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ARISTIDES QUINTILIANUS AND THE
HARMONICS OF MANUEL BRYENNIUS:
A STUDY IN BYZANTINE MUSIC THEORY

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The tradition of Byzantine music theory boasts a number of interesting treatises that represent a unique combination of theoretical conceptions from classical antiquity and theoretical observations based on contemporary practice. These treatises reflect the wide intellectual scope of their polymathic authors and range from the 11th-century *Syntagma* of Ps.-Psellus (written possibly by Gregorius Solitarius around 1008) through the early 14th-century *Harmonics* of Manuel Bryennius, written around 1300.

The classical tradition in these works was surveyed quite extensively some twenty years ago by Lukas Richter in his article "Antike Überlieferungen in der byzantinischen Musiktheorie,"¹ and this is still one of the most important treatments of Byzantine music theory. After setting out the background for the intellectual tradition of several of the Byzantine music theorists, Richter proceeds to show in three tables principal and specific parallels between the treatises of Ps.-Psellus, Pachymeres, and Bryennius on the one hand and the treatises of the ancient authors on the other hand. Richter observes these relationships in the similar treatments of subjects from one author to the next, not in specific *loci paralleli*.² Richter's observations are enlightening and informative (though he does not note all the relevant passages), but they

suggest, perhaps inadvertently, that the Byzantine music theorists extracted material from the ancient authors and simply recopied it in the form of a compendium. Thus the Byzantine music theorists appear as mere compilers, as Gustave Reese saw them when he wrote: "Investigators were misled by treatises, sometimes compilations, 'embalming' the ancient information out of historical interest." A few phrases later, Reese refers specifically to the treatise of Bryennius, "whose commentary on the *Harmonics* of Ptolemy includes old Greek material appropriated also by Pachymeres."³

This view, which has been shared by many other scholars, is not a correct view—neither in general nor in detail.⁴ Instead, the historical and archaizing tradition of one branch of Byzantine music theory,⁵ a tradition that differs greatly from its Western counterpart, was influenced by the preeminence of Byzantine scholarship in classical Greek literature during the Palaeologan Renaissance of the thirteenth and fourteenth centuries.⁶ Authors like Ps.-Psellus, Pachymeres, and especially Bryennius were seeking to fashion their treatises after ancient Greek models, which were beginning to be restored and circulated in manuscript copies around the eleventh and twelfth centuries.⁷ Their philological interests—which, at least in the case of Ps.-Psellus and Pachymeres, are clearly attested by their authorship of *συντάγματα τῶν τεσσάρων μαθημάτων*—made them especially sensitive to the subtleties of expression found in many of the ancient Greek treatises; their historical interests made them desire to preserve this precious but obscured heritage—and this is shown by the dramatic increase in Byzantine manuscript copies of ancient Greek treatises; and their critical acumen made them see how the systematic theory of the ancient musical treatises might be related to their own theoretical structures.⁸

With these preliminary observations, let us now turn to an examination of some selected passages from the treatise of Bryennius in comparison with *loci paralleli*. Later, we shall consider some Byzantine manuscripts of ancient Greek music theory and the texts they represent. By comparing these pieces of evidence, it will be possible to show how at least one Byzantine music theorist functioned as a skillful historian and text critic within the later Planudean tradition.

The treatise of Bryennius, which was recently reedited and translated into English by G. H. Jonker, was probably written around 1300.⁹ Very little is known about Bryennius the person, and what little we do know is admirably summarized by Jonker in his Introduction and by Lukas Richter in his article for *The New Grove Dictionary of Music and Musicians*.¹⁰ There is no need to repeat the details of Bryennius's life here, except to note that he was clearly associated with two of the most important figures of the Palaeologan Renaissance, Maximus Planudes (ca. 1260–ca.1310) and Theodorus Metochites (ca. 1260–1332). This

association is attested in a letter from Planudes to Bryennius in which he asks for the loan of a copy of the work of Diophantus, and in the Introduction to Metochites's *Στοιχείωσις ἐπὶ τῇ ἀστρονομικῇ ἐπιστήμῃ* (preserved in Venetus Marcianus gr. 329 and 330).¹¹

Planudes presided over one of the schools in Constantinople and was also a diplomat for a time in Venice. He was a man of remarkable philological attainments, including a solid knowledge of Latin, which was a rare skill at this time in the East. This knowledge enabled him to prepare translations of Augustine, Boethius, Macrobius, and—surprisingly—Ovid's *Heroides*, *Metamorphoses*, and amatory works. But of greater importance was his study of Greek texts. He compiled a collection of classical poetry (preserved in Florentinus Laurentianus gr. 32.16), gathered together and catalogued the *Moralia* of Plutarch in the arrangement still known as the *Corpus Planudeum* (Parisinus gr. 1671 and 1672), and made a new version of the Greek Anthology (autograph in Venetus Marcianus gr. 481), which includes epigrams not found in the Palatine manuscript. We also know from his letter that he was interested in Diophantus, Ptolemy, Euclid, and ancient musical writers.¹²

While Planudes was chiefly a scholar, Metochites was Prime Minister to Emperor Andronicus Palaeologus II (1282–1328). Metochites employed Bryennius around 1303 as his private tutor, and he described Bryennius as an eccentric whom many regarded as a charlatan. Indeed, Bryennius himself comments on this assessment at the beginning of his treatise.¹³ But Metochites discovered that Bryennius was one of the few who knew anything about mathematics and astronomy, as opposed to the sophists of the day who ridiculed the exact sciences because they could not understand them. In his tenth poem, Metochites eulogizes harmonics, and it seems that his comments are based on Bryennius's *Harmonics*.¹⁴

I make a point of these associations and the activities of these men because they show the scholarly vigor of this circle, especially in philological and scientific matters. This, in turn, makes it seem most unlikely that a member of this circle, Bryennius, would simply have copied ancient materials (or, for that matter, contemporary materials such as the treatise of Pachymeres¹⁵) without subjecting them to some sort of critical work, yet the treatise has been dismissed on several occasions as an unskillful copy, valuable only as a *Variantenträger*.¹⁶

In order to discover Bryennius's critical method, two preliminary studies are needed: an index of *loci paralleli* in the treatise and a comprehensive survey of the manuscript tradition of ancient Greek music theory so that it is possible to determine the likely state of these texts in the late thirteenth and early fourteenth centuries.¹⁷ These studies are now at hand. Jonker has assembled a quite complete list of *loci paralleli* in his edition¹⁸ (though he does not use these to draw any conclusions

about Bryennius's method) and my own forthcoming catalogue of Greek manuscripts for RISM enables us to see the types of theoretical manuscripts scholars like Planudes, Pachymeres, and Bryennius would have known.¹⁹

In examining Jonker's list, we find that there are forty-three *loci paralleli* with the treatise of Aristides Quintilianus and sixty-eight with that of Pachymeres. No other authors are used so extensively. But if we examine these two sets of *loci paralleli* more carefully, we discover that only forty-seven of the Pachymeres parallels are not shared with other ancient authors, especially Bacchius, Nicomachus, Gaudentius, Aristoxenus, Ptolemy, Porphyrius, and Aristides Quintilianus. Moreover, of the passages that are not shared, only a few are exact *loci paralleli*; the rest simply embody the same content, but not the same wording as Book II, sections 8–15 of Bryennius's treatise. We can thus dispense with the notion that Bryennius simply copied Pachymeres.²⁰

On the other hand, the *loci paralleli* with Aristides Quintilianus are numerous and very striking;²¹ most of these embody conceptions that are unique to Aristides Quintilianus. Incorporating the *loci paralleli*, Bryennius often does one or more of the following things: (1) redirects the material where Aristides Quintilianus's usage does not quite fit Bryennius's needs, (2) combines the material of Aristides Quintilianus with that of another author, or (3) attempts to clarify a passage by restructuring it slightly. All of these, and especially the latter, are typical Planudean text critical techniques, and each of these may be easily demonstrated in an example.²²

At the beginning of the *Harmonics*, Bryennius recalls the invocation used by Aristides Quintilianus, though he never mentions Aristides Quintilianus by name in his treatise. Bryennius writes that he will begin his task "by invoking the assistant who arranged everything that is here visible by invisible arts and in a most perfect way skillfully executed every soul by the proportions of harmonia."²³ In Book I, section 3 of his treatise, Aristides Quintilianus writes: "Which assistant of so many is it proper to invoke first? Is it not the one who arranged everything that is here visible by invisible arts and in a most perfect way skillfully executed every soul by the proportions of harmonia?"²⁴

In Bryennius's treatise, it is clear that the assistant is God himself, while in Aristides Quintilianus's treatise, the assistant invoked is Apollo, though Apollo is associated in this neo-Platonic context with the mystery cults. This parallel is a clear example of the way in which Bryennius may take a direct quotation from Aristides Quintilianus and use it in a context where the meaning is altered to fit his own needs.

Actually, all of Bryennius's introduction is based on a reworking of the first three sections of Aristides Quintilianus's Book I, though Richter does not note this in his table and Jonker only notes a few exact *loci*

paralleli.²⁵ In his introduction, Bryennius states that the science of harmonics, which is beautiful and venerable by nature, has fallen into disrepute over the years; he says he will try to revive the interest of those who are eager to learn; he notes the ignorance of contemporary sages and their contempt for what they do not understand; and he invokes a divine artificer, here clearly God.²⁶ In Aristides Quintilianus's proem, which is much longer than Bryennius's introduction, he notes that the science of music is valuable throughout life; he says he has undertaken his treatise because of the contempt in which music is held by most people; and he invokes a divine artificer, Apollo.²⁷ This is one of several clear examples of the central influence of Aristides Quintilianus on Bryennius.

Turning now to a different technique, let us examine several passages that show the way in which Bryennius combines material from Aristides Quintilianus with that of another author. In his Book I, section 1, after the general introduction, Bryennius turns to a quasi-historical survey of the development of the Perfect System on the lyre. The invention of the seven-string lyre is ascribed to Hermes, and the seven strings are associated with the seven planets of antiquity because they imitate the planetary tones, or the harmony of the spheres. Bryennius then notes that this harmony cannot be heard by all but only by those who have purified their sense of hearing; these sounds cannot possibly be heard by the ears of mortal men.²⁸

The first part of this description—dealing with the seven-string lyre—is clearly related to Nicomachus's *Encheiridion* and the so-called Nicomachean *excerpta*, though it also recalls the little-known Madrid canon (Matritensis gr. 4621 [N. 72]), where the discovery is assigned to Orpheus.²⁹ But the second part—offering a reason why the harmony of the spheres cannot be heard by mortal men—differs from all classical explanations except that of Aristides Quintilianus in Book III, section 20. Like Bryennius, Aristides Quintilianus states:

These sounds are imperceptible to us . . . , but for the better of the superior beings who have lived among men, the sounds draw near hearing Unworthy men most especially are absolutely incapable of hearing the sound of the universe by accident, while serious and scientifically versed men—albeit rarely—do, in spite of all, partake abundantly of such honor and well being from the almighties.³⁰

This notion of purification is neo-Platonic, and it therefore seems unlikely that the passage could have come from some early source now unknown. Instead, because the two parts of the passage follow two known sources so closely, it seems much more likely that Bryennius deliberately structured the passage synthetically. The uniqueness of Aristides Quintilianus's explanation of the inaudibility of the harmony

of the spheres and the fact of its appearance in Bryennius's treatise show once again the significance of Aristides Quintilianus for Bryennius.

The practice of combining and expanding materials to form a new treatment can be seen in many of the *loci paralleli* throughout the treatise. A particularly clear example may be seen in Bryennius's Book I, section 7, where he speaks of the genera. The three versions of this passage appear in Table 1.³¹

In examining these passages, we see that the second sentence of Bryennius's version follows Pachymeres's version, but Bryennius has expanded the last phrase of Pachymeres's sentence, *κατὰ διάφορον ιδέαν ἡθους*, into a full clause: *ἡ γένος ἐστὶ μέλος ἡθους καθολικόν τι παρεμφαῖνον καὶ ἔχον παρ' ἑαυτῷ διαφόρους ιδέας*.³² While this concept certainly appears later in Aristides Quintilianus's treatise, neither the wording nor the concept appear at this point. Bryennius has developed this independently for greater clarity.

The third sentence of Bryennius's version follows that of Aristides Quintilianus. Pachymeres's version omits the last phrase.

The fourth sentence is separated into three clauses corresponding to the three genera. The first clause follows Aristides Quintilianus exactly; the second clause follows Pachymeres exactly and contains an added phrase not found in Aristides Quintilianus; and the third clause is an expansion of Aristides Quintilianus and Pachymeres: it essentially follows Aristides Quintilianus, but there are the added glosses *ἡτοι μέσων διαστημάτων* at the beginning and *τῶν εἰρημένων γενῶν* at the end. The third clause evolved in this way. Aristides Quintilianus's wording is discursive:

Color is the genus intensified through semitones, for just as what is between white and black is called color, so also the genus considered between both [i.e., the diatonic and the enharmonic] is named color.

Pachymeres followed this closely but thinking the analogy not sufficiently apparent, tried to clarify and simplify it by writing *ἀπὸ μεταφορᾶς τοῦ φαιοῦ χρώματος τοῦ μέσου λευκοῦ καὶ μέλανος*:

Color is the genus advancing through semitones, because it is considered between both, from the metaphor of grey, the color between white and black.

Bryennius, realizing that Pachymeres's wording spoiled the style of the analogy, wanted to restore it, but he also agreed that the analogy was obscure and so added the glosses:

Color is the genus intensified through semitones—or middle intervals, for just as what is between white and black is called color, so also the genus considered between both of the aforesaid genera is named color.

Table 1. Bryennius *Harmonica* 1.7: Comparison of texts

Bryennius†	Pachymeres††	Aristides Quintilianus†††
Διαλαβόντες περὶ τοῦ μουικοῦ συστήματος ἐξῆς καὶ περὶ τοῦ γένους διαληνόμεθα. γένος τοῦτον ἐστὶν ποῖα τεττάρων φθό- γων, ταῦτο δ' ἐπείν τετραχόρου δια- ρῆσις· ἡ γένος ἐστὶ μέλος ἡθους καθολ- ικόν τι παρεμφαῖνον καὶ ἔχον παρ' ἑαυτῷ διαφόρους ιδέας· γένη δὲ μελωδίας ἐστὶ τρία, ἁρμονία χρώμα διά- της τῶν διαστημάτων ἐγγύτητος ἢ μακ- ρότητος λαμβάνοντα τὰς διαφορὰς. ἁρμονία μὲν οὖν καλεῖται τὸ τοῖς μικροτά- τοις πλεονάσαν διαστήμασιν ἀπὸ τοῦ συνηρμόσθαι· διάτουν δὲ τὸ τοῖς τόνους ἢ τοῖς μέιστοι διαστήμασι πλεονάζον, ἐπειδὴ σοφοδρότερον ἢ φωνὴ κατ' αὐτὸ διατείνεται· χρώμα δὲ τὸ δι' ἡμιτονίων ἢ τοῖς μέσων διαστημάτων συνεπόμενον· ὡς γὰρ τὸ μεταξὺ λευκοῦ καὶ μέλανος χρώμα καλεῖται, οὕτως δὴ καὶ τὸ διὰ μέ- σων ἡμιτονίων θεωρούμενον τῶν εἰρη- μένων γενῶν ὀνομάζεται.	Γένος ἐστὶ ποῖα τεττάρων φθόγγων, ταῦτο δ' ἐπείν τετραχόρου διαρῆσις, κατὰ διάφορον ιδέαν ἡθους· γένη δὲ μελωδίας τρία· ἁρμονία, χρώμα, διά- τονος· ἁρμονία μὲν οὖν τὸ τοῖς μικρο- τάτοις πλεονάσαν διαστήμασιν, ἀπὸ τοῦ συνηρμόσθαι· τὰ γὰρ μικρὰ συναρμόζονται μᾶλλον τῶν μεζόνων· διάτουν δὲ τὸ τοῖς τόνους, ἢ τοῖς τοῖς μέιστοι διαστήμασι, πλεονάζον· ἐπειδὴ σοφοδρότερον ἢ φωνὴ κατ' αὐτὸ διατείνεται· χρώμα δὲ τὸ δι' ἡμιτονίων, διὰ τὸ μέσον ἡμιτονίων θεωρεῖ- σθαι, ἀπὸ μεταφορᾶς τοῦ φαιοῦ χρώματος τοῦ μέσου λευκοῦ καὶ μέλανος.	Γένος δὲ ἐστὶ ποῖα τετραχόρου διαρῆσις. γένη δὲ μελωδίας γ'· ἁρμονία χρώμα διάτουν, ἐκ τῆς τῶν διαστημάτων ἐγ- γύτητος ἢ μακρότητος λαμβάνοντα τὰς διαφορὰς· ἁρμονία μὲν οὖν καλεῖται τὸ τοῖς μικροτάτοις πλεονάσαν διαστήμασιν ἀπὸ τοῦ συνηρμόσθαι, διάτουν δὲ τὸ τοῖς τόνους πλεονάζον, ἐπειδὴ σοφοδρότερον ἢ φωνὴ κατ' αὐτὸ διατείνεται, χρώμα δὲ τὸ δι' ἡμιτονίων συνεπόμενον· ὡς γὰρ τὸ μεταξὺ λευκοῦ καὶ μέλανος χρώμα καλεῖται, οὕτως καὶ τὸ διὰ μέσον ἡμιτονίων θεωρούμενον χρώμα προσεφίηται.

†Text from G. H. Jonker, ed. and trans., *The Harmonics of Manuel Bryennius* (Groningen: Wolters-Noordhoff, 1970), p. 112.

††Text from A. J. H. Vincent, *Notice sur divers manuscrits grecs relatifs à la musique*, Notices et extraits des manuscrits de la Bibliothèque du Roi, no. 16 (Paris: Imprimerie royale, 1847), pp. 421–22.

†††Text from R. P. Winnington-Ingram, ed., *Aristides Quintiliani De musica libri tres* (Leipzig: B. G. Teubner, 1963), pp. 15–16.

These types of examples could be multiplied almost endlessly. In them, we can see Bryennius functioning not as a simple compiler but rather as a historian and text critic in the Planudean tradition. His text criticism in passages like these is typical of that of Planudes: where a passage seems unclear, he glosses it. His approach is not always so simple, however. Let us now turn to a passage he has encountered in the treatise of Aristides Quintilianus that editors even to the present day have considered problematic.

In Book I, section 10, Aristides Quintilianus introduces the tonoi and observes their relation to the human voice. This passage appears below.

ὁ μὲν οὖν δώριος σύμπαρ μελωδεῖται διὰ τὸ μέχρι τῶν ἱβ' τόνων τὴν φωνὴν ἡμῶν ὑπηρετεῖσθαι καὶ διὰ τὸ μέσον αὐτοῦ τὸν προσλαμβανόμενον τοῦ διὰ πασῶν εἶναι ὑποδωρίου· τῶν δὲ λοιπῶν οἱ μὲν βαρύτεροι τοῦ δωρίου μέχρι τοῦ συμφωνοῦντος φθόγγου * * * τῇ νήτῃ τῶν ὑπερβολαίων.

The editor of the Teubner edition, R. P. Winnington-Ingram, has marked a lacuna at the end of the passage, following the lead of Albert Jahn's edition.³³ But if we were to assume there is no lacuna, the passage would read as follows:

The Dorian is sung in full because the voice serves us as far as twelve tones and because its proslambanomenos is in the middle of the Hypodorian octave. For the rest, those lower than the Dorian are sung as far as the note consonant with the nete hyperbolaion.³⁴

This is, admittedly, a confusing passage at first glance, but the meaning is not difficult to discern if we study the passage carefully in the context of the entire treatise. That the voice can sing only twelve whole tones (that is, two octaves) was established by definition in Book I, section 6. The proslambanomenos of the Dorian does in fact fall in the middle of the Hypodorian octave, as the text says, and this is explained more fully in Book II, section 14:

And of the modes, accordingly, the Dorian is the lowest and seemly to the masculine ethos (for this and its beginning we made the first limit as concerns the odic type, since it happens to be in the midst of the lowest octave and to be the limit both of a hypatoid fourth in ascent and a mesoid fifth in descent in the Hypodorian harmonia), . . .³⁵

Figure 1 makes this relationship more explicit.

But what about the matter of how far the other tonoi can be sung? Again, the explanation is not difficult to discern. All the tonoi higher than the Dorian can only be sung between their own proslambanomenoi and the upper extremity of the Dorian, so their range will be smaller and smaller as their proslambanomenoi move higher and higher. This is

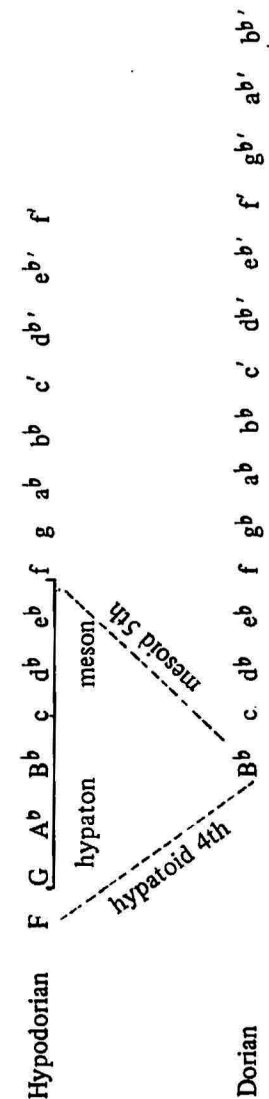


Figure 1. The arrangement described by Aristides Quintilianus

obvious from the earlier definitions of the notes themselves (Book I, section 6) and from the definition of the Dorian itself just posited as the measure of singability. In the case of the lower tonoi, however, a problem of definition occurs because it might appear that the lower tonoi could be sung above their netai hyperbolaion since the notes there would fall in the theoretically singable range. Aristides Quintilianus therefore adds the qualification that these lower tonoi can only be sung as high as their own netai hyperbolaion, thereby affirming the absolute limit of this upper functional note even when it may fall within the realm of the theoretically singable.

Bryennius—like later editors—did not understand this passage, but in keeping with his tradition, he did not mark a lacuna; he undertook to emend the passage as shown below.³⁶

ὁ μὲν οὖν δώριος σύμπας μελωδεῖται διὰ τὸ μέχρι τῶν δώδεκα τόνων
τὴν φωνὴν ἡμῖν ὑπηρετεῖσθαι καὶ διὰ τὸ τὴν μέσσην αὐτοῦ προσλαμ-
βανομένην εἶναι τοῦ ὑπερφρυγίου ἥτοι τοῦ ὑπερμυξολυδίου· τῶν δὲ
λοιπῶν οἱ μὲν βαρύτεροι τοῦ δωρίου μέχρι τοῦ συμφωνοῦντος φθόγγου
†† τῇ νήτῃ τῶν ὑπερβολαίων ἥτοι τῇ προσλαμβανομένῃ.³⁷

This would appear to have been his process.

Bryennius understood the central point that the voice could sing only twelve whole tones, so he left that passage alone. The next clause he saw as a relationship of notes, especially mese and proslambanomenos. He therefore assumed that μέσον must be μέσσην. The mese of the Dorian could not be the proslambanomenos of the Hypodorian, so he had to change the tonos to something higher, in this case the Hyperphrygian. Now the full sentence reads: "The Dorian is sung in full because the voice serves us as far as twelve tones and because its mese is the proslambanomenos of the Hyperphrygian—or the Hypermixolydian." But this relationship is still not quite proper, unless we think of "Dorian" as meaning generically all the Dorians, that is, Hypodorian, Dorian, and Hyperdorian. It is conceivable that Bryennius may have thought such an interpretation justified, since Aristides Quintilianus himself treats the terms Dorian, Phrygian, and Lydian in this way in Book I, section 11. If we take Dorian in this generic sense, it is true that the mese of the Hypodorian is homophonous with the proslambanomenos of the Hyperphrygian. But this is a rationalization, and the emendations are clearly incorrect and unnecessary. Their importance lies in the fact that they show the detailed study Bryennius gave his text and the way he functioned in his work on a text. Bryennius was not merely copying material, he was seeking to fully understand what he wrote.

Turning to the next sentence of the passage, we see another example of Bryennius adding a gloss. Aristides Quintilianus has already pointed out

that the Dorian is the only tonos that can be sung in full, and it is therefore obvious that the lower tonoi cannot be sung down to their proslambanomenoi. As to their upper extremities, Aristides Quintilianus notes that they cannot be sung higher than their netai hyperbolaion. Bryennius, seeing a reference to the upper extremity, assumed that the lower extremity should also be specified (not realizing, apparently, that it had been); he accordingly added ἥτοι τῇ προσλαμβανομένῃ. The second sentence now reads: "For the rest, those lower than the Dorian are sung as far as the note consonant with the nete hyperbolaion or proslambanomenos." This gloss is incorrect because the nete hyperbolaion refers to the note in the tonoi lower than the Dorian, while (in this context) proslambanomenos would have to refer to the Dorian proslambanomenos itself. Even though Bryennius was mistaken, the gloss again shows his special care with the text.

Why did Bryennius rely so heavily on the treatise of Aristides Quintilianus in the composition of his own treatise? He did so because this was the only surviving complete and thoroughly systematic survey of the seven Aristoxenian categories, and it was the only treatise to show music theory as a grand analogue for the divine order of the universe, which was naturally sympathetic to Bryennius's own tradition. The treatise of Ptolemy, the only other treatise similar to that of Aristides Quintilianus, existed in Bryennius's day only in the imperfect form missing the last part of Book III and several other important sections.³⁸ Even in its fuller restored form, the work of later Byzantine scholars, the treatise of Ptolemy does not show the same rigorous and impressive philosophical unfolding exhibited by the treatise of Aristides Quintilianus. This treatise, with its mystic and allegorical quality, obviously resonated with Bryennius's own tradition to a far greater degree than any of the other ancient treatises, and Bryennius makes this clear by modeling his own introduction on that of Aristides Quintilianus, as pointed out earlier in this study.³⁹

All these observations on historical and text critical method can, of course, only be valid if we determine that Byzantine music theorists like Bryennius had at their disposal manuscript copies of the ancient Greek musical texts. This can in fact be shown by surveying my forthcoming catalogue for RISM, where we can find at least five codices dating from the thirteenth century or earlier and containing the ancient treatises used by Bryennius: Aristides Quintilianus, Aristoxenus, Bacchius, Cleonides, Dionysius, the Nicomachean *excerpta*, Gaudentius, Nichomachus, Porphyrius, Ptolemy, and Theon of Smyrna. Bellerma's Anonymous and Psellus, though not ancient treatises, also appear in these same codices. Only the treatise of Pachymeres is not included in the five codices, but it was available to Bryennius in many contemporary copies. The five codices, with a brief description of their contents, are listed in Table 2.

Table 2. Summary descriptions of five Byzantine codices

Vaticanus gr. 191 (*olim* 199)

vi,397 [i.e., 408] ff., 365x237mm, chart. and bomb., 13th century
Opera varia mathematica, astronomica et musica
Cleonides (292r-295r), Euclid *Sect. can.* (295r-296v); Aristoxenus *Harm.* (297r-309r); Alypius (309r-314r); Aristoxenus *Rhyth.* (314r-316r); Ptolemy *Harm.* (320r-359r); scholia (359v-392v); Cleonides (393r-395v); Euclid *Sect. can.* (395v-397r)

Vaticanus gr. 192 (*olim* 672)

227 ff., 335x245 mm, chart., 13th century
Opera varia mathematica, physica, astronomica et musica
Aristides Quintilianus (164r-194r); Theon of Smyrna (194v-195v); Ptolemy *Harm.* (196r-214v); Plutarch *De mus.* (214v-221v); tabulae musicae (222r-227r)

Vaticanus gr. 2338

44 ff. in four parts (1-22, 23-38, 39, 40-44), 345x255, 305x205mm, chart., 12th-13th century (part 4, 17th century)
Cleonides (1r-3r); Euclid *Sect. can.* (3r-4v); Gaudentius (5r-8r); Successionum a Romana Ecclesia orientali index (8v); Theon of Smyrna (9r-10r); Cleonides (10r-12v); Aristoxenus *Harm.* (12v-21v); Neapolitan excerpts (21v-22v); panegyric (23r-38v); Sermonem recentem in Theophania Divo Proclo tributum (39r-v); litterae (40-44)

Venetus Marcianus gr. app. cl. VI/3 (*nunc* 1347 *olim* 643)

95 ff., 260x190mm, membr., 12th century
Cleonides (1r-9r); Euclid *Sect. can.* (9r-17r); Aristoxenus *Harm.* (17r-66v); Alypius (67r-91v); Aristoxenus *Rhyth.* (92r-95r); a marginal hand of the 12th-13th century has added: Aristides Quintilianus [exc.] (1r-6v); Nicomachus (17r-34v); Bacchius (35r-43v); a marginal hand of the 14th century has added: Bellermann's Anonymous (7r-10r)

Venetus Marcianus gr. app. cl. VI/10 (*nunc* 1300 *olim* S. Michaelis prope Murianum 83)

207 ff., 316x218mm, membr., 12th century
Ptolemy *Harm.* (1r-60r); Plutarch *De mus.* (61r-77v); Porphyrius *In Ptol. Harm.* (78r-145v); Aristides Quintilianus (146r-191r), Bellermann's Anonymous (191r-197v), Bacchius (198r-203r), Dionysius (203r-205r), Trimetri versus (205r), hymni Mesomedes (205v-207r)

Two of these five codices can definitely be placed in Bryennius's circle. Vaticanus gr. 191, f. 291v, refers specifically to Pediasimus, a contemporary of Bryennius and a student of harmonics: Ἰωάννου διακόνου καὶ ὑπάτου τῶν φιλοσόφων τοῦ Πεδιασίμου, εἰς τὸ ἐν τῇ τοῦ Ἀριστοτέλους ἀποδεικτικῇ εὕρισκόμενον ὅτι οἱ δύο κύβοι κύβος; and f. 319v refers at length to Constantinople and Andronicus Comnenus. Venetus Marcianus gr. app. cl. VI/3, one of the most famous of the Greek theory codices, includes a note on f. 17r at the end of the *κατατομή κανόνος* indicating that the work has been corrected by Zosimus in Constantinople: Ζώσιμος διώρθου ἐν Κωνσταντινουπόλει εὐτυχῶς. But of greater importance in relating these codices to Bryennius is the fact that both of them preserve an omission in the text of Cleonides that Bryennius happens to quote. Table 3 shows the passage from Cleonides as it appears in the best codices, the passage as it appears in the treatise of Bryennius, and the passage as it appears in Vaticanus gr. 191 and Venetus Marcianus gr. app. cl. VI/3. The final passage in Table 3 includes two additional words (underlined) at the end omitted by Bryennius, if he in fact used these codices. It is clear in any case that Bryennius had as his source codices of this family, possibly these very codices.

This textual variant in Cleonides's treatise may also provide a way of showing that an additional one of the five codices could have been known to Bryennius. Vaticanus gr. 2338 is an unusual codex in that it includes the treatise of Cleonides twice, once on ff. 1r-3r under the name of Cleonides, and once on ff. 10r-12v under the name of Pappus. In the first version, we find on f. 2v the very text of Bryennius's treatise, but without the two additional words (two different words appeared, but they have been scratched out in the codex), and in the second version, we find on f. 12r the full text as it appears in the best Cleonides *paradosis*, with the additional words crossed out by a later hand so that the text preserved matches the first version of the codex.

These three codices are the only three surviving codices containing the treatise of Cleonides that are early enough for Bryennius to have had access to them. Two of these can clearly be placed in Bryennius's circle by the various notes earlier described, but these two do not contain the treatise of Gaudentius, a treatise Bryennius used. Considering the fact that only Vaticanus gr. 2338 exhibits a text of Cleonides that exactly matches Bryennius's treatise and includes the treatise of Gaudentius, which does not appear in any other surviving codex of the thirteenth century or earlier, might we not assume that this codex was known to Bryennius?

Though it is impossible to determine without any shadow of doubt that Bryennius actually used these three codices, it is at least clear that the sources needed for his work existed and were available in the capital.

Table 3. Comparison of Bryennius *Harmonica* 1.6, Cleonides, and manuscript readings

Cleonides†

ἔστι δὲ μέση φθόγγου δύναμις, ὥ συμβέβηκε κατὰ μὲν διάζευξιν ἐπὶ μὲν τὸ ὀξύ τόνον ἔχειν ἀσύνθετον ἀπαθοῦς ὄντος τοῦ συστήματος, ἐπὶ δὲ τὸ βαρὺ δίτονον ἦτοι σύνθετον ἢ ἀσύνθετον· κατὰ δὲ συναφὴν

Bryennius††

ἔστι δὲ μέση φθόγγου δύναμις, ὥ συμβέβηκε κατὰ μὲν διάζευξιν ἐπὶ μὲν τὸ ὀξύ τόνον ἔχειν ἀσύνθετον, κατὰ δὲ συναφὴν

Vaticanus gr. 191, f. 294r; and Venetus Marcianus gr. app. cl. VI/3, f. 7v

ἔστι δὲ μέση φθόγγου δύναμις ὥ συμβέβηκε κατὰ μὲν διάζευξιν ἐπὶ μὲν τὸ ὀξύ τόνον ἔχειν ἀσύνθετον ἢ ἀσύνθετον· κατὰ δὲ συναφὴν

†Text from Jon Solomon, "Cleonides: ΕΙΣΑΓΩΓΗ ΑΡΜΟΝΙΚΗ; Critical Edition, Translation, and Commentary" (Ph.D. dissertation, University of North Carolina at Chapel Hill, 1980), p. 138.

††Text from G. H. Jonker, ed. and trans., *The Harmonics of Manuel Bryennius* (Groningen: Wolters-Noordhoff, 1970), p. 112.

Moreover, the distinctive variants found in these codices offer a strong argument for Bryennius's use of them.

In this brief study, it has been shown how a Byzantine theorist like Bryennius functioned in the writing of his treatise. He carefully worked through his material, compared the available texts, and attempted to enlarge and clarify apparently obscure passages. In short, he functioned—given the limitations of the Planudean tradition—in a way foreshadowing modern historical and text critical method. He turned to the ancient models for the construction of his treatise, and in the treatise of Aristides Quintilianus, he found a model perfectly suited to his needs: a treatise rich in technical detail guided by the higher realization of music as a universal analogue.



NOTES

An earlier version of this paper was presented at the 47th annual meeting of the American Musicological Society, 15 November 1981.

1. *Deutsches Jahrbuch der Musikwissenschaft für 1961* 6 (1962): 75-115.
2. *Ibid.*, pp. 96, 100-101, and 103.
3. Gustave Reese, *Music in the Middle Ages* (New York: W. W. Norton, 1940), p. 89.
4. For instance, V. Laurent, Preface to *Quadrivium de Georges Pachymère*, ed. by Paul Tannery, text ed. by E. Stéphanou, *Studi e testi*, no. 94 (Vatican: Biblioteca Apostolica Vaticana, 1940), pp. xxxii-xxxiii; and Carsten Hoëg, "La théorie de la musique byzantine," *Revue des études grecques* 35 (1922): 323-24. Richter, pp. 75-78, surveys the state of research and some of the problems in Byzantine music theory.
5. The other branch includes the various practical treatises, the papadikai. See Otto Gombosi, "Studien zur Tonartenlehre des frühen Mittelalters," *Acta musicologica* 11 (1939): 28-29; Egon Wellesz, *A History of Byzantine Music and Hymnography*, 2d ed. (Oxford: Clarendon Press, 1961), pp. 61-62; Richter, p. 82; and Kenneth Levy, "Byzantine Rite, music of the, §17: Theory," *The New Grove Dictionary of Music and Musicians* 3 (1980): 562-63.
6. For a useful survey of later Byzantine scholarship, see L. D. Reynolds and N. G. Wilson, *Scribes and Scholars: A Guide to the Transmission of Greek and Latin Literature*, 2d ed. (Oxford: Clarendon Press, 1974), pp. 58-69; see also Robert Browning, "Recentiores non deteriores," *Bulletin of the Institute of Classical Studies* 7 (1960): 11-21.
7. On the manuscript tradition of ancient Greek music theory, see Thomas J. Mathiesen, "Towards a Corpus of Ancient Greek Music Theory: A New Catalogue raisonné Planned for RISM," *Fontes artis musicae* 25 (1978): 119-34.
8. Richter, pp. 80-93, provides an excellent overview of the later Byzantine intellectual tradition. Wellesz, pp. 46-77, surveys earlier Greek traditions in Byzantine music theory. This same application of ancient to contemporary theory occurred in the West with the *De institutione musica* of Boethius. For an excellent study of this point, see Calvin M. Bower, "The Role of Boethius' *De institutione musica* in the Speculative Tradition of Western Musical Thought," *Boethius and the Liberal Arts: A Collection of Essays*, ed. Michael Masi (Berne: Peter Lang, 1981), pp. 157-74.
9. G. H. Jonker, ed. and trans., *The Harmonics of Manuel Bryennius* (Groningen: Wolters-Noordhoff, 1970), p. 20.
10. *Ibid.*, pp. 17-32; Lukas Richter, "Bryennius, Manuel," *The New Grove Dictionary of Music and Musicians* 3 (1980): 400-401.
11. Jonker, p. 17.
12. See Browning, pp. 14-17; and Reynolds and Wilson, pp. 65-66.
13. Bryennius 1.1 (Jonker 50-53).
14. Jonker, pp. 17-18.
15. As is proposed by Laurent, pp. xxxii-xxxiii.
16. See Richter, pp. 79-80; Jonker, pp. 25-26.

17. This point was made by R. Schlötterer in *Actes du X. Congrès International d'études byzantines* (Istanbul 1955), pp. 287-89.
18. Jonker, pp. 404-9.
19. See Mathiesen, pp. 131-34.
20. See n. 15 *supra*.
21. They are given in Jonker, p. 404.
22. The best survey of Byzantine textual scholarship is Browning, pp. 11-21.
23. Bryennius 1.1 (Jonker 50.7-9).
24. Aristides Quintilianus 1.3 (W.-I. 4.1-4). The edition used throughout this study is Reginald P. Winnington-Ingram, ed., *Aristidis Quintillani De musica libri tres* (Leipzig: B. G. Teubner, 1963). The translation is from Thomas J. Mathiesen, *Aristides Quintilianus On Music in Three Books*, Music Theory Translation Series (New Haven: Yale University Press, in press). All translations throughout this study are my own.
25. Cf. Richter, p. 103; Jonker, p. 404.
26. Bryennius 1.1 (Jonker 50.1-52.21).
27. Aristides Quintilianus 1.1-3 (W.-I. 1.1-4.17).
28. Bryennius 1.1 (Jonker 52.22-68.11). On this last, N.B. Jonker 56.16-21.
29. Nicomachus *Ench.* (Jan 241-42); *Excerpta* 3 (Jan 271.16-273.24). For a translation and commentary, see Flora Rose Levin, "Nicomachus of Thessalonica, *Manual of Harmonics*: Translation and Commentary" (Ph.D. dissertation, Columbia University, 1967), pp. 21-23 and 80-103. The Madrid canon has been published and translated in Charles-Emile Ruelle, *Deux textes grecs anonymes concernant le canon musical heptacorde, puis octacorde publiés d'après le MS. N-72 de la Biblioteca nacional de Madrid* (Paris: Baur, 1878).
30. Aristides Quintilianus 3.20 (W.-I. 120.8-24).
31. The passages expanded in Bryennius are underlined in the Table.
32. Pachymeres is content to say: "A genus is a certain division of four notes, i.e., of a tetrachord, in accord with a distinct class of ethos"; while Bryennius begins in the same way and adds: "or, genus is melos exhibiting some general ethos and having in itself a distinct class."
33. Winnington-Ingram, p. 21; Albert Jahn, ed., *Aristidis Quintillani De musica libri III* (Berlin: Calvarius, 1882), p. 15.
34. Aristides Quintilianus 1.10 (W.-I. 21.13-18).
35. Aristides Quintilianus 2.14 (W.-I. 81.18-23).
36. The passage was also emended in the nineteenth century by Friedrich Beller-mann, *Anonymi scriptio de musica. Bacchi senioris introductio artis musicae* (Berlin: Foerstner, 1841), p. 14, but this emendation again misses the mark.
37. Bryennius 1.8 (Jonker 118.6-10).
38. Mathiesen, "Corpus," pp. 119-20 and 131.
39. Christian Hannick, "Antike Überlieferungen in der Neumeneinteilung der byzantinischen Musiktraktate," *Jahrbuch der österreichischen Byzantinistik* 26 (1977): 169-84, notes this same emphasis on the treatise of Aristides Quintilianus in the development of Byzantine neumatic theory.

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