and abstrusely examined in the discipline which concerns numbers. But here let us return as quickly as we can to the task in hand. And so, I ask, what does two added to one make?

D. Three.

M. So the two beginnings of numbers added together make the whole and perfect number.

D. So it is.

M. And in counting, what number do we place after two?

D. The same three.

M. And so the same number made out of one and two is placed after both of them as regards order, in such a way no other can be interposed.

D. So I see.

M. But now you must also see this can happen to none of the other numbers, the fact that, when you have singled out any two next to each other in the order of counting, the one immediately following them should be made up of these two.

D. I see that, too. For two and three, which are adjoining numbers, added together make five. And not five, but four, immediately follows them. Again, three and four make seven, but five and six have a place between four and seven. And the farther I should want to go, the more there are in between.

M. Therefore, this great harmony is in the first three

numbers. For we say one and two, and three, and nothing can be put between. But one and two themselves are three.

D. It is a great one certainly.

M. And have you no consideration for the fact that this harmony tends to a greater unity the more compressed and the more closely connected it is, and the more it makes a one from many.

D. On the contrary, the greatest consideration. And I don't know why, but I admire and love this unity you commend.

M. I very much approve. But certainly any conjunction and connection of things most definitely make something one when the means agree with the extremes, and the extremes with the means.

D. That certainly must be so.

(23) *M.* And so we must be careful to find it in this relation. For when we say one, two, three, isn't two exceeded by three as one is exceeded by two?

D. That's very true.

M. Well now, tell me, in this ordered set¹⁰ how many times have I named one?

D. Once.

M. How many times three?

D. Once.

M. How many times two?

D. Twice.

M. Then once, and twice, and once, how many is that altogether?

D. Four times.

M. Then the number four rightly follows these three; to

¹⁰ We use 'ordered set' advisedly as a term from modern point-set theory, although there the term is used with a view to infinite sets.

it in fact is attributed this ordering by proportion. And it is now time you learn to know how important this thing is, because the unity you love can be effected in ordered things by that alone whose name in Greek is *analogia* and which some of our writers have called proportion. And we'll use this name, if you will, for, unless necessary, I should not like to bring a Greek word over into Latin speech.

D. I am quite willing. But go on with your story.

M. I shall. For we shall try and know more thoroughly by its place in this discipline what proportion is and how great is its authority in things. And the more advanced you are in learning, the better you will know its nature and power. But you see certainly, and that is enough for the present, that those three numbers whose harmony you were wondering at could only have been brought together in the same relation by the number four. And therefore, to the extent you understand, it has by rule obtained its own immediate succession to the other three to be joined with them in that closer harmony. So that now, not one, two, three only, but one, two, three, four is the most closely connected progression of numbers.

D. I entirely agree.

(24) *M.* But consider these further characteristics, lest you think the number four has nothing proper all other numbers lack, and nothing adequate to this relation I speak of, for making the interval from one to four itself a determinate number and the most beautiful art of progression. We agreed a while back something became most one when the means agreed with the extremes and the extremes with the means.

D. That's so.

M. Now, when we order one, two, three, tell me which are the extremes, and which the mean.

D. One and three seem to be the extremes, and two the mean.

M. Tell me now, one and three make what?

D. Four.

M. Well, two, the lone middle number, can't be joined with anything but itself, can it? And so tell me now what twice two makes.

D. Four.

M. So then, the mean agrees with the extremes and the extremes with the mean. And, therefore, just as there is a certain virtue in three in that it is placed in order after one and two, while consisting of one and two, so there is a certain virtue in four in that it falls in counting after one, two, and three, while consisting of one and three, or twice two. And this agreement of the extremes with the mean and of the mean with the extremes is by proportion which in Greek is called *analogia*. Now say, have you understood this?

D. I have.

(25) *M.* Try and see whether the property we attributed to the number four can be found in other numbers or not.

D. I shall. For if we fix upon two, three, four, the extremes added together make six, and the mean added to itself also makes six; yet not six, but five, is the number immediately following. Again I take three, four, and five. The extremes make eight, as also twice the mean. But between five and eight I find no longer one number but two, namely six and seven. And in the case of this ratio the farther I progress the greater these intervals become.

M. I see you have understood and know thoroughly what has been said. But now, not to delay, you certainly see that from one to four is the most complete progression, either from the point of view of odd and even numbers, since three

is the first whole odd number and four the first whole even (this subject was treated a while ago). Or because one and two are the beginnings and seeds, as it were, of numbers, three is made from; and this accounts for three numbers. And when they are brought together by proportion, the number four appears and comes to be, and is joined to them by rule, to become the final number of the measured progression we seek.

D. I understand.

(26) *M.* Very well. But do you remember now what we had begun to look for? I believe it had been proposed we should find out, if we could, why, when definite articulations for counting had been established in the infinity of numbers, the first articulation should be at ten as the greatest. In other words, why those we count, having gone from one to ten, should return to one again.

D. I remember clearly it was for this we made our long digression, but I don't see what we have accomplished in the way of solving the problem. Unless all our reasoning has led to the conclusion the progression to ten is not a fixed and measured one, but the progression to four is.

M. But don't you see? What is the sum of one, two, three, and four?

D. I see now. I see and marvel at it all, and I admit the question which arose has now been solved. For one, two, three, and four together are ten.

M. And so it is fitting these first four numbers and the series of them and their relations be given more honor than any other numbers.

Chapter 13

(27) *M.* But it is time to return to the treatment and discussion of the movements properly attributed to this discipline, for whose sake we have considered with regard to numbers, plainly from another discipline, such things as seemed sufficient for the business in hand. Now, as aids to understanding, we took such movements in hour-intervals as reason showed to be related by some numerical measure. And so I ask you, supposing some one should run for an hour, then another for two hours, could you tell, without looking at a sun-dial or water-clock, or any time-piece of this sort, that one of these movements was single, the other double? And not being able to tell, would you nevertheless be delighted by the harmony and pleurably affected?

D. I certainly could not.

M. And suppose an instrument struck in rhythm, with one sound a time's length and the next double repeatedly and connectedly, to make what are called iambic feet,¹¹ and suppose someone dancing to it moving his limbs in time. Then could you not give the time's measure, explain the movement's intervals alternating as one to two, either in the beats heard or the dancing seen? Or if you could not tell the numbers in its measure, wouldn't you at least delight in the rhythm you sense?

D. It is as you say. For those who know these numbers and discern them in the beats and dancing easily identify them. And those who don't know them and can't identify them admit, nevertheless, they get a certain pleasure from them.

¹¹ This is the rhythmical foot, and the times here spoken of could well be, in the language of the school of Aristoxenus, *chrónoi podikoi*. This will be explained in greater detail in the next Book, which formally deals with the metrical foot.

(28) *M.* Now, although all well measured movements admittedly belong to the rationale of this discipline, if indeed it is the science of mensurating well, and especially those not referred to any thing else but keeping within themselves their end of ornament and delight, yet even in proper ratios these movements, as you just rightly said under my questioning, cannot be suited to our senses when accomplished in a long space of time, an hour or more. And since music somehow issuing forth from the most secret sanctuaries leaves traces in our very senses or in things sensed by us, mustn't we follow through those traces to reach without fail, if we can, those very places I have called sanctuaries?

D. We certainly must, and I earnestly pray we do so now.

M. Then let us not speak of those bounds of time extending beyond the capacity of our senses, and discuss, as far as reason goes, the short interval lengths which delight us in singing and dancing. Or do you, perhaps, think of some other possible way of following these traces which have penetrated, as we said, our senses and the things we sense with this discipline?

D. I think it can be done no other way.

BOOK TWO

Syllables and metrical feet¹ are discussed.

Chapter 1

(1) *M.* Then pay good attention and let's make something like a second beginning to our argument. But first, say whether you have learned well one of the things grammarians teach, that is, the difference between long and short syllables, or whether you prefer, knowing them or not, that we explore these matters as if we were altogether ignorant of them, in order to have reason bring us to all these conclu-

1 Augustine discusses now the metrical foot as distinguished from the rhythmical foot. In Book One the appeal has been to the rhythmical foot without any explicit mention of it and without any technical examination of it. It is not until the last half of this present Book (218) that mention is made of arsis and thesis, which are the distinctive parts of the rhythmical foot. Aristides is more explicit in distinguishing the two kinds of foot: 'Rhythm is a system [scale] of times collated in a certain order, and their affects we call arsis and thesis, and strong and weak' (*op. cit.* 1.20.) . . . 'Now foot is a part of the whole rhythm by means of which we comprehend the whole. And its parts are two arsis and thesis' (*op. cit.* 1.31). So much for the rhythmical foot. As for the metrical foot, it depends fundamentally on the rhythmical foot, but emphasizes the *rhythmizómenon* or thing rhythmized as it appears within the rhythm or conditions it. 'Meters consist of feet. For meter is a system [scale] composed of feet of unlike syllables commensurable in length . . . [Some say] the essence of rhythm is in arsis and thesis, but the essence of meter is in syllables and their unlikeness' (*op. cit.* 1.49). Thus, the rhythmical foot with one time to the upward beat and two to the downward beat could furnish two different metrical feet: a short syllable followed by two shorts or a short followed by a long. The problem of the difference which might arise from changing the upward and downward beat and whether it is rhythmical or metrical will come up later.

sions rather than having inveterate habit or the authority of another's judgment force us.

D. Not only reason, but also an inexperience—I might as well admit it—in matters of syllables certainly leads me to prefer a radical beginning.²

M. Well, then, tell me whether you yourself, by your own observation, have ever noticed that some syllables are enunciated very rapidly and briefly, but others more slowly and in a longer time.

D. It is certainly true I have not been insensible of such things.

M. But first I want you to know that the whole of that science called *grammatica* Greek-wise, but Latin-wise *litteratura*, professes the conservation of historical precedent—either that alone, as reason in its subtler moments teaches, or for the most part, as even stupid minds concede. And so, for example, when you say *cano*, or put it in verse, in such a way as to prolong its first syllable when you pronounce it or in such a place as to make it necessarily long, the grammarian will censure you; he, of course, the guardian of history, giving no other reason why this syllable should be contracted than that those who lived before us and whose books survive

2 This passage is not just an attack on grammar and grammarians in favor of the science of music, but it is also a recognition of a definite state of affairs. At this time and before this, the distinction of long and short syllables is no longer natural to the average person. Augustine (in his *Retractiones* 1.20), describes his *Psalm against the Donatist Faction* as written for the common people, *non aliquo carminis genere*, that is, not in quantitative meter. Vroom, in his analysis of the *Psalm*, describes it as rhythmical acatalectic trochaic tetrameter where the word-accent fails to coincide with the ictus only at the beginning of the two hemistiches, but where quantity is not observed. Vroom supposes this to be the first case of such verses in trochaic meter in Latin literature, since those of Commodianus which are otherwise much like them are hexameters. See Vroom, *Le psaume abécédaire de St. Augustin et la poésie latine rythmique* (Nijmegen 1933).

and are discussed by grammarians used it as a short syllable, not as a long one. And so, whatever prevails here, prevails as authority. On the contrary, the reason of music, whose province is the rational and numerical measure of sounds, takes care only the syllable in this or that place be contracted or prolonged according to the rationale of its measures. For, if you should put this word where two long syllables ought to be, and should make the first syllable, which is short, long by pronunciation, the science of music will not for that be outraged in the least. For those sound-rhythms have been heard which were necessary to that number. But the grammarian orders its emendation and bids you put in a word whose first syllable must be long according to the authority, he says, of our ancestors of whose writings he is the watchdog.

Chapter 2

(2) *M.* Therefore, since we have undertaken to follow the theory of music, even if you do not know which syllables are to be shortened and which lengthened, we can nevertheless overlook this ignorance of yours and consider sufficient your saying you had noticed some syllables were shorter and some longer. And so I now ask you whether the sound of verses has ever moved you with pleasure.

D. In fact, so often I have almost never heard a verse without pleasure.

M. If, then, someone, in a verse which delighted you in hearing it, should lengthen or shorten the syllables contrary to the rationale of the verse, you can't enjoy it in the same way, can you?

D. On the contrary, hearing it is offensive.

M. So there is no doubt about it, you enjoy a certain

measuring out of numbers in the sound you say pleases you and which when disturbed cannot give you that pleasure.

D. That's evident.

M. Then tell me, in so far as it concerns the verse's sound, what differences does it make whether I say *Arma virumque cano, Troiae qui primus ab oris* or *qui primis ab oris*.

D. Both sound the same to me as far as measure is concerned.

M. And that's because of my pronunciation, with a fault, of course, grammarians call a barbarism. For 'primus' is made up of a long and a short syllable. And in 'primis' both ought to be long, but I shortened the last one. So your ears were right. Therefore, we must repeatedly test to see whether, on my pronouncing, you sense what is long and not long in syllables, in order to have the discussion continue, with me questioning and you replying as we began it. So I shall repeat the same verse I committed the barbarism in, and the syllable I shortened, not to offend your ears, I shall lengthen, as the grammarians order. You will tell me whether the rhythm of the verse gives your senses the same pleasure. So let me recite this way, *Arma virumque cano, Troiae qui primis ab oris*.

D. No, I can't deny I am disturbed by a sort of deformity of sound.

M. You are quite right. For, although there was no barbarism, yet there was a fault both grammar and music condemn: grammar, because a word whose syllable is to be pronounced long has been put where a syllable to be pronounced short should be, but music only because some sound has been lengthened where it ought to have been shortened, and the proper time demanded by the numerical measure has not been rendered. And so, if you now discriminated between what the sense of hearing demands and what authority demands,

it follows we should see why that sense sometimes enjoys either long or short sounds and sometimes does not. For that is what concerns 'for a long time' and 'not for a long time.' And I am sure you remember we undertook to explain just that.

D. I made the discrimination, I remember, and I am waiting very eagerly for what follows.

Chapter 3

(3) *M.* Don't you think we should begin by comparing syllables with each other and seeing by what numbers they are related to each other, just as we have already done with movements in a very long discussion? For all that sounds is in movement, and syllables are certainly sound. Do you deny any of these premises?

D. Not at all.

M. Therefore, when syllables are compared with each other, movements containing numbers found by measure of the length of time are compared with each other.

D. That's so.

M. Then, one syllable cannot be compared with itself, can it? For singleness escapes all comparison. Or have you something else to say about this?

D. I haven't.

M. But that one syllable to one syllable, or one to two, or two to three and so on, you don't deny they can be compared with each other, do you?

D. Who would?

M. And then, consider this, any short syllable you will, pronounced in the shortest time, dying as soon as it begins, yet occupies some interval of time and has some brief stay of its own.

D. What you say seems necessary.

M. Tell me, now, what number we begin with.

D. One, of course.

M. Then the ancients were not absurd in calling one time a sort of minimum interval,³ proper to the short syllable. For we go from the short to the long.

D. That's true.

M. It follows, then, you also perceive that, since as in numbers the first progression is from one to two, so in syllables where we clearly go from short to long, the long ought to be double time. And therefore, if the interval the short syllable occupies is rightly called one time, likewise the interval the long one occupies is rightly called two times.⁴

D. Very rightly, for I agree reason demands it.

Chapter 4

(4) M. Now, let us consider the ordered sets themselves. For I want to know what ratio you think one short syllable has to one short syllable or what these movements

³ This refers to the doctrine of the *prótos chrónos*, or primary time, of Aristoxenus. The *prótos chrónos* is that time which can never be divided by the *rhythimizómenon*, the thing rhythmized, either *léxis*, *mélós*, or *kínésis somatiké*, that is, speech, melody, or bodily movement. See fragments in Westphal, *Aristoxenos von Tarent*, II 79, 18-20.

Aristides gives the same doctrine: 'Primary time is then an indivisible and least time which is called a point. And I call that least with respect to us which is the first [time] capable of being grasped by sense' (*op.cit.* II.32). It is not only relative to the thing rhythmized and to us in general, but also from occasion to occasion, since it can be varied by change or tempo or *agogé*. This quasi arbitrary and creative act by which we make a divisible sensible thing stand for an indivisible one has a deep significance for the theory of time. Thus the syllable is no longer the measure of time but the thing measured, and Aristoxenus (*op. cit.* II. 76) expressly respects the theory of Aristotle in *Meta.* 13.1.7. The *diesis* plays the same role as the least interval in harmonics.

⁴ This is the doctrine of Aristoxenus (*op.cit.* II.76), although in the fragment in the Oxyrhynchus Papyri attributed to him the long is considered as capable also of representing three times. See H. Weil,

are called in relation to each other. For you remember, if I am not mistaken, in the discussion a while back we imposed names on all movements having certain numerical relations to each other.

D. I remember they were named equal, for they were so related with respect to time.

M. Now, you don't think this ordered set of syllables, furnishing its constituents with numbers with respect to one another, ought to be left without a name, do you?

D. I do not.

M. Well, the ancients called such an ordered set of sounds a foot.⁵ But we must be careful to notice just how far reason allows a syllable to go. And so next tell me in what ratio a short and a long syllable are with respect to each other.

D. I believe this ordering comes from that genus of numbers we called complicate. At least that is so if I am right in thinking a unit is here ordered with a double, that is, the short syllable's one time with the long syllable's two.

Etudes de littérature et de rythmique grecques (Paris 1902), 200-201; Laloy, *Aristoxène de Tarente, et la musique de l'antiquité* (Paris 1901), 329. Aristides also allows a long of three times. This is, of course, a metrical question and not a rhythmical one.

5 Augustine here approaches the foot more from its metrical side than its rhythmical. We have already shown how Aristides Quintilianus defines the foot rhythmically, and makes the metrical foot depend on it. Likewise, Aristoxenus, having defined rhythm as a certain order of primary times, adds: 'That by which we signify the rhythm and make it known to sense, is one foot or more than one' (*op.cit.* II 81). The foot, then, he proceeds to show, is the ratio of arsis and thesis which orders the primary times. An ordered set of syllables, as Augustine says, rather than of primary times within the arsis and thesis, introduces into the notion of foot the metrical considerations of the order of longs and shorts. Marius Victorinus defines a mixture. *Pes est certus modus syllabarum, quo cognoscimus totius metri speciem, compositas ex sublacione et positione.*—'The foot is a certain measure of syllable collated from arsis and thesis, by means of which we know the species of meter' *Ars Gramm., Keil, VI.43*). But both he and Diomedes tend to confuse what the Greeks had stated clearly and with the conviction of a coherent system.

M. And what if the order should be first the long syllable and then the short syllable? But the change in order doesn't change the ratio of complicate numbers, does it? For just as in the first foot it was one to two, so in this one it is two to one.

D. That is so.

M. And in a foot of two long syllables, aren't two times compared with two times?

D. Evidently.

M. Then from what ratio is such a set taken?

D. Why from those called equals.

(5) *M.* Now tell me, how many ordered sets of feet we have treated starting from two short syllables and reaching two long syllables.

D. Four. For, first there were two shorts; second, a short and a long; third, a long and a short; and fourth, two longs.

M. There can't be more than four when the comparison is of two syllables, can there?

D. Certainly not. For, with syllables measured to give a short syllable one time and a long one two, and every syllable either short or long, how can two syllables be compared with each other or combined to make a foot otherwise than as short and short, short and long, long and short, or long and long?

M. Tell me, now, the number of times in the shortest two-syllable foot, and the number in the longest.

D. The first has two; the other, four.

M. Do you see there could be no other progression than from one to four either in feet or times?

D. I see it plainly, and I remember the ratio of progression in numbers. And with great intellectual pleasure I find that power residing here also.

M. Then, since feet consist of syllables, that is, of distinct and articulate movements of sound, and syllables are extensions of times, don't you think the progression within the foot should go to four syllables, just as the progression of feet and times goes as we have seen to four?

D. I feel about it as you say and I know it is perfectly reasonable. And what should be I want very much to see done.

Chapter 5

(6) *M.* Proceed then. First, in good order, let's see how many three-syllable feet there can be, just as we found out there were four two-syllable feet.

D. All right.

M. You remember we laid the beginning of the ratio in one short syllable, that is, in one time, and you understood well enough why it should be so.

D. I remember we resolved one must not depart from that law of counting which enjoins a start from one, the beginning of numbers.

M. Since, then, in two-syllable feet the first consists of two short syllables (for reason first demanded one time be added to one time before two times), what do you think ought to be first among three-syllable feet?

D. It could only be that composed of three short syllables.

M. And how many times is it?

D. Three, certainly.

M. Then, how are its parts compared to one another? For, according to number sets, every foot must have two parts to be compared with each other by means of some ratio. And I seem to remember we discussed this before. But can we divide this foot of three short syllables into two equal parts?

D. Not at all.

M. How is it divided, then?

D. The only way seems to be for the first part to contain one syllable and the second two, or for the first part to contain two syllables and the second one.

M. Then tell me what number pattern this is from.

D. It seems to be from the genus of complicate numbers.

(7) *M.* Well now, consider this: How many permutations are there of three syllables with one long, that is, how many different feet can be gotten from them? Answer, if you find out.

D. I find a foot consisting of one long and two shorts. I don't find any other.

M. And so you think only the foot having the long syllable in first place is a foot having one long in three?

D. No, I don't, since the two shorts can be first and the long last.

M. Think whether there is a third.

D. There clearly is, for the long can be placed between the two shorts.

M. See if there is any fourth possibility.

D. There certainly can't be.

M. Can you tell me now how many permutation there are of three syllables with one long and two shorts, that is, how many different feet they can produce?

D. I certainly can, for there were three permutations and three different feet.

M. Now, can you see at one glance how these three feet are to be ordered, or do you have to go through them one by one?

D. Because you don't like the order I found them in? For first I noticed a long and two shorts, then two shorts and a long, and finally a short and a long and a short.

M. And so you wouldn't be disturbed at an order going

from the first to the third, and from the third to the second, rather than from the first to the second and then to the third?

D. I don't like it at all. But where, I ask, have you seen that in this case?

M. Because in this tripartite differentiation you have placed that foot first containing the long syllable in first place, feeling, no doubt, the long syllable's unity gives it preeminence (if it really is a unit) and on that account ought to bring forth order by making that the first foot where it itself is first. And so you should also have seen at the same time the second foot is where it is second, and third where it is third. Or do you still think it ought to be in the order you first named them?

D. I certainly do not. For who wouldn't agree this is the better order, or rather, this is order?

M. Now, then, in what number pattern are these feet divided and their parts related?

D. The first and last I see are divided according to the equal pattern, because the first can be divided into a long and two shorts, and the last into two shorts and a long, each part, therefore, having two times and so being equal. But in the case of the second, since it has a long syllable in the middle, whether it be attributed to the first or to the second part, there is a division either into three times and one time, or into one and three. And so the ratio of complicate numbers presides at its partition.

(8) *M.* Now I want you to tell me, unaided if you can, what feet you think ought to be ordered next after those we have just been discussing. For first we discussed the two-syllable feet with an order fashioned after the order of numbers so as to begin from the short syllables. Then we undertook the longer three-syllable feet, and with an easy deduction

from former reasoning we began with three shorts. And then it was natural we should see how many forms a long syllable and two shorts would produce. And we have seen. And accordingly three feet found a necessary place after that first one. And it's up to you to see what follows next if we are not to get everything out of you by these short tedious arguments.

D. You are right. For any one would see the next feet are those with one short and the rest long. And since by former reasoning preeminence is given the shorter syllable because there is only one, that will be the first foot where it is first, second where it is second, and third where it is third, which is also the last.

M. I suppose you also see into what ratios they are divided for the comparison of their parts.

D. I certainly do. For the foot consisting of one short and two longs can only be divided to give a first part containing a short and a long and so three times, and a second part containing the one long syllable's two times. And the third foot is like the first in allowing only one division, but unlike it in the one's being divided into two and three times while the other is divided into three and two. For the long syllable occupying the first part embraces two times, and there remain a long and short, a three-time interval. But the middle foot with a middle short syllable allows a double division, because the same short syllable can be attributed to either the first or second part, and, therefore, it is divided into either two and three times or three and two. Hence the ratio of sesquate numbers dominates these three feet.

M. Have we now considered all the three-syllable feet, or does any remain?

D. I find one left consisting of three longs.

M. Then discuss its division, too.

D. Its divisions are one syllable and two or two syllables and one, that is, two times and four times or four and two. And so this foot's parts are related in the ratio of complicate numbers.

Chapter 6

(9) *M.* Now, let's consider the four-syllable feet properly and in order, and tell me yourself which of these is to be first, and give, too, the ratio of division.

D. Very evidently, there's the foot of four shorts divided into two parts of two syllables, having each two times in the ratio of equal numbers.

M. I see you understand. And so, now go on by yourself, following through with the others. For I don't think you need to be questioned through each one. For there is the method [*ratio*] of removing short syllables one by one and substituting long syllables for them until you come to all long syllables, and so of considering what varieties result and how many feet are produced as the shorts are removed and the longs substituted. And clearly, the syllable, either long or short, which is alone of its kind, holds precedence of order. And you have already had practice in these things. But when there are two shorts and two longs, a case we have not yet faced, what syllables do you think are to have precedence?

D. Now this, too, is clear from what has been done before. The short syllable with one time certainly has more unity than the long with two. And it was for that we put the foot consisting of shorts at the head and beginning of them all.

(10) *M.* There is nothing, then, to keep you from going through with all these feet while I listen and judge without questioning.

D. I shall, if I can. To begin with, one short must be sub-

tracted from the four shorts of the first foot and one long substituted in the first place because of unity's precedence. But this foot is divided in two ways: either into one long and three shorts or into a long and short and two shorts, that is, either into two times and three times or into three and two. But when the long syllable is put second, it makes another foot with one way division, that is, into three times and two, with the first part containing a short and long and the second part two shorts. Next, when the long is put third, it makes a foot again divided one way, but in such a way the first part has two times with two short syllables, the second part three with a long and a short. A final long syllable produces the fourth foot, divided in two ways as when the long was first. For it can be split either into two shorts and into a short and long, or into three shorts and into a long, that is, into two and three times or into three and two times. And all these four feet, where the long syllable is variously placed among the three shorts, have their parts interrelated in the ratio of sesquate numbers.

(11) Next, from the four shorts we take away two and substitute two longs, and consider how many forms and feet can be produced with two longs and two shorts. Then I find two shorts and two longs are to be considered first, because the beginning is more correctly made with the shorts. But this foot has a twofold division. For it is split either into two times and four or into four times and two, so that either two shorts comprise the first part and two longs the second; or two shorts and a long comprise the first part while the remaining long comprises the second. Another foot is produced when the two shorts we placed at the beginning, according to order's demands, have been put in the middle. And the division of this foot is into three times and three. For a long

and a short syllable take up the first part, and a short and a long the second. But when they are placed last, for this is the next case, they produce a foot of two divisions, either with the first part containing two times in one long syllable and the second four times in one long syllable and two shorts, or with the first part containing four in two longs and the second two in two shorts. And the parts of these three feet are interrelated, in the case of the first and third, by a ratio of complicate numbers, and in the case of the middle, by equality.

(12) Next, these two shorts which were placed together must be split apart. It is the least separation of the two shorts we must begin with, and it is such the two shorts have a long syllable between them. And the greatest separation, such they have two between. But when one long syllable separates them, this is possible in two ways and two feet are produced. And the first of these ways is with a short syllable at the beginning followed by a long; then again a short and the remaining long. The other way is with the short syllables second and last, and the long syllables first and third; so it will be a long and a short, and a long and short. But the greatest separation occurs when the two longs are between, and the shorts are first and last. And those three feet with the short syllables separated are divided into three times and three, that is, the first into a short and long, and a short and long; the second into a long and short, and a long and short; and the third into a short and long, and a long and short. And so, six feet are produced from two short and two long syllables placed in relation to each other in as many different ways as possible.

(13) There remains the subtraction of three shorts from the four and the substitution of three longs. So there will be

one short. And a short syllable at the beginning followed by three longs makes one foot; placed second, a second foot; third, a third foot; and fourth, a fourth. And the first two of these four feet are divided into three and four times, but the last two into four and three. And they all have parts ordered in the ratio of sesquitate numbers. For the first part of the first foot is a short and a long with three times, the second part is two long with four times. The first part of the second foot is a long and a short, and, therefore, three times; the second part two longs or four times. The third foot has a first part of two longs or four times; a short and long make up the second part, that is three times. Likewise, two long or four times make up the first part of the fourth foot; and a long and short or three times, the second part. The remaining foot is four syllables with all shorts removed, so that the foot consists of four longs. And it is divided into two longs and two longs according to equal numbers or into four times and four.—There you have what you wished me to explain by myself and unaided. Now you go on questioning with the rest.

Chapter 7

(14) *M.* I shall. But have you sufficiently considered to what extent that progression to four, demonstrated for numbers, is also true for feet?

D. I certainly judge this ratio of progression to exist in the ones as in the others.

M. Well, just as feet are made by joining syllables, doesn't it seem something can be made by joining feet, something called neither a foot nor a syllable?

D. It seems so.

M. And what do you think it is?

D. Verse, I suppose.

M. What if one should wish to keep adding feet together so as to impose no measure on them or no end to them except from a failing in voice, chance interruption, or the necessity of doing something else? Would you also call it a verse when it has twenty, thirty, a hundred feet or more, in any length of uninterrupted succession the person putting them together could or would wish?

D. No. For when I see feet of all sorts thrown together, many and without end, I shall not call them a verse. But I can learn from some discipline the genus and number of feet, that is, what feet and how many go to make up a verse, and judge accordingly whether I have heard verses or not.

M. Certainly, this discipline, whatever it be, has not established a rule and measure for verses in any way at all, but rather by some ratio.

D. For it should not and could not do otherwise, if it is a discipline.

M. Then, if you will, let us look for and follow out this ratio. For if we regard only authority, a verse will be whatever an Asclepiades or Archilochus, the ancient poets, or Sappho, a poetess, and others wished to be so. And the kinds of verses they first invented and sang are called by their names. For there are verses called Asclepiadean, and Archilochian, and Sapphic, and a thousand other names belonging to Greek authors have been given to verses of various kinds. And in view of this it would not be absurd to think that, if someone, to suit himself, has ordered in a certain way feet of whatever number and kind he wishes, then, just because no one before him has established this order and measure in feet, rightly and lawfully he will be called the creator and propagator of this new kind of verse. But if this sort of license is not given man, then one must ask complainingly what merit has been theirs if, following no ratio, they

had the sequence of feet it pleased them to throw together considered and called a verse. Doesn't it seem so to you?

D. It is just as you say, and I certainly agree a verse is generated by ratio rather than authority. And I pray we see it right away.

Chapter 8

(15) *M.* Let us see first which feet are to be joined together; next, what is done with what has been joined, for a verse doesn't stand all by itself; finally we shall discuss the whole rationale of verse. But you don't imagine we can easily get through all this without names for the feet, do you? It is true we have arranged them so they can be called by their ordinal number; for we can say first, second, third, and so on in this way. Yet, because the old names are not to be despised and custom should not be lightly violated unless it is opposed to reason, we should use the names of feet the Greeks instituted, now in use among the Latins. And we take them over without inquiring into the origins of the names, for this matter has much talk about it and little usefulness. For in speaking you don't name bread, wood, and stone the less usefully because you don't know why they are called so.

D. I think it is certainly as you say.

M. The first foot is called a pyrrhic, constructed of two shorts, consisting of two times, as *fuga*.

The second an iamb, of a short and long, as *parens*, three times.

The third a trochee, or choree of a long and a short, as *meta*, three times.

The fourth a spondee, of two longs, as *aestas*, four times.

The fifth a tribrach, of three shorts, as *macula*, three times.

The sixth a dactyl, of a long and two shorts, as *Maenalus*, four times.

The seventh an amphibrach, of a short and a long and a short, as *carina*, four times.

The eighth an anapest, of two shorts and a long, as *Erato*, four times.

The ninth a bacchius, of a short and two longs, as *Achetes*, five times.

The tenth a cretic or amphimacer, of a long and a short and a long, as *insulae*, five times.

The eleventh an antibacchius, of two longs and a short, as *natura*, five times.

The twelfth a molossus, of three longs, as *Aeneas*, six times.

The thirteenth a proceleusmatic, of four shorts, as *avicula*, four times.

The fourteenth a first paeon, of a first long and three shorts, as *legitimus*, five times.

The fifteenth, a second paeon, of a second long and three shorts, as *colonia*, five times.

The sixteenth a third paeon, of a third long and three shorts as *Menedemus*, five times.

The seventeenth a fourth paeon, of a fourth long and three shorts, as *celeritas*, five times.

The eighteenth a lesser ionic, of two shorts and two longs, as *Diomedes*, six times.

The nineteenth a choriamb, of a long and two shorts and a long, as *armipotens*, six times.

The twentieth a greater ionic, of two longs and two shorts, as *Junonius*, six times.

The twenty-first a diiamb, of a short and long and a short and long, as *propinquitias*, six times.

The twenty-second a dichoree or ditrochee, of a long and short and a long and short, as *cantilena*, six times.

The twenty-third an antispast, of a short and two longs and a short, as *Saloninus*, six times.

The twenty-fourth a first epitrite, of a first short and three longs, as *sacerdotis*, seven times.

The twenty-fifth a second epitrite, of a second short and three longs, as *conditores*, seven times.

The twenty-sixth a third epitrite, of a third short and three longs, as *Demosthenes*, seven times.

The twenty-seventh a fourth epitrite, of a fourth short and three longs, as *Fescenninus*, seven times.

The twenty-eight a dispondee, of four longs, as *oratores*, eight times.

Chapter 9

(16) *D.* I have them. Now discuss the question of which feet are joined with which.

M. You will easily decide this for yourself, if only you judge equality and similitude superior to inequality and dissimilitude.

D. I believe everyone does.

M. Then this is the principal rule to be followed in combining feet, and there should be no deviation from it without very just cause.

D. I agree.

M. You will not hesitate, then, to combine pyrrhic feet with each other, nor iambic, nor trochaic also called choric, nor spondaic. And so you will have no doubts about combining any foot with others of the same kind. For you have the greatest equality when feet are in sequence with those of their own kind and name. Wouldn't you say so?

D. I don't see any other way of looking at it.

M. So, then, you accept the principle any foot is to be com-

bined with any other provided an equality is preserved. For what can give the ear more pleasure than being both delighted by variety and uncheated of equality?

D. I accept.

M. And only those feet having the same measure are to be considered equal, aren't they?

D. I should say so.

M. And only those with the same stretch of time are to be considered of the same measure?

D. That's true.

M. Then any feet found having the same number of times, those you will put together without offending the ear.

D. I see that follows.

Chapter 10

(17) *M.* Quite rightly. But the subject has still matter for debate. For although the amphibrach⁶ is a foot of four times, certain people deny it can be mixed either with dactyls or anapests or spondees, or proceleusmatics. Yet these are all four-time feet. And they not only deny it can be joined with these feet,⁷ but they think also the number does not proceed correctly and legitimately, even when amphibrach is combined with amphibrach in a repetition of itself alone.

6 This doctrine of Augustine on the amphibrach is that of Censorinus also. See F. Amerio, II "De Musica" di S. Agostino, *Didaskaleion*, Nuova serie 8 (Turin 1939) 173.

7 Both Aristoxenus and Aristides disallow the 1:3 ratio. Aristoxenus indeed only allows the 1:1, 1:2, and 2:3 ratios, that is, what he calls the dactylic, iambic, and paonic. He refuses the epitritic or 3:4 ratio. Aristides accepts all four but no others. There is a good Pythagorean reason for this doctrine of Aristides and Augustine. These four ratios are exactly the ratios of the string-lengths of the intervals of coincidence, of the octave, of the perfect fifth, and of the perfect fourth, the only consonances admitted in Greek music. This establishes another correspondence between Rhythmics and Harmonics. Schäfke is also of this same opinion. See Westphal, *Aristox.* II 83-85. These ratios,

And we must consider their opinion, not to overlook a reason deserving our compliance and approval.

D. I want very much to hear what they say. For it seems to me this is very interesting, that, of the thirty-two feet given us by reason, this one alone should be excluded from the succession of numbers, occupying as it does the same time-stretch as dactyls and others equal to them just enumerated, combinations of which are not forbidden.

M. To understand this you must consider the interrelation of the parts within the other feet. For this way you will find a strange and peculiar accident in the amphibrach, well justifying the judgment it is little fit to be much applied in numbers.

(18) But in considering this we must first learn two names, the arsis [upward beat] and thesis [downward beat]. In making a beat, since the hand is raised and lowered, the arsis claims one part of the foot, the thesis the other. And I call these the parts of a foot which we discussed thoroughly a while ago in treating them in order.⁸ If, then, you accept this, begin briefly recounting the measures belonging to every foot's parts, in order to find the peculiar accident of the one we are discussing.

for Aristoxenus and Aristides, distinguish rhythmical feet according to genus. This is the second differentia of feet for Aristoxenus of which the first is according to magnitude. There are five others of which the last is according to antithesis, mentioned in another note.

⁸ In this treatment of arsis and thesis, Augustine seems to recognize only the mechanical ictus, that is, upward and downward strokes whose only purpose is to break the rhythmical foot into parts in certain ratios. There is not a trace here of *psóphos kai eremia* of Aristides' definition quoted in our first note in this Book which, according to Nicolau's interpretation, marks the recognition of a vocal ictus accompanying the arsis. Consequently, there is no recognition by Augustine of Aristides' differentiations of feet *katá antithesin*, a distinction which appears also in the fragments of Aristoxenus. Accord-

D. I see the first foot or pyrrhic has as much in the arsis as in the thesis. The spondee, the dactyl, the anapest, proceleusmatic, choriamb, diiamb, dichoree, antispast, and dispondee are also divided in the same ratio. For the best takes as much time going down as coming up. I see the second foot or iamb has the ratio of one to two. And I find this ratio also in the choree, tribrach, molossus, and in both ionics. Now the arsis and thesis of the amphibrach (for it comes in turn, and I look for others like it) are in the ratio of one to three. But I certainly find no other in the sequel with parts in the same relation. For when I look at those consisting of a short and two longs, that is the bacchius, cretic, and anti-bacchius, I find their arsis and thesis in the ratio of sesquialter numbers. There is, again, the same ratio in those four consisting of a long and three shorts, called the four paeons in order. There remain the four epitrites, similarly named in order, where the sesquitercian number dominates the arsis and thesis.

(19) M. You don't think it's too little reason for excluding this foot from the numerical series of sounds simply be-

ing to Aristoxenus: 'Feet differ from each other by antithesis in having the up-time and the down-time reversed in position. And this difference will be in feet which are equal but have an unequal order of up-times and down-times' (*op.cit.* II.84). According to Aristides: 'Difference according to antithesis occurs whenever of two feet considered, the one has the greater time first and the less time second, and the other vice-versa' (*op. cit.* I.34). Again Aristides says: '. . . rhythm is constructed from like syllables and antithetical feet. But meter is never constructed from feet having all syllables like, and rarely from antithetical feet' (*op.cit.* I.49-50).

In line with the definition of arsis and thesis of Aristides, it is interesting to consider the text of a later writer, contemporary of Augustine, Marius Victorinus: *Arsis igitur ac thesis quae Graeci dicunt, id est sublatio et positio, significant pedis motum. Est enim arsis sublatio pedis sine sono, thesis positio cum sono: item arsis elatio temporis, soni, vocis, thesis depositio et quaedam contractio syllabarum.*—'Therefore the arsis and thesis the Greeks speak of, that is rise and fall,

cause its parts differ to the extent of one to three, do you? For the nearer the similarity of parts is to equality, the more worthy of consideration it is. And so, in the rule of numbers going from one to four, there is nothing nearer each one than itself. And, therefore, those feet take precedence whose parts are in relation of equality to each other. Then the union of single and double emerges in one and two; the sesquialter union in two and three; and the sesquitercian in three and four. But the single and triple, although dominated by the law of complicate numbers, are not brought together by this ordering. For we do not count three after one, but from one three is reached by way of two. And this is the reason in virtue of which the amphibrach is judged to be fittingly excluded from the combinations of feet we are now discussing. And if you agree to this, let us go on to the rest.

D. I do agree, for it is all very clear and certain.

signifies the motion of the foot. For arsis is the raising of the foot without sound, thesis the putting down of the foot with sound: likewise arsis is a lengthening out of the time and sound and a raising of the voice, thesis the lowering and a contraction of the syllables' (Marius Victorinus, *Ars Grammatica*, Keil, VI.40).

Nicolau finds the same combination of mechanical and vocal ictus in the text of Victorinus, and furthermore in the '*elatio vocis*' and '*contractio syllabarum*' he finds the confusion of vocal ictus and accent, an accent which is no longer musical and which becomes more and more the pivotal point of rhythm, meter, and word in accordance with the natural laws of accent of Latin. The accent becomes the 'soul of the word' and the totality of the word must be preserved in scansion. See texts of Pompeius, Capella, and Sacerdos quoted by Nicolau, *op.cit.* 65-66. It is for this reason, according to Nicolau, that the Latin metricists at times invert the use of arsis and thesis, the arsis for the strong time and the thesis for the weak. The exact meaning of the antithetical difference in Aristoxenus and Aristides and whether it is exactly the same thing in both is hard to determine. Bartels, in his *Aristoxeni Elementorum Rhythmicorum Fragmentum* (Bonn 1854) 51-52, considers it simply a difference in up-time and down-time and chides Aristides for his clumsy rendition of these terms by 'greater time' and 'less time.' Nicolau follows Desrousseau in considering the difference to be one of strong time, the simple fact of the occurrence of a constantly repeated pattern of long times.

Chapter 11

(20) *M.* Since, then, you are willing all feet save only the amphibrach can be combined one with another regularly and without violation of the principle of equality, no matter what their mutual relations in syllables if only they are the same quantity in time, it is perhaps well to inquire whether those also are regularly combined which, although equal in time, yet do not agree in the beat where arsis and thesis throw the foot's one part against the other. For the dactyl, anapest, and spondee are not only similarly timed, but they are also beat to the same stroke. For in all of them the arsis carries equal weight with the thesis.⁹ And so these are more properly put together than any of the ionics with the other feet of six times. For each of the ionics is beat to one-two time, that is, two times against four. The molossus, too, is like them in this. But the other six-time feet have equal divisions, for here three times go to the arsis and thesis each. And so, although all of them have an acceptable beat—for the first three are beat in a one-two ratio and the other four in equal parts—yet, because such a combination gives unequal strokes, I don't at all know if reason's judgment would countenance it. Or have you something to the point?

Thus a spondee in a series of dactyls would be antithetical to a spondee in a series of anapests. See Nicolau, *op.cit.* 47, n.2. Nicolau, of course, denies the existence of a vocal ictus in Aristoxenus and at any time much previous to Aristides. In any case, Augustine must have been aware of these evolutions in doctrine and practice. His *Psalm against the Donatist Faction* would seem to guarantee that. This flight of his, therefore, into a purely musical rhythmic, into a sort of meta-rhythmic, has more significance than has been supposed. Amerio, in his study of Augustine's sources, considers it a return to an older tradition of pure rhythmic doctrine. See F. Amerio, *op.cit.* 167-193.

⁹ Obviously arsis and thesis are not essentially different, except for the numerical division of the foot.

D. I am readier to pass judgment here. For I do not see how an unequal beat could avoid offending the sense of hearing. And if it offends, it cannot occur without a flaw in the combination.

(21) *M.* But you know the ancients judged such feet to be properly combined and they constructed verses composed this way. But, not to oppress you with authority, take a verse of that sort and see if it offends your ear. For if it should not, but rather delight you, there will be no reason for rejecting this combination. And here are the verses I wish you to listen to:

*At consona quae sunt, nisi vocalibus aptes,
Pars dimidium vocis opus proferet ex se:
Pars muta soni comprimet ora molientum:
Illis sonus obscurior impeditiorque,
Utrumque tamen promitur ore semiclusio.*¹⁰

I believe that's enough for judging what I want. And so tell me now if this number hasn't been pleasing to hear.

D. True, nothing seems to me to flow and sound more agreeably.

M. Now look to the feet. You will quickly find that, of the five verses, the first two run in ionics only, and the last three have a dichoree mixed in, although all of them are equally pleasing.

D. I have already noticed this, and more readily while you recited.

M. Why, then, do we hesitate to agree with the ancients, conquered not by their authority but by the very reason of those who think feet of the same time-measure can with reason be combined if only their beat is proper although diverse?

¹⁰ Terentianus Maurus, *De Litteris*, 11. 89-93 (Keil VI,328).

D. I am ready now to give way. For their sound gives me no ground for contradiction.

Chapter 12

(22) *M.* In the same way listen to these verses:

*Volo tandem tibi parcas, labor est in chartis,
Et apertum ire per auras animum permittas.
Placet hoc nam sapienter, remittere interdum
Aciam rebus agendis decenter intentam.*

D. That is enough.

M. Too true, for these verses I was forced to compose on the spur of the moment are pretty rude. And yet I want to know the judgment your sense passes in the case of these four, too.

D. And here again what else is there to say except they sounded correct and smooth?

M. Do you see here, also, the first two verses are composed of second ionics, called lesser, but the last two have a diiamb thrown in?

D. I was very conscious of your putting it in when you recited.

M. Well, aren't you interested in the fact that in the verses of Terentianus a dichoree was thrown in with the ionic called greater, but in these verses of ours a diiamb has been cast in with the other ionic called lesser? Or do you think this is trivial?

D. It is quite important and I seem to see the reason. For, since the greater ionic begins with two longs, it ought rather to be joined with the dichoree where there is a first long. But the diiamb because it begins with a short is more suitably combined with the other ionic beginning with the two shorts.

(23) *M.* Your understanding is good. And so it must be held, given the equality of times, a symmetry of this kind must have some weight in combining feet. For, though it is not of the greatest importance, yet it is not negligible. For your own sense of hearing can judge any six-time foot capable of substitution for any other six-time foot. First let us have an example of a molossus, *virtutes*; then a lesser ionic, *moderatas*; then of a choriamb, *percipies*; a greater ionic, *concedere*; a diiamb, *benignitas*; a dichoree, *civitasque*; an antispast, *volet justa*.

D. I have them.

M. Then put them together and recite them, or better, listen to me recite them so your sense of hearing may be freer of its time for judging. For to introduce the equality of a continued number without offending your ears, I shall give the whole combination three times. And I am sure that will be enough. *Virtutes moderatas percipies, concedere benignitas civitasque volet justa. Virtutes moderatas percipies, concedere benignitas civitasque volet justa. Virtutes moderatas percipies, concedere benignitas civitasque volet justa.* You don't find anything in this flow of feet, do you, to rob your ears of equality and smoothness?

D. Not at all.

M. Were they pleased, then? Although, in this kind of thing, it logically follows what does not offend delights.

D. I can't say I have been affected otherwise than you expect.

M. Then your decision is, all these six-time feet can with propriety be combined and mixed.

D. It is.

Chapter 13

(24) *M.* Aren't you afraid some one may think these

feet were capable of this equal balance in sound because of this particular order, and another order would destroy it?

D. That is certainly an objection, but it is not hard to find out.

M. You will do that when there's time, and you'll only find your hearing is delighted by a single equality and a multi-form difference.

D. I shall go through with it, although everyone foresees what will happen here.

M. You are right. But what is more to the point I shall run through them with the accompanying beats to enable you to decide whether there is a flaw or not. But as soon as you have made some trial of the possible permutations we have already declared harmless, make the change and, as you will, give me for recitation and rhythmical delivery these same feet placed otherwise than I had them.

D. First I want the lesser ionic, next the greater ionic, third the choriamb, fourth the diiamb, fifth the antispast, sixth the dichoree, seventh the molossus.

M. Now, fix your ears on the sound and your eyes on the beats. For the hand beating time is not to be heard but seen, and note must be taken of the amount of time given to the arsis and to the thesis.

D. I shall follow as well as I can.

M. All right, then, for the order of feet you have given me and their beats: *Moderatas, concedere, percipies, benignitas, volet justa, civitasque, virtutes.*

D. I see no flaw in the beat, and as much time is given to the arsis as to the thesis. But I certainly wonder how those feet with a division in a one-two ratio could have been beat out this time, such, for example, as the ionics and the molossus.

M. Well, what do you think is done here with three measures in each the arsis and thesis?

D. Only this, that the long syllable, second in the greater ionic and molossus, but third in the lesser ionic, is divided by the beat itself so that, of its two times, one is attributed to the first part and one to the second, and so the arsis and thesis are each allotted three times.¹¹

(25) M. There is nothing more to be said or understood on this score. But why couldn't the amphibrach we so utterly struck from the list also be combined with the spondee, dactyl, and anapest, or itself produce a numerical or harmonious line with a succession of amphibrachs? For the middle syllable of this foot, being long, can also be divided by the beat into a like ratio, so that, when each side has in this way been given a time, the arsis and thesis no longer claim one and three times respectively, but each two. Have you anything to say to that?

D. Nothing except to say the amphibrach must also be allowed.

M. Then let us beat the time to an ordered composition of four-time feet with an amphibrach included, and find out if there is any inequality to offend this sense of hearing. And now listen to this number, given three times to facilitate a judgment. *Sumas optima, facias honesta. Sumas optima, facias honesta. Sumas optima, facias honesta.*

D. Please spare me. For, even without the accompaniment of the beat, the very flow of the feet runs away in that amphibrach.

¹¹ This dissolution of the syllabic structure of the molossus to allow it to be beat with any other six-time foot is another sign of the character of this treatise. Everywhere we find the dissolution of the inner structure or purely metrical structure of the foot in favor of an all embracing and entirely rational arithmetic rhythmic. E. Graf has already remarked on this in his *Rhythmus und Metrum* (Marburg 1891) 66 and n.1. He points out this might well lead to the breaking up of an overlapping ionic and gives an example from Marius Victorinus.

M. What, then, is the cause what could be done in the case of the molossus and ionics cannot be done here? Is it because in the first case the sides are equal to the middle? For, six is the first even number where the sides are equal to the middle. Then, since the six-time feet have two times in the middle and two each on the sides, the middle falls in happily with the sides fitting with complete equality. But it is not the same in the amphibrach, where the sides are not equal to the middle, for there is one time in each of the sides and two in the middle. And so in the ionics and the molossus, when the middle has been dissolved into the sides, the times are three each. And in each of these sides again are found equal sides with an equal middle. And this doesn't occur in the amphibrach either.

D. It's as you say. And it's not without cause the amphibrach, put in that sequence, offends my hearing, while the others please it.

Chapter 14

(26) *M.* Come now, explain briefly on your own, as far as you can, which feet are to be mixed with which, beginning with the pyrrhic and in accordance with the ratios just given.

D. None with the pyrrhic, for no other foot with the same number of times is to be found. The choree can be combined with the iamb. But this combination is to be avoided on account of the unequal beat, for one begins with a single beat, the other with a double. And so the tribrach can be fitted in with either one. I find the spondee, dactyl, anapest, and proceleusmatic are compatible and permit of combination. For they agree not only in the number of times, but also in the beat. But the amphibrach we excluded could not be reduced by any ratio; equality of times was of no avail, for its

division and beat are discordant. It is clear the cretic and first, second, and fourth paeons agree in times and beat with the bacchius. And this same cretic, and the first, third, and fourth paeons with the antibacchius. Therefore, all the other five-time feet can be combined, without any hitch, with the cretic and the first and fourth paeons, since a division can be made of them, beginning either with two or three times. It has already been sufficiently argued there is a strange agreement of all the six-time feet among themselves. For even those where the status of the syllables results in a different division do not clash in beat with the others, so great is the force of the equality of the sides with the middle. To go on, of the four seven-time feet called epitrites, I find the first and second can be combined, for the division of both begins with three times and, therefore, they disagree neither in time-interval nor in beat. Again the third and fourth are readily combined, because both have a first division of four times, and so have an equal time and beat. There remains the eight-time called dispondee, and just as with the pyrrhic there is no foot equal to it. Now you have what you asked of me and as much as I have been able to do. You go on with the rest.

M. I shall. But let's breathe a little after such a long discussion, and let's recall those verses fatigue prompted me with on the spur of the moment, a little while back.

*Volo tandem tibi parcas, labor est in chartis,
Et apertum ire per auras animum permittas.
Placet hoc nam sapienter, remittere interdum
Aciem rebus agendis decenter intentam.*¹²

D. I am very willing, and gladly obey.

¹² 'And now I want you to spare yourself (there is drudgery in letters), and to let your mind run free to the winds. For this is a judicious pleasure, to relax at times your attention when it has been properly strained to business.'

BOOK THREE

The difference between rhythm, meter, and verse; then rhythm is discussed separately; and next the treatise on meter begins.

Chapter 1

(1) *M.* Now, since enough has been said about the harmony and agreement of feet among themselves, this third discussion warrants our seeing what arises from their composition and from the sequences of them. And so first I ask you whether those feet which can properly be put together can be combined to create a sort of continuing number without definite end, as when chorus-boys beat castanets and cymbals with their feet according to numbers whose combinations are pleasing to the ear, but yet in an unending flow so that, unless you should hear the flutes, you could in no way mark how far the combination of feet runs forward and from where it returns to begin again. It's as if you should want a hundred pyrrhics or more, as many as you please, or any other feet belonging together, to run on in continuous combination.

D. I now understand, and I agree a certain combination of feet can be made in which it is fixed just how many feet the progression is to be, before it starts over again.

M. Then you are not doubting the existence of this sort of thing, since you don't deny there's a certain discipline for making verses, you who have always confessed to hearing them with pleasure?

D. It's evident there's such a thing, and that it's distinct from the other kind we talked about before.

(2) M. Then, since it's proper for things distinct from each other to be distinguished by names, it's well to learn the first kind of combination is called rhythm by the Greeks; the second, meter. In Latin they could be called, the first, number [*numerus*]; the second, measure [*mensio or mensura*].¹ But, since these names are very current with us, and since we must be careful not to speak ambiguously, we find the use of the Greek names more convenient. Yet you see, I believe, how correctly each of these names is imposed. For, since there is a rolling forward in fixed feet, and a hitch if dissonant feet are mixed together, this sort of thing is rightly called rhythm or number. But, because the rolling forward has no measure, and there has been no decision as to what foot is to be used as a definite end, this ought not to be called meter because there is an absence of measure in the succession. But meter has both: it runs in fixed feet and in fixed measure. And so it is not only meter because of a distinct end, but it is also rhythm be-

¹ The result of Augustine's theories is seen clearly in this definition of meter, as Graf has pointed out. It is not a new definition, but other writers usually give it, along with the other definitions stressing the strictly metrical qualities of the foot.

To say meter is simply the measuring off of rhythm is to deny anything specifically metrical. Quite different is the approach of Aristides Quintilianus, for him, meter is the differentiation within the rhythmical foot, its inner structure. But for Augustine, only two things are demanded: that the feet be equal in length and that the ratio of their parts be the same. There is no mention of rhythmical modulation as in Aristides. The real differentiation between *arsis* and *thesis* is ignored as something outside of the rhythm.

Many scholars consider this definition to be from Varro, but Aristides also gives it among others and Diomedes reports Varro as giving quite another '*inter rythimum, qui latine numerus vocatur, et metrum hoc inhere, quod inter materiam et regulam.*' See Graf, *op.cit.* 64.

Amerio points out that Censorinus, one of the oldest of the metricists, gives also the same notion of homogeneity of meter. '*Numerus est aequalium pedum legitima ordinatio.*' See Amerio, *op. cit.* 168-172.

cause of the rational composition of feet. And so all meter is rhythm, but not all rhythm is meter. For the name rhythm makes such an extensive appearance in music that the whole part of it having to do with longs and shorts has been called rhythm. But it has seemed good to both the learned and the wise that there need be little trouble about the name since the thing itself is clear. Or do you perhaps have something to oppose, or think there ought to be some doubt about what I have said?

D. On the contrary, I agree with you.

Chapter 2

(3) *M.* Now then, consider this question with me: Whether just as all verse is meter, so all meter is verse.

D. I am considering the question, but I find nothing to reply.

M. Why do you think you have gotten into this difficulty? Isn't it because it's a question of names? For we can't reply to a question about names as to one about things belonging to a discipline, because things are implanted in the minds of all in common, but names are imposed arbitrarily, and their force depends for the most part on authority and usage. And so there can be a diversity in tongues, but in the very truth of constituted things there certainly cannot be. Take from me, then, what you could nowise get for yourself: the ancients spoke of meter, not verse only. And so, what you are to do is to say and see (for it is not a matter of names) whether there is a difference between the following two things: the one case where a certain number of feet are so defined by a fixed end there is nothing in the way of an articulation before this end is reached; the other case where there is not only a closure by a fixed end, but also before the end a divi-

sion appears in a definite place to produce two members as it were.

D. I don't understand.

M. Listen to these examples:

*Ite igitur, Camoenae
Fonticolae puellae,
Quae canitis sub antris
Mellifluos sonores;
Quae lavitis capillum
Purpureum Hippocrene
Fonte, ubi fusus olim
Spumea lavit almus
Ora jubis aquosis
Pegasus, in nitentem
Pervolaturus aethram.*

You certainly see the first five of these so-called versicles have the break in discourse in the same place, that is, at the choriambic foot, to which is added a bacchius to complete the versicle (for these eleven versicles consist of choriambic and bacchic feet, but the others, except one, namely, *Ora jubis aquosis*, do not have the break in discourse in that same place.

D. I see that, but I don't see what it's about.

M. Why so you may understand, this meter doesn't have a place somehow laid down by law for a break in discourse before the end of the verse. For if it did, all would have this articulation in the same place or at least one which didn't would be rarely found among them. But, here of these eleven, six do, and five do not.

D. I see that and I am still waiting to see where reason is going.

M. Well, listen then to the well-worn words, *Arma virum-*

*que cano, Troiae qui primis ab oris.*² And not to take up time, since the poem is very well known, exploring each verse as far as you wish, you will always find a part of the discourse completed in the fifth half-foot, that is, two and a half feet from the beginning. For these verses consist of feet of four times, and so this completion of a part of the discourse in the tenth time is laid down by law, you might say.

D. That's evident.

(4) *M.* Then you see there is a difference in the two kinds I have just given examples of. For one meter before its close has clearly no fixed and determined division, as we saw in those eleven little verses, but the other has, as the fifth half-foot in the heroic meter sufficiently indicates.

D. What you say is now clear.

M. Now the first kind, you should know, is not called verse by the learned men among the ancients in whom there is great authority, but that is defined as verse and so called which consists, you might say, of two members joined in a fixed measure and ratio. But don't trouble yourself too much about a name you couldn't possibly come out with on any amount of questioning without its being thrown at you by me or someone else. But what reason teaches, keep your mind first and foremost on that, as we are now doing. For reason teaches there is a difference between these two kinds, no matter what names they are called by. And so, if questioned correctly, you could put your finger on the difference, confident in the truth itself, but the names you couldn't without following authority.

D. I was already very clear about that. And what you so constantly harp on I now consider as important as you do.

M. Then I want you to learn by heart these names we are

² Vergil, *Aeneid* 1.1.

forced to use from the necessities of discourse itself: rhythm, meter, and verse. And these are distinct in such a way that all meter is also rhythm, but not all rhythm meter. And likewise that all verse is also meter, but not all meter verse. Therefore, all verse is rhythm and meter. For you see, I am sure, this follows.

D. I certainly do, for it's clearer than light.

Chapter 3

(5) *M.* First, then, if you will, let's discuss as far as we can the rhythm that's without meter, then the meter without verse, and finally verse itself.

D. Very willingly.

M. Now, take from your own head pyrrhic feet, and compose a rhythm of them.

D. And now if I should be able to do this, what will be its length?

M. It will be enough to extend it (for we are doing it as an example) up to ten feet. For verse, which will be thoroughly discussed in its proper place, does not go as far as this number of feet.

D. You do well not to ask me to put many feet together. But just the same you don't seem to me to remember you have already sufficiently distinguished the difference between the grammarian and the musician when I told you I didn't possess the knowledge of long and short syllables, a knowledge passed down by grammarians. Unless, perhaps you let me show the rhythm in beats and not in words. For I don't deny I am capable of ear-judgments for regulating the values of times. But as to what syllables are to be pronounced long or short, since it's a matter of authority, I am altogether ignorant.

M. I admit we distinguished a grammarian from a musician in the way you say, and you confessed your ignorance of this sort of thing. And so take this by way of example from me: *Ago celeriter agile quod ago tibi quod anima velit.*

D. I have it.

(6) *M.* Now, by repeating this as many times as you will, you could make the length of this rhythm as great as you wished, although these ten feet are enough for an example. But I want to know this. If anyone should tell you this rhythm is composed not of pyrrhic feet but of proceleusmatics, what will you say?

D. I certainly don't know. For where there are ten pyrrhics I can measure five proceleusmatics, and therefore there is a greater doubt about the decision to be made in the case of a rhythm flowing on without stop. For eleven or thirteen or any odd number of pyrrhics cannot contain a whole number of proceleusmatics. And so, if there were a fixed end to the rhythm in question, we could at least say it ran rather in pyrrhics than in proceleusmatics in the case where all the feet would not be whole proceleusmatics. But this infinity confounds our judgment even when the feet are counted out for us, but in an even number, as these ten are.

M. But the question isn't even clear as it seemed to you in the case of the uneven number of pyrrhics. For what if, given eleven pyrrhic feet, one should say they are five and a half proceleusmatics? What's wrong with that since we find many verses closing with a half-foot?

D. I have already said I don't see what to do about this matter.

M. But you aren't at a loss about this, are you, that, if the proceleusmatic is made of two pyrrhics, then the pyrrhic is prior to the proceleusmatic? For, just as one is prior to two,

and two to four, so the pyrrhic is prior to the proceleusmatic.

D. That's very true.

M. Then, since we fall into this ambiguity of both the pyrrhic's and the proceleusmatic's being measured in the one rhythm, to which are we to give preference? To the prior one the other is composed of, or to the secondary one the other is not composed of?

D. To the prior one certainly.

M. Why, then, on being consulted about this do you hesitate to reply this rhythm is to be called pyrrhic rather than proceleusmatic?

D. I don't hesitate at all now. I am ashamed at not having immediately noticed such an evident reason.

Chapter 4

(7) *M.* Do you now see by this reasoning you are forced to the conclusion there are certain feet not able to continue the rhythm uninterruptedly? For, what was found to be true of the proceleusmatic with its priority usurped by the pyrrhic can also be proved, I think, for the dichoree and the diiamb. Or does it appear otherwise to you?

D. How can it, for, after the reason has been established, I cannot disprove what follows from it.

M. Then consider all this too, and compare and judge. For it seems when such an uncertainty occurs the distinction ought to be made by the beat rather than by the foot it runs in. And so if you wish to run in pyrrhics, you'll have one time for the arsis, one for the thesis; if in proceleusmatics, two and two. And in this way the foot will be unambiguous, and no foot will be excluded from a purely rhythmical succession.

D. I am more inclined toward the opinion leaving no foot free of this kind of succession.

(8) *M.* You are right, and for your greater approval think what we could reply in the case of the tribrach, if someone should further contend this rhythm runs not in pyrrhics or proceleusmatics, but in tribrachs.

D. I see judgment must be referred to the beat, so that, if there is one time in the arsis and two in the thesis, that is one and two syllables, or if two in the arsis and one in the thesis, the rhythm is said to be tribrach.

M. That's right. Therefore, tell me now whether the spondaic foot can be joined with the pyrrhic rhythm.

D. Not at all. For the same beat will not continue, since the arsis and thesis in the pyrrhic have each one time, but in the spondee each two times.

M. Then it can be joined with the proceleusmatic.

D. It can.

M. Then suppose it is, what will we say when we are asked whether the rhythm is proceleusmatic or spondaic?

D. How can you decide, unless preference is to be given the spondee? For since the beat does not here decide the case—in both rhythms the arsis and thesis take two times—what else is there to do except to prefer that which is prior in the order of feet?

M. I quite approve the reasoning you have followed. And you see, I am sure, what that entails.

D. Well, what?

M. Why that no other foot can be mixed with the proceleusmatic rhythm. For whatever foot consisting of the same times is mixed in—and otherwise the mixing is not possible—the name of the rhythm would necessarily be transferred to it. For all those feet consisting of the same number of times are prior to the proceleusmatic. And since reason forces us, as we have seen, to prefer the prior, that is, to name the rhythm by them, there will no longer be any proceleusmatic

rhythm with some other four-time rhythm mixed in, but a spondaic or dactylic or anapestic rhythm. For it is agreed the amphibrach is rightly excluded from the composition of such numbers.

D. I admit it's so.

(9) *M.* Now, next in order let's consider the iambic rhythm, since we have now sufficiently discussed the pyrrhic and proceleusmatic born of the double pyrrhic. And so tell me what foot is to be mixed in, with the iambic rhythm's still keeping its name.

D. Why, the tribach, of course, agreeing as it does in beat and times. And yet, being posterior, it cannot prevail over the iambic. The choree is also posterior and of the same number of times, but it hasn't the same beat.

M. Now examine the trochaic rhythm, and here again give me a reply to the same purpose.

D. My reply is the same, for the tribach can fit in with it not only in extent of time but also in beat. But it's clear the iambic must under these conditions be avoided. For even if it were of equal beat, yet in the mixing it would carry off the palm.

M. And further, what foot shall we compound with the spondaic rhythm?

D. In this case there is evidently a very great number of choices. For I see the dactyl, the anapest, and the proceleusmatic can be mixed in with it without inequality of times, without any hitch in the beat, and without claims of priority.

(10) *M.* I see now you can easily explain the others in order. And so without my questioning, or rather as if questioned about them all, tell as briefly and clearly as you can how each of the remaining feet, with others lawfully mixed in, gets its name in the rhythm.

D. I shall. For it's no trouble with such a light of reasons cast before. And none will be mixed with the tribach, for all equal to it in time are prior to it. The anapest can be mixed with the dactyl, for it is posterior and runs in equal time and beat. But the proceleusmatic is compounded with both for the same reason. Now the cretic, and the first, second, and fourth paeons can be mixed with the bacchius. Further, all the five-time feet after the cretic are by right mixed with the cretic itself, but they are not all of the same division. For, some are divided in the ratio of two to three, and others of three to two. But the cretic can be divided both ways, because the middle short is attributed to either part. But the antibacchius, because its division begins with two times and ends with three, is suited to, and composable with, all the paeons except the second. Of the trisyllabic feet there remains only the molossus, the beginning of the six-time feet, all of which can be joined with it: partly on account of the one-two ratio, and partly on account of that partition of the long syllable giving up to each part one time, because in the num-six the middle is equal to the sides. And therefore the molossus and both ionics can be given not only a one-two beat, but also a three-three beat in equal parts. And so all posterior six-time feet can be compounded with any six-time foot. And so there is only the antispast allowing no mixture. The four epitrites follow: the first accepting the second; the second, none; the third, the fourth; and the fourth none. And finally there is the dispondee, it, too, beating out its rhythm only alone, because it finds no foot posterior to it or equal to it. And so of all the feet there are eight giving rhythm of their own only if no other foot is mixed in: the pyrrhic, tribrach, proceleusmatic, fourth paeon, antispast, second and fourth epitrites, and dispondee. The others allow those posterior to them to be compounded with them without

dropping their name from the rhythm even if they are fewer. And this, I believe, is what you wanted of me, sufficiently digested and explained. It is up to you now to explain what is left.

Chapter 5

(11) *M.* And up to you, too, along with me, for we are both in the search. But what do you think there is left to say about rhythm? Isn't it pertinent to find out if there isn't a foot more than four syllables in length although it doesn't exceed the eight times of the dispondee?

D. Why, I ask?

M. And you, why do you ask me rather than yourself? Or don't you think two short syllables can be substituted for one long without deceiving or offending the ear either with respect to the beat and division of feet or to the matters concerning time?

D. Who would deny they could?

M. And so in this way we substitute a tribrach for an iamb or choree, and a dactyl or anapest or proceleusmatic for a spondee, when we substitute two shorts for the second long or for the first, or four shorts for both longs.

D. I agree.

M. Do this same thing in any ionic, or in any other four-syllable foot of six times, and substitute two shorts for any one long. There is no loss in the time or hitch in the beat, is there?

D. Not at all.

M. Let's see, then, how many syllables there are.

D. I see there are five.

M. You see, then, the four syllables can certainly be exceeded.

D. I certainly do.

M. And what if you should substitute four shorts for the two longs there? Wouldn't six syllables have to be measured in one foot?

D. So they would.

M. What if you dissolve all the longs of any epitrite into shorts? It would certainly make seven syllables, wouldn't it?

D. Certainly.

M. And what about the dispondeo? Doesn't it make eight syllables when we substitute two shorts each for all the longs?

D. That's very true.

(12) *M.* What, then, is this ratio we are forced to measure feet of so many syllables by, and do we admit in accordance with ratios already discussed a foot used for numbers does not exceed four syllables? Don't these seem to you contradictory?

D. Very much so, and I don't see how it can be patched up.

M. This is easy enough, if you again ask yourself whether a while back we rationally established the pyrrhic and proceleusmatic ought to be determined and distinguished by beat so there might be no foot lawfully divided not producing a rhythm, that is, not having a rhythm named after it.

D. I certainly remember this, and I don't see why I should have misgivings about its having seemed right to me. But where is this leading?

M. Well, clearly all the four-syllable feet, except the amphibrach, produce a rhythm, that is, they hold priority in rhythm, and bring it about in use and name. But many having more than four syllables can be substituted for these, yet they cannot themselves produce the rhythm nor impose their name upon it. And so I shouldn't have thought they ought to be called feet. And therefore those contradictions troubling us are now, I believe, arranged and laid at rest when it is pos-

sible to substitute more syllables than four for any foot and yet not to call foot anything not producing a rhythm. For it was proper to establish for the foot some measure of syllable-progression. But that measure could best be established, transferred from the ratio of numbers and consisting in fours. And so there could be a foot of four long syllables. And when, instead, we construct one of eight shorts, occupying the same interval of time, it can be substituted for the other. But because the eight shorts exceed the lawful progression, that is, the number four, not the sense of hearing but the law of the discipline forbids their being substituted for it and producing a rhythm.—Perhaps you wish to oppose?

(13) *D.* I very much intend to, and I shall do so right now. For what kept the foot from going on up to eight syllables, since we see that number can be allowed as far as rhythm is concerned? And your saying it can be substituted for another doesn't move me, but on the contrary it puts me in mind to ask about or, rather, to complain about a thing's being substituted for another without also taking over its own name.

M. It's not surprising you are deceived, but there's an easy explanation of the truth. For, omitting the many things already disputed in favor of the number four, and why the syllable-progression should only go so far, suppose I have given in to you and have agreed the length of a foot ought to be extended to eight syllables. You can't object, then, to the possibility of a foot of eight long syllables? For, certainly, the maximum length of a foot in terms of syllables applies alike to both longs and shorts. And so, when the law permitting the substitution of two shorts for a long is again applied—and it can't be cut short—we get to sixteen syllables. And at that point if you should want again to decree the foot's in-

crease, we arrive at thirty-two shorts. Your reason compels you to bring the foot that far, too, and the law again compels you to substitute a double number of shorts for the longs. And in this way no limit will be established.

D. Well I give in to your reason of taking the foot only as far as four syllables. But I don't reject the fact it's proper for feet of more syllables to be substituted for these legitimate feet, with two shorts in the place of one long.

Chapter 6

(14) *M.* Then it is easy for you also to see and agree there are certain feet put in place of those having priority in rhythm, others which are placed with them. For, where two shorts are substituted for each long, we put another foot in place of the one holding the rhythm: for example, a tribrach in place of an iamb or trochee, or a dactyl or anapest or proceleusmatic in place of a spondee. But where that is not the case, whatever lower foot is mixed in is placed with, not in place of: for example, an anapest with a dactyl, and a diiamb or a dichoree with either ionic, and similarly for the others according to their peculiar laws. Or does this seem false to you, or too obscure?

D. No, I understand now.

M. Then tell me whether the feet put in place of others can also produce rhythms on their own.

D. They can.

M. All?

D. All.

M. Then even a five-syllable foot can produce a rhythm in its own name, because it can be put in place of a bacchius or cretic or any of the paeons.

D. But it cannot. For we no longer call this a foot, if I

remember well enough the progression to four. But when I replied all could, I replied only feet could.

M. And I praise your diligence and vigilance in retaining a name. But it is true, you know, many have thought it proper for even six-syllable groups to be called feet. Yet, as far as I know, for more than that no one has thought it proper. And even those favoring the six-syllable foot have denied its applicability in producing a rhythm or meter of its own. And so it wasn't even given a name. And so the four-syllable measure of progression is the truest, since all those feet, at whose division two cannot be made, have been able, joined together, to make a foot. And so, those who have gone as far as the sixth syllable have dared give only the name of foot to those exceeding the fourth syllable; but they have not allowed them to aspire to the domination of rhythms and meters. But when the shorts are substituted by twos for the longs, even the seventh and eight syllables are reached, as reason has already shown. But no one has extended the foot this far. But since I see we have agreed any foot of more than four syllables, when we have substituted two shorts for each long, can be put in place of, but not with, the legitimate feet and cannot create a rhythm of its own, lest in this way things determined by reason go on to infinity, let us pass on to meter, if you will, having, I believed, talked enough about rhythm.

D. I am willing, certainly.

Chapter 7

(15) *M.* Tell me, then, would you say meter is made of feet or feet of meter?

D. I don't understand.

M. Do feet joined together produce meter, or meters joined together produce feet?

D. I know now what you are saying, and I think meter is produced by the joining together of feet.

M. But why do you think that?

D. Because you said there was this difference between rhythm and meter: in rhythm the conjunction of feet has no determinate end, but in meter it has. So this joining together of feet is understood to belong to both rhythm and meter, but in one case it is infinite, in the other finite.

M. Then one foot is not a meter.

D. Not at all.

M. What about a foot and a half?

D. That isn't, either.

M. Why? Is it because meter is made of feet, and that can't be called feet where there is less than two?

D. That's it.

M. Then let's look at those meters I recited a while back and see what feet they consist of, for it's no longer right you should be untrained in discerning this sort of thing. They were:

*Ite igitur Camoenae
Fonticolae puellae,
Quae canitis sub antris
Mellifluos sonores.*

I think these are enough for what I intend. Measure them, now, and tell me what feet they consist of.

D. I am altogether unable to do it. I believe those feet are to be measured that can be legitimately put together, and I can't see my way out of this. For if I should make the first a choree, an iamb follows, equal in times, but not the same in beat. And if I should make the first a dactyl, nothing follows even equal in time. If a choriamb, there's the same difficulty, for what's left over doesn't agree with it either in time

or beat. Then, either this is not meter or what we said about the joining together of feet is false. For I don't see what else I can say.

(16) *M.* And by the ear's judgment it is certainly proved to be meter, both because it is more than one foot and because it has a determinate ending. For it would not sound with such sweet equality or be beaten with such a skillfully adjusted motion, if there were not some numerical quality in it proper only to this part of music. But I am surprised you think false those things we decided on, for nothing is surer than numbers, or more orderly than the recitation and placing of feet. For we have seen whatever is expressed in the nowise deceptive ratio of numbers is capable of delighting the ear and dominating rhythm. But rather listen as I keep repeating *Quae canitis sub antris*, and charm your senses with its numerical quality. What difference is there between this and what results from the adding of a short syllable also repeated in this same way, *Quae canitis sub antrivse*?

D. To my ears both seem to flow agreeably. Yet I am forced to admit the second you added a short syllable to occupies more space and time, if it has been made longer.

M. And when I repeat the first, *Quae canitis sub antris*, in such a way I don't stop at all after the ending? Do you experience the same pleasure?

D. I don't know what sort of hitch it is here offending me unless perhaps you drew out that last syllable more than other long ones.

M. Then do you think either what is more extended or what is given as a rest [*siletur*]³ have both a time-value?

D. How can it be otherwise?

³ The doctrine of rests and their wide use are not just Augustinian novelties as many have thought, but they are traditional rhythmical

Chapter 8

(17) *M.* You are right. But tell me what interval you think there is.

D. It's very hard to measure.

M. That's true. But doesn't that extra short syllable seem to measure it? And when we added it on, doesn't it seem your senses didn't demand any unusual lengthening of the last long or any rest [*silentium*] as the meter was repeated?

D. I entirely agree. For while you were just reciting and repeating the first, I was repeating the second after you to myself in the same way. And so, since my last short exactly fitted your rest, I sensed the same time-interval occurs in both.

M. Then you must hold there are fixed rest-intervals in meters. And so when you have found some defect in a regular foot, you ought to consider whether there will be compensation when the rest has been measured and accounted for.

D. I now understand that. Go on.

(18) *M.* It seems to me we ought now to examine the measurement of rest itself. For in this meter where we found the bacchius after the choriamb, the ear very easily sensed the one time's lack to make it six like the choriamb, and forced us, in repetition, to interpose a rest length of a short syllable. But if a spondee should be placed after the choriamb, on repeating it we have to cross a two-time rest, as in this case,

and musical elements. Thus in Aristides: 'An empty time is one without sound for the filling out of the rhythm. A lemma in rhythm is the least empty time; a prothesis is a long empty time, double the least' (*op.cit.* 40-41).

Amerio reports two other places. One is the Paris Fragment where the word for rest is *sidopsis*. The other is in the scholiast of Hephaestion and worth quoting: 'Heliodorus says that a foot-division in paeons is perfectly regular practice, so that the rest gives a time, makes the rhythmical unit six-timed and in a 1 to 1 ratio like the others.' See Amerio, *op. cit.* 177 n.1.

Quae canitis fontem. For I believe you now feel there ought to be a rest, for the beat not to hit amiss when we return to the beginning. But in order for you to experience the time of this rest, add a long syllable to have, for example, *Quae canitis fontem vos*, and repeat this with the beat. You will see the beat occupies as much time as it did before, although in the first case two longs are placed after the choriamb, in the other three. And so it appears a two-time rest is put in there. But if an iamb is placed after the choriamb, as, for example, *Quae canitis locos*, we are forced to a three-time rest. To experience it, the times are added either by means of another iamb or by a choree or by a tribrach, to have, for example, either *Quae canitis locos bonos* or *Quae canitis locos monte* or *Quae canitis locos nemore*. For since with these added an harmonious and equable repetition moves on without a rest, and since with the beat applied each of these three is found to occupy just such a time-interval as with a rest, evidently there is a three-time rest there. Again, one long syllable can be put after the choriamb to give a four-time rest. For the choriamb can also be divided so as to have an arsis and thesis in a one-two ratio. An example of this meter is *Quae canitis res*. And if you add to this either two longs, or a long and two shorts, or a short and a long, and a short, or two shorts and a long, or four shorts, you will fill out a six-time foot bearing repetition without need of a rest. Such are *Quae canitis res pulchras*, *Quae canitis res in bona*, *Quae canitis res bonumve*, *Quae canitis res teneras*, and *Quae canitis res modo bene*. With these things known and agreed to, I believe it is already evident enough to you there cannot be a rest less than one time or more than four. For this is that very same measured progression so much has already been said about. And in any foot no arsis or thesis takes more than four times.

(19) And so when something is sung or recited having a determinate ending, more than one foot, and a natural motion pleasing the senses by a certain equableness even before consideration of the numbers involved, then it is already meter. For though it should have less than two feet, yet because it exceeds one foot and forces a rest, it is not without measure, but what is needed for filling out the times is owing the second foot. Instead of two feet, the ear accepts what occupies the times of two feet up to the return to the beginning of the foot, with the fixed and measured silence of the interval also counted out by sound. But I want you to tell me now whether you understand and agree with what has been said.

D. I understand and agree.

M. Do you simply believe, or do you see for yourself they are true?

D. For myself certainly, although it's from your talk I know they are true.

Chapter 9

(20) *M.* Come, then, since we have now found out where meter starts, let's also find out where it ends. For meter begins with two feet, either filled by sound, or to be filled with whatever the numerically determined silence lacks. And therefore you must now consider that fourfold progression, and tell me to what number of feet we ought to extend meter.

D. That is certainly easy. For reason teaches eight feet are enough.

M. Well, do you remember we said that is called a verse by the learned consisting of two members joined and measured in fixed ratio?

D. I remember it well.

M. Then, since it was not said a verse consists of two feet, out of two members, and since it is clear a verse hasn't one

foot but several, doesn't this very fact indicate a member is longer than a foot?

D. So it does.

M. But if the members of a verse are equal, can't the order be inverted so, without distinction, the first part becomes the last, and the last first?

D. I see.

M. Then to keep this from happening and to have one thing in the verse sufficiently apparent and discernible as the member it begins with, and another as the member it ends with, we must admit the members have to be unequal.

D. That's so.

M. Let's consider this first then in the case of the pyrrhic, if you will, where I believe you have already seen there can't be a number of less than three times, since that's the first greater than a foot.

D. I agree.

M. Then how many times will the least verse possess?

D. I would say six, if the inversion you spoke of didn't belie me. It will have seven then, because a member cannot have less than three, but to have more is not yet gainsaid it.

M. Your understanding is right. But tell me how many feet seven times contain.

D. Three and a half.

M. Then a one-time rest is due before the return to the beginning, to fill out the foot's interval.

D. It is certainly due.

M. How many times will there be when this is counted in?

D. Eight.

M. Then as the least which is the first foot cannot have less than two times, so the least which is the first verse cannot have less than eight times.

D. So it is.

M. What is the largest verse than which there is no greater and how many times must there be? Won't you see immediately if we refer back to that progression so much has been said about?

D. Now I see a verse can't be greater than thirty-two times.

(21) *M.* What about the length of meter? Do you think it ought to be greater than verse, since the least meter is much less than the least verse?

D. I do not.

M. Since, then, meter begins with two feet, verse with four, or the first with a two-foot interval, the second with four if the rest is counted in, but since meter does not exceed eight feet, doesn't verse, being also meter, necessarily not exceed too that same number of feet?

D. That is so.

M. Again, since verse can't be longer than thirty-two times, and since meter is a length of verse if it does not have a conjunction of two members such as is the rule in verse, but is only closed with a determinate ending, and since it must not be longer than verse, isn't it evident just as verse should not exceed eight feet so meter should not exceed thirty-two times?

D. I agree.

M. There will be, then, a same time-interval and a same number of feet both in verse and meter, and a certain common limit beyond which neither should progress, although meter is bounded by a fourfold number of times for its beginning, and verse by a fourfold number of feet⁴ for its beginning. And so this quaternary ratio is kept, and meter evidently shares with verse its manner of expansion in feet, verse with meter in times.

D. I understand and am satisfied, and I am delighted they agree and are in harmony this way.

⁴ I have interchanged the terms 'times' and 'feet.'

BOOK FOUR

The treatise on meter is continued.

Chapter 1

(1) *M.* Let's return to the consideration of meter. It was in connection with its length and expansion I was forced to talk with you a little on verse which we decided was to be treated afterwards. But first, tell me if you don't reject the opinion of poets and their critics, the grammarians, thinking it of no importance whether the last syllable ending the meter be short or long.

D. I certainly do. For this doesn't seem rational.

M. Then tell me, please, what pyrrhic meter is shortest.

D. Three shorts.

M. What quantity must the rest be when it is repeated?

D. One time, the length of one short syllable.

M. Come now, carry this meter through, not by voice but by beat.

D. I have.

M. Then beat out the anapest this way, too.

D. I have also done that.

M. What's the difference?

D. None at all.

M. Well, can you give the cause?

D. It seems clear enough. For what is ascribed to the rest in one is ascribed to the lengthening of the last syllable in the other. For the short syllable in the one case is given the same beat as the long in the other, and after an equal interval there

is a return to the beginning. But, in the first case there is a stop to fill the space of a pyrrhic foot; in the second, to fill that of a long syllable. So in each there is an equal delay before we return.

M. Then they haven't been so absurd in saying it makes no difference whether the last syllable of the meter is long or short. For the ending is followed by as great a rest as necessary to finish out the meter. Or do you think in this matter of the cause they ought to have considered some repetition or return to the beginning, and not only the fact it ends as if nothing were to be said after it?

D. I now agree the last syllable must be considered differently.

M. Right. But if this is due to the rest, it being in this way considered the end as if no sound were to follow it to give it an ending, and if because of the very large time-span in the rest it makes no difference what syllable is pronounced there, doesn't it follow the very indifference of the last syllable, conceded on account of the large interval, comes to this that whether there be a long or short syllable there, the ear always takes it as long?

D. I see that certainly follows.

Chapter 2

(2) *M.* And when we say the last pyrrhic meter is three short syllables with a rest for the space of one short before the return to the beginning, do you see, too, there is no difference between repeating this meter and repeating anapests?

D. I already saw this a while ago in the beat.

M. Don't you think the confusion here ought to be separated out by some ratio?

D. I certainly do.

M. Tell me, do you find any ratio to distinguish them except the pyrrhic meter in three shorts is not a minimum as it seemed, but in five? For the similarity of the anapest doesn't allow us, after a foot and a half, to rest for the space of the half necessary to fill out the foot and so to return to the beginning, and to establish this as the minimum pyrrhic meter. Therefore, if we wish to avoid confusion, that one time is to be taken as a rest at the end of two and a half feet.

D. But why aren't two pyrrhics the minimum meter in pyrrhics, and rather four short syllables without a rest than five with a rest?

M. Quite on the lookout, but you aren't noticing the proceleusmatic forbids this just as the anapest did the other.

D. You are right.

M. Do you agree, then, to this measure in five shorts and a one-time rest?

D. I certainly do.

M. Well, it seems to me you have quite forgotten the method we set up for discerning whether a rhythm was running in pyrrhics or proceleumatics.

D. You are right in warning me, for we found these numbers were to be distinguished from each other by beat. And so in this case I am no longer afraid of the proceleusmatic, for I can distinguish it from the pyrrhic when the beat is applied.

M. Why didn't you see this same beat is to be applied to distinguish the anapest from those three shorts or pyrrhic and a half, followed by a one-time rest?

D. Now I understand, and I go back and confirm the least pyrrhic meter as three syllables occupying with an added rest the time of two pyrrhics.

M. Then your ears approve this sort of number: *Si aliqua, Bene vis, Bene dic, Bene fac, Animus, Si aliquid, Male vis, Male dic, Male fac, Animus, Medium est.*

D. They do, especially when I now remember how they are to be beaten out so anapests aren't confused with pyrrhic meter.

(3) M. Consider these, too: *Si aliquid es, Age bene, Male qui agit, Nihil agit, Et ideo, Miser erit.*

D. These too run harmoniously, except in one place, where the end of the third is joined with the beginning of the fourth.

M. That's just what I wanted of your ears. It's not for nothing they are offended, since they expect one time each for all syllables and no rests between. But the concurrence of two consonants, 't' and 'n,' immediately cheat this expectation, forcing the preceding vowel to be long and extending it to two times. And the grammarians call this kind a syllable long by position. But because of that famous indifference of the last syllable no one incriminates this meter, even though unspoiled and exacting ears condemn it without benefit of an accuser. For see, if you will, the difference there is, if for *Male qui agit, Nihil agit* you should say *Male qui agit, Homo perit.*

D. This is quite clear and right.

M. Then, for the sake of musical purity let us observe what the poets do not observe for the facility of composing. So, for example, as often as we must put in meters where nothing is owing the foot to be compensated by a rest, so often do we put those syllables last the law of that number absolutely demands, so as not to return from the end to the beginning with offense to the ear and falsity of measure. But we concede, of course, there are meters ending as if nothing were to be said following them, and in that case they may treat the last syllable as either long or short with impunity. For in a succession of meters they are clearly convicted of error by the ear's judgment that no syllable is to be placed last except by the law and

ratio of the meter itself. But this succession exists when nothing is owing the foot to force a rest.

D. I understand, and am thankful you promise examples of the kind giving the senses no offense.

Chapter 3

(4) *M.* Come, now report on the pyrrhics too, in order:

*Quid erit homo
Qui amat hominem,
Si amat in eo
Fragile quod est?
Amet igitur
Animum hominis,
Et erit homo
Aliquid amans.*

How do these seem to you?

D. Why, to flow very smoothly and vigorously.

M. What about these:

*Bonus erit amor,
Anima bona sit:
Amor inhabitat,
Et anima domus.
Ita bene habitat,
Ubi bona domus;
Ubi mala, male.*

D. I also find these follow along smoothly.

M. Now three and a half feet, see:

*Animus hominis est
Mala bonave agitans.
Bona voluit, habet;
Mala voluit, habet.*

D. These, too, are enjoyable with a one-time rest put in.

M. Four full pyrrhics follow; listen to them and judge:

*Animus hominis agit
Ut habeat ea bona,
Quibus inhabitet homo,
Nihil ibi metuitur.*

D. In these, too, there is a fixed and agreeable measure.

M. Listen now to nine short syllables, listen and judge:

*Homo malus amat et eget;
Malus etenim ea bona amat,
Nihil ubi satiat eum.*

D. Now try five pyrrhics.

M. *Levicula fragilia bona,
Qui amat homo, similiter habet.*

D. That's enough; they pass. Now add a half-foot.

M. I shall.

*Vaga levia fragilia bona
Qui amat homo, similis erit eis.*

D. Very well: now I am waiting for six pyrrhics.

M. Then listen to these:

*Vaga levicula fragilia bona,
Qui adamat homo, similis erit eis.*

D. That's enough; add another half-foot.

*Fluida levicula fragilia bona
Quae adamat anima, similis erit eis.*

D. That's enough, and very good; now give seven pyrrhics.

M. *Levicula fragilia gracilia bona
Quae adamat animula, similis erit eis.*

D. Add a half-foot to these, for this is all very fine.

*M. Vaga fluida levicula fragilia bona,
Quae amat animula, fit ea similis eis.*

D. Now I see the eight-foot lines remain before we can get beyond these trifles. For, although the ear approves, by a natural measuring, what you give out in sound, yet I shouldn't wish you to look for so many short syllables. And, if I am not mistaken, they are more difficult to find woven in a succession of words than if some longs could be mixed in.

M. You are quite right, and to show my gratitude at our being allowed to get this far I shall compose the one remaining meter of this kind with a more joyful sentence:

*Solida bona bonus amat, et ea qui amat, habet.
Itaque nec eget amor, et ea bona Deus est.*

D. I now have with abundance a complete set of pyrrhic meters. The iambics come next; two examples of each meter are enough. And it is pleasant to hear them without interruption.

Chapter 4

(5) *M.* I'll obey you. But how many kinds have we already gone through?

D. Fourteen.

M. How many iambic meters do you think there are too?

D. Also fourteen.

M. What if I should wish in these meters to substitute a tribrach for an iamb, wouldn't the variety of forms be greater?

D. That's very evident. But, not to be too long, I want to hear these examples only in iambics. For it's easy art to substitute two shorts for any long.

M. I shall do as you wish, and I'm thankful your keen intelligence lessens my labor. But listen now to the iambics.

D. I am listening; begin.

M. Bonus vir

Beatus.

*Malus miser,
Sibi est malum.*

*Bonus beatus,
Deus bonum eius.*

*Bonus beatus est,
Deus bonum eius est.¹*

*Bonus vir est beatus,
Videt Deum beate.*

*Bonus vir, et sapit bonum,
Videns Deum beatus est.*

*Deum videre qui cupiscit
Bonusque vivit, hic videbit.*

*Bonum videre, qui cupit diem,
Bonus sit hic, videbit et Deum.*

*Bonum videre qui cupit diem illum,
Bonus sit hic, videbit et Deum illic.*

*Beatus est bonus fruens enim est Deo,
Malus miser, sed ipse poena fit sua.*

*Beatus est videns Deum, nihil cupit plus,
Malus bonum foris requirit, hinc egestas.*

*Beatus est videns Deum, nihil boni amplius,
Malus bonum foris requirit, hinc eget miser.*

*Beatus est videns Deum, nihil boni amplius vult,
Malus foris bonum requirit, hinc egenus errat.*

¹ There is a misprint in the Migne Edition which has been corrected according to the Benedictine Edition.

*Beatus est videns Deum, nihil boni amplius volet,
Malus foris bonum requirit, hinc eget miser bono.*

Chapter 5

(6) *D.* The trochee is next; give the trochaic meters, for these are the best.

M. I shall, and in the same way as the iambic:

*Optimi
Non egent.*

*Veritate,
Non egetur.*

*Veritas sat est,
Semper haec manet.*

*Veritas vocatur
Ars Dei supremi.*

*Veritate factus est
Mundus iste quem vides.*

*Veritate facta cuncta
Quaeque gignier videmus.*

*Veritate facta cuncta sunt,
Omniumque forma veritas.*

*Veritate cuncta facta cerno,
Veritas manet, moventur ista.*

*Veritate facta cernis omnia,
Veritas manet, moventur omnia.*

*Veritate facta cernis ista cuncta,
Veritas tamen manet, moventur ista.*

*Veritate facta cuncta cernis optime,
Veritas manet, moventur haec, sed ordine.*

*Veritate facta cuncta cernis ordinata,
Veritas manet, novans movet quod innovatur.*

*Veritate facta cuncta sunt, et ordinata sunt,
Veritas novat manens, moventur ut noventur haec.*

*Veritate facta cuncta sunt, et ordinata cuncta,
Veritas manens novat, moventur ut noventur ista.*

Chapter 6

(7) *D.* The spondee clearly follows; I have had enough of trochees.

M. Here are the spondaic meters:

*Magnorum est,
Libertas.*

*Magnum est munus
Libertatis.*

*Solus liber fit,
Qui errorem vincit.*

*Solus liber vivit,
Qui errorem iam vicit.*

*Solus liber vere fit,
Qui erroris vinclum vicit.*

*Solus liber vere vivit,
Qui erroris vinclum iam vicit.*

*Solus liber non falso vivit,
Qui erroris vinclum iam devicit.*

*Solus liber iure ac vere vivit,
Qui erroris vinclum magnus devicit.*

*Solus liber iure ac non falso vivit,
Qui erroris vinclum funestum devicit.*

*Solus liber iure ac vere magnus vivit,
Qui erroris vinculum funestum iam devicit.*

*Solus liber iure ac non falso magnus vivit,
Qui erroris vinculum funestum prudens devicit.*

*Solus liber iure ac non falso securus vivit,
Qui erroris vinculum funestum prudens iam devicit.*

*Solus liber iure ac non falso securus iam vivit,
Qui erroris vinculum tetrum ac funestum prudens devicit.*

*Solus liber iure ac non falso securam vitam vivit,
Qui erroris vinculum tetrum ac funestum prudens iam devicit.*

Chapter 7

(8) *D.* I have all the spondees I need; let's go to the tribrach.

M. All right. But since all four of the preceding feet have each given birth to fourteen meters, making fifty-six all told, more are to be expected from the tribrach. For when there is a half-foot rest in those fifty-six, the rest is never more than a syllable. But in the case of the tribrach you certainly don't think the rests are only for the space of a short syllable, or do you think there are also rests for the space of two short syllables? For there is a double division here, you know, since the tribrach either begins with one short and ends with two, or begins with two and ends with one. And so it must generate twenty-one meters.

D. That's very true. For they begin with four times and, therefore, a two-time rest; then five times with a one-time rest; third, six times with no rest; fourth, seven with a two-time rest; then eight with a one-time rest; sixth, nine with no rest. And so, when they are added on one by one until you come to

twenty-four syllables or eight tribrachs, there are twenty-one meters all told.

M. You have certainly very readily followed reason here. But do you think we ought to give examples of all of them, or ought we to think those we have given for the first four feet will furnish light enough for the rest?

D. In my opinion, they are sufficient.

M. I only need yours, now. But, since you already know very well how with a change of beat tribrachs can be forged out of pyrrhic meters, tell me whether the first pyrrhic meter can also have a tribrach meter.

D. It cannot, for the meter must be greater than the foot.

M. How about the second?

D. It can, for four shorts are two pyrrhics and a tribrach and a half, so in the one case there is no rest and in the other a two-time rest.

M. Then with a change of beat the pyrrhics give you examples of tribrachs up to sixteen syllables or five and a half tribrachs. And you will have to be content with that, for you can compose the others yourself either by voice or beat, if you still think these numbers ought to be explored by the sensible ear.

D. In any case I shall do as seems best. Let's see about the others.

Chapter 8

(9) *M.* The dactyl is next, and divisible only one way, isn't it?

D. Certainly.

M. What part of it, then, can be given as a rest?

D. Why, the half.

M. Well, if someone should put a trochee after a dactyl and want to have a one-time rest in the form of a short syllable to

fill out the dactyl, what shall we say? For we can't say it's impossible to have a rest of less than a half-foot. For that reason we've discussed convinced us there could be no rest, not of less, but more than a half-foot. For there is certainly a rest of less than a half-foot in the choriamb, when a bacchius follows it, and an example of this is *Fonticolae puellae*. For, you know, we have here a short-syllable rest, needed to fill out the six times.

D. That's true.

M. Then, when a trochee follows a dactyl, isn't it also permissible to have a one-time rest?

D. I am forced to admit it.

M. Yet who could have forced you, if you had only remembered what has been said? You are in this plight because you forgot the demonstration about the indifference of the last syllable, and how the ear takes upon itself a final long syllable even if it's short, when there's an interval to prolong it in.

D. Now I understand. For, if the ear takes the final short syllable as long when there's a rest as we found out by that reason discussed with examples, then it will make no difference whether a trochee or spondee is pronounced after the dactyl. And so, when the repetition is to be punctuated by a rest, it is proper to place a long syllable, to have a two-time rest.

M. What if a pyrrhic should be put after a dactyl? Do you think it would be right to do so?

D. It would not. Whether a pyrrhic or an iamb, there is no difference; although it must be taken for an iamb because with the rest the ear makes the last syllable long. But every one knows it's not proper for an iamb to be put after a dactyl because of the difference in the arsis and thesis, neither of these in the dactyl having three times.

Chapter 9

(10) *M.* Very good and to the point. But what do you think about the anapest? Or does the same reason hold?

D. Exactly the same.

M. Then, let's consider the bacchius, if you will, and tell me what its first meter is.

D. I think it is four syllables, one short and three longs: two longs belonging to the bacchius, but the last one to begin the foot properly placed with the bacchius, with a rest to make up for what is lacking. Yet I should like to explore this with my ear in some example or other.

M. It is easy to give examples, and yet I don't think you could be so delighted with these as with those just given. For these five-time feet, and the seven-time ones, too, do not flow so smoothly as those divided either into equal parts, or into one and two or two and one, so great is the difference between the sesquate movements and the equal or complicate movements we talked about so much in our first discussion. And so, just as the poets treat these five- and seven-time feet contemptuously, so prose adopts them more happily than others. And this can be easily seen in the examples you asked for. Such is *Laborat magister docens tardos*. Repeat this with a three-time rest in between. And for you to feel it more easily, I have put a long syllable after the three feet because it is the beginning of the cretic, which can be put with the bacchius. And I haven't given you an example of the first meter, of four syllables, lest one foot wouldn't be enough to impress on your senses how much of a rest should follow the one foot and a long. Listen now, I shall give it and repeat it myself so you may feel the three times in the rest: *Labor nullus, Amor magnus*.

D. It is evident enough these feet are more suitable to prose, and there is no need to go through the others with examples.

M. You are right. But when there's to be a rest, you don't think only a long syllable can be put after the bacchius?

D. Certainly not. Also a short and a long, the first half-foot of the bacchius itself. For, if we were allowed to begin a cretic on the grounds it can be put with a bacchius, how much more will we be allowed to do it with the bacchius itself, and especially since we did not even put all that part of the cretic equal in times to the first part of the bacchius.

Chapter 10

(11) *M.* Now, then, if you will, go through the rest yourself, while I listen and judge, and in all those feet, where the left-over is filled in by a rest, describe what is placed after the full foot.

D. What you ask is very short and easy now, I believe. For what has been said of the bacchius can also be said of the second paeon. But after the cretic it is permissible to put one long syllable, and an iamb, and a spondee, so there is a rest either of three times, or two, or one. And this applies also to the first and last paeon. After the antibacchius may be placed either one long syllable or a spondee, and so in this meter there will be a three-time or a one-time rest. The same thing is true of the third paeon. Certainly, wherever a spondee can properly be put, there also an anapest. But after the molossus, because of its division, we put one long syllable with a four-time rest, or two longs with a two-time rest. But since, both by experience and reason it has been ascertained all six-time feet can be ordered with the molossus, there will be a place after it both for the iamb with a three-time rest, for the cretic with a one-time rest, and in the same way for the bacchius. But if we resolve the cretic's first long and the bacchius' second long into two shorts, there will be a place for the fourth paeon too. And

what I have said of the molossus, I could also say of the other six-time feet. Now I think the proceleusmatic is to be referred back to the other four-time feet, except when we place three shorts after it. And this is the same as putting an anapest after it, because of the final syllable habitually taken as long when followed by a rest. And the iamb is rightly subordinated to the first epitrite and so also the bacchius, cretic, and fourth paeon. And let the same be said of the second epitrite so there is either a four-time or two-time rest. But the spondee and molossus can properly follow the other two epitrites, on the condition it is possible to resolve the spondee's first long and the molossus' first or second into two shorts. Therefore, in these meters there will be either a three-time or one-time rest. The dispondee is left. If we should put a spondee after it, there will be four times to rest; if a molossus, two, and there remains the possibility of dissolving a long into two shorts either in the spondee or molossus, with the exception of the final long syllable. You have what you wanted me to run through. Perhaps you have corrections.

Chapter 11

(12) *M.* Not I certainly, but you, when you put your ear to judging the matter. Tell me, when I say or beat this meter, *Verus optimus*, and this one, *Verus optimorum*, and this one, *Veritatis inops*, whether your senses receive the third as happily as the other two. And they will judge this easily by your repeating them and beating them with the necessary rests.

D. They clearly receive the first two with pleasure, but not the last.

M. Then it's not right to put an iamb after a dichoree.

D. So it isn't.

M. But when he has repeated the following meters with a proper regard for the interposing of rests, everyone agrees it can be put after the other six-time feet:

Fallacem cave,
Male castum cave,
Multiloquum cave,
Fallaciam cave,
Et invidum cave,
Et infirmum cave.

D. I understand what you say, and I agree.

M. See, too, if there isn't a hitch when this last meter, repeated with a two-time rest interposed, continues on, unequal. For it wouldn't sound like the following, would it?

Veraces regnant.
Sapientes regnant.
Veriloqui regnant.
Prudentia regnant.
Boni in bonis regnant.
Pura cuncta regnant.

D. These last have an even and agreeable sound, but that other was quite awkward.

M. Then we shall hold, in meters of six-time feet the dichoree is dissonant with the iamb, and the antispast with the spondee.

D. We certainly shall.

(13) *M.* Well, can't you put your finger on the cause if you notice a foot is so divided into two parts by the arsis and thesis that, if it has any middle syllable, either one or two, they are either attributed to the first part or second part or divided between them both?

D. I certainly know this, and it's true. But what's the point?

M. Listen, then, to what I am going to say; then you will see more easily what you are looking for. For I suppose it is clear to you there are some feet without middle syllables, like the pyrrhic and other two-syllable feet; others, where the middle agrees in length with the first part or last part, or both, or neither. With the first part as in the case of the anapest or antibacchius or first paeon; with the last part as in the case of the dactyl or bacchius or fourth paeon; with both as in the case of the tribrach or molossus or choriamb or any ionic; with neither as in the case of the cretic or second and third paeons, or diiamb or dichoree or antispast. For in those feet capable of division into three equal parts, the middle is in accord with the first and last parts. But in those not capable of such division the middle is in accord with the first part only, or with the last, or with neither.

D. And I know this, too, and I am waiting to see where it all leads.

M. Why to this point, of course: the iamb with a rest is improperly placed after the dichoree because its middle part is equal neither to the first part nor to the last, and so is not in accord with the arsis and thesis. The same thing is true in the case of the spondee, similarly ill at ease when placed with a rest after the antispast. Have you anything to say to the contrary?

D. Nothing, except the shock the ear feels when these feet are so placed is in comparison with the sweetness diverting it when these feet along with a rest are placed after the other six-time feet. For if without the others you were to give examples and ask me how the iamb sounded after the dichoree or the spondee after the antispast, accompanied by a rest in each case—to say what I feel, I should perhaps approve and praise them.

M. And I don't contradict you. It's enough for me, how-

ever, these arrangements offend in comparison with numbers of the same kind, but more consonant as you say. For they are to be rejected from the fact that, since these feet we admit run on more happily end in the same half-feet, and are of the same kind, there should have been no discrepancy between them. But don't you think in line with this reasoning an iamb with a rest shouldn't be put after the second epitrite? For in the case of this foot, too, the iamb occupies the middle in such a way it is equal neither to the times of the first part nor of the second.

D. This reasoning compels my agreeing to that.

Chapter 12

(14) *M.* Come now, give me, if you will, an account of all the meters we have discussed, that is, of those beginning with full feet of their own with no rests interposed in the cyclic return, or with feet not full, followed by a rest, but such as reason has shown to be in harmony. And the number of them begins with two incomplete feet and goes as far as eight complete ones in such a way however, as not to exceed, thirty-two times.

D. What you impose is laborious, yet it is worth the work. But I remember a little while ago we had already gotten to seventy-seven meters in going from the pyrrhic to the tribrach. For the two-syllable feet each produced fourteen, making all together fifty-six. But the tribrach, because of its two-way division, produced twenty-one. Then to these seventy-seven we add fourteen from the dactyl and as many from the anapest. For the full feet, when arranged without rests, go from two to eight feet and produce seven meters, but when the half-feet are added with rests and the meters begin with one foot and a half and go to seven and a half, there are seven more. And

now there are all together one hundred and five. But the bacchius cannot stretch its meter to eight feet, lest it exceed the thirty-two times, nor can any of the five-time feet, but they can go to six. The bacchius, then, and the second paeon, equal to it not only in times but also in division, produce each five meters going from two to six feet when the full feet are ordered without rests; but with rests, beginning with a foot and a half and going to five and a half feet, they produce five meters each when followed by a long, and likewise five each when followed by a short and a long. And so they produce each fifteen meters, or thirty all told. And now all together there are a hundred and thirty-five meters. But the cretic and the first and fourth paeons, being divided in the same way, can be followed by a long and an iamb and a spondee and an anapest, and therefore come to seventy-five meters. For, since there are three of them, they each produce five without rests, but twenty with rests, making a total, as we said, of seventy-five. And this, added to the former sum, makes two hundred and ten. The antibacchius and the third paeon, alike in division, each produce five meters in the case of full feet without rests, but with rests they produce five meters each when followed by a long, five each by a spondee, five each by an anapest. We add these to the last sum, and we have in all two hundred and fifty meters.

(15) The molossus and the other six-time feet, seven in all, each produce four meters with full feet, but with rests, since they can be followed each one by a long or an iamb or spondee or anapest or bacchius or cretic or fourth paeon, they each produce twenty-eight, or a total of a hundred and ninety-six meters. And these, added to the four each, make two hundred and twenty-four. But eight must be subtracted from this sum, because the iamb doesn't properly follow the dichoree

nor the spondee the antispast. That leaves two hundred and sixteen, and this added to the whole sum makes all together four hundred and sixty-six meters. The ratio of the proceleusmatic cannot be considered along with those it agrees with, on account of the greater number of half-feet placed after it. For one long syllable with a rest can be put after it just as after the dactyl and the feet like it to give a two-time rest, and three shorts to give a one-time rest. And the final short can in this way be taken for a final long. The epitrites each produce three meters with full feet, beginning with a two-foot meter and going as far as a four-foot meter. For if you should add a fifth foot, you would exceed the allotted thirty-two times. But with rests the first and second epitrites produce three meters each when followed by an iamb, three each when followed by a bacchius, three each by a cretic, and three each by a fourth paeon. And with the full meters this makes all told thirty. But the third and fourth epitrites each produce three meters before the introduction of rests. With the spondee they each produce three, with the anapest three, with the molossus three, with the lesser ionic three, and with the choriamb three. And together with the full meters this makes a total of thirty-six. Therefore, all the epitrites together produce sixty-six meters, and these, with the proceleusmatic's twenty-one, added to the former sum makes five hundred and fifty-three. There remains only the dispondee, producing three meters with full feet; but when rests are used, with the spondee it produces three, three with the anapest, three with the molossus, three with the lesser ionic, and three with the choriamb. And this makes a total of eighteen. So there will be five hundred and seventy-one meters all told.

Chapter 13

(16) *M.* There certainly would be if three were not

to be subtracted because of the iamb's difficulties with being placed after the second epitrite. But this is all fine. And so tell me, now, how this meter affects your ear, *Triplici vides ut ortu Triviae rotetur ignis*.

D. Very agreeably.

M. Can you tell me the feet it consists of?

D. I can't; I can't find out how any I measure off together. For, if I should start with a pyrrhic or an anapest or a third paeon, those following don't fit in. And I can find a cretic after a third paeon, leaving a long syllable allowable after a cretic. But this meter couldn't properly consist of these with a three-time rest interposed. For there is no rest when its repetition is pleasing to the ear.

M. See if it shouldn't begin with a pyrrhic followed by a dichoree, and then a spondee filling out the times owing the foot you started with. Likewise, you can begin with an anapest followed by a diiamb, so the final long when placed with the anapest's four times makes six times, to harmonize with the diiamb. And so from that you understand it is permissible for parts of a foot to be placed, not only at the end, but also at the beginning of meters.

D. I now understand.

(17) M. What if I should take away the final long to have a meter like this, *Segetes meus labor*; you notice it's repeated with a two-time rest? And so it is clear some part of the foot can be put at the beginning of the meter, some at the end, and some in a rest.

D. That's clear.

M. But this is clearly true if you measure off a full dichoree in this meter. On the other hand, if you should measure off a diiamb with an anapest at the start, you find a four-time part of the foot at the beginning, and the two times left due

in a rest at the end. And thus we learn a meter can begin with a part of a foot ending with a full foot, but never without a rest.

D. This is very clear.

(18) *M.* Further, can you measure off this meter, and tell the feet it consists of?

*Iam satis terris nivis, atque dirae
Grandinis misit Pater, et rubente
Dextera sacras iaculatus arces.*²

D. I can establish a cretic at the beginning and measure off the two remaining six-time feet, one a greater ionic, the other a dichoree, and add a one-time rest to fill out six times with the cretic.

M. Something is amiss in your consideration. For when the dichoree is at the end with a rest left over, its last syllable, a short, is taken for a long. Or do you deny this?

D. I certainly admit it.

M. Then a dichoree must not be put at the end if it is to be followed by a rest in repetition, lest it be perceived no longer as a dichoree but as a second epitrite.

D. That's evident.

M. How, then, shall we measure off this meter?

D. I don't know.

Chapter 14

M. Then see if it sounds well when I recite it with a one-time rest after the first three syllables. For there will be nothing due at the end to keep a dichoree from properly being there.

² Horace, *Odes* 1.2.1-3. The 'traditional' method of scanning this, that of Marius Victorinus, is quite different. But Masqueray, *Traité de métrique grecque* (Paris 1899) scans as Augustine does.

D. It sounds very pleasing.

(19) *M.* Then let's add this rule also to the art, that not only at the end, but also before the end, there may be rests. And it must be applied either when what is necessary for filling out the times of a foot cannot properly be given as a final rest because of a final short, or when two incomplete feet are established, one at the beginning and the other at the end, such as here, *Gentiles nostros inter oberrat equos*. For you saw, I believe, I introduced a two-time rest after the five long syllables, and one of the same length must be introduced at the end, when a cyclic return is made to the beginning. For, if you should measure off this meter by the six-time law, you will have first a spondee, second a molossus, third a choriamb, fourth an anapest. Therefore, two times are due the spondee in order to complete a six-time foot. And so there is a two-time rest after the molossus and before the end, and again after the anapest, and at the end. But, if you measure it off by the four-time law, there will be a long syllable at the beginning, then we measure off two spondees, then two dactyls, and it will finish with a long. And so we have a two-time rest after the two spondees and before the end, and again at the end in order to fill out both of those feet whose halves have been placed at the beginning and the end.

(20) Yet sometimes, what is due two incomplete feet, placed one at the beginning the other at the end, is rendered by the final rest alone, if it be of such a quantity as not to exceed the half-foot, as in the case of these two,

*Silvae laborantes, geluque
Flumina constiterint acuto.*³

For the first of these begins with an antibacchius, from there

³ Horace, *Odes* 1.9.3-4.

runs into a molossus, and ends in a bacchius. And so there is a two-time rest, and when you have given one of these to the bacchius and the other to the antibacchius, the six-time intervals will everywhere be filled. But the second begins with a dactyl, from there goes into a choriamb, and closes with a bacchius. It will then be necessary to have a three-time rest. Out of that we shall give one time to the bacchius and two to the dactyl, so there will be six times in every foot.

(21) But what is due for filling out the last foot is given before that due for the first foot. Our ears don't allow it to be otherwise. And no wonder. For when we repeat, what comes last is certainly joined with what comes first. And so in the meter we gave, *Flumina constiterint acuto*, since three times are due to fill out the six-time intervals, if you should wish to give them, not with a rest but with words, they could be rendered by an iamb, choree, or tribrach because each of these contains three times. But the senses themselves would not allow them to be rendered by the choree where the first syllable is long; the second, short. For that first ought to sound, due the last bacchius, that is, the short syllable; not the long belonging to the first dactyl. This can be seen in these examples:

Flumina constiterint acuto gelu.

Flumina constiterint acute gelida.

Flumina constiterint in alta nocte.

And it is evident to anyone the first two are proper when repeated, but the last one not at all.

(22) Likewise, when a single time is due each incomplete foot, if you want to render them by word, the senses don't allow them to be compressed into one syllable. Quite justly, of course. For it is not proper for what is to be rendered sep-

arately not to be constructed separately. And, therefore, in the meter *Silvae laborantes geluque*, if you should add a long syllable to the end in place of the rest, as in *Silvae laborantes gelu duro*, your ears do not approve as when we say *Silvae laborantes gelu et frigore*. And you perceive this well enough, when you repeat each one.

(23) Likewise, when there are two incomplete feet, it is not proper a greater be put at the beginning than at the end. For the hearing condemns this, too, for example, if you should say *Optimum tempus adest tandem* with the first foot a cretic, the second a choriamb, and the third a spondee, with the result that we have a three-time rest, two times being due the last spondee for filling out the six, and one to the first cretic. And so, if it should be said in this way, *Tandem tempus adest optimum*, with the same three-time rest, who would not find its repetition most enjoyable? And, therefore, it is proper either the final incomplete foot be of the same quantity as the first one, as in *Silvae laborantes geluque*; or the first one be the smaller and the last one the larger, as in *Flumina constiterint acuto*. And this is not arbitrary, because on the one hand there is no discord where there is equality. But where the number is unequal, if we should come from the less to the greater, as is usual in counting, this very order again effects an accord.

(24) And so it also follows, when these incomplete feet just mentioned are put in, if a rest is interposed in two places, that is, before the end and at the end, then there is a rest before the end of a quantity owing the last foot, but a rest at the end of a quantity owing the first foot. For, the middle tends toward the end, but a return is to be made from the end to the beginning. But, if to each the same amount is owing, there is no dispute, and in this case there must be a rest before the

end of the same quantity as at the end. Moreover, there must be no rest except where there is an end to a part of the discourse. In the case of those numbers not made by words, but by some beat or breath or even by the tongue, there is no way to make the distinction after what sound or beat a rest should come, so a legitimate rest may intervene according to the preceding ratios. And, therefore, a meter also can begin with two incomplete feet, on condition the combined quantities of both should not be less than one foot and a half. For we have already affirmed two incomplete feet are properly inserted when what is due both does not exceed the length of a half foot. An example is *Montes acuti*, so either we have a three-time rest, or a one-time rest after the spondee with a two-time rest at the end. For this meter cannot be properly measured otherwise.

Chapter 15

(25) Let this [prescription], too, be part of the discipline: when we have a rest before the end, that part of the discourse may not end in a short syllable, to keep the senses from taking it because of the rest following it, for a long syllable in accordance with the continually repeated rule to that effect. And so in the meter *Montibus acutis* we cannot make a one-time pause after the dactyl as we could after the spondee in the example before, for then no longer a dactyl but a cretic would be perceived, with the result the meter would not seemingly consist of two incomplete feet, the object of our present explanation, but a full dichoree and a final spondee with a two-time rest owing at the end.

(26) And it must be noted, too, when an incomplete foot is placed at the beginning, what is owing is repaid either in rest right on the spot, as in *Iam satis terris nivis atque dirae*; or at

the end, as in *Segetes meus labor*. But to an incomplete foot at the end, what is due is repaid in rest either right on the spot, as in *Ite igitur Camoenae*; or somewhere in the middle, as in *Ver blandum viget arvis, adest hospes hirundo*. For the one time owing the last bacchius can be a rest either after the whole number, or after the number's first foot, the molossus, or after its second, the lesser ionic. But what is owing incomplete feet in the middle can only be repaid on the spot, as in *Tuba terribilem sonitum dedit aere curvo*. For, if we should so measure out this meter as to make the first an anapest, the second either of the ionics expressed as five syllables with either the first or final long resolved into two shorts, the third a choriamb, the last a bacchius, then there will be three times owing, one to the final bacchius and two to the first anapest to fill out the times each ought to have. But this whole three-time interval can be rendered as a final rest. But, if you should begin with a complete foot, meting out the first five syllables for either ionic, then a choriamb follows. From there on you will not find a complete foot, and so there will have to be rest for the space of one long syllable; when this is added, the choriamb will be completed. A bacchius whose last time will be repaid by a final rest is left to close the meter.

(27) And so I now think it's clear, when there is a rest in the middle places, it redeems either those times owing at the end, or those owing where the pause is made. But sometimes it is not necessary for the pause to be in the middle places, since the meter can be measured off another way as in the example we just gave. But sometimes it is necessary, as in *Vernat temperies, aurae tepent, sunt deliciae*. For it is clear this number runs in either four-time or six-time feet. If in four, there must be a one time rest after the eighth syllable, and two-time rest at the end. First, measure off a spondee; second, a

dactyl; third, a spondee; fourth, a dactyl, adding a rest after the long syllable because it is not proper to do so after the short syllable; fifth, a spondee; sixth, a dactyl, with a final long closing the line and its two missing times redeemed by a rest at the end. But, if we measure off six-time feet, the first will be a molossus, the second a lesser ionic, the third a cretic becoming a dichoree when a one-time rest is added, the fourth a greater ionic, and a final long followed by a four-time rest. It could be otherwise with one long placed at the beginning, followed by a lesser ionic, then a molossus, then a bacchius becoming an antispast when a one-time rest has been added. A final choriamb would close the meter, with a four-time rest being given the first long. But the ear rejects such a measuring, because, unless the part of the foot placed at the beginning is greater than a half foot, the lack cannot be properly restored where it is owing by the final rest after the complete foot. But with other feet inserted, we know how much is wanting. But the sense does not take in there is such a long rest, unless there is less owing in the rest than is put in sound, because, when the voice has traversed the greater part of the foot, the remaining lesser part easily presents itself anywhere.

(28) And so, although in the case of the meter we have just given as an example, *Vernat temperies, aurae tepent, sunt deliciae*, there is one necessary measuring if there is a one-time rest after the tenth syllable and a four-time rest at the end, yet there is a voluntary measuring if one should wish to have a two-time rest after the sixth syllable, a one-time rest after the eleventh, and a two-time rest at the end, resulting in a spondee at the beginning, a choriamb next, third a spondee with a two-time rest added on to make a molossus or lesser ionic, fourth a bacchius likewise becoming an anti-

past by the addition of a one-time rest, fifth a choriamb to close the number as far as sound is concerned, with a two-time rest at the end redeeming the first spondee. And likewise there is another way. For if you wish, you can have a one-time rest after the sixth syllable, and again after the tenth and eleventh, and a two-time rest at the end. With the result the first foot is a spondee, the second a choriamb, the third an antibacchius becoming an antispast by the addition of the one-time rest, the fourth a spondee becoming a dichoree by the insertion and addition of one-time rests, finally a choriamb closing the number to give at the end a two-time rest owing the first spondee. And there is a third way of measuring it, if there should be a one-time rest after the first spondee with the other rests just as before except for there being a final one-time rest because of the usually beginning spondee's becoming an antibacchius with the addition of the one-time rest following it, with the result only a one-time measure is owing it to appear as a final rest. And so now you see how rests are inserted in meters, some necessary, some voluntary: necessary when something is owing for completing the feet, but voluntary when the feet are whole and complete.

(29) But what has just been said about the rule of avoiding rests of more than four times was said of necessary rests where times due are filled out. For in those we have called voluntary rests, it is also proper to sound a foot and rest a foot. But, if we should do this at equal intervals, there will not be a meter, but a rhythm with no fixed end appearing as a means to a return to the beginning. And so, if you should wish, for example, to punctuate a line with rests so as to pause after the first foot for the length of a foot, this must not be continued. But it is proper to prolong a meter up to the legitimate number of times with rests inserted in

any sort of arrangement, as in *Nobis verum in promptu est, tu si verum dicis*. It is proper here to have a four-time rest after the first spondee, and another after the following two, but no rest after the last three, because the thirty-two times have already been completed. But it is much more apt, and somehow more just, there be a rest either only at the end, or at the end and in the middle, too, and this can be done with one foot subtracted, to give *Nobis verum in promptu est, tu dic verum*. And this rule is to be maintained for meters of other feet that, in the case of necessary rests the times due to fill out the feet ought to be redeemed either by final or middle rests. But the rest must not be greater than that part of the foot occupied by either the arsis or thesis. But in the case of rests by choice it is possible to rest either for the space of a whole foot or of part of a foot, as we have shown in the examples just given. But let this finish the treatment of the ratio of rest-insertion.

Chapter 16

(30) Now let us say a few things about the mixing of feet and the conjunction of their respective meters, since many things were said when we were investigating what feet ought to be mixed together, and since some things must be said about the composition of meters when we begin to talk about verse. For, feet are conjoined and mixed according to the rules we disclosed in our second discourse. But here it is in order to remember all the meters already celebrated by poets have had each one its author and inventor to keep us from transgressing certain fixed laws they laid down. For it is not proper, when they have fixed them by reasoning, to make any change in them, even if we could make the change according to reasoning and without any offense to the ear.

And the knowledge of this sort of thing is handed down not by art, but by history. And, therefore, it is believed rather than known. For, if some Falerian or other has composed meters to sound like these

*Quando flagella ligas, ita liga,
Vitis et ulmus uti simul eant;*⁴

we can't know it, but only believe it by hearing and reading. It belongs to the discipline we are treating, to see whether it consists of three dactyls and a final pyrrhic, as most of those unskilled in music affirm (for they do not see a pyrrhic cannot follow a dactyl), or, as reason shows, the first foot in this meter is a choriamb, the second an ionic with a long syllable resolved into two shorts, the last an iamb followed by a three-time rest. And half-taught men could see this, if it were recited and beaten out by a learned man according to both laws. For they would judge from natural and common sense what the discipline's norm would prescribe.

(31) Yet the poet's wishing these numbers to be unchangeable when we use this meter has to be respected. For it satisfies the ear, although it would be equally well satisfied if we should put a diiamb for the choriamb or the ionic, without resolving the long syllable into shorts, and whatever else might fit in. In this meter, then, nothing will be changed, not for the reason by which we avoid inequality, but for that by which we observe authority. For reason certainly teaches some meters are established as immobile, that is, where nothing should be changed, as in this one we have just talked about; others as mobile, where one may substitute certain feet

⁴ 'When you bind switches, bind so the elm and vine go together.' Amerio points out this is the way Marius Victorinus and Terentianus treat this meter, *op. cit.* 184.

for others, as in *Trioae qui primus ab oris, arma virumque cano*. For here an anapest may be substituted for a spondee in any place. Others are neither completely immobile nor completely mobile, as

*Pendeat ex humeris dulcis chelys
Et numeros edat varios, quibus
Assonet omne virens late nemus,
Et tortis errans qui flexibus.*⁵

For you see here both spondees and dactyls can be placed everywhere, except in the last foot which the author of the meter always wished to be a dactyl. And you see, even in these three kinds, authority has some weight.

(32) But as regards what in the composition of feet belongs to reason alone to judge concerning these things perceived, you know those parts of feet harmoniously placed with a rest after certain feet, as the iamb after the dichoree or second epitrite, and the spondee after the antispast, are still badly placed after other feet these have been mixed with. For it is evident the iamb is well placed after the molossus, as we see in this example with the final three-time rest we are so often repeating. *Ver blandum viret floribus*. But, if you should put a dichoree first in place of the molossus, as in *Vere terra viret floribus*, the ear rejects and condemns it. It is easy, too, to discover this in the other cases, if the ear only search it out. For it is a most sure reasoning, when feet are combined capable of such combination, only those parts of a foot agreeing with all the feet in that sequence be added

⁵ Terentianus Maurus quotes this from Pomponius. See his *de Metris* 11.2135 ff. (Keil VI 389).

'Let the sweet harp hang from the shoulders and bring forth varied numbers every far-green wood resounds with, and wandering with curious turns . . .

on at the end, to avoid any discord arising one way or another among friends.

(33) This is more wonderful that, although a spondee completes both the diiamb and the dichoree without dissonance, yet when these two feet, either alone or in one way or another mixed with others agreeable to them, have been put in one sequence together, it is the sense's judgment a spondee cannot be put at the end. For no one would doubt, would he, the ear accepts willingly each of these repeated separately; *Timenda res non est* and *Iam timere noli*. But, if you should join them so, *Timenda res, iam timere noli*, I should not want to hear it outside of prose. Nor is it less awkward if you put another foot in anywhere, for instance, a molossus in this way, *Vir fortis, timenda res, iam timere noli*, or in this way, *Timenda res, vir fortis, iam timere noli*, or again in this way, *Timenda res, iam timere noli*, or again in this way, *Timenda res, iam timere vir fortis noli*. And the cause of the awkwardness is this: the diiambic foot can also be beaten in the proportion of two to one, just as the dichoree in the proportion of one to two. But the spondee is equal to their two-part. But, since one pulls it to the first part, the other to the last part, a certain disagreement arises. And so in this way reason relieves us of our wonder.

(34) And the antispast produces something just as marvelous. For if no other foot, or the diiamb alone of all of them, should be mixed with it, it allows the meter to be closed by an iamb, but not so when placed with others. In the case of the dichoree, it is because of the dichoree itself; and I wonder very little at that. But why with the other six-time feet it refuses to allow that particular three-time foot at the end, I do not know. The cause is perhaps too secret for us to be able to find

it out and show it. But I judge it is so by these examples. For there is no doubt each of these two meters, *Potestate placet* and *Potestate potentium placet*, is repeated harmoniously with a three-time rest at the end; but each of these with the same rest, inharmoniously: *Potestate praeclara placet*, *Potestate tibi multum placet*, *Potestate iam tibi sic placet*, *Potestate multum tibi placet*, *Potestatis magnitudo placet*. Now, in so far as the senses are concerned, they have done their duty in this question, and have indicated what they would approve and what they would not. But reason must be consulted as to why it is so. And mine in all this obscurity only sees this: the antispast has its first half in common with the diiamb, for each begins with a short and a long, but its last half in common with the dichoree, for both end with a long and short. And so the antispast either when it is alone allows the iamb to close the meter as its own first half, or again when it is with the diiamb it has this half in common. And it would allow it with the dichoree, if such an ending were harmonious with the dichoree, but not in the case of others, and it is not joined with them in such company.

Chapter 17

(35) But, with regard to the composition of meters, it is enough at present to see diverse meters can be joined together so long as they agree with respect to beat, that is, to their arsis and thesis. But they differ either in quantity, as when greater are joined with less, for example,

*Iam satis terris nivis atque dirae
Grandinis misit Pater, et rubente
Dextera sacras iaculatus arces,
Terruit urbem.*

For this fourth line made up of a choriamb and final long, you

see how small it is compared to the first three, all equal to each other. Or in feet, as these,

*Grato Pyrrha sub antro,
Cui flavam religas comam.*⁶

You see, certainly, the first of the two consists of a spondee and choriamb, and a final long due the spondee for completing the six times; the second, of a spondee and choriamb, and two final shorts likewise filling out the spondee to six times. They are equal, then, in times, but somewhat different in feet.

(36) And there is another difference in combinations of this kind: some are so combined they have no rests placed between them as these last two; others require a rest of some kind in between them, like these,

*Vides ut alta stet nive candidum
Soracte, nec iam sustineant onus
Silvae laborantes, geluque
Flumina constiterint acuto.*⁷

For, if each of these is repeated, the first two acquire a one-time rest, the third a two-time, the fourth, a three-time. Considered together, in going from the first to the second there is necessarily a one-time pause, from the second to the third a two-time, from the third to the fourth a three-time one. But, if you should return from the fourth to the first, you will pause for one time. And whatever ratio is used for the return to the beginning is also used for passing to another such combination. We rightly call this kind of combination a cycle [*circuitum*], in Greek called *períodos*. So the cycle cannot be less than two numbers, nor have they wished it to be more than four. It is

⁶ Horace, *Odes* 1.5.3-4.

⁷ Horace, *Odes* 1.9.1-4.

proper, then, to call the least bi-membered, the middle one tri-membered, the last quadri-membered; for the Greeks call them *dikolon*, *tríkolon*, *tetrákolon*. And, since we shall treat of this whole class more thoroughly, as I have said, in our discussion of verses, let this be enough for the moment.

(37) I think you now certainly understand there are a great many kinds of meter. In fact, we found there were five hundred and sixty-eight, when no examples were given of rests except final ones, and no mixture of feet made, and no resolution of long syllables into two shorts stretching the foot to more than four syllables. But, if you wish to get the number of meters with every possible insertion of rests applied, and every combination of feet, and every resolution of long syllables, the number is so great its name perhaps is not at hand. But, although these examples we have given and those we can give, poets judged proper in making them, and common nature in hearing them, yet, unless a learned and practised man's recitation should commend them to our ears and the sense of hearing should not be slower than humanity requires, the ones we have treated cannot be judged true. But let's rest a little, and then let's discuss verse.

D. Good.

BOOK FIVE

Verse is discussed.

Chapter 1

(1) *M.* The controversy among ancient learned men in their attempt to find out what verse is, has been great and not without fruit. For the subject has been discovered and written down for the knowledge of posterity, and has been confirmed, not only by serious and certain authority, but also by reason. Now, they noticed there is a difference between rhythm and meter, so all meter is rhythm, but not all rhythm meter. For every legitimate composition of feet is numerable, since the composition containing meter cannot not be number, that is, not be rhythm. But, since it is not the same thing to roll forward, although in legitimate feet, yet without any definite end, and to progress likewise in legitimate feet, but to be bounded by a fixed end, these kinds, therefore, had to be distinguished by names. So the first was called only by the name proper to it, rhythm, but the other by meter as well as rhythm. Again, since of those numbers bounded by a definite end, that is of meters, there are some where there is no ratio of division within them and others where there certainly is, this difference also had to be noted in names. And so the kind of rhythm where this ratio is not has been properly called meter; where it is, they have named it verse. And reason will perhaps show us the origin of this name as we go on. And do not think this so prescribed it is not permissible also to call verses meters. But it's one thing to abuse a name with the license of a resemblance; another to call a thing by its name. Anyhow, let's be

done now with telling over names. For in their case, as we have already learned, the willingness of those speaking and the authority of age count for everything. Let's investigate these other things, if you will, as we are wont, with sense announcing and reason discovering, so you may know the ancient authors did not institute these things as if not already existing whole and finished in the nature of things, but found them by reasoning and designated them by naming them.

Chapter 2

(2) And so I first ask you whether a foot only pleases the ear if the two parts in it, one the arsis, the other the thesis, answer to each other in a numerical and skillful joining?

D. I have already been persuaded and apprised of this.

M. Now, meter, resulting as it does from the conjunction of feet, isn't to be thought to belong to the class of things incapable of division, is it? For no indivisible thing can extend through time, and it would be absurd, wouldn't it, to think what consists of divisible feet is indivisible?

D. I certainly say it isn't indivisible.

M. But aren't all things capable of division more beautiful if their parts agree in some equality than if they should be discordant and dissonant?

D. There's no doubt about it.

M. Well, what number, then, is the author of equal division? The number two?

D. It is.

M. Then, just as we found the foot is divided into two harmonious parts and in this way delights the ear, if we also find a meter of this kind, won't it be rightly preferred to such as are not?

D. I agree.

Chapter 3

(3) *M.* Very well. Now, tell me this. Since in all things we measure by a part of time, one thing precedes and another follows, one begins and another ends, would you think there ought to be no difference between the part preceding or beginning and the part which follows or ends?

D. I think there must be.

M. Tell me, then, what the difference is between the two parts of a verse where one is *cornua velatarum*, and the other *vertimus antennarum*.¹ For, if it should be recited, not as the poet wrote it, with *obvertimus*, but in this way, *Cornua velatarum vertimus antennarum*, doesn't it become uncertain by more or less frequent repetition which part is first, which last? For it is no less the same verse said this way: *Vertimus antennarum cornua velatarum*.

D. I see it becomes very uncertain.

M. Do you think that ought to be avoided?

D. I do.

M. See, then, whether it has been properly avoided in this case. One part of the verse, the first, is, *Arma virumque cano*, and the other following it, *Troiae qui primus ab oris*. And they differ from each other to the extent, if you change the order and recite them this way, *Troiae qui primus ab oris, arma virumque cano*, you would have to measure off other feet.

D. I understand.

M. But see whether this ratio is kept in the other lines. Now whatever measure *Arma virumque cano* begins, you know these do likewise: *Italiam fato, Littora multum ille et, Vi superum saevae, Multa quoque et bello, Inferretque deos, Albanique patres*. In short, you can go through as many of the

¹ Vergil, *Aeneid* III.549.

other lines as you wish, you will find these first verse-parts to be of the same measure, that is, five distinct half-feet. Very rarely, indeed, if not in this way; so the end-parts are no less equal to each other: *Troiae qui primus ab oris, Profugus Laciniaque venit, Memorem Iunonis ob iram, Passus dum conderet urbem, Latio genus unde Latinum, Atque altae moenia Romae.*

D. That's very evident.

(4) M. And so, five and seven half-feet divide into two parts, the heroic verse consisting, as everyone knows, of six four-time feet. And without the harmonious conjunction of two members, either this one, or some other, there is no verse. And in all these examples reason has shown this much must be observed: the first part cannot be second, nor the second first. And if it is otherwise, they will no longer be called verses except through misuse of the name. But they will have rhythm and meter, and it is not improper to stick in such things at long intervals in long poems composed of verses. And just of such a kind is the one I recited a while back: *Cornua velatarum vertimus antennarum.* And so I don't believe a verse is so called, as some think, because it returns from a fixed ending to the beginning of the same member, so the name is taken from those who turn around [*se vertunt*] when retracing their steps. For verse seems to have this in common with those meters which are not verses. But, on the contrary, perhaps the name came about rather in the way the grammarians have called a deponent verb one not depositing the letter 'r,' for example 'lucror' and 'conqueror'; just so whatever is made up of two members, neither able to be put in the place of the other without violating the law of the numbers, is called verse because it cannot be reversed. But you can accept either of these derivations or reject them both, and look for another, or with me

disapprove of any question of this kind. It has nothing to do with the present affair. For, since the thing itself signified by this name is sufficiently apparent, there's no need to labor the word's derivation. Perhaps you have some objections?

D. I have none, certainly, but go on with the rest.

Chapter 4

(5) *M.* Next we must look to the ending of the verse. For they wanted this also to be marked and distinguished by some difference, or rather reason itself wanted it so. Don't you think it better the ending confining the number's forward roll, with the equality of times undisturbed, should stand out, rather than be confused with the other parts not effecting an ending?

D. Who doubts it? It's too evident.

M. See, then, whether those people were right in wanting the spondaic foot to be the distinctive ending of the heroic verse. For in the other five places it is permissible to put either a spondee or a dactyl, but at the end only a spondee. For what they reckon a trochee becomes a spondee on account of the last syllable's indifference we spoke enough about in the treatment of meter. But according to them the six-foot iambic either will not be a verse or will be one without this distinction of ending. But either is absurd. For no one, either among very learned men or moderately or even slightly learned, has ever doubted this was a verse: *Phaselus ille quem videtis, hospites*,² and whatever is formed of words in this number-form. And yet the more serious authors, and so the most skillful, have judged nothing to be a verse without a distinctive ending.

(6) *D.* You are right. And, therefore, I believe some other

² Catullus, 4.1.

mark of its ending must be looked for, and the spondee story is not acceptable.

M. What is it? You don't doubt, do you, whatever it is, it is either a difference in foot, time, or both?

D. What else can it be?

M. But which of these three do you think it is? For I, since ending a verse to keep it within its proper bounds is proper only to the time-measure, I don't think this mark can be taken elsewhere than from time. Or do you find something else better?

D. I certainly agree.

M. Do you see this, too. Since time in this case can only be different in the one's being longer, the other shorter, the end-mark must consist in a shorter time, because, when the verse is ended, it is done to prevent it's proceeding farther?

D. I see that. But to what does the added 'in this case' refer?

M. To the fact we do not everywhere get the time-difference only in brevity and length. You don't say, do you, the difference of summer and winter is one of time or rather of a shorter and longer interval, and don't you place it in the power of cold and hot, or of dry and wet, and any other thing like that?

D. I now understand, and I agree this mark we are looking for must be taken from shortness of time.

(7) *M.* Listen then to this verse, *Roma, Roma, cerne quanta sit deum benignitas*, called trochaic, and measure it and say what you find out about its members and the number of its feet.

D. I should easily reply about the feet, for it is evident there are seven and a half, but as to the members the matter is not clear enough. For I see the ends of parts of discourse in many places, yet I believe the partition is in the eighth half-foot with

the first member *Roma, Roma, cerne quanta*, and the second *sit deum benignitas*.

M. And how many half-feet does it have?

D. Seven.

M. Reason has most certainly led you to this. For since nothing is better than equality, it would be proper to approach it in any division. If only less can be gotten, an approximation to it must be sought, not to stray too far from it. And so, since here the verse has in all fifteen half-feet, it could not be divided more equally than into eight and seven. But there is the same approximation in seven and eight. Yet in this way the distinctive ending would not be preserved, as reason itself has taught us it must be. For if there were such a verse as *Roma, cerne quanta sit tibi deum benignitas*, beginning with a member of seven half-feet, *Roma, cerne quanta sit*, and ending with one consisting of these eight, *tibi deum benignitas*, then the verse could not close with a half-foot, for eight half-feet make four whole feet. At the same time there would result another deformity in our not measuring the same feet in the last member as in the first, and rather would the first member finish with the mark of shorter time, that is, with a half-foot, than the second this ending by rights belongs to. For in the one there are three and a half trochees, *Roma, cerne quanta sit*; in the other four iambs would be scanned *tibi deum benignitas*. But in the case we have before us, we scan trochees in both members, and the verse closes with a half-foot so the ending has the mark of a short syllable. For there are four in the first, *Roma, Roma, cerne quanta*, but three and a half in the second, *sit deum benignitas*. Or are you prepared to say something to the contrary?

D. Nothing at all; I willingly agree.

(8) *M.* Let us keep these laws unchanged, then, if you

will, that a verse should not be without a partition into two members approaching equality, as this one is, *Cornua velatarum obvertimus antennarum*. That this equality should not make the members convertible, so to speak, as it does in *Cornua velatarum vertimus antennarum*. And when this convertibility is avoided, that the members should not have too great a discrepancy between them, but nearly equal each other, as much as possible by proximate numbers, not to say they can be divided such a way, eight half-feet are in the first member, *Cornua velatarum vertimus*, and four in the last, that is, *antennarum*. That the second member should not have an even number of half-feet, as *tibi deum benignitas*, lest the verse, finishing with a full foot, should not have an ending distinguished by a shorter time.

D. I now have them, and I shall commit them to memory as far as I can.

Chapter 5

(9) *M.* Since, then, we now hold a verse ought not to end with a full foot, how do you think we ought to measure the heroic verse so as to preserve the law of members and the end-marks?

D. Well, I see there are twelve half-feet, and the members cannot each have six half-feet, because convertibility must be avoided. Nor is it proper for there to be a great discrepancy between them as in three and nine or nine and three. Nor should an even number of half-feet be given the second member, resulting in a division of eight and four or four and eight, and a verse ending with a full foot. The division must be made into five and seven or seven and five. For these numbers are both odd and proximate, and the members certainly approach each other more nearly than they would in the numbers four and eight. To be very certain about it, I see the end-parts of

discourse always or nearly always in the fifth half-foot, as in Vergil's first verse, *Arma virumque cano*; and in the second, *Italiam fato*; and in the third, *Littora multum ille et*; likewise in the fourth, *Vi superum saevae*; and so on, for nearly the whole poem.

M. That's true. But you must look to what feet you are measuring, to dare no violation of these laws just so firmly established.

D. Although the reason is sufficiently clear to me, yet I am disturbed by the novelty. For, usually, in this kind of line we scan nothing but spondees and dactyls, and almost no one is so uneducated as not to have heard of that, even if he is less able to do it. And so, if we should in this case wish to follow that very common custom, the law of ending has to be abrogated, for the first member would close with a half-foot, but the second with a full foot, and it ought to have been just the contrary. But, since it seems very unsuitable to abolish this law and I have now learned to know it is permissible, in numbers, for us to begin with an incomplete foot, we are left to judge it is not a dactyl with a spondee here, but an anapest. So the verse begins with one long syllable; then two feet, either spondees or anapests or both, end the first member; then again three feet for the other member, either anapests or spondees in any place or in all; and finally one syllable to rightly end the verse. Do you accept this?

(10) *M.* I, too, judge it quite correct, but the public is not easily persuaded of such things. For the force of custom, if it is old and born of false opinion, is so great nothing is more hostile to the truth. For you understand, as far as making the verse goes, there is no difference whether in this kind of line the anapest or the dactyl is placed with the spondee. Yet, for measuring it rationally, something not proper to the ear but

to the mind, this fact is discerned by a true and fixed reason, not by irrational opinion. And we are not the first to have found it out, but it was noticed long before this custom grew up. And so, if people should read those who have been most learned in this discipline either in the Greek or Latin tongue, they, chancing to hear this, will not be too surprised, although one is ashamed of the stupidity of seeking an authority for strengthening men's reason, since nothing is to be preferred to the authority of truth and reason itself, certainly better than any man. For we do not in this case look only to the authority of the ancients as in the lengthening or shortening of a syllable, to use our words as they also used them. Yet, because in a matter of this kind it is the part of slothfulness to follow no rule, and of license to establish a new one, so in the measuring of verse the inveterate will of man and not the eternal ratio of things is to be considered, since we first perceive its measured length naturally by the ear, and then establish it by the rational consideration of numbers, and since anyone judging this meter to be properly completed more surely than other meters judges it must close with a distinctive ending, and since it is clear such an ending must be marked by a shorter time. For this confines the length of the time and somehow checks it.

Chapter 6

(11) And since all this is so, how can the second member end if not with an incomplete foot? But the beginning of the first member is either a complete foot, as in the trochaic verse, *Roma, Roma, cerne quanta sit deum benignitas*, or part of a foot, as in the heroic verse, *Arma virumque cano, Troiae qui primus ab oris*. And so, with all hesitation now removed, measure if you will the verse, *Phaselus ille quem videtis, hospites*, and tell me about its members and feet.

D. I see its members are certainly distributed into five and seven half-feet, so the first is *Phaselus ille* and the second *quem videtis hospites*. The feet, I see, are iambic.

M. But I ask, aren't you to take care at all the verse doesn't end with a full foot?

D. You are right; I was off the track. For who wouldn't be bright enough to see it must end in a half-foot like the heroic verse. And considered in this genus, we measured the verse, not with iambs, but with trochees, to have a half-foot close it.

(12) *M.* It's just as you say. But look, what do you think is to be said about this one they call Asclepiadean, *Maecenas atavis edite regibus*.³ For a part of the discourse ends in the sixth syllable, and not inconsistently, but in nearly all verses of this kind. Its first member is *Maecenas atavis*; the second, *edite regibus*. And one can well hesitate as to what ratio it's in. For if you should measure it off in four-time feet, there will be five half-feet in the first member and four in the second. But the law forbids the last member's consisting of an even number of half-feet so ending the verse in a full foot. It remains for us to consider six-time feet, with each member consisting of three half-feet. And in order for the first member to end with a full foot, we must begin with two longs; then a whole choriamb divides the verse so the second member begins with another choriamb following it, and the verse closes with a half-foot of two short syllables. For this number of times together with the spondee placed at the beginning fill out a six-time foot. Do you have anything perhaps to add to this?

D. Nothing, certainly.

M. You are willing for both members to consist of the same number of half-feet.

D. Why not? For conversion here is not to be feared, because

³ Horace, *Odes* 1.1.1.

if the first member were put in place of the second with the first becoming second, the same law of feet will no longer hold. And so there is no cause why the same number of half-feet should not be allowed the members in this case, since this equality can be maintained without any fault of convertibility, and since also the law of a distinctive ending is preserved when the foot doesn't end in a full foot—and this ought to be most consistently preserved.

Chapter 7

(13) *M.* You have quite seen through the matter. And so, since now reason has found there are two kinds of verses, one where the number of half-feet in the members is the same, another where it is not, let us diligently consider, if you will, how this inequality of half-feet may be referred to some equality by a somewhat more obscure but certainly very subtle ratio of numbers. For look, when I say two and three, how many numbers do I say?

D. Two, of course.

M. So two is one number, and three one, and any other you might have said.

D. That's so.

M. Doesn't it seem to you from this, one can be joined not absurdly with any number? For one can't say one is two, but in a certain way two is one; likewise it can be truly said three and four are one.

D. I agree.

M. Listen to this. Tell me what does three times two make all together?

D. Six.

M. Six and three aren't the same number, are they?

D. Not at all.

M. Now, I want you to take four times three and tell me the product.

D. Twelve.

M. You see, also, twelve is more than four.

D. And a great deal more certainly.

M. To dilly-dally no longer, this rule must be fixed: whatever two numbers you choose from two on, the less multiplied by the greater must exceed the greater.

D. Who could have any doubt about this? For, what is so small in the plural number as two? And yet, if multiplied by a thousand, it will so exceed a thousand as to be its double.

M. You are right. But take the number one and then any other greater number and, just as we did with the others, multiply the lesser by the greater. The greater will not be exceeded in the same way, will it?

D. Clearly not, but the lesser will be equal to the greater. For two times one is two, ten times one is ten, and a thousand times one is a thousand, and by whatever number I multiply one, the result must be equal.

M. So one has a certain right of equality with other numbers, not only in any number's being one, but also in one's giving, multiplied by any number, that same number as a product.

D. That's very evident.

(14) *M.* Come now, look to the numbers of half-feet the unequal members in the verse are made of, and you will find a wonderful equality by means of the ratio we have discussed. For, I believe, that is the least verse in two members of an unequal number of half-feet which has four half-feet and three, as for instance *Hospes ille quem vides*. For the first member, *Hospes ille*, can be cut equally into two parts of two half-feet each, but the second, *quem vides*, is so divided one

part has two half-feet, the other one half-foot. And so this last member is as if it were two and two by that law, just discussed, of the equality one has with all numbers. And so by this division the first member is in some way the same length as the second. And where there would be four and five half-feet, as in the case of *Roma, Roma, cerne quanta sit*, it doesn't work out this way, and so that will be a meter rather than a verse, because the members are unequal in such a way they can be referred to no law of equality by any division whatsoever. You certainly see, I believe, the four half-feet, *Roma, Roma*, of the first member can be separated into two each; and the five last ones, *cerne quanta sit*, can be divided into two and three, where, by no law whatsoever, does equality appear. For in no way can the five half-feet, because of the two and three, be accounted the same as the four, the way we found in the shorter verse just given, the three half-feet because of the one and two have the same value as four. Is there anything you haven't followed or anything displeasing you?

D. Why, on the contrary, everything is evident and thought out.

(15) M. Well, now, let's consider five and three half-feet, like this little verse, *Phaselus ille quem vides*, and let's see how such an inequality may fall under a law of equality. For all agree this kind of line is not only a meter, but also a verse. And so, when you have cut the first member into two and three half-feet, and the second into two and one, join together the subordinate parts you find alike in both, since in the first section we have two's, and in the second there are two parts left, one of three half-feet from the first member, the other in one half-foot from the last member. And so we also join the last two together because it is in community with all members, and, added together, one and three make

four, the same as two and two. By this division, therefore, five and three half-feet are brought into agreement, too. But tell me if you have understood.

D. I certainly have, and very much approve.

Chapter 8

(16) M. We should next discuss five and seven half-feet. Of this kind are those two noblest verses, the heroic and what is popularly called the iambic, a six-foot verse, too. For *Arma virumque cano, Troiae qui primus ab oris* is so divided its first member is *Arma virumque cano*, or five half-feet, and its second *Troiae qui primus ab oris*, or seven. And *Phaselus ille quem videtis, hospites* has for its first member *Phaselus ille*, in five half-feet, and for its second, in seven half-feet, *quem videtis, hospites*. But this great nobleness labors within this law of equality. For when we have divided the first five half-feet into two and three, and the last seven into three and four, the parts of three half-feet each will certainly go together. And if the other two should combine so one of them consisted in one half-foot and the other in five, they would be joined together by the law permitting the union of one with any number, and added together they would make six, the sum also of three and three. But now, because two and four are found in this case, together they will give six, but by no law of equality is two as much as four, to produce, you might say, a necessary joining. Unless you could say, perhaps, it is sufficiently subsumed under a rule of equality by having two and four make six just as three and three. And I don't think this ratio is to be attacked, for this is an equality, too. But I should not be willing for five and three half-feet to enjoy a greater harmony than five and seven. For the name of one is not so famous as that of the other, and in

the case of the first you see not only the same sum is found when one and three are added together as when two and two, but also the parts are much more concordant when one and three are joined together because of the harmony of one with all numbers, than when two and four are joined as in the second case. Do you find anything not clear?

D. Nothing at all. But somehow it offends me these six-foot verses, although more celebrated than other kinds and said to have the first place among verses, should have less harmony in their members than those of obscurer fame.

M. Don't be discouraged. For I shall show you so great a harmony in the six-foot verses as they alone among all others have merited, so you may see they have been justly preferred. But, since its treatment is a little longer, although more interesting, we ought to leave it to the end when we have sufficiently discussed the others and are free of all care for a closer scrutiny of the secrets of these verses.

D. Willingly. But I should wish to have explained what we first started out to do so as to understand it now more easily.

M. In comparison with those already discussed, those you are waiting for become more agreeable.

Chapter 9

(17) And so now consider whether in two members, one six half-feet and the other seven, is found the equality necessary to a real verse. For you see this must be discussed after five and seven half-feet. And an example of this is *Roma, cerne quanta sit deum benignitas.*

D. I see the first member can be distributed into parts having three half-feet each; the second into three and four. And so when the equals are added they make six half-feet, but

three and four are seven and are not equal in number to the first lot. But if we should consider two and two in the part with four, and two and one in the part with three, then, when the parts with two have been added, the sum is four, but when those with two and one are added, if we take these also as four because of one's agreeing with all other numbers, then they become all together eight, and they exceed the sum of six by more than when they were seven.

(18) *M.* It's as you say. Now, seeing this kind of combination doesn't fall under the law of verses, let's consider now next in order those members with the first having eight half-feet, the second seven. Well, this combination has what we want. For, joining the half part of the first member with the part of the second member nearest that half, since they are each four half-feet, I make a sum of eight. And so there are left four half-feet from the first member and three from the second. Two from the one and two from the other together become four. Again two from the one and one from the other, combined according to that law of agreement constituting one equal to all the other numbers, are in a way taken for four. So now this eight agrees with the other eight.

D. But why don't I get an example of this?

M. Because it's been so often repeated. Yet, so you may not think it's been left out at its proper place, here it is, *Roma, Roma, cerne quanta sit deum benignitas*, or this, too, *Optimus beatus ille qui procul negotio*.⁴

(19) And so now examine the combination of nine and seven half-feet. An example of this is *Vir optimus beatus ille qui procul negotio*.

D. It is easy to recognize these harmonies. For the first

⁴ A variation on Horace, *Epodes* 1.2.

member is divided into four and five half-feet and the second into three and four. The lesser part of the first member, then, joined with the greater part of the second, makes eight, and the greater part of the first member with the lesser part of the second likewise makes eight. For the first combination is four and four half-feet, and the second five and three. Further, if you should divide five into two and three half-feet, and three into two and one, there appears another harmony of two with two and of one with three, because one is joined with all other numbers by that law of ours. But, unless reason fails me, there remains nothing more for us to seek on the combination of members. For we have already come to eight feet, and we recognized some time ago a verse can't lawfully exceed eight feet. And so, come now, open up these secrets of the six-foot verses, the heroic and iambic or trochaic, you have excited and disturbed my attention for.

Chapter 10

(20) *M.* I shall; at least, that reason common to us both will. But say, don't you remember when we were talking about meters, we said and wholly exhibited by our very senses, those feet whose parts are in the superparticular ratio, either in two and three, as the cretic or paeons, or in three and four, as the epitrites, are thrown out by the poets because of their less pleasing sound and harmoniously embellish the severity of prose when a period's close is bound by them?

D. I remember. But where does this get us?

M. It's because I want us first to understand, once feet of this kind have been denied use in poetry, there only remain those whose parts are in a one-to-one ratio as the spondee, or two-to-one as the iamb, or in both as the choriamb.

D. That's so.

M. But if this is the matter of the poets and prose is at variance with verse, no verse can be made except of this kind of feet.

D. I agree, for I see poems in verse are on a grander scale than those other meters proper to lyric poems. But so far, where this reasoning leads us I can't see.

(21) *M.* Be patient. Now let's talk about the excellence of six-foot verse. And first I want to show you, if I can, the most proper six-foot verses can only be of two kinds, also the most famous of all: one the heroic like *Arma virumque cano, Troiae qui primus ab oris*, measured according to custom with the spondee and dactyl, but according to a more subtle reasoning with spondee and anapest; the other called iambic, and by the same reasoning found to be trochaic. Now, I believe you see clearly somehow the sound-intervals are dull, unless the long syllables are interspersed with short ones; likewise they become too cut up and too tremulous, you might say, unless the shorts are interspersed with longs; and in neither case is there a proper compounding even though they burden the ear with an equality of times. And so, neither those verses with six pyrrhics nor those with six proceleusmatics aspire to the dignity of heroic verse, nor those with six tribrachs to the dignity of trochaic verse. Further, in those verses reason itself prefers to all others, if you should convert the members, the whole will be so changed we will be forced to measure off other feet. And so you might say these are more inconvertible than those consisting either all of shorts or all of longs. And, therefore, it makes no difference whether the members in these more properly organized verses are ordered with five and seven half-feet or with seven and five. For in neither of these orders can the verse be converted without so much change it turns out to run in other feet. Yet, in the

case of these verses, if the poem is begun with verses having the first members of five half-feet, those with first members of seven half-feet should not be mixed in, lest it then be possible to convert them all. For no substitution of feet cancels conversion. Yet the rare interspersion in heroic verses of an all spondaic verse is allowed, although this latter age of ours has very little approved it. But in the case of trochaic or iambic verses, although it is permissible to put in a tribrach anywhere, yet it has been judged very bad in poems of this sort to resolve a verse entirely into shorts.

(22) And so when the epitrites have been excluded from the six-foot mode of verse, not only because they are more fitted to prose, but also because with six of them, like the dispondees, they would exceed thirty-two times, and when the five-time feet have also been excluded because prose claims them more eagerly for closing periods, and when likewise the molossi and all other six-time feet, although they do well in poems, have been excluded from this present affair because of the number of times, there remain the verses composed all of short syllables having either pyrrhics or proceleusmatics or tribrachs, and all of longs having spondees. And though they are admitted to the six-foot mode, yet they must give way to the dignity and harmony of those varied with shorts and longs and on this account much less convertible.

Chapter 11

(23) But it can be asked why the six-foot verses are judged better measured by that subtle ratio in terms of anapests or trochees, than when they are measured in terms of dactyls or iambs. For without reference to meaning, since we are now discussing numbers, if the verse were in the one case *Troiae qui primus ab oris arma virumque cano*, or in the

other *Qui procul malo pius beatus ille*, each of these would certainly be a six-foot verse, and not less tempered with a good disposition of longs and shorts, nor any more convertible. And the members in each case are so ordered a part of discourse ends in the fifth and seventh half-feet. Why, then, should they be thought better if they are rather so: *Arma virumque cano, Troiae qui primus ab oris* and *Beatus ille qui procul pius malo*? And to this question I could too easily and rapidly reply, it happened by chance these were first noticed and repeated. Or if not fortuitous, I believe it seemed better the heroic verse should close with two longs rather than with two shorts and a long, because the ear finds its rest more easily in the longs. And the other verse would better have a long syllable than a short in the final half-foot. Or perhaps it's this way. Whichever of the two pairs are chosen first necessarily rob of their supremacy those they could become by a conversion of members. And so that kind is judged best *Arma virumque cano, Troiae qui primus ab oris* is an example of, and immediately the other, its converse, would be improper, for instance, *Troiae qui primus ab oris, arma virumque cano*. And this must also hold for the trochaic kind. For if *Beatus ille qui procul negotio* is better, then the kind it would become on conversion, *Qui procul negotio beatus ille*, certainly should not be. Yet, if anyone should dare make such verses, it is evident he will make other kinds of six-foot verse not so good as these.

(24) And so these, the most beautiful of all six-foot verses, have not been able, the two of them, to maintain their integrity against the license of men. For in the case of the trochaic kind, the poets think all four-time feet applying to numbers should be mixed in, not only with the six-foot verse, but with the least up to the greatest magnitude of eight feet.

And the Greeks, in fact, put them alternately, beginning with the first and third places, if the verse began with a half-foot; if with a full trochee, these longer feet are put alternately beginning with the second and fourth places. And in order for this corruption to be tolerable, they haven't divided each foot into two parts by beat, one to the arsis, the other to the thesis, but, putting the arsis on one foot and the thesis on the next (and so they call the six-foot verse trimeter), they bring the beat back to the division of the epitrites. At all events, if this should be constantly held to, although the epitrites are feet belonging to prose rather than to poetry and it would turn out to be, no longer six-foot, but three-foot verse, yet in any case that equality of numbers would not be wholly destroyed. But now it is allowed, provided only they are also put in the places already mentioned, to put the four-time feet not only in every place, but wherever one pleases and as many times as one pleases. And even the ancients of our race could not keep these places at intervals free of feet of this kind. And so with respect to this kind of verse the poets have gone all the way in this corruption and license, because, we are to think, they wished dramatic poetry to be very much like prose. But now that enough has been said as to why these among six-foot verses are of greater nobleness, let's see why the six-foot verses themselves are better than any others constructed of any number of feet whatsoever. Perhaps you have something to say against this?

D. No, I agree. And now I am eagerly waiting to know about that equality of members you so much interested me in a while ago—if it is now proper to turn to it.⁵

⁵ The curious argument on the six-foot verse which follows is referred to very definitely by Aulus Gellius, XVIII.15.2, who refers it back to Varro. See Weil, *op.cit.* 142.

Chapter 12

(25) *M.* Then let me have your entire attention and tell me if you think any length can be cut into any number of parts.

D. I have been sufficiently persuaded of that, and I don't think I can doubt every length called a line has its half and in this way can be cut into two lines. And, since the lines made by this cut are certainly lines, it is clear the same thing can be done with them. And so, any length can be cut into any number of parts.

M. Very readily and truly explained. And can't it be rightly affirmed every length, on being extended its length in width, is equal to the square of its width? For, if the line move sideways any more or less than the length of the line itself, it isn't the square; if just that, it is the square.

D. I understand and agree. Nothing could be truer.

M. I am sure you see this follows: if counters, laid out one after another at equal distances, are substituted for the line, their length will only take on the form of a square when the stones have been multiplied by an equal number. For example, if you put down two stones, you will not get a square unless two others are added in width. And if three, six must be added, apportioned in width in two rows of three each. For, if they should be added in length, no figure results. For length without width is not a figure. And it is possible to consider the other numbers in proportion. For, as two times two and three times three make square figures in numbers, so also do four times four, five times five, six times six, and so on for the rest.

D. This, too, is reasoned and evident.

M. See, now, if time has length.

D. Who would doubt there's no time without length?

M. And further, can a verse be without time-length?

D. It certainly cannot.

M. What in this length is to be substituted for the counters: the feet necessarily divided into two parts, that is, into an arsis and thesis, or the half-feet, each containing only an arsis or thesis?

D. I judge it more proper to substitute the half-feet for the counters.

(26) *M.* Come, then, repeat how many half-feet the heroic verse's shorter member contains.

D. Five.

M. Give an example.

D. *Arma virumque cano.*

M. You only wanted the other seven feet to be in harmony by an equality with these five didn't you?

D. That's all, certainly.

M. Further, is there any verse seven half-feet can complete by themselves?

D. There certainly is. For the first and smallest verse has just this number of half-feet with a rest added at the end.

M. You are right. But for it to be a verse, into what two members is it divided?

D. Into four and three half-feet.

M. Then bring each part under the law of squares, and see what four times four makes.

D. Sixteen.

M. What three times three?

D. Nine.

M. What's the whole?

D. Twenty-five.

M. Since, then, seven half-feet can have two members,

when each of its members has been referred to the ratio of squares they add up to the number twenty-five. And this is one part of the heroic verse.

D. So it is.

M. Then the other part of five half-feet, since it cannot be divided into two members and must harmonize by means of some equality, isn't the whole of it to be squared?

D. I judge so. And yet I already see a marvelous equality. For five times five gives twenty-five. And so, not without cause have the six-foot verses become more famous and more noble than the others. For it is hard to say how great the difference is between the equality of these unequal members and that of all others.

Chapter 13

(27) *M.* Then my promise didn't fail you, or, rather, reason itself both of us follow. And so, to finish this talk soon enough, you see certainly, although the meters are almost innumerable, yet a meter can only be a verse if it has two members harmoniously joined together, either with an equal number of half-feet with their endings inconvertible, as in *Maecenas atavis edite regibus*, or again with an unequal number of half-feet yet combined according to some equality as four and three, or five and three, or five and seven, or six and seven, or eight and seven, or seven and nine. For the trochaic can begin with a full foot, as in *Optimus beatus ille qui procul negotio*, and with an incomplete foot, as in *Vir optimus beatus ille qui procul negotio*, but it can certainly only end with an incomplete foot. Whether these incomplete feet contain whole half-feet, as in the case of the example just cited, or less than a half-foot, as the two last shorts in this choriamb, *Maecenas atavis edite regibus*, or more than

a half, as the first two longs at the beginning or the bacchius at another choriambic verse's end, as for example, *Te domus Evandri, te sedes celsa Latini*,⁶ still all these incomplete feet are called half-feet.

(28) Now, not only are there such poems as those of the epic or even of the comic poets, made in verses so as to be of one kind, but also the lyric poets composed the circular kind called by the Greek *peridoi*, not only on those meters not governed by the law of verse, but also in verses. For that famous one of Flaccus,

*Nox erat, caelo fulgebat luna sereno
Inter minora sidera.*⁷

is a circular two-membered poem consisting of verses. And the two verses cannot harmonize unless they are both reckoned in six-time feet. For the heroic mode does not harmonize with the iambic or trochaic mode, because one set of feet is divided in a one-one ratio, the other in a double ratio. And so, the circular poems are made either of any meter without verse, like those in the discussion before this one when we were talking just about meters, or are made only of verses like those we have just been talking about, or are measured both in verses and other meters, as in this case:

*Diffugere nives, redeunt iam gramina campis,
Arboribusque comae.*⁸

But in what order you place either the verses with the other meters, or the greater members with the lesser, makes no difference in the ear's pleasure, provided the circular meter

6 Terentianus quotes this, according to Maurist ed.

7 Horace, *Epodes* 15.1-2.

8 Horace, *Odes* IV.7.1-2.

is not shorter than a two-membered verse nor longer than a four-membered one. But, if you have nothing to the contrary, let this be the end of the discussion, so we may next come with as much wisdom as we can from these sensible traces of music, all dealing with that part of it in the numbers of the times to the real places where it is free of all body.

BOOK SIX

The mind is raised from the consideration of changeable numbers in inferior things to unchangeable numbers in unchangeable truth itself.

Chapter 1

(1) *M.* We have delayed long enough and very childishly, too, through five books, in those number-traces belonging to time-intervals. And let's hope a dutiful labor will readily excuse our triviality in the eyes of benevolent men. For we only thought it ought to be undertaken so adolescents, or men of any age God has endowed with a good natural capacity, might with reason guiding be torn away, not quickly but gradually, from the fleshly senses and letters it is difficult for them not to stick to, and adhere with the love of unchangeable truth to one God and Master of all things who with no mean term whatsoever directs human minds. And so, whoever reads those first books will find us dwelling with grammatical and poetical minds, not through choice of permanent company, but through necessity of wayfaring. But when he comes to this book, if, as I hope and pray, one God and Lord has governed my purpose and will and led it to what it was intent upon, he will understand this trifling way is not of trifling value, this way we, too, not very strong ourselves, have preferred to walk, in company with lighter persons, rather than to rush with weaker wings through the freer air. So, as far as I can see, he will judge either we haven't sinned at all or very little, if only he is of the number of spiritual men. For if by chance the other crowd from the schools, with tumultuous tongues taking vulgar delight in the noise

of rhythm-dancers, should chance upon these writings, they will either despise all or consider those first five books sufficient. But this one the very fruit of those is found in, they will either throw aside as not necessary, or put off as over and above the necessary. But, brother-fashion, I warn those others not educated to understand these things, if, steeped in the sacraments of Christian purity and glowing with the highest charity for the one and true God, they have passed over all these childish things, for fear they descend to them and, having begun to labor here, bewail their backwardness, not knowing they can pass over difficult roads and obstacles in their path, even if unknown, by flying. But, if those read who because of infirm or untrained steps cannot walk here, having no wings of piety to disregard and fly by these things with, let them not mix themselves up with an improper business, but nourish their wings with the precepts of the most salutary religion and in the nest of the Christian faith, and carried over by these let them leave behind the labor and dust of this road, more intent on the fatherland itself than on these tortuous paths. For these books are written for those who, given up to secular letters, are involved in great errors and waste their natural good qualities in vanities, not knowing what their charm is. And if they would notice it, they would see how to escape those snares, and what is the place of happiest freedom.¹

Chapter 2

(2) And so you, my friend, sharing reason with me,

¹ Because of the passages of Letters 101 to Memorius, Marrou conjectures that this first chapter of Book 6 is really an introduction tacked on in order to make Book 6 a self-sufficient unit. For this was the only Book he sent to Memorius. *Sextum sane librum quem emendatum reperi, ubi est omnis fructus caeterorum, non distuli mittere Charitati tuae* (Epist. 101.4). See Mariou, *St. Augustin et la fin de la culture antique* (Bibl. des Ecoles d'Athènes et de Rome, cvix, 1939) 580-83.

that we may pass from corporeal to incorporeal things, tell me if you will, when we recite this verse, *Deus creator omnium*, where you think the four iambs and twelve times are it consists of. Is it to be said these numbers are only in the sound heard or also in the hearer's sense belonging to the ears, or also in the act of the reciter, or, because the verse is known, in our memory too?

D. In all of them, I think.

M. Nowhere else?

D. I don't see what else there is, unless, perhaps, there is some interior and superior power these proceed from.

M. I am not asking for what is to be merely suspected. And so if these four kinds are so apparent to you, you see no others equally evident, then let us look at them, if you will, separately one by one and see whether any one of them can be without any other. For I am sure you won't deny the possibility of a sound's beating the air by the drop of liquid or the shock of bodies, with pauses and limits of this sort, and existing where no hearer is present. And when this takes place, of the four there is only this first kind where the sound has the numbers.

D. I don't see any other.

(3) *M.* What about this other kind in the sense of the hearer? Can it be if nothing sounds? For I am not asking whether the ears have, if something sounds, a power [*vis*] of perceiving they don't lack even if the sound is wanting. For, even when there is a silence, they differ somewhat from deaf ears. But I am asking whether they have the numbers themselves, even if nothing is sounding. For it is one thing to have the number, another to be able to sense the harmonious sound. For if you should touch with your fingers a sentient place in the body, the number of times it's touched is sensed by the sense of touch. And when it is sensed, the sensor pos-

esses it. But it is likewise a question whether, not the sensing, but the number is in the sensor, when nothing is touching.

D. I couldn't easily say the sense is lacking in such numbers determined in themselves, even before anything sounds; otherwise it would neither be charmed by their harmony nor offended by their absurdity. And so, whatever it is we either approve or disapprove by when something sounds, when we do so not by reason but by nature, that I call the number of the sense. For this power of approval and disapproval is not created in my ears, when I hear the sound. The ears are certainly not otherwise accessible to good sounds than to bad ones.

M. Watch out you don't confuse the following two things. For, if any verse is sometimes pronounced shorter, sometimes longer, it cannot occupy the same interval of time, although the same ratio of feet may be preserved. And so, pleasing the ears by its peculiar kind of harmony is the doing of that power we accept harmonious things and reject disagreeable ones by. But its being perceived in a shorter time when it is spoken more quickly than when it is spoken more slowly makes no difference except how long the ears are touched by sound. So this affection of the ears when they are touched with sound is in no way such as if they should not be so touched. For as hearing differs from not hearing, so hearing this tone differs from hearing another. Therefore, this affection is neither prolonged beyond nor restrained to less, since it is the measure of the sound producing it. So it is one thing in the iamb, another in the tribrach, longer in the longer iamb, shorter in the shorter, nothing in a rest. And if it is produced by an harmonious sound, it must be harmonious. Nor can it be except when its author, the sound, is present; for it is like a trace imprinted in water, not found before your pressing a body into it, and not remaining when you have taken it away. But that natural power, belonging to the judiciary, you might say, present in

the ears, is still there during the rest, and the sound does not bring it into us, but is rather received by it to be approved of or disapproved of. And so, if I am not mistaken, these two must be distinguished, and it must be admitted the numbers in the passion of the ears when something is heard are brought in by the sound and taken away by the rest. And it is inferred the numbers in the sound itself can be without those in the hearing, although these last cannot be without the first.

Chapter 3

(4) *D.* I agree.

M. Notice, then, this third kind, being in the practice and operation of the person pronouncing, and see whether these numbers can be without those in the memory. For silent within ourselves we can also by thinking go through certain numbers in the amount of time they would be gone through by the voice. It is evident these are in a certain operation of the mind which, since it produces no sound and visits no passion on the ear, shows this kind of number can be without the other two, namely, the one in the sound, the other in the hearer when he hears. But we ask if it would be without memory's accompanying it. Yet, if the soul produces the numbers we find in the beat of the veins, the question is solved. For it is clear they are in the operation and we are no whit helped with them by the memory. And if it is not sure in the case of these whether they belong to the soul operating, certainly about those we produce in recurrent breathing, there is no doubt there are numbers in its time-intervals, and the soul so operates them they can also be changed in many ways when the will is applied. Nor is there need of any memory for their production.

D. It seems to me this kind of number can be without the

other three. For, although I don't doubt the various vein-beats and respiration-intervals are created for the equilibrium [*temperatio*] of bodies, yet who would so much as deny they are created by the soul in operation? And if the flow, according to the diversity of bodies, is faster for some, slower for others, yet, unless there is a soul to produce it, there is none.

M. Consider, too, the fourth class, that is, the class of those numbers in the memory. For, if we draw them out by recollection, and, when we are carried away to other thoughts, we again leave them as if hidden in their own hiding places, I don't think it is difficult to see they can be without the others.

D. I don't doubt they can be without the others. But just the same, unless they were heard or thought, they could not be sent on to the memory. And so, although they remain at the death of those that are heard or thought, yet they are imprinted by them.

Chapter 4

(5) *M.* I don't contradict you, and I should like now to ask which of these four kinds you judge the principal one. Except, I believe, while we were discussing these things, a fifth kind appeared from somewhere, a kind in the natural judgment of perceiving when we are delighted by the equality of numbers or offended at a flaw in them. For I am mindful of your opinion our sense could have in no way done this without certain numbers latent in it. Or do you, perhaps, think a great power like this belongs to some one of those four?

D. On the contrary. I think this kind is to be distinguished from all of them. For it is one thing to sound and this is attributed to a body; another to hear, and in the body the soul is passive to this from sounds; another to produce numbers either more slow or less so; another to remember them; and another,

by accepting or rejecting, to give sentence on them all as if by some natural right.

(6) *M.* Come, now, tell me which of these five is the most excellent.

D. The fifth, I think.

M. You are right, for, unless it excelled, it could not bring judgment on them. But again, I want to know of the other four which you judge the greatest.

D. The kind in the memory, certainly. For I see those numbers are of greater duration than when they sound or are heard or are produced.

M. Then you prefer things made to things making. For you said a while ago those in the memory are imprinted by the others.

D. I should rather not prefer them. But still, how can I not prefer those of greater duration to those of less, I don't see.

M. Don't let this disturb you. For not as eternal things to temporal are those decaying through a longer time to be preferred to those passing away in a shorter time. Because one day's sanity is to be preferred to many days' folly. And if we compare desirable things, one day's reading is better than many days' writing, if the same thing is read in one day, written in many. So numbers in the memory, although they remain longer than those they are imprinted by, yet it is not proper to prefer them to those we cause, not in the body, but in the soul. For they both pass away, one by cessation, others by forgetting. But those we operate seem to be snatched from us, even though we have not yet stopped, by the succession of those immediately following, when the first by disappearing give place to the second, the second to the third, and continuously those before to those after, until a complete stop destroys the last. But in the case of forgetting, several numbers are

wiped away together, even though by degrees. For they do not remain entire for any time. For what is not found in the memory after a year, for instance, is also already less after a day's time. But this decrease is not sensed, yet it is not therefore falsely conjectured. Because the whole does not disappear suddenly the day before the year is finished, and so the understanding grants it begins to lapse from the time it comes into the memory. That is why we often say, 'I vaguely remember,' whenever we repeat something, recalling it after a time before its complete destruction. And, therefore, both these kinds of numbers are mortal. But things making are by right preferred to those made.

D. I accept and approve.

(7) *M.* Now, then, consider the other three, and explain which of them is the best, and so to be preferred to the others.

D. That's not easy. For, according to the rule things making are to be preferred to those made, I am forced to give the prize to the sounding numbers. For, when we hear we sense them, and when we sense them we are passive to them. And so, these last make those others existing in the ear's affection when we hear, but, again, these we have by sensing produce in the memory others they are rightly preferred to, since they are produced by them. But here, because sensing and remembering both belong to the soul, I am not disturbed if I should prefer something produced in the soul to something else likewise produced in it. But I am disturbed how the sounding numbers, certainly corporeal or somehow in a body, are to be considered of more worth than those found in the soul when we sense. And yet, again, it is disturbing how these last are not rather to be more highly considered since they make, and the others are made by them.

M. Be rather amazed at the body's being able to make any-

thing in the soul. For it could not, perhaps, if the body the soul used to animate and govern without trouble and with the greatest ease, changed for the worse by the first sin, were not subject to death and corruption. And yet, it has a beauty of its own, and in this way it sets its dignity off to fair advantage in the eyes of the soul. And neither its wound nor its disease has deserved to be without the honor of some ornament. And the highest Wisdom of God designed to assume this wound, by means of a wonderful and ineffable sacrament, when He took upon Himself man without sin, but not without the condition of sin. For He was willing to be humanly born, to suffer, and to die. None of these things was accomplished by our merit, but by this most excellent goodness, in order we might rather look to the pride we most deservingly fell into those things by, than to the humiliations He undeservingly suffered, and so with calm mind we might pay the death owed, if He, too, was able to bear it unowed on our account, and anything else more secret and more atoned for in such a sacrament to be understood by saintly and more holy people. And so it is not surprising a soul operating in mortal flesh feels the passion of bodies. And not because it is better than the body ought all taking place in it be considered better than all taking place in the body. I suppose you think the true is to be preferred to the false.

D. Who wouldn't.

M. But what we see in our sleep isn't a tree?

D. Not at all.

M. But its form is in the soul. And the form of what we now see has been made in the body. And so, since the true is better than the false, and although the soul is better than the body, the true in the body is better than the false in the soul. But as the latter is better in so far as it is true, not in so far as it is made in the body, so the former is worse in so far as it is false,

not in so far as it is made in the soul. Have you anything to say about this?

D. Nothing, certainly.

M. Listen, then, to this other thing, nearer to the mark, I believe, than 'better.' For you won't deny what is proper is better than what is not proper.

D. I certainly admit that.

M. But no one doubts a man would be improper in the same clothers a woman would be proper in.

D. That's evident.

M. Well, then, it isn't to be greatly wondered at, is it, if this form of numbers is proper in the sounds falling on the ears, and improper in the soul when it has them by sensing and being passive?

D. I don't think so.

M. Why, then, do we hesitate to prefer sounding and corporeal numbers to those made by them, even though they are made in the soul which is better than the body? Because we are preferring numbers to numbers, producers to produced, not the body to the soul. For bodies are the better the more harmonious [*numerosiora*] they are by means of these numbers. But the soul is made better through lack of those numbers it receives through the body, when it turns away from the carnal senses and is reformed by the divine numbers of wisdom. So it is truly said in the Holy Scriptures, 'I have gone the rounds, to know and consider and seek wisdom and number.'² And you are in no way to think this was said about those numbers shameful theaters resound with, but about those, I believe, the soul does not receive from the body, but receiving from God on high it rather impresses on the body. And what kind of thing this is, is not to be considered in this place.

² Eccle. 7.26.

Chapter 5

(8) But, lest it turn out the life of a tree is better than our own, because it doesn't receive numbers from the body by sensing (for it has no sense), it must be carefully considered if there is really nothing called hearing unless something is produced in the soul by the body. But it is very absurd to subordinate the soul like a matter to the body as an artisan. For the soul is never inferior to the body, and all matter is inferior to the artisan. The soul, then, is in no way a matter subordinated to the body as an artisan. But it would be, if the body worked numbers in it. Therefore, when we hear, numbers are not made in the soul by those we know in sounds. Or do you think otherwise?

D. What happens, then, when a person hears?

M. Whatever it is—and perhaps we cannot find or explain it—it won't result, will it, in our denying the soul's being better than the body? And when we admit this, can we subordinate it to the body working and imposing numbers, so the body is an artisan but the soul a matter something harmonious is made from and in? And, if we believe this, we must believe the soul is inferior to the body. And what more miserable and detestable thing than this can be believed? And since things are thus, I shall try as much as God will help me to conjecture at and discuss whatever lies there. But if, because of the infirmity of either or both of us, the result should be less than we wish, either we ourselves shall investigate it at another time when we are less agitated, or we shall leave it to more intelligent people to examine, or, unworried, we shall leave it unsolved. But we must not for that reason let these other more certain things slip from our hands.

D. I shall hold that as unshaken if I can, and yet I shouldn't wish that secret place to remain impenetrable to us.

(9) *M.* I shall say right away what I think. But you must either follow or go ahead of me, if you can, when you see me stop and hesitate. For I think the body is animated by the soul only to the purpose of the doer. Nor do I think it is affected in any way by the body, but it acts *through* it and *in* it as something divinely subjected to its dominion. But at times it acts with ease, at times with difficulty, according as, proportionately to its merits, the corporeal nature yields more or less to it. And so, whatever corporeal things are taken into this body or come into contact with it from without, have in the body itself, not in the soul, some effect either opposed to its operation or agreeing with it. And so, when it fights the body's opposition and with difficulty throws the matter subjected to it into the ways of its operation, it becomes more attentive to the actions because of the difficulty. And this difficulty on account of the attention, when not unobserved, is called feeling, and this is named pain or trouble. But when what is taken in or touches it easily agrees, all that or as much as is necessary is projected into the course of its operation. And this action of the soul by which it joins its body to an outside body harmonizing with it, since it is accomplished more attentively because of an unusualness, is not unobserved, but because of the harmony is felt with pleasure. But when those things the soul uses to mend the wear and tear in the body are lacking, need follows. And when the soul becomes more attentive on account of the difficulty of the action and this operation does not pass unobserved, then this is called hunger or thirst or some such thing. But when there is a superfluity of things taken in, from the burden of these is born a difficulty of operation and an awareness accompanies the issue. And since this action does not pass unobserved, indigestion is felt. It also operates with attention when it gets rid of the superfluity: if smoothly, with pleasure; if roughly, with pain. The soul also occupies

itself attentively with any sickly disturbance of the body, desiring to succor it as it declines and disintegrates. And when this action does not pass unobserved, it is said to feel sickness and illness.

(10) In short, it seems to me the soul, when it has sensations in the body, is not affected in any way by it, but it pays more attention to the passions of the body. But this sense, even while we do not sense, being nevertheless in the body, is an instrument of the body directed by the soul for its ordering so the soul may be more prepared to act on the passions of the body with attention to the end of joining like things to like and of repelling what is harmful. Further, I think, it operates something luminous in the eyes, a most clear and mobile air in ears, something misty in the nose, something damp in the mouth, something earthy and muddy you might say in the touch. But whether these are put together in this way or by some other distribution, the soul acts quietly if the things within are in unity of health as if they agreed to some domestic pact. But when things affecting the body, you might say with otherness, are applied, it exerts more attentive actions accommodated to certain places and instruments. Then it is said to see or hear or smell or taste or touch. And by such actions it willingly associates proper things and resists improper ones. I think the soul, then, when it senses, produces these actions on the passions of the body, but does not receive these passions.

(11) And so, when we now examine the numbers of sounds and the sense of hearing is called into doubt, it isn't necessary to digress any longer. Let's return, then, to the question, and see if sound causes anything in the ear. Or do you deny that it does?

D. Not at all.

M. Well, you agree ears are an animated member?

D. I do.

M. Since, then, what in this member is like air is moved when the air is moved, we don't believe, do we, the soul, with a vital motion quickening in silence the body of the ears before this sound, can either stop from the work of moving what it animates, or can move the air of the ear now moved extrinsically in the same way it moved before the sound slipped in?

D. It seems it must be in another way.

M. Then, to move it in another way, mustn't it be said to act, not to be acted on?

D. That's true.

M. So we are not absurd in believing the movements of the soul, or its actions or operations—find any easier name you can—do not escape the soul's notice when it senses.

(12) But these operations are applied to these passions of the body either as when figures interrupt the light of our eyes, or sound enters the ears, or odors move into the nostrils, or savors to the palate, and to the rest of the body solid and bodily things; or as when something runs and crosses from place to place in the body itself; or as when the whole body is moved by its own weight or that of another. These are operations the soul applies to these passions of the body, delighting the soul when it agrees with them, offending it when it opposes them. But when it is affected by its own operations, it is affected by itself, not by the body. But clearly when it adapts itself to the body, it is less with itself, because the body is always less than it is.

(13) And so, when the soul is turned from its God to its servant, it is necessarily deficient; but, when it is turned from its servant to its God, it necessarily progresses and furnishes its servant a very easy life, and, therefore, the least laborious and

full of business, no attention being given it in its surpassing peace. Just so is the bodily affection called health. Indeed, it needs none of our attention, not because the soul then does nothing in the body, but because it does nothing more easily. For in all our operations the greater the difficulty we operate with, the more attentively we do it. But this health will be the most firm and certain when this body will have been restored to its former stability, in its own time and order. And this its resurrection is properly believed before it is fully understood. For the soul must be ruled by the superior, and rule the inferior. But God alone is superior to it, and only body is inferior to it, if you mean the soul whole and entire. And so as it cannot be entire without the Lord, so it cannot excel without a servant. But as its Lord is greater than it, so its servant is less. And so, intent on its Lord, it understands His eternal things and is greater, and its servant, too, is greater in its kind through the soul itself. But when the Lord is neglected, intent on its servant with the carnal concupiscence it is seduced by, the soul feels the movements it gives its servant, and is less; yet not so inferior as its servant, even when it is at the lowest in its own nature. But the body by this offense of its mistress is much less than it was, since she was much greater before it.

(14) And so, for one now mortal and fragile, it is dominated with great difficulty and attention. And from there does this error fall upon the soul that it esteems the body's pleasure because the matter yields to its attention, more than it esteems its health needing no attention. No wonder it is involved in troubles, preferring unquiet to security. But a greater unquiet arises for one turning back to God for fear he be turned away. And it is so until the push of carnal business, excited by daily habit and inserting itself into the heart of the conversion by disorderly memories, comes to rest. When a man's movements

that carry him away into outside things have been in this way quieted, then he enjoys an interior freedom of peace signified by the sabbath. So he knows God alone is his Lord, and He is served with the greatest freedom. But, although he starts those carnal movements as he wishes, he does not stop them as he wishes. For, again, the reward of sin is not in his power as sin itself is. For, indeed, this soul is a thing of great worth, and yet it doesn't remain apt for suppressing its own lascivious movements. For it sins in its strength, and by divine law made weaker after sin it is less able to undo what it has done. 'Unhappy man I am, who will deliver me from the body of this death? The grace of God through Jesus Christ our Lord.' Then a movement of the soul, conserving its force and not yet extinct, is said to be in the memory. And, when the mind is intent on something else, it is as if that previous movement were not in the mind and were lost, except, before it dies away, it be renewed by some affinity of similar things.

(15) But have you anything to say to the contrary?

D. You seem to me to say what is probable, and I shouldn't dare oppose.

M. Since, then, feeling itself is a moving the body against the movement made in it, don't you think then we do not feel when bones and nails and hair are cut, not because these are not at all alive in us, for otherwise they would neither be held together nor be fed nor grow, nor show their strength in begetting their kind. But because they are penetrated with an air less free or mobile than is necessary for the soul's causing a movement there so rapid as that movement it is against when it's said to feel. Although some such life is understood in trees and other vegetation, it is nowise proper to prefer it, not only to our own life exceeding it in reason, but also to that of brutes.

For it is one thing not to sense because of very great solidity, and another not to sense because of very great health of body. For in the one case the instruments moving relatively to the passions of the body are lacking, and in the other these passions themselves are lacking.

D. I approve and agree.

Chapter 6

(16) *M.* Let's get back to the problem proposed, and tell me, of the three kinds of numbers, one in the memory, the other in sensing, and another in sound, which of these seems to you the most excellent.

D. I put sound after these other two, both in the soul and in some sense living. But of these last two I am uncertain which I consider superior. But, perhaps, since we said those in action are to be preferred to those in the memory only because the ones are active and the others are caused by them, so for the same reason it is proper to prefer also those in the soul while we are listening to those in the memory caused by them. That's the way it seemed to me before.

M. I don't think your reply absurd. But since it has been argued those numbers in sensing are also operations of the soul, how do you distinguish them from those we see to be in act even when the soul in silence and not remembering performs something harmonious through intervals of time? Or do the ones belong to the soul moving itself with respect to its body, while those others inhering belong to the soul moving itself with respect to the body's passions?

D. I accept this distinction

M. Well, do you think it acceptable those relative to the body be judged superior to those relative to the body's passions?

D. Those existing in silence seem to me to be freer than those exerted not only on the body but also on the body's passions.

M. It seems we have distinguished five kinds of numbers and ordered them in some sort of scale of merits. And if you will, we shall impose names proper to them, to avoid in the rest of our discourse using more words than things.

D. Very willingly.

M. Then let the first be named judicial, the second advancing [*progressores*], the third reacting [*occursores*],⁴ the fourth memorial, the fifth sounding.

D. I understand and I am glad to use these names.

Chapter 7

(17) *M.* Come now, tell me, which of these seems to you undying, or do you think they all fall in their time and die?

D. I think the judicial alone are undying. For the others, I see, either pass away when they are made or are stricken out of the memory by forgetfulness.

M. You are just as certain, then, of the immortality of the first as you are of the destruction of the others? Or is it proper to inquire more diligently whether they are undying?

D. Let's look into the matter thoroughly.

M. Say, then, when I pronounce a verse sometimes longer, sometimes shorter, provided I comply with the law of times putting feet in a one-two ratio, I don't offend the judgment of your senses with any kind of hitch or fraud, do I?

D. Not at all.

M. Well, but that sound, given out in shorter and, you

⁴ *Occursores* is here translated as 'reacting,' but with the understanding, of course, that the sounding numbers cause the reacting numbers only as something like occasional causes.

might say, faster syllables, it can't occupy more time than it sounds, can it?

D. How can it?

M. Then, if those judicial numbers are time-bound in just the interval the sounding numbers were disposed in, can they hope to judge those other sounds based on the same iambic law, but slower?

D. In no way.

M. Then it appears those judicial numbers are not confined to a span of time.

D. It certainly appears so.

(18) *M.* You are right in agreeing. But if they are confined to no interval, then no matter how slowly I should emit iambic sounds in regular intervals, they could still be used for judging. But now, if I should say a syllable of such a stretch as three steps in walking (to make it small), and another syllable double that, and if I should order the succeeding iambs at such a pace, then the law of one to two would nevertheless be preserved. And yet we couldn't apply that natural judgment to confirming these measurements, could we?

D. I can't deny you seem right, for my opinion of the matter is very simple.

M. Then the judicial numbers are also confined to certain limits of time-spans they cannot exceed in their judgments. And whatever exceeds these intervals, they find no way to judge. And if they should be confined in this way, I do not see how they are immortal.

D. And I don't see what I can say to that. Although now I shall be less forward in presuming on their immortality, yet I do not understand how they are in this way proved mortal. For it is possible whatever intervals they can judge they can always judge, since I cannot say they are destroyed as the others

by forgetfulness, or their length of time is so long as a sound's movement, or of such a stretch as reacting numbers, or as the numbers we have called advancing, impelled in time and prolonged in length. For each of these passes away with the time of its operation. But the judicial remain certainly in the nature of man, whether also in the soul I do not know, to pass judgment on things given even if varied within certain lengths, by approving harmonies in them and rejecting discords.

(19) *M.* At least you concede some men are more quickly offended by discordant numbers, some more slowly, and most judge them defective only by the comparison with sound ones on hearing them agree and disagree.

D. I agree to that.

M. Well, what do you think this difference arises from, if not from nature or practice or both?

D. That's true.

M. Then, I want to know if someone at sometime could pass judgment on and approve longer intervals than another could.

D. I believe that's possible.

M. Well, anyone who can't, if he should practice properly and should not be really dull, could, couldn't he?

D. Certainly he could.

M. But he couldn't go so far as to judge even longer intervals, comprehending in that judicial sense intervals in the ratio of one to two hours or days or months or years (for they'd at least be hindered by sleep) and approving them as iambs of motion.

D. They can't.

M. Why can't they do so? Unless it's because to each living thing in its proper kind and in its proportion with the universe is given a sense of places and times, so that even as its body

is so much in proportion to the body of the universe whose part it is, and its age so much in proportion to the age of the universe whose part it is, so its sensing complies with the action it pursues in proportion to the movement of the universe whose part it is? So this world, often called in Sacred Scriptures by the name of heaven and earth, is great by containing all things whose parts being all diminished in proportion it remains just as large, or increased in proportion it still remains just as large. For nothing is large of itself in space and time-stretches, but with respect to something shorter; and again nothing is small of itself, but with respect to something larger.⁵ And so, if there is attributed to human nature for the actions of carnal life a sense such that it cannot pass judgment on greater stretches of times than the intervals pertaining to the use of such a life demand, then, since this nature of man is mortal, so I think also this sense is mortal. For it is not for nothing custom is called a sort of second and fitted-on nature. But we see new senses in the judging of this kind of corporeal things, built up by custom, by another custom disappear.

Chapter 8

(20) But whatever kind of thing these judicial numbers may be, they are certainly superior to any other in this, that we doubt and with difficulty find out if they are mortal. But of the other four kinds there is no question they are mortal. And although they do not embrace some members

⁵ Just as the thing rhythmized was considered only as a matrix for ratios, so here the extended world is such a matrix, and so is the sensible life of man. Being then belongs more to the relations than to the relata and this doctrine will find its keystone in the Trinity where the distinction of Persons involves a certain primacy of relations. It is interesting to note in this connection that Boethius, who mentions Augustine, carefully pointed this out in his discussion of the categories of Aristotle in his *De Trinitate*.

of these four classes because they have been extended beyond their laws, yet they appropriate the kinds themselves for their very consideration. For even the advancing numbers, when they seek a certain harmonious operation in the body, are modified by the secret will of the judicial numbers. For whatever restrains and keeps us from walking with unequal steps, or from beating out in unequal intervals, or from eating or drinking with uneven motions of the jaw, and from scratching with unequal motions of the nails, or to be brief, from unequal movements in any application of ourselves to doing something with our bodily members, and tacitly demands a certain equality, that very thing is something judicial, I don't know what, introducing God the builder of the animal, properly believed to be the author of all fittingness and agreement.

(21) And these reacting numbers, brought forth certainly not according to their own will, but in virtue of the body's passions, in so far as the memory can keep their intervals, just so far they given over to the judgment of the judicial are numbers and are judged. For the number consisting in time-intervals can in no way be judged by us unless we are aided in the judging by memory. For any syllable, no matter how short, since it begins and stops, has its beginning at one time and its ending at another. Then it is stretched over some little interval of time and stretches from its beginning through its middle to an end. So reason finds spatial as well as temporal intervals have an infinite division and so no syllable's end is heard with its beginning. And so, even in hearing the shortest syllable, unless memory help us have in the soul that motion made when the beginning sounded, at the very moment when no longer the beginning but the end of the syllable is sounding, then we cannot say we have heard anything. And from this it often comes about, being occupied with another thought, we do not

in conversation seem to have heard even ourselves. This is not because the soul does not at that time put in motion those reacting numbers, since certainly the sound reaches the ears, and the soul cannot be idle at its body's passion and since it cannot move differently than if that passion of the body should occur, but because the impetus of the motion is immediately blotted out by the attention [*intentio*] on something else, an impetus which, if it remained, would remain in the memory so we would also know and feel we had heard. But if a rather slow mind follows not too easily what reason discovers in the case of a short syllable, in the case of two syllables there's certainly no doubt no soul can hear both at the same time. For the second does not sound unless the first stops. For how can what cannot sound together be heard together? Then, as the diffusion of rays shining out into the open from tiny pupils of the eye, and belonging therefore to our body, in such a way that, although the things we see are placed at a distance, they are yet quickened by the soul, so, just as we are helped by their effusion in comprehending place-spans, the memory too, because it is somehow the light of time-spans, so far comprehends these time-spans as in its own way it too can be projected. But when a sound beats a longer time on the ears, in no way articulated and again another, double it, or equal it, is added on from some stopping place or another, then that motion of the mind, created by its attention on the past and finished sound in its transition, is repressed by its attention on the continuously succeeding sound, and so it does not remain in the memory. And so mustn't these judicial numbers be thought of as extended in a certain interval of time? For they can't judge the numbers situated in the time-spans unless the memory should come to their assistance, with the exception of the advancing numbers whose very advance they regulate. But there intervene the time-spans where we forget or remember what

they judge. And so we cannot judge round or square or any other solid definite things in those bodily forms which are properly objects of the eyes, unless we turn them around to the eyes. But when one part is seen, if for that reason it should blot out what is seen in another, then the attention of the person judging would be in vain, because it, too, is accomplished in a certain time-span. And it is up to memory to see to this diversity.

(22) But it is much more evident we judge memorial numbers by judicial when the memory itself presents them. For, if reacting numbers are judged in so far as they are presented by it, much more are those found to live in the memory itself which are brought back by memory itself as if they had been stored up by other applications of our attention. For what else do we do when we recall to memory except examine somehow what we've stored up? But a motion of the mind, not destroyed, runs back into our cogitation on the occasion of similar ones, and it's this that's called remembering. And so, either in thought alone or also in the movement of our members, we enact numbers we have already enacted sometime or other. But for that reason we know they haven't just come, but come back into our cogitation, because whenever they were being committed to memory, they were repeated with difficulty, and we needed prior practice in order to follow through. And with this difficulty overcome, when the numbers offer themselves without trouble and at will, conformably to the times and in their proper order, so easily, indeed, those inhering more forcibly come forth as if of their own will even while we are thinking of something else, we then feel they are not new. There is also another thing, I think, giving us to feel the present motion of the mind has already existed at some time: that is, to recognize when we compare by an interior light of some

sort the recent, and certainly more lively, movements of the action we are in the midst of when we remember, with the now more composed memorial numbers. And such knowledge is recognition and remembering. Then the memorial numbers are also judged by these judicial numbers, never alone, but along with active or reacting numbers or with both, bringing them from their hiding-places to the light, and recalling these numbers, lost before and now brought to life again. So, since the reacting numbers are judged in so far as the memory presents them to those judging, in turn the memorial numbers can be judged as the reacting numbers exhibit them. So this is the difference: for the reacting numbers to be judged, the memory presents what might be called recent traces of their flight, but when we hear and judge the memorial numbers, the same traces relive with the passage of the reacting numbers. Now, why do we need to say anything further about the sounding numbers, since, if they are heard, they are judged in the reacting numbers? But if they sound where they can't be heard, who doubts they can't be judged by us? And just as in sounds with the ears as instruments, so in dancing and other visible motions, we judge, by means of these same judicial numbers with the help of the memory, whatever pertains to temporal numbers.

Chapter 9

(23) Since things are so, let us try if we can and transcend those judicial numbers and see if there are any superior to them. Although in the case of these judicial numbers we now see a minimum of time-spans, yet they are only applied for judging those things in a time-span, and not even all such, but only those articulated memory-wise. Do you object to this?

D. The force and power of these judicial numbers moves me to the utmost. For it seems to me it's to them the functions

of all the senses are referred. And so, I don't know whether among numbers any thing more excellent than these can be found.

M. There is nothing lost in our looking more carefully. For, either we shall find in the human soul superior ones, or, if it should be clear there are none in it higher, we shall confirm these to be the highest in it. For it is one thing not to be, and another not to be capable of being found either by us or any man. But I think when that verse *Deus creator omnium* we quoted is sung, we hear it through reacting numbers, recognize it through memorial numbers, pronounce it through advancing numbers, are delighted through judicial numbers, and appraise it by still others, and in accordance with these more hidden numbers we bring another judgment on this delight, a kind of judgment on the judicial numbers. Do you think it's the same thing to be delighted by sense and to appraise by reason?

D. I admit they are different. But I am disturbed first by the name. Why aren't those called judicial numbers where reason rather than where delight resides? Second, I fear this appraisal of reason is only a more diligent judgment of judicial numbers concerning themselves. Not one kind of number in delight and another in reason, but one and the same kind of number judges at one time those produced in the body when memory presents them as we just proved, and at the other times of themselves, in a purer manner and more remote from the body.

(24) *M.* Don't worry about names; the thing is in the meaning [*potestas*]. Names are imposed by convention, not by nature. But your thinking them the same and not wishing to accept them as two kinds of number—the same soul's doing both, I guess, wrings that out of you. But you must notice in

advancing numbers the same soul⁶ moves the body or moves to the body, and in reacting numbers the same soul goes to meet its passions, and in memorial numbers it fluctuates in motions, you might say, until they somehow subside. And so we see the motions and affections of one nature, that is, the soul, in these kinds which are necessarily enumerated and distinguished. And, therefore, if, as it is one thing to be moved to those things the body is passive to, and this is done in sensing; another, to move oneself to the body, and this is done in operating; another, to hold in the soul what is gotten from these motions, and that is to remember; so it is one thing to accept or reject these motions either when they are first produced or when revived by the memory, and this is done in the delight at the fitness or in the distaste at the absurdity of such movements or affections; and another thing to appraise whether they delight rightly or not, and this is done by reasoning—if all this is true, then we must admit these last are of two kinds just as the first are of three kinds. And, if we have been right in our judgment, the very sense of delight could not have been favorable to equal intervals and rejected perturbed ones, unless it itself were imbued with numbers; then, too, the reason laid upon this delight cannot at all judge of the numbers it has under it, without more powerful numbers. And, if these things are true, it appears five kinds of numbers have been found in the soul, and, when you add to these those corporeal numbers we have called sounding, you will see six kinds of numbers in rank and order. And now, if you will, let those that tried to take first place be called sensuous, and those found to be more excellent receive the name of judicial numbers, since that is more honorable. And again I think the name of sounding numbers ought to be

⁶ I read *eamdem animam* for *eadem animam* in Migne, an obvious misprint not in Benedictine Edition.

changed, since, if they should be called corporeal, they will also evidently signify those involved in dancing and in any other visible motion. Do you approve, then, of what's been said?

D. I do. For it seems to me both true and evident. And I am willing to accept your corrections in vocabulary.

Chapter 10

(25) *M.* Well, now examine the force and power of reason in so far as we can examine it in its works. For reason itself, to mention the most extraordinary thing it attains in its operation, first has considered what is good mensuration, and seen it to be in a free movement, and directed it to the end of its own beauty. Then it saw there was something in the movements of bodies varying in the brevity and length of time, in so far as it was greater or less in time, and something else varying in the beat of spatial intervals in certain degrees of swiftness and slowness. After this division, it articulated into different numbers whatever was in a time-stretch by means of moderate intervals convenient to the human senses, and followed through their kinds and order to the measurements of verses. Lastly, it turned its attention to what the soul it's the head of would do in the measuring, operating, sensing, and retaining of these things. And it separated all these numbers of the soul from bodies. And it saw itself could not notice, distinguish or rightly enumerate all these things without certain numbers of its own, and it set them above the others as of an inferior order, by means of a kind of judicial appraisal.

(26) And now of its own delight, that looks so closely into the balancings of times and shows its decisions in measuring these numbers, it asks this question: 'What is it we love in sensible harmony?' Nothing but a sort of equality and

equally measured intervals, isn't it so? Does the pyrrhic foot or spondaic or anapestic or dactylic or proceleusmatic or dissondaic delight us for any other reason than its comparing the one of its parts to the other by an equal division of itself? And what beauty does the iamb, trochee, or tribrach have if not the division of their greater part into two such as their lesser? And, too, do the six-time feet sound more smooth and gay except through their division according to either law: that is, either into two equal parts with three times each, or into one part single and the other double; that is, so the greater part is twice the less and is in this way divided equally by it, since the four times are measured off and cut in two by the two times? What about the five and seven-time feet? How is it they seem more adapted to prose than to verse, if not because their smaller part does not divide their larger in two? And yet, whence are they themselves admitted in the order of their own kind to the numberliness of times, if not because the smaller part also in the five-time foot has two such sub-parts as the greater has three, and in seven-time feet the smaller three such as the greater four? So in all feet, no measuring net marks off any least part others as many as possible are not equal to.

(27) Consider in the case of feet joined together, whether this conjoining be continued on as far as one wishes as in rhythms, or whether it be restrained by some definite end as in meters, or whether it be divided into two members symmetrical to one another by some law as in verses—by what now other than equality is one foot in accord with another? And how is it the molossus' and ionic's middle syllable, a long one, can be divided, not by division, but by the will of the person reciting and beating time, into two equal moments, so even the whole foot is in harmony with each three-time

part when it is added to others divided in the same way? Isn't it only because the law of equality dominates, that is, because it's equal to its sides, each of two times, and it itself is of two times? Why can't the same thing be done in the case of the amphibrach when it is added to other four-time feet, if it isn't because an equality of this sort isn't found there, the middle syllable being double and the sides single? Why in rests isn't our sense offended by a deficiency, if not because what is due that same law of equality, although not in sound, is yet made up in spread of time?⁷ Why, too, is a short syllable taken for a long one when followed by a rest—and not by convention, but by natural consideration directing the ears—if not because by the same law of equality we are prevented, in a longer time-span, from forcing the sound into a shorter

⁷ There is more in this sentence than meets the eye. In the first place we have here the appearance in rhythm of the being of non-being. The rest, the absence of a sensible motion, is itself the object of the time-count and plays its role on the same level as a sensible sound. Its absence is counted by the 'spread of time' (*spatium temporis*). This is the forerunner of the *distentio animi* of the *Confessions*, all of which is certainly tied in with Plotinus' doctrine of *to parakolouithema* in his treatise *On Time and Eternity*: 'What it means then to say [time] is the accompaniment of movement . . . ' (III. 7.10.1-2). For the essential point of Plotinus' attack on Aristotle's 'Time-is-the-number-of-movement' theory is that there is something like the synthesis of the constantly recurring motions which necessitates an intellectual accompaniment of the motion. For, without this there would be no unity of the past and present, no one magnitude to be numbered. Nor can the movement itself establish its own homogeneity so that it can be said for instance that the daily motion of the heavens is always equal to itself. It is the intellectual accompaniment which in view of equality considers one or another cyclic movement in the sensible world as equal one cycle to another and so perceives an order there. 'For on the one hand one will refer a body moving for such and such a time to the [uniform] movement of such and such magnitude (for it is the principle) and to its time. But the time of this movement, on the other hand, one will refer to the movement of the soul which divides out the equal intervals' (*Enn.* III. 7.13.58-62). So in mechanical theories the choice of equal motions is made with a view to the convenient ordering of all the others. One should hasten to add this does not reduce time to a purely

time? And so the nature of hearing and passing over in silence allows the lengthening of a syllable beyond two times: so what is also filled with rest can be filled with sound. But for a syllable to occupy less than two times, with a span left and rests at will, is a sort of deception of equality, because there can be no equality in less than two. And finally in the case of that equality of members, the circuits the Greeks call *periodoi* are varied by and verses are formed by, how is a return made somehow to the same equality unless the members joined together as unequals be found to have a force of equality so that in the circuit the shorter member harmonize in beat with the greater by equal feet, and in the verse by a more subtle consideration of numbers?

(28) And so reason wonders and asks the sensuous delight of the soul which reserves to itself the judicial role whether, when an equality in the number of time-spans pleases it, any two short syllables one hears are really equal, or could it be one of them is pronounced longer, not to the long syllable's measure, but a little under, yet enough to exceed its like. You can't deny this is possible, can you, when the soul's delight does not sense these differences, but delights in unequals as equals?

psychological being. Any thing perceived by an act of the intellect is an object in its own right.

It is not too far-fetched, perhaps, to consider along with these texts of Plotinus and Augustine a text of Aristoxenus: 'It is clear that the comprehending of melody is the accompanying with hearing and understanding of the notes gone by in their every difference (For melody like the other parts of music is in becoming) . . . For the comprehension of music consists of these two, sensing and memory. For we must sense what is becoming and remember the become. There is no other way to follow the things of music' (*Harmonica* II 38, 29-39.3).

The doctrine of Augustine certainly starts with these same terms and insights. Obviously, the doctrine of creation *ex nihilo* and of the Incarnation will force him to more intellectualist conclusions. See Guitton, *Le temps et l'éternité chez Plotin et St. Augustin* (Paris 1933), which, however, does not treat the problem profoundly enough.

And what is worse than this error and inequality? And so we are advised to turn away from the enjoyment of things imitating equality. For we cannot perceive whether they perfectly fill out their time, although we can perhaps perceive they do not perfectly do so. And yet in so far as they imitate we cannot deny they are beautiful in their kind and order.

Chapter 11

(29) Let's not, then, be envious of things inferior to ourselves, and let us, our Lord and God helping, order ourselves between those below us and those above us, so we are not troubled by lower, and take delight only in higher things. For delight is a kind of weight in the soul. Therefore, delight orders the soul. 'For where your treasure is, there will your heart be also.'⁸ Where delight, there the treasure; where the heart, there happiness or misery. But what are the higher things, if not those where the highest unchangeable undisturbed and eternal equality resides? Where there is no time, because there is no change, and from where times are made and ordered and changed, imitating eternity as they do when the turn of the heavens comes back to the same state, and the heavenly bodies to the same place, and in days and months and years and centuries and other revolutions of the stars obey the laws of equality, unity, and order. So terrestrial things are subject to celestial, and their time circuits join together in harmonious succession for a poem of the universe.

(30) And so many of these things seem to us disordered and perturbed, because we have been sewn into their order according to our merits, not knowing what beautiful thing Divine Providence purposes for us. For, if someone should be

⁸ Matt. 6.21.

put as a statue in an angle of the most spacious and beautiful building, he could not perceive the beauty of the building he himself is a part of. Nor can the soldier in the front line of battle get the order of the whole army. And in a poem, if syllables should live and perceive only so long as they sound, the harmony and beauty of the connected work would in no way please them. For they could not see or approve the whole, since it would be fashioned and perfected by the very passing away of these singulars. So God has ordered the man who sins as vicious, but not viciously. For he has been made vicious by will, thus losing the whole he who obeyed God's precepts possessed, and has been ordered in part so who did not will to fulfill the law has been fulfilled by the law. But whatever is fulfilled by the law is also fulfilled justly; and whatever justly is not fulfilled viciously, because God's precepts possessed, and has been ordered in part so he far as he is man is something good. But whatever is unchaste in so far as it is unchaste is a bad work. But man for the most part is born of unchastity, that is to say, from man's bad work, God's good work.

(31) And so, to return to the subject all this was said for, these numbers are pre-eminent by virtue of the beauty of ratio. And if we were absolutely separated from them, then whenever we should be disposed to the body, the advancing numbers would not alter the sensuous numbers. But by moving bodies they produce the sensible beauties of times. And so reacting numbers are also made opposed to sounding numbers. And the same soul receiving all its own motions multiplies, you might say, in itself, and makes them subject to recall. And this force it has is called memory, a great help in the everyday business of this life.

(32) Then whatever this memory contains from the

motions of the mind brought to bear on the passions of the body are called *phantasiai* in Greek. And I don't find in Latin anything I should rather call them. And the life of opinion consists in having them instead of things known and things perceived, and such a life is at the very entrance of error. But when these motions react with each other, and boil up, you might say, with various and conflicting winds of purpose, they generate one motion from another; not indeed those impressed from the senses and gotten from the reactions to the body's passions, but like images of images, to which we give the name phantasms. For my father I have often seen I know, in one way, and my grandfather I have never seen, another way. The first of these is a phantasia, the other phantasm. The first I find in my memory, the last in that motion of my mind born of those the memory has. But it is difficult both to find out and to explain how they are born. Yet, I think, if I had never seen human bodies, I could nowise imagine them by thinking with a visible form. But what I make from what I've seen, I make by memory. Yet it's one thing to find a phantasia in the memory and another to make a phantasm out of the memory. And a power of the soul can do all these things. But it is the greatest error to hold even true phantasms for things known, although in both kinds there is that we say, not absurdly, we know, that is, we have sensed such and such things, or imagined them. After all, I am not afraid to say I had a father and a grandfather. But I should be mad to say it is they themselves my mind holds in the phantasia or phantasm. But some follow their phantasms so headlong the only ground for all false opinions is to hold phantasias or phantasms for things known, known by the senses. And so let us resist them as much as we can, nor so fit our mind to them that, while our thinking is on them, we believe we see them with the understanding.

(33) And this is why, if numbers of this kind, coming to be in a soul given over to temporal things, have a beauty of their own, yet, even though they continually effect it by passing away, this beauty is grudged by a Divine Providence born of our punishable mortality merited by God's most just law, where yet He has not so forsaken us we may not turn back and be fetched again from the delight of the carnal senses, under the spread of His merciful hands. For such a delight strongly fixes in the memory what it brings from the slippery senses. And this habit of the soul made with flesh, through carnal affection, in the Holy Scriptures is called the flesh. And it is struggling with such a mind in that apostolic sentence: 'In mind I serve the law of God, but in flesh the law of sin.'⁹ But when the mind is raised to spiritual things and remains fixed there, the push of this habit is broken, too, and, being little by little repressed, is destroyed. For it was greater when we followed along with it; not altogether nothing, but certainly less when we check it. And so with a determined retreat from every wanton movement where lies the fault of the soul's essence, and with a restored delight in reason's numbers, our whole life is turned to God, giving numbers of health to the body, not taking pleasure from it; which happens when the exterior man is corrupt, even when there is a change for the better.

Chapter 12

(34) But the memory not only takes in the carnal motions of the mind, and we have already spoken of these numbers, but also the spiritual motions I shall now speak of briefly. For in so far as they are simpler, they demand fewer words, and the greatest possible serenity of mind. That equal-

⁹ Rom. 7.25.

ity we could not find sure and fixed in sensible numbers, but yet we knew shadowed and fleeting, the mind could never indeed desire unless it were known somewhere. But this could be nowhere in the spans of places and times; for those swell up and these pass away. Where, then, do you think, tell me, if possible. For you don't think it's in the forms of bodies, and you'll never dare say they are equal by pure experiment; nor in intervals of times where we do not know whether they are insensibly longer or shorter than they should be. I want to know where you think that equality is on seeing which we desire certain bodies or motions of bodies to be equal, and on more careful consideration we dare not trust them.

D. There, I think, where it is more excellent than bodies, but whether it is in the soul itself or above the soul I do not know.

(35) *M.* If, then, we look for that rhythmical or metrical art we use for making verses, do you think it possesses the numbers verses are made by?

D. I can't suppose anything else.

M. Whatever these numbers are, do they seem to you to pass away with the verses or to remain?

D. To remain, certainly.

M. Therefore, it must be agreed some things that pass away are made from some numbers that remain?

D. Reason forces me to agree.

M. Well, you don't think this art is other than some affection of the artisan's minds, do you?

D. So I believe.

M. Do you believe this affection also to be in one unskilled in this art?

D. Nowise.

M. And in the one having forgotten it?

D. Not even in the one himself unskilled even though he has been skilled at some time or other.

M. Well, if anyone reminds him by questioning, do you think those numbers return to him from the persons questioning, or he moves himself to something within his own mind whence returns to him what he had lost?

D. I think he does it within himself.

M. You don't think, by questioning, he could also be forcibly reminded which syllable is short or which is long if he has forgotten completely, do you? Since by an old agreement and custom of man, to some syllables a lesser, to others a greater stretch is given. For indeed if it were by nature or by discipline fixed and stable, then the learned men of our time would not have lengthened some syllables the ancients shortened, nor shortened some they lengthened.

D. I believe this can be so, since however much is forgotten can again be brought to memory by a remindful questioning.

M. I can't believe you think anyone by questioning could get you to remember what you ate a year ago.

D. I confess I couldn't, and I don't think now I could be reminded about syllables whose spans were completely forgotten.

M. Why so, except because, in the noun *Italia*, the first syllable by the will of certain men is shortened, and now by the will of others lengthened? But that one and two should not be three and that two should not be the double of one, none of the dead or living or of those to be can bring it about.

D. Evidently not.

M. What, then, if we asked very clearly all the other things pertaining to numbers the way we have with one and two, and if one were questioned, unskilled, not by forgetting,

but because he had never learned? Don't you think then he could likewise know this art except for the syllables?

D. How doubt it?

M. How, then, do you think he would move himself so these numbers may be impressed on his mind, and make that affection called art? Or will the questioner give them to him?

D. I think he does it within himself this way that he understands the things asked to be true and replies.

(36) *M.* Come, tell me now whether these numbers under discussion seem to you to be changeable?

D. Nowise.

M. Then you don't deny they're eternal.

D. I admit it.

M. Well, is there no lingering fear some inequality won't spoil them?

D. Nothing at all is surer for me than their equality.

M. From where, then, must we believe what is eternal and unchangeable to be given the soul if not from the eternal and unchangeable God?

D. I don't see what else to believe.

M. Well, then, isn't it evident he, who under another's questioning moves himself within to God to know the unchangeable truth, cannot be reminded by any outside warning to see that truth, unless his memory hold his own same movement?

D. It's evident.

Chapter 13

(37) *M.* I wonder, then, how he falls away from the contemplation of these things to need another's recalling it to his memory. Or must the mind even when intent on it be thought to require such a return?

D. I think so.

M. Let us see, if you will, what this could be could so incite to turn away from the contemplation of the highest and unchangeable equality. For I only see three kinds. For the mind is either intent upon something equal when it is turned away or something higher or lower.

D. There is need only to discuss two of them, for I see nothing superior to eternal equality.

M. Then, do you see anything could be equal to it and yet other?

D. I don't.

M. It only remains, then, to inquire what the lower is. But don't you think first of the soul avowing that equality to be certainly unchangeable, but knowing it itself changes from its intuiting at one time this equality and at another time something else and so following the variety of time, not found in eternal and unchangeable things, works this and that?

D. I agree.

M. Then this affection or motion of the soul by which it understands eternal things and counts temporal things below them even within itself and knows these higher things are rather to be desired than those lower, don't you think that's prudence?

D. I certainly do.

(38) *M.* Well, then, don't you think it worth pondering, at once there's not in the soul the inhering in eternal things, there's yet in it the knowing they should be inherited in?

D. I want us very much to ponder this, and I want to know how it comes about.

M. You will easily see, if you notice the things we direct the mind to most, and have the greatest care for. For I think they're those we very much love, isn't that so?

D. No others.

M. Say, then, we can only love beautiful things, can't we? For, although some people seem to love ugly things, those the Greeks commonly call *saprophíloi*, it is yet a matter of how much less beautiful they are than those things pleasing most people. For, clearly, no one loves those things whose foulness his sense is offended by.

D. It's as you say.

M. These beautiful things, then, please by number, where we have shown equality is sought. For this is found not only in that beauty belonging to the ears or in the motion of bodies, but also in the very visible forms where beauty is more usually said to be. Don't you think it's only equality when equal numbers reply to equal numbers in twos, but in ones, when they have a mean place so equal intervals are kept for them on each side?

D. I certainly do.

M. What is it in light itself holding the origin of all colors (for color also delights us in the forms of bodies), what is it in light and colors we seek if not what suits the eye? For we turn away from too great a flare, and we are unwilling to face things too dark, just as also in sounds we shrink from things too loud, and do not like whispering things. And this is not in the time-intervals, but in the sound itself, the light, you might say, of such numbers, whose contrary is silence, as darkness to colors. When, then, we seek things suitable for the way of our nature and reject things unsuitable we yet know are suitable to other living things, aren't we here, too, rejoicing in some law of equality when we recognize equals allotted in more subtle ways? This can be seen in smells and tastes and in the sense of touch—and for this a long time to follow out more clearly but very easy to explore. For there's not one of these sensibles doesn't please us from equality or likeness. But where equality and likeness, there number-

liness [*numerositas*]. In fact, nothing is so equal or like as one and one, isn't that so?

D. I agree completely.

(39) *M.* Well, didn't we persuade ourselves a while ago the soul effects these things in bodies, and doesn't suffer from bodies?

D. We did.

M. Then the love of acting on the stream of its bodily passions turns the soul away from the contemplation of eternal things, diverting its attention with the care of sensible pleasure; it does this with reacting numbers. But the love of operating on bodies also turns it away, and makes it restless; this it does with advancing numbers. The phantasias and phantasms turn it away; these it does with memorial numbers. Finally, the love of the vainest knowledge of such things turns it away; this it does with sensible numbers where lie rules of an art, as if glad in their imitation. And from these is born curiosity by its very care an enemy of peace, and in its vanity impotent over truth.

(40) But the general love of action turning away from the true arises from pride by which vice the soul has preferred imitating God to serving God. And so it is rightly written in Holy Scripture: 'The beginning of man's pride is to fall from God,'¹⁰ and 'The beginning of all sin is pride.' What pride is could not have been better shown than where it is said: 'What does earth and ashes take pride in, since in its own life it gives up its inmost things?' For since the soul is nothing through itself—for it would not otherwise be changeable and suffer a flight from essence—since then through itself it is nothing, but whatever it is is from God,

¹⁰ Eccli. 10. 14, 15, 9, 10.

staying in its order, it is quickened in mind and conscience by the presence of God Himself. And so it has this good inmost. And so to puff with pride is to go forth to the outermost and, we might say, to become empty, that is to be less and less. But to go forth into the outermost what is that but giving up the inmost things, that is, putting yourself away from God, not in the span of places, but in affect of mind?

(41) But that appetite of the soul is to have under it other souls; not of beasts as conceded by divine law, but rational ones, that is, your neighbors, fellows and companions under the same law. But the proud soul desires to operate on them, and as much as every soul is better than every body, just so much does the action on them seem more excellent than on bodies. But God alone can operate on rational souls, not through a body, but through Himself. But such is the state of sin that souls are allowed to act upon souls moving them by signifying by one or the other body, or by natural signs as look or nod, or by conventional signs as words. For they act with signs by commanding or persuading, and if there is any other way besides command and persuasion, souls act with or upon souls. But by rights it has come about those souls wishing to be over others command their own parts and bodies with difficulty and pain, in part being foolish in themselves, in part, oppressed by mortal members. And so with these numbers and motions souls set upon souls by, with the desire of honor and praise they are turned away from the sight of that pure and entire truth. For God alone honors the soul making it blessed in secret when it lives justly and piously before Him.

(42) The motions the soul thrusts upon those cleaving to it and servant to it, then, are like the advancing ones, for it acts as if on its own body. But those motions it thrusts

out, wishing to attach some to itself or to enslave, are counted as reacting motions. For it acts as if in the senses forcing a thing moving up outside to become one with it, and a thing not able to do so to be kept out. And the memory takes in both these motions, and makes them memorial, likewise boiling up in tumultuous fashion with the phantasias and phantasms of these acts. Nor are there lacking the corresponding judicial numbers seeing what moves suitably and unsuitably in these acts, not wrongly to be called sensible, for it is by sensible signs souls act toward souls. What wonder if the soul wound up in so many and great concerns is turned away from the contemplation of the truth? And it sees it in so far as it breathes free of them. But, because it has not yet turned them out, it cannot remain there. And so it is the soul has not at once the knowledge of where it ought to be and the power to be there. Do you agree?

D. Nothing, I daresay, to the contrary.

Chapter 14

(43) *M.* What's left, then? Since we have considered as far as possible the stain and oppression of the soul, isn't it to see what action is divinely commanded it for its return, after purgation and forgiveness, to peace, and for its entry into the joy of its Master?

D. Yes.

M. And what more do you think there's for me to say when Holy Scripture, in so many volumes endowed with such authority and holiness, exhorts us only to love our God and Lord with all our heart, with all our soul, and with all our mind, and to love our neighbor as ourself? If, then, we refer all those motions and numbers of human action to this end, we shall certainly be cleansed. Isn't it so?

D. It certainly is, but how short this is to hear, and how hard and arduous to do.

(44) M. What, then, is easy? To love colors and voices and sweets and roses and soft bodies? Is it then easy for the soul to love these things where it only desires equality and likeness, yet, considering a little more carefully, knows hardly the last shadow and trace of them? And is it difficult for the soul to love God thinking upon whom, as thoughts till then upon mean and sickly things allow, it finds these nothing unequal, nothing unlike, nothing divided in places, nothing changed in time? Or is there rather delight in throwing up a vast extent of building and passing the time in works of this kind where if the numbers please—there's nothing else—what can there be called equal and like, the discipline's reason would not laugh to scorn? And if this is so, why then does it sink from the truest height of equality to these things, and build up earthly machines in its own ruins? Was this not promised by Him who knows not to deceive? 'For my yoke,' He says, 'is light.'¹¹ The love of this world is more wearisome. For, what the soul seeks in it, constancy and eternity, it does not find, since the lowest beauty is finished out with the passage of things, and what there imitates constancy is thrown through the soul by the highest God. For the form [*species*] changeable only in time is prior to that changeable both in time and place. And just as souls have been told by the Lord what to love, so they are told through the Apostle John what not to love. 'Do not love this world,' he says; 'because all things in the world are concupiscence of the flesh, concupiscence of the eyes, and secular ambition.'¹²

(45) But what manner of man do you think this is, re-

¹¹ Matt. 11.30.

¹² 1 John 2.15,16.

ferring all those numbers from the body and over against the body's passions and held from them by memory, not to carnal pleasure, but only to the body's health? A man referring all those numbers operating on souls bound to him or those numbers put out to bind them, and therefore sticking within the memory, not to his own proud excelling, but to the usefulness of those souls themselves? A man also using those numbers in either kind as directing, in the role of moderators and examiners of things passing in the senses, not for an idle or harmful curiosity but for a necessary approval or disapproval? Doesn't such a man work all these numbers and yet not get caught in them? For he only chooses the body's health not to be hindered, and refers all those actions to the good of that neighbor he has been bidden to love as himself in the natural tie of common right.

D. You talk of a great and very manlike man.

(46) *M.* It's not those numbers below reason and beautiful in their kind do soil the soul, then, but the love of lower beauty. And whenever the soul finds to love in it not only equality, concerning which we have said enough for this work, but also order, it has lost its own order. Nor yet does it depart from the order of things even at this point, and so it is whenever and however a thing is, it is highly ordered. For it is one thing to keep order and another to be kept by order. That soul keeps order that, with its whole self, loves Him above itself, that is, God and fellow souls as itself. In virtue of this love it orders lower things and suffers no disorder from them. And what degrades it is not evil, for the body also is a creature of God and is adorned in its own beauty, although of the lowest kind, but in view of the soul's dignity is lightly esteemed, just as the value of gold is degraded by a mixture with the finest silver. And so whatever numbers result from our

criminal mortality, we shall not except them from the making of Divine Providence, since they are beautiful in their own kind, but let us not love them to become happy in their enjoyment. For we shall keep free of them since they are temporal, by using them well, as with a board in a flood by not throwing them aside as burdensome and not grasping them as stable. But the love of our neighbor commanded us is our most certain ascent to inhere in God and not so much to be kept by His ordering as to keep our own order firm and sure.

(47) Or perhaps the soul does not love order as even those sensible numbers attest? But how, then, is the first foot a pyrrhic, the second an iamb, the third a trochee, and so on? But in this law you will have rather told the following of reason, not of sense. Well, isn't this so of sensible numbers that when say eight long syllables take up as much time as sixteen short ones, yet the shorts look rather to be mixed with the longs? And when reason judges of sense and for it proceleusmatic feet are declared equal to the spondaic, it finds here only the power of ordering, because long syllables are only long in comparison with short syllables, and again short syllables are only short in comparison with long. And so the iambic verse, no matter how long it's pronounced, if it does not lose the rule of one and two, does not lose its name. But that verse consisting of pyrrhic feet with the gradual lengthening of its enunciation becomes suddenly spondaic, if you consult not grammar with music. But if it is dactylic or anapestic, since longs are perceived by comparison with shorts mixed in, no matter how long its enunciation, it keeps its name. Why are additions of half feet not to be kept with the same law, in the beginning as at the end; nor all used, although fitting the same beat? Why the sometime placing of two shorts rather than one long at the end? Aren't they measured off by sense

itself? Nor in these is there found an equality-number, suffering no change, but only a bond of order. It would take too long to go over all the other things like this having to do with the numbers of times. But even the senses reject visible forms, either leaning the wrong way or upside down, and like things, where it's not the inequality—for the equality of the parts remains—but the perverseness that's condemned. And finally in all our senses and works when we familiarize many unusual and therefore displeasing things by gradual steps to our taste, we first accept them with a kind of toleration and then gladly, haven't we kept our pleasure with order, and don't we turn from them unless the first are harmoniously bound with the middle, and the middle with the last?

(48) And so, let us put our joy neither in carnal pleasure, nor in the honors and praises of men, nor in the exploring of things touching the body from without, having God within where all we love is sure and unchangeable. And in this way it comes to be, when temporal things are present, yet are we not involved in them, and those things outside the body can be absent without sense of pain, and the body itself taken away with little or no sense of pain and brought back transformed by the death of its nature. For the soul's attention in the direction of the body contracts endless business, and the love of some special work to the neglect of universal law, a work yet inseparable from the universe of God's rule. And so who loves not the law is subject to the law.

Chapter 15

(49) For if, for the most part, thinking intently on things incorporeal and being always what they are, we meanwhile effect temporal numbers in some bodily movement, easy and useful, by walking or singing, then they pass straight

through us unnoticed, although they would not be were we not acting. And then, if, when we are occupied in our empty phantasms, likewise these, too, pass by as we act without feeling, how much more and more constantly 'when this corruptible has put on incorruption, and this mortal has put on immortality,'¹³ that is, to speak plainly, when God has vivified our mortal bodies, as the Apostle says, 'for the spirit remaining in us.'¹⁴ How much more, then, intent on one God and manifest truth, face to face, as it's said, shall we feel with no unquietness and rejoice in the numbers we move bodies by. Unless perhaps one is to believe the soul, although it can rejoice in things good through it, cannot rejoice in the things its good from.

(50) But this action the soul, its God and Master willing, extracts itself from the love of an inferior beauty by fighting and downing its own habit that wars against it; on that point of victory within itself over the powers of this alloy from whose envious desire to entangle it, it soars to God—its support and station—isn't such an action for you called the virtue temperance?

D. I see and understand.

M. Well, when it advances along this way, now divining eternal joys nor quite grasping them, no loss of temporal things nor any death can deter it from saying to weaker fellows, can it: 'It is good I be dissolved and be with Christ; but for your sakes it is necessary to remain in the flesh?'¹⁵

D. So I think.

M. And this disposition where it fears neither adversity nor death, that can only be called fortitude, can't it?

D. I see that.

¹³ I Cor. 15.53.

¹⁴ Rom. 8.11.

¹⁵ Phil. 1.23,24.

M. Now, this ordering itself, according to which it serves only one God, desires to be co-equal to only the purest souls and to have dominion only over animal and corporeal nature, what virtue do you think that is?

D. Who doesn't know that's justice?

M. Right.

Chapter 16

(51) But now I want to know, when we decided a while ago among ourselves prudence to be the virtue the soul knows its proper station by, its ascent to it being through temperance, that is, conversion of love to God called charity, and aversion from this world attended by fortitude and justice, I want to know whether you think when it will have come to the fruit of its delight and zeal by perfect sanctification, by that perfect vivification, too, of its body, and, the swarm of phantasms wiped from its memory, will have begun to live with God Himself for God alone, when will have been fulfilled that divinely promised us in these words: 'Beloved, now we are sons of God, and it has not yet appeared what we shall be. We know when He will have appeared we shall be like Him, since we shall see Him as He is,¹⁶—I want to know then whether you think these virtues we've recalled will then be there too.

D. I don't see, when those things the fight's about have passed by, how either prudence can be there, only choosing what to follow in opposition, or temperance, only turning love from things opposed, or fortitude, only bearing up under things opposed, or justice, only desiring to be equal to the most blessed souls and to master its lower nature in opposition, that is, not yet in possession of that it desires.

16 1 John 3.2.

(52) *M.* Your reply is not absurd so far. And I don't deny it has seemed this way to certain learned men. But I, on consulting the books whose authority none surpasses, found this said, 'Taste and see, since the Lord is sweet.'¹⁷ The Apostle Peter also puts it this way: 'If yet you have tasted, since the Lord is sweet.'¹⁸ I think this is what is effected in those virtues purging the soul by conversion. For the love of temporal things could only be dislodged by some sweetness of eternal things. But when it has come to what is sung, 'But the sons of men will hope under the cover of your wings; they will be drunk of the abundance of your house, and you will give them to drink in a torrent of pleasure; for in you is the fountain of life,' it does not say the Lord will be sweet to taste, but you see what a flood and flow is said of the eternal fountain; even a drunkenness follows on it. And by this name is wonderfully signified, it seems to me, that forgetfulness of secular vanities and phantasms. Then the rest follows, and it says, 'In your light we shall see light. Stretch forth your mercy to those knowing you.' 'In light' is to be taken as in Christ, who is the Wisdom of God, and is often called light. When therefore it is said 'We see,' and 'knowing you,' it can't be denied there'll be prudence there. Or do you think the true good of the soul can be known where there's no prudence?

D. I now understand.

(53) *M.* Well, can there be those right in heart without justice?

D. I know justice is very often signified by this name.

M. Then isn't it that the same prophet later says when he sings, 'And your jusice to those who are of right heart'?

D. Evidently.

¹⁷ Ps. 33.9.

¹⁸ I Peter 2.3.

M. Come, then, recall if you will we have already sufficiently expounded the soul lapses by pride into certain actions of its own power, and neglecting universal law has fallen into doing certain things private to itself, and this is called turning away from God.

D. I remember, certainly.

M. When, therefore, it acts, so this never again delights it, doesn't it seem to you to fix its love in God and to live most temperately and chastely and securely away from all filth?

D. It seems to be.

M. See, then, too, how the prophet goes on saying, 'Let not the foot of pride come upon me.' For, saying 'foot' he signifies the distraction or fall, and in freedom from this the soul inheres in God and lives eternally.

D. I agree and follow.

(54) *M.* Then fortitude remains. But as temperance against the lapse in the free will, so fortitude avails against the force anyone can be broken by if less strong in the face of attackers or if wretchedly lying down. And this force is usually well signified in the Scriptures by the name of hand. Then who besides sinners try to apply this force? Well, in so far as the soul is barricaded through this very thing and secured by God's support so nothing befalls it from anywhere, it sustains an enduring and you might say impassible power called fortitude; and I think this is said when it is added, 'Nor let the hand of sinners disturb me.'¹⁹

(55) But whether this or something else is to be understood by these words, will you deny the soul fixed in that perfection and blessedness sees the truth, remains unspotted, suffers no harm, is subject to the one God, and rises above other natures?

¹⁹ Ps. 35.8-12.

D. I don't see how it can otherwise be absolutely perfect and blessed.

M. Then, either this contemplation, sanctification, impassibility, and ordering of it are those four virtues perfected and consummated, or, not to split hairs over names when the things fit, instead of these virtues the soul in labor uses, some such powers are to be hoped for it in eternal life.

Chapter 17

(56) We have only recalled what belongs most to this present discussion, that all this is done by God's Providence He has created and rules all things through, so even the sinful and miserable soul may be moved by numbers and set numbers moving even to the lowest corruption of the flesh. And these numbers can be less and less beautiful, but they can't lack beauty entirely. But God, most good and most just, grudges no beauty whether fashioned by the soul's damnation, retreat, or perseverance. But number also begins from one, and is beautiful in equality and likeness, and bound by order. And so, whoever confesses there's no nature of any kind, but desires unity, and tries as much as it can to be like itself, and holds its salvation as a proper order in place or time or weight of body, must confess all things whatever and of any size are made from one beginning through a form equal to it and like to the riches of His goodness, by which they are joined together in charity as one and one gift from one.²¹

(57) . And so that verse proposed by us, '*Deus creator om-*

²¹ For Augustine the doctrine of creation from nothing is not only an article of faith, but a dialectical truth which follows from a sound doctrine of oneness. It rests on the recognition of beings, objects of the human intellect but independent of it. A scrutiny of these beings leads immediately to the further recognition that their very being as object supposes an absolute sufficiency in itself participated in

nium,' sounds with the harmony of number not only to the ears, but even more is most pleasing in truth and wholeness to the soul's sentiment. Unless, perhaps, you are moved by the stupidity, to speak mildly, of those denying anything can be made from nothing, even though God Almighty be said to have made it. Or is it rather the artisan can operate the sensible numbers of his habit by the reasonable numbers of his art, and by sensible numbers those advancing numbers, his numbers in their operation move by, and time-spans belong to; and from these again he can fashion visible forms in wood numbered with place-spans; and the nature of things serving God's will cannot make this wood from earth and other elements; and could not even make these final things from nothing? In fact the time-numbers of a tree must precede its place-numbers. For there's no stem does not in fixed time-measures spring up to replace its seed, germinate, break out into the air, unfold its leaves, become strong, and bring back either fruit or, by very subtle numbers of the wood itself, the force of the seed. And how much more the bodies of animals where the placing of the members presents a much more numbered equalness to

by all the others. This is oneness in itself, the ground of all recognition and knowledge. For Plato and Augustine, as soon as one understands what it means to know, one is forced to admit oneness in itself. Any proof which proceeds only from premises to conclusion by the methods of discursive knowledge is insufficient. For one can always deny premises. To find that without which one cannot even deny premises is the task of the upward dialectic.

Since for Augustine time is a kind of unity and order contemplated by the human intellect by which the sensible things existing seemingly only at this moment and hardly existing then take on significance and have a history, it therefore is more than the sensible things themselves, and the acuity of such a question as that of the eternity of motion is greatly diminished and perhaps has little meaning. The appearance here of the phrase 'Creator of all things' and its constant appearance throughout the book is indicative that the great problem of time is to give the sensible world meaning and being rather than to save us from the intellectual horror of self-perpetuating 'eternal' moving things of which time is only an abstraction.

sight. Can these be made of the elements and these elements not have been made of nothing? For which among them is more ordinary and lowly than earth. Yet first it has the general form of body where a unity and numbers and order are clearly shown to be. For any part of it, no matter how small, must be extended from an indivisible point in length, third takes on breadth, and fourth height, to fill the body. From where, then, is the measure of this progression of one to four? And from where, too, the equality of the parts found in length, breadth, and height? From where a corrationality (for so I have chosen to call proportion), so the ratio length has to the indivisible point, breadth has to length, and height to breadth? Where, I ask, do these things come from, if not from the highest and eternal rule of numbers, likeness, equality, and order? And if you abstract these things from earth, it will be nothing. And therefore God Almighty has made earth, and earth is made from nothing.

(58) Then, too, this form earth is differentiated from the other elements by, doesn't it present something one in so far as it has received it, and no part of it is unlike the whole? And doesn't it have the soundest final ground in its kind by the connection and agreement of the same parts? And the nature of water extends above it, itself abounding in unity, more beautiful and more pellucid because of the greater likeness of its parts, keeping the place of order and its own soundness. And what shall I say of the nature of air, sweeping to unity with a greater reach and as much more beautiful than water is than earth, and so much higher in worth. And what about the supreme circuit of the heavens where the whole universe of visible bodies ends, the highest beauty in its kind, and the soundest excellence of place? Now all these things we've enumerated with the help of the carnal senses, and all things in

them, can only receive and hold local numbers seemingly in a kind of rest, if temporal numbers, in motion, precede within and in silence. Likewise, a vital movement measures off and precedes these as they move in time-spans, a vital movement serving the Master of all things, having in its numbers no temporal spans divided out, but with a power providing times.²² And above this power, the rational and intellectual numbers of the blessed and saintly souls²³ transmit the very law of God no leaf-fall breaks and our hairs are numbered by, to the judgments of earth and hell, without toll from any nature between.

(59) I in my littleness have gathered with you what I could and as I could on such great matters. But, if any read this talk of ours committed to writing, they must know these things have been written by persons much weaker than those who, having followed the authority of the two Testaments, by believing, hoping, and loving, venerate and worship the con-substantial and unchangeable Trinity of the one highest God from whom, through whom, and in whom are all things. For they are purified, not by flashing human reasoning, but by the effective and burning fire of charity. And while we do

22 Augustine seems to be saying that the root of all dispersion is the temporal and that the spatial dispersion depends upon it. He then proceeds to enumerate the hierarchy of numbers. As Svoboda has pointed out, we can consider this as a hierarchy of rhythms since *numerus* is an ambiguous word. Conceptually it makes little difference, but rhetorically this systematic ambiguity may have great effect. Time has much the same position in the system of Kaut as in that of Augustine: it is the mediating principle between the intelligibles and the sensible world. So it is, too, for Plotinus.

23 'The rational and intellectual numbers of the blessed and saintly souls' refer, as Augustine points out in *Retractationes* 1.11.3, to the angels. He finds the word 'souls' inappropriately used.

This whole book is a bold development of the traditional Platonic phrase stemming from Xenocrates: *psyché arithmós autón kinón*. 'The soul is a self-moving number.'

not think those the heretics deceive with the promises of reason and false science ought to be neglected, yet, in the consideration of the ways themselves, we go more slowly than holy men who deign not to wait in their flying ascent. And yet we should dare not do this if we did not see that many pious sons of that best of mothers, the Catholic Church, who in their youthful studies have sufficiently developed the faculty of speaking and arguing, have, for the confuting of heretics, done this same thing.