Nonsense Syllables in Byzantine Chant Tradition:
Semiotic Affiliations between Ecclesiastical and Secular Byzantine Music

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Abstract

This article examines the historical phenomenon of nonsense syllables in the chant of the Byzantine Church. The practice of non-lexical singing upon the extended use of vocables appears already in ancient Greek music and has gone by many terms, including *kratēmata* or *teretismata*. Three different hypotheses as to the historical roots and development of this singing practice are predominant, namely those of Gregorios Stathis (1979, 2014), Diane Touliatos (1989), and Gregorios Anastasiou (2005). The foundations, results and consequences of these theories are reassessed in the light of critical examination of the fourteenth century treatise *Harmonika* (Ἁρμονικά) of Manuel Bryennios (Magdalen College MS Gr 13), the tenth century *Book of Ceremonies* of the Byzantine Emperor Constantine Porphyrogennetos, and different versions of the so-called *Service of the Furnace* (National Library of Greece, EBE 2047 and EBE 2406; Iviron Monastery, Iviron 1120; St Catherine's Monastery, Sinai Gr. 1527; and Monastery of Great Lavra, Lavra Λ 165).

The critical examination and synthesis of previous theories of the origin and development of Byzantine nonsense-syllable singing offers several conclusions, where I argue for new, qualified hypotheses that may be laid as foundations for further research. It is concluded that the nonsense syllables seem to have served a number of semiotic functions and purposes: as incantations (sometimes with pagan and ritual associations), as mimesis of nature (birds and cicada), for the intonation of texted chant, as well as for singing practice and solmization purposes. It is also argued that the non-semantic vocalization which this singing constitutes, amounts to a type of early programmatic music, with layers of mimetic singing and a rare sense of heightened expression in a context that otherwise focuses strongly on a religious text and its context. Finally, the term "mental representations" is proposed for describing the semantic function of nonsense syllables.

Keywords

nonsense syllables; ecclesiastical Byzantine music; secular Byzantine music; semiotics

Introduction

Nonsense syllables in Byzantine music[1]

According to Diane Touliatos, the traditional use of nonsense syllables in Byzantine music has its roots in antiquity, as a system of solmization in gnostic music, based on syllables constructed on the Greek alphabet's seven vowels *α, ε, η, ι, o, υ, ω*.[2] The combination of the vowels *α, ε, η* and *ω* with the consonant *τ* ('t') produce the syllables *τα, τε, τω, τη* corresponding to the four pitches of the tetrachord, the fundamental system for solmization in Ancient Greek music.[3]

The same syllables *τε, ρε, τω, ρω, τη, ρη,* reappear during the fourteenth century in *teretismata,* musical compositions of the Byzantine empire constructed exclusively upon nonsense syllables, a tradition that is still found to be a common practice in Byzantine music performance. The *teretismata* are referred as "trilling of odes" ("ᾠδῶν τερετίσμασιν").[4] According to Nina-Maria Wanek, during the Cherubikon, the words *ὡς τὸν βασιλέα* (these words are from the moment in the hymn when the faithful prepare 'to receive the King of all') were often accompanied by *teretismata* meant to mimic the chanting of the angels.[5]

The melodies of *teretismata* in ecclesiastical Byzantine music transformed gradually into the *kratēmata*.[6] The word '*kratēmata*,' meaning 'holdings,' is derived from the verb *κρατῶ* which means 'to hold' or 'to sustain,' i.e., to prolong a music passage. The suitability of a metrically long syllable in music for extended vocal performance, defined by sub-metrical parameters in ancient poetry, was of great importance since antiquity, for example, in Pindar's dactylo-epitritic *Epinicia*.[7] Both *teretismata* and *kratēmata* were interpolating musical parts with soloistic technical features, constituting the ornamental basis of Kalophonic compositions.[8]

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1   A historical survey of the nonsense syllables from ancient Greece to Byzantium, has been performed by the present author in: Vassileios Varelas, "Existing Hypotheses about the Emergence of Nonsense Syllables in the Chant Tradition of Teretismata and Kratēmata in Byzantine Music," *Journal of the International Society for Orthodox Music* 7, no. 1 (2023): 35–37.

2   Diane Touliatos, "Nonsense Syllables in the Music of the Ancient Greek and Byzantine Traditions," *The Journal of Musicology* 7, no. 2 (1989): 231.

3   Thomas J. Mathiesen, *Apollo's Lyre: Greek Music and Music Theory in Antiquity and the Middle Ages* (Lincoln: Univesity of Nebraska Press, 1999), 550; Touliatos, "Nonsense Syllables," 231; Aristides Quintilianus, *Peri Musikēs (On Music: In Three Books),* trans. Thomas J. Mathiesen (Yale University, 1983), 33.

4   Rosemary Dubowchik, "Singing with the Angels: Foundation Documents as Evidence for Musical Life in Monasteries of the Byzantine Empire," *Dumbarton Oaks Papers* 56 (2002): 295.

5   Nina Maria Wanek, "The Greek and Latin Cherubikon," *Plainsong and Medieval Music* 26, no. 2 (2017): 106.

6   Oliver Gerlach, *The Oktoechos Hymnography and the Asmatic Rite of Constantinople (Early Byzantine Period)* (Berlin: Humboldt-University, 2018), 35; Touliatos, "Nonsense Syllables," 239.

7   Stefan Hagel, "Adjusting Words to Music: Prolongating Syllables and the Example of 'Dactylo-Epitrite,'" *Journal of Hellenic Studies* 138 (2018): 227.

8   Achilleas Chaldaeakes, review of *Introduction to Kalophony, the Byzantine Ars Nova; The Anagrammatismoi and Mathēmata of Byzantine Chant,* by Gregorios Stathis, *Byzantina Symmeikta* 26, no. 2 (2016): 416; Edward V. Williams, review of *Byzantine Trisagia and Cheroubika of the Fourteenth and Fifteenth Centuries: A Study of Late Byzantine Liturgical Chant* by Dimitri E. Conomos, *Journal of the American Musicological Society* 30, no. 1 (1977): 149; Gregorios Stathis, *Introduction to Kalophony, the Byzantine 'Ars Nova': The Anagrammatismoi*

The intonation formulae in Byzantine music are called *ēchēma, enēchēma, or apēchēma,,* and each *ēchos* is allocated a name of the mode, such as: *ananeanes (ēchos protos), neanes (ēchos deuteros), nana* or *aneeanes (ēchos tritos), hagia (ēchos tetartos), aneanes (ēchos plagios protos), neanes (ēchos plagios deuteros), aanes (ēchos barys)* and *nehagie (ēchos plagios tetartos).* [9] The melodic formulae that the *domestikos* (precentor) sings in order to introduce the *ēchos* (mode) are also constructed upon nonsense syllables. The similarity of the intonation formulae *neannoe, noeagis, noeagis* in the medieval Western Church, have caused much speculation about their importation from the Byzantine East and their subsequent introduction into Latin psalms.[10]

Aim and theoretical perspectives

Kofi Agawu, in *Music as Discourse: Semiotic Adventures in Romantic Music*, writes:

> The question of whether music has meaning has been the subject of sustained debate ever since music became a subject of academic inquiry. Is music a language? Does it communicate specific ideas and emotions? What does music mean, and how does this meaning manifest itself? […] Music's contexts are many, probably infinite. Music resembles myth, animates religious ritual, and facilitates movement and dance. It is an agent in music drama and plays a catalytic if not constitutive role in film and other forms of visual narrative. Music frequently transgresses borders and seems uniquely placed among the arts to do so. Perhaps the most basic of these associations, however, is that between music and natural language. And this is because whereas language is already a common factor in myth, ritual, drama, and film, its incorporation into music takes place in particular ways and under special circumstances; it forms a second order semiological system. Exploring the affinities between music and this particular "other" may thus prove instructive.[11]

The present article studies such "special circumstances" and explores the meaningful (semiotic) functions of the nonsense (non-semantic) syllables in *teretismata* and *kratēmata* compositions of Byzantine chant.[12]

A theoretical perspective taken into account in this study in order to re-examine the ornamental compositions of *teretismata* and *kratēmata*, and then formulate a hypothesis about what may be termed a 'proto-programmatic' music based on nonsense syllables, is Agawu's notion of "morphophonemic

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and Mathēmata of Byzantine Chant (Bern: Peter Lang, 2014), 58–60; Arsinoi Ioannidou, "The Kalophonic Settings of the Second Psalm in the Byzantine Chant Tradition of the Fourteenth and Fifteenth Centuries" (PhD diss., University of New York, 2014), 45; Maria Alexandrou, "Byzantine Kalophonia, Illustrated by St. John Koukouzeles' Piece *Φρούρησον Πανένδοξε* in Honour of St. Demetrios from Thessaloniki. Issues of Notation and Analysis," *Teatru, Muzică, Cinematografie, serie nouă* 5–6, no. 49–50 (Bucureşti, 2011–2012): 57–58.

9   Egon Wellesz, *A History of Byzantine Music and Hymnography* (Oxford University Press, 1961), 304; Gregorios Anastasiou, *Τα Κρατήματα στην Ψαλτική Τέχνη* (Athens: Institute of Byzantine Musicology, 2005), 90.

10   Eric Werner, "The Psalmodic Formula 'Neannoe' and its Origin," *The Musical Quarterly* 28, no. 1 (1942): 93.

11   Kofi Agawu, "Music as Language," in *Music as Discourse: Semiotic Adventures in Romantic Music*, ed. Kofi Awawu (Oxford University Press, 2009), 15.

12   "Nonsense syllables" refers to the irrational singing upon the syllables te, re, to, ro, ti, ri, encountered in the musical compositions of *teretismata* and *kratēmata*. This singing practice has been reviewed by the present author in Varelas, "Existing Hypotheses about the Emergence of Nonsense Syllables," 34–50.

component." Agawu points out that "ornamentation, likewise, involves the imaginative recasting of existing ideas, a process that resonates with certain oratorical functions. Ornamentation corresponds in many respects to the so-called 'morphophonemic component.'"[13] This perspective highlights the *teretismos*, the main ornamental technical feature of the nonsense syllables in Byzantine music. Therefore, the goal of this study is to reveal the hermeneutic and semiotic function of *teretismos* as a 'morphophonemic component' expressing images and ideas by mean of nonsense syllables.

Another theoretical perspective considered in the present article is the music-as-language metaphor and Agawu's notion of the role of language as a metalanguage for music. Here, Agawu's notion is extended beyond the above language-metalanguage dipole, to the notion of non-language (syllables with no semantic content, i.e., 'nonsense syllables') as a pre-language for music.[14]

The main historical hypotheses concerning the development of nonsense syllables in Byzantine music, are those of Diane Touliatos, Gregorios Stathis and Gregorios Anastasiou.[15] Touliatos takes antiquity as a starting point for her hypothesis and posits the roots of nonsense syllables in the music of Ancient Greece. After a historical gap of several centuries, those syllables reappear in Byzantine music during the fourteenth century.[16] Stathis and Anastasiou examine the phenomenon exclusively within the boundaries of Byzantine music.[17]

The aim of this article is to offer new perspectives on the functional role and the secular character of nonsense syllables in Byzantine music by proposing—from extant evidence—a preliminary hypothesis about the genealogical development of *teretismata* and *kratēmata* from ancient Greek to post-Byzantine music. Moreover, the use of another category of intonation nonsense syllables in Byzantine music, the *ēchēmata (or apēchēmata)*, is comparatively presented in order to show the extended use of the nonsense syllables in Byzantine music. Finally, proposals for further research and investigation concerning the relation of *kratēmata* with Byzantine secular music are discussed.

To achieve the goals of this study, text criticism and historical analysis of the following sources, was performed: a) the treatise *Harmonika (Ἁρμονικά)* of Manuel Bryennios (Magdalen College MS Gr 13); b) the tenth century *Book of Ceremonies* of the Byzantine Emperor Constantine Porphyrogennetos; and c) different versions of the so-called *Service of the Furnace* (National Library of Greece, EBE 2047 and EBE 2406; Iviron Monastery, Ivison 1120; St Catherine's Monastery, Sinai Gr. 1527; and Monastery of Great Lavra, Lavra Λ 165).

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13   Agawu, "Music as Language," 17.
14   Agawu, "Music as Language," 18.
15   These different historical hypotheses have been reviewed by the present author in Varelas, "Existing hypotheses about the emergence of nonsense syllables."
16   Touliatos, "Nonsense Syllables," 231–243.
17   Gregorios Stathis, *Οι Αναγραμματισμοί Και Τα Μαθήματα Της Βυζαντινής Μελοποιίας: και πανομοιότυπος έκδοσις του καλοφωνικού στιχηρού της Μεταμορφώσεως "Προτύπων την ανάστασιν", μεθ' όλων των ποδών και αναγραμματισμών αυτού, εκ του Μαθηματαρίου του Χουρμουζίου Χαρτοφύλακος* (Athens: Institute of Byzantine Musicology, 1979); Stathis, *The Anagrammatismoi and Mathēmata of Byzantine Chant*; Anastasiou, *Τα Κρατήματα στην Ψαλτική Τέχνη*.

Theoretical issues and problems of the topic

Sources of Byzantine music theory from the Byzantine period

In the Byzantine empire, the teaching of music theory from antiquity was preserved as part of the four subjects of the *Quadrivium*: music, arithmetic, geometry, and astronomy. The surviving music theory books following this tradition do not really deal with the music of their time, instead often copying sources from antiquity. The theoretical foundations and language for teaching the art of Byzantine music were poor compared to the treatises of music theory from this period, because they were mainly based on manuals offering basic instructions for the understanding of musical notation and the ecclesiastical *octoēchos*. Despite this, the information given in these manuals is valuable for the understanding of Byzantine music.[18]

The *Harmonics* by Manuel Bryennios, written around 1300 CE, is a theoretical treatise where these two traditions encounter each other.[19] This theoretical work, though heavily influenced by Aristeidēs Quintilianus's treatise *On Music* (in Jonker's edition of the *Harmonics*, forty-three *loci paralleli* with Quintilianus' treatise are mentioned),[20] is very significant, as it bridges two traditions: the music theory of antiquity and the practice and performance of Byzantine music.[21] In the most extended study on the topic of music theory in Byzantium, Christian Hannick states that Bryennios is the most important theorist of Byzantine music theory, and that from the perspective of a constant juxtaposition between antiquity and the Byzantine era, his theoretical considerations constitute a significant step towards the development of a consistent music theory.[22] As Hannick states: "In Bryennios, Byzantine music theory found its greatest representative."[23]

Although Bryennios's theoretical work is based on music theory as received from antiquity, it aims to be the theoretical basis for the Byzantine musicians and composers. For this reason, he attempts an extended comparison between the terminology of the μουσικῶν (the Aristoxenean school of music) and the κανονικῶν (the Pythagorean school of music), and the terminology of the μελοποιοί (ecclesiastical musicians and composers).[24]

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18   Because of the fact that almost all written musical sources from Byzantium are affiliated with ecclesiastical music, there is a tendency among most Byzantine scholars to associate the term "Byzantine music" exclusively with the chant of the Orthodox Church. Since both sacred and secular sources are considered in this article, the term "Byzantine music" is used in a wider sense, broadly understood as the music of the Byzantine Empire (from the founding of Constantinople in 324 or its inauguration in 330, until its fall in 1453), in all its forms: ecclesiastical, secular, scholarly and folk music. See also Maria Alexandrou, *Παλαιογραφία Βυζαντινής Μουσικής* (Athens: Hellenic Academic Ebooks, 2017), 29.

19   Efstathios Makris, "Ο Μανουήλ Βρυέννιος και η βυζαντινή εκκλησιαστική μουσική," *Μουσικολογία* 19 (2007): 277–286.

20   Manuel Bryennios, *The Harmonics*, transl. and ed. Goverdus Henricus Jonker. (Groningen: Wolters-Noordhoff Publishing, 1970).

21   Thomas J. Mathiesen, "Aristides Quintilianus and the 'Harmonics' of Manuel Bryennios: A Study in Byzantine Music Theory," *Journal of Music Theory* 27, no. 1 (1983): 31, 34.

22   Christian Hannick, "Βυζαντινή μουσική," in *Βυζαντινή Λογοτεχνία: Ή λόγια κοσμική γραμματεία τῶν Βυζατνινῶν*, ed. Herbert Hunger, Greek transl. Dimitris Giannou (Athens: MIET-National Bank of Greece Cultural Foundation, 1994), 396, 398.

23   Hannick, "Βυζαντινή Μουσική," 396.

24   Hannick, "Βυζαντινή Μουσική," 399.

Here, it is worth mentioning that "Byzantine music" in Bryennios's work is treated according to the general definition that embraces not only ecclesiastical but also secular Byzantium.[25] For most scholars of Byzantine music, Bryennios's treatise is not accepted as an authentic theoretical book of ecclesiastical Byzantine music, a distinction that reinforces the separation between ecclesiastical vis-à-vis secular music and culture in Byzantium.[26]

Sources relating to secular Byzantine music

To date, numerous ecclesiastical manuscripts with compositions of *kratēmata* as autonomous music composed by eponymous Byzantine melodists—which are still in use in chant performance during the rituals of the Orthodox Church—have been discovered in monasteries and libraries, mainly in Greece but also elsewhere.[27] However, there is a lack of adequate written manuscripts of secular music—the oldest folk song written in Byzantine neumatic notation is dated to 1562 (Iviron Monastery, Iviron 1189), which makes it impossible to validate any affiliation between ecclesiastical and secular music in the Byzantine era.[28] This lacuna has often been the subject of debate among various Byzantine music scholars as seen in the work of the musicologist Christodoulos Chalaris who argued for the previous existence of written secular Byzantine music, but whose opinions and interpretations of old neumatic Byzantine music have been strongly criticized.[29]

By contrast, the existence of post-Byzantine secular music is very well established by the discovery and analysis of written sources, for instance, the autonomous secular *kratēmata* compositions and folk songs written in special neumatic musical writing, known as Byzantine *parasimantikē* or Byzantine gestures.[30] Positions arguing for close relations between the *kratēmata* and secular Byzantine music are controversial among Byzantine scholars, but nowadays, more researchers tend to accept the hypothesis about the origin of *kratēmata* in the secular music of Byzantium, as corroborated by recent research.[31] Moreover, claims of the authenticity of various Christian music traditions have been re-examined through the lens of ethnomusicology and subsequently reclassified as folkloric or ethnic music.[32]

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25   Makris, "Ο Μανουήλ Βρυέννιος και η βυζαντινή εκκλησιαστική μουσική," 278, 285.
26   Makris, "Ο Μανουήλ Βρυέννιος και η βυζαντινή εκκλησιαστική μουσική," 280, 286.
27   Anastasiou, *Τα Κρατήματα στην Ψαλτική Τέχνη*, 167–243.
28   Panagiotis Koutras, "Κοσμική Μουσική σε Χειρόγραφα του Αγίου Όρους" (M.A. diss., Aristotle University of Thessaloniki, 2021), 34; Kyriakos Kalaitzidis, *Κοσμική Μουσική στη Χειρόγραφη Παράδοση της Ψαλτικής Τέχνης (ιε΄- ιθ΄αι.)* (Athens: Institute of Byzantine Musicology, 2020), 63–64.
29   Martti Leiwo and Risto Pekka Pennanen, "The Byzantine secular music – fact or fiction?" *Acta Byzantina Fennica* 1995–1996, no. 8 (1996): 37–51.
30   Kalaitzidis, *Κοσμική Μουσική στη Χειρόγραφη Παράδοση της Ψαλτικής Τέχνης (ιε΄- ιθ΄αι.)*; Alexandrou, *Παλαιογραφία Βυζαντινής Μουσικής*, 29.
31   Kyriakos Kalaitzidis, *Post-Byzantine Music Manuscripts as a Source for Oriental Secular Music (15th to Early 19th Century)*, trans. Kiriaki Koubaroulis & Dimitri Koubaroulis (Würzburg: Ergon-Verlag, 2016), 19–20.
32   Richard Barrett, "Byzantine Chant, Authenticity, and Identity: Musicological Historiography through the Eyes of Folklore," *Greek Orthodox Theological Review* 55 no. 1–4 (2010): 182.

Exegesis of the function of neumatic notation before the New Method in 1814

During the Middle Byzantine period of notation (Middle Byzantine "Melodic" notation or "Old Method," was in use from the twelfth until the middle of nineteenth century),[33] the main elementary textbook for teaching music was commonly known as the *Papadikē* (Προθεωρία τῆς Παπαδικῆς). The textbook was a collection of short texts, tables, and didactic poems used as the basis for musical education of the *psaltes* (chanters).[34] The *Papadikē* underwent various developmental phases, reflecting in its different layers the evolution of Middle Byzantine notation. Although each *Papadikē* is a unique piece of work, they can be categorized on the basis of main features into three types: a) the *Proto-papadikē* of the first evolutionary stage of Middle Byzantine notation; b) the pro-theories of *Papadikē* which reflect and regulate the late Middle Byzantine notation; and c) a shorter version of *Papadikē*, containing the most basic elements for music training, usually placed at the beginning of the *Anastasimatarion* (hymnbook of the Resurrection).[35]

During the fifteenth century, the Byzantine neumes were divided in the *Papadikē* into two groups of phonetic (ἔμφωνα) interval signs: the "bodies" (σώματα) and the "spirits" (πνεύματα). The former move in steps and the latter in leaps; both are marked with black colour in the manuscripts. During the Kalophonic era of Byzantine music (1250–1500), the great hypostaseis (μεγάλες ὑποστάσεις), another group of the "speechless" (ἄφωνα) signs (see fig. 1) appeared in regular use by the great melodists, usually marked with red colour in the manuscripts (see fig. 2).[36]
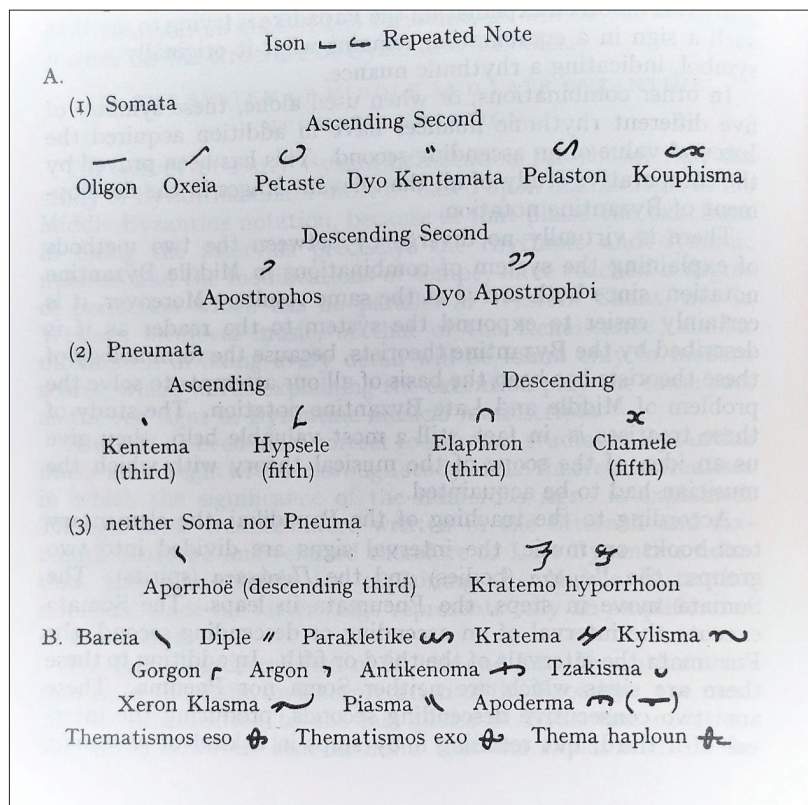
Figure 1. A) Interval signs (ἔμφωνα) and B) most important *hypostaseis* (ἄφωνα).[37]

33   Alexandrou, *Παλαιογραφία Βυζαντινῆς Μουσικῆς*, 53–59.
34   Alexandrou, *Παλαιογραφία Βυζαντινῆς Μουσικῆς*, 311–312.
35   Alexandrou, *Παλαιογραφία Βυζαντινῆς Μουσικῆς*, 312–316.
36   Alexandrou, *Παλαιογραφία Βυζαντινῆς Μουσικῆς*, 85, 311; Wellesz, *A History of Byzantine Music and Hymnography*, 285–286.
37   Table reproduced from Wellesz, *A History of Byzantine Music and Hymnography*, 286.

Figure 2. Use of black and red ink in the first dated *Papadikē,* 1336 CE.
© National Library of Greece.[38]

After the revision of Byzantine notation in 1814, the New Method (*Θεωρητικόν*), compiled by Chrysanthos of Madytos,[39] sufficiently explained the function and the role of neumes in *parasimantikē*. In the New Method, the role of neumes became simpler and many neumes used in the earlier periods of Byzantine music notation were abandoned. Various eminent Byzantine musicology scholars, including Henry Julius Wetenhall Tillyard, Egon Wellesz, Gregorios Stathis, Ioannis Arvanitis, and Maria Alexandrou,

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38   EBE 2458, fol. 11r.

39   Chrysanthos, *Θεωρητικὸν Μέγα τῆς Μουσικῆς* (Trieste: Εκ της Τυπογραφίας Μιχαήλ Βάις, 1832); Chrysanthos, *Εἰσαγωγὴ εἰς τὸ θεωρητικὸν καὶ πρακτικὸν τῆς ἐκκλησιαστικῆς μουσικῆς* (Paris: Εκ της τυπογραφίας Ριγνίου, 1821).

have attempted to explain the notion and function of the *paleography* of Byzantine music (i.e., the old neumatic method), but have not come to a clear point of convergence or theoretical agreement.[40]

Text criticism and historical analysis

Manuel Bryennios: Teretismos as technical and distinctive feature of melos and melodic types of ēchoi

In modern musicological terminology, the term "melody type" relates to:

> […] any of a variety of melodic formulas, figurations, and progressions and rhythmic patterns used in the creation of melodies in certain forms of non-European and early European music […]. This combinative approach has been typical of vast segments of the greater Mediterranean orbit and its Asian extensions as far as southern India (e.g., in the raga). Though admittedly ambiguous, the ancient Greek category of *nomos* may have involved such melody types, as did its Christian successor, the Byzantine *ēchos*, as well as the Syrian *ris-qole* and the Arabian *maqām*. In Europe melody types would seem to account for certain common characteristics of some early layers of Gregorian chant. Living examples are found in the chanting of Hebrew cantors worldwide.[41]

The understanding of the notion of melodic type is crucial in order to distinguish between sub-types of modal music of various Western and non-Western cultures, as these melodic types were mainly in use in the composition of non-Western and early music. The melodic type should not be thought of as separate from the church mode. As Harold S. Powers states:

> The mode, we may therefore conclude, is not merely a "scale" but the sum of all the formulae which constitute the quality of an *ēchos*. The melody type phenomena observed in *maqām* and *ēchos* are proposed as members of a larger metacultural musical entity.[42]

In his treatise, Bryennios defines and analyses twelve terms applied both to vocal and instrumental music, used by all composers for various types of melody and commonly called *ēchoi*: "[…] our next task should be to give, according to our previously accepted method, an account of the various species of melody, which composers nowadays call *ēchoi* […]. Briefly then, these terms are twelve in number."[43] These terms are: *prolepsis, eclepsis,*

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40   Alexandrou, *Παλαιογραφία Βυζαντινής Μουσικής*; Ioannis Arvanitis, "A way to the transcription of Old Byzantine Chant," in *Byzantine Chant, Tradition and Reform: Acts of a Meeting held at the Danish Institute at Athens, 1993*. Monographs of the Danish Institute at Athens, ed. Christian Troelsgård (Athens: Danish Institute at Athens, 1997), 123–141; Gregorios Stathis, *Η Εξήγησις της Παλαιάς Βυζαντινής Σημειογραφίας* (Athens: Institute of Byzantine Musicology, 1978); Wellesz, *A History of Byzantine Music and Hymnography*; Henry Julius Wetenhall Tillyard, *Handbook of the Middle Byzantine Musical Notation. Series: Monumenta musicae Byzantinae*, Subsidia, v. 1, facs. 1. (Copenhague: Levin & Munksgaard, 1935).

41   Britannica, s.v. "Melody type," accessed June 24, 2021, https://www.britannica.com/art/melody-type.

42   Grove Music Online, s.v. "Mode," by Harold S. Powers, et al., accessed June 24, 2021, https://doi.org/10.1093/gmo/9781561592630.article.43718.

43   Bryennios, *The Harmonics*, 309. The original Greek text (in Bryennios, The Harmonics, 308): "[…] καὶ περὶ τῶν τῆς μελῳδίας ἁπάντων εἰδῶν τῶν κοινῶς ὑπὸ τῶν μελωποιῶν καλουμένων ἤχων […]. Ἔστι τοίνυν τά τοῦ μουσικοῦ τε καὶ ὀργανικοῦ μέλους ὀνόματα ὡς συνελόντι φάναι δεκαδύο."

prolemmatismos, eclemmatismos, melismos, prokrousis, ekkrousis, prokrou(s)mos, ekkrou(s)mos, kopmismos, teretismos and *diastole.*[44]

According to Hannick, Bryennios associates the melodic types called *prolepsis* (πρόληψις) and *prokrousis* (πρόκρουσις) with *ēchēma* (ἤχημα). Hannick states that Bryennios refers to *ēchēma* as having precisely the same practical function as when *ēchēma* is used in the Byzantine ecclesiastical tradition as an *intonation formula* for the intonation of an *ēchos*.

The word *melismos* is a derivative of the Greek verb *melizo* (μελίζω) which means 'to sing ornamentally.' Bryennios asserts that *melismos* appears in a vocal melody (*melos*). "*Melismos* is found when we use one and the same note in a vocal melody more than once with a distinctly pronounced syllable."[45] Bryennios does not qualify the *melos* exclusively as vocal or instrumental, rather it can be found in both cases. Among scholars in Byzantine musicology, the general trend is to limit the notion of *melos* mainly to vocal performances of music and "only by exception is it applied to instrumental music."[46]

The word *kompismos,* in turn, is derived from the Greek verb *kompazo* (κομπάζω) meaning 'to rant,' 'swagger,' or 'brag.' According to Bryennios, *kompismos* appears in an instrumental melody. "*Kompismos* means that one and the same note is used twice or more in an instrumental melody."[47] *Teretismos* is the combination of *melismos* with *kompismos:* "It is necessary to know that the combined form which occurs when *melismos* and *kompismos* are joined, is called by some *teretismos.*"[48]

In his treatise, Bryennios asserts that, among the above terms, only *teretismos* applies to both vocal and instrumental music, for example, when someone sings the melody and simultaneously plucks the strings of the instrument with the fingers or the plectrum i.e. accompanying of the voice by string instruments. But strictly speaking, *teretismos* is applicable in the case of a person singing and playing an instrument at the same time, traversing the melody both to the upper part of the scale i.e., the *netôn tetrachord*, and to the lower part i.e., the *hypatôn tetrachord*. This is, according to him, "what the cicada does."[49]

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44 Bryennios, *The Harmonics*, 309.
45 Bryennios, *The Harmonics*, 311. The original Greek text (in Bryennios, *The Harmonics*, 310): "Μελισμὸς δέ, ὅταν τὸν αὐτὸν φθόγγων πλεονάκις ἢ ἅπαξ κατὰ μουσικὸν μέλος μετά τινος ἐνάρθρου συλλαβῆς παραλαμβάνωμεν."
46 Stathis, *The Anagrammatismoi and Mathēmata of Byzantine Chant*, 4.
47 Bryennios, *The Harmonics*, 313. The original Greek (in Bryennios, *The Harmonics*, 312): "Κομπισμὸς δέ, ὅταν τὸν αὐτὸν φθόγγων πλεονάκις ἢ ἅπαξ κατὰ μουσικὸν μέλος μετά τινος ἐνάρθρου συλλαβῆς παραλαμβάνωμεν."
48 Bryennios, *The Harmonics*, 313. The original Greek text (in Bryennios, *The Harmonics*, 312): "Εἰδέναι μέντοι χρή, ὅτι τὸν κοινὸν σχηματισμὸν ἐκ τῆς συνθέσεως τοῦ μελισμοῦ καὶ τοῦ κομπισμοῦ ἔνιοι καλοῦσι τερετισμόν."
49 Bryennios, *The Harmonics*, 313. The original Greek text (in Bryennios, *The Harmonics*, 312): "[…] ὁ δὲ τερετισμὸς κοινὸς τοῦ τε μουσικοῦ καὶ ὀργανικοῦ· καὶ γὰρ ὅταν τις τῷ μὲν στόματι ᾄδῃ, τοῖς δὲ δακτύλοις ἢ τῷ πλήκτρῳ τὰς χορδὰς κατὰ τὸ μέλος κρούῃ, τότε τερετίζειν λέγεται· ἢ μᾶλλον τότε τις ἀληθῶς τερετίζειν λέγεται, ἐπειδὰν οὐ μόνον τὸ ὀξύτερον μέρος τοῦ μέλους ἤτοι τὸ τῶν νητῶν τετράχορδον μετ' ᾠδῆς ἅμα καὶ κρούσεως διεξέρχοιτο, ἀλλὰ καὶ τὸ βαρύτερον ἤτοι τὸ τῶν ὑπάτων· οὕτω καὶ γὰρ ἐναργῶς τερετίζειν οἱ τέττιγες φαίνονται."

The term was accepted and received in Byzantine ecclesiastical music but with the meaning of melismatic *melos* (chant). In the *Encyclopedia of Ancient Greek Music*, Solon Michailides explains that the term *teretismos* originates from the verb τερετίζω, which means 'to chirrup' or 'to mimic' the song of a cicada or a swallow by performing a type of trill, either by singing or playing the guitar. He mentions that according to Bryennios and Bellermann's *Anonymous*, *teretismos* is the combination of *melismos* and *kompismos*.[50]

From all the above, it is indicated that the term *teretismos* is mimetic of nature (e.g. the cicada) and it is associated mainly with a certain technical feature of music performance within a melody constituting a distinctive melodic feature of *echoi* (modes) similar to a trill, both in vocal and instrumental music. The practice of *teretismos* seems to extend even further, by defining a certain species (or name or category) of *melos* or *melic composition*, but not a certain type of autonomous melismatic composition.

Morever, Bryennios's description of the performative function of *teretismos* in prolonging the syllable of the music text is in accordance with the general function of *teretismata* and *kratēmata* in Byzantine ecclesiastical music, i.e. prolonging the musical phrase ('κρατῶ' means 'to hold,' 'to prolong,' much like 'tenor' means 'to hold' in Latin).

The duration of the application of *teretismos* and each of the twelve technical features, i.e. the terms for *ēchoi*, is not defined by Bryennios. Moreover, Bryennios's description of *teretismos* shows that the singer probably sings either in unison or an octave higher or lower by simultaneously plucking the melody on the strings.

Kratēmata and ēchēmata in Byzantine liturgical drama: The Service of the Furnace

The term *liturgical drama* is well accepted in the study of medieval Western European religious theater.[51] The genre extends to Orthodox tradition in the form of the play called *The Three Children in the Furnace*, from the biblical book of Daniel (chapter 3), although Wellesz has suggested also other theatrical arrangements in the Orthodox services e.g., the dramatic performance of the *stichera* sequence for the Nativity of Christ.[52]

Dating from the fifteenth to seventeenth centuries, the five manuscripts of the play which are preserved with musical notation are:

1. A_1-Athens, National Library of Greece, EBE 2047 (c. 1416–29)
2. A_2-Athens, National Library of Greece, EBE 2406 (c. 1453)
3. *I*-Iviron, Iviron Monastery, Iviron 1120 (c. 1458)
4. *S*-Sinai, St Catherine's Monastery, Sinai Gr. 1527 (16th cent.)
5. *L*-Lavra, Monastery of Great Lavra, Lavra Λ 165, (c. 17th cent.)

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50   Solon Michailides, *Encyclopedia of Ancient Greek Music* (Athens: MIET-National Bank of Greece Cultural Foundation, 1981), 306.
51   Miloš M. Velimirović, "Liturgical Drama in Byzantium and Russia," *Dumbarton Oaks Papers* 16 (1962): 351.
52   Velimirović, "Liturgical Drama in Byzantium and Russia," 352.

These five versions of the play have been reviewed by Andrew White,[53] although some corrections and revised renderings and translations of the text in some passages were done by the present author (who disagrees with some of White's translations). For example, ἀνάλογα πρὸς τῶν διπλασιασμῶν τῆς φωνῆς τῶν παίδων is translated by White as "resembling an echo of the children's register." The article τῶν refers to the plural of διπλασιασμός, which means "doubling." So, the τῶν διπλασιασμῶν ought to be "of the doublings" (plural).[54]

According to Miloš Velimirović, "a comparison of the four texts of this play (A_2, I, S, L) shows remarkable agreement despite the existence of two distinct variants in the textual tradition."[55]

The extended use of nonsense syllables in the form of *kratēmata* and *ēchēmata* is mentioned in the stage directions of the play in all five redactions.

A_1-Athens, National Library of Greece, EBE 2047[56]

Text	Translation
[220r]: "Καὶ λέγουσι τὸν παρόντον εἱρμόν, μετὰ τῶν ἠχημάτων αὐτοῦ."	"And they sing/recite the present *heirmos* in accordance with its *ēchēmata*."
[220r]: "Καὶ ψάλλουσιν οἱ ψάλται τὰ ἠχήματα κομμάτια κρατημ[άτων] πλαγίου τετάρτου ἤχου ἀνάλογα πρὸς τῶν διπλασιασμῶν τῆς φωνῆς τῶν παίδων· Εἰς δὲ τὸ τέλος τοῦ κρατέματος, λέγουσιν ἀπὸ χοροῦ πάντα εἰς τὴν αὐτὴν φωνήν, τοῦτο, Εὐλογητὸς εἶ Κύριε, σῶσον ἡμᾶς."	"And the *psaltes* sing the *ēchēmata* selections from the *kratēmata* of the *ēchos* (mode) 4th plagal according to the doublings of the children's voice. At the end of the *kratēma*, the chorus sings everything in unison, thus: *Blessed art thou Lord, save us*."
[220r]: "Ψάλλουσι δὲ τὸν παρόντα εἱρμόν μετὰ τῶν ἠχημάτων αὐτοῦ· ἤχος Β.'"	"They sing the present *eirmos* in accordance to its *ēchēmata*; *ēchos* 2nd."
[220r]: "Καὶ εὐθὺς τὸν εἱρμόν τὰ τῶν ἠχημάτων."	"And straight away the *eirmos* with its *ēchēmata*."
[221r]: "Λέγεται δὲ κράτημα εἰς ἤχον ἀ, καὶ λέγεται ὁ εἱρμός."	"*Kratēma* in 1st *ēchos* is sung/recited, and the *eirmos* is sung/recited."
[221r]: "Τὸ κράτημα· καὶ τὸν εἱρμόν."	"The *kratēma* and the *eirmos*"
[221r]: "Καὶ ὁμοῦ εἰπόντες κράτημα, ἐπισυνάπτουσι τὸν εἱρμόν."	"And together saying/reciting a *kratēma*, then singing the *eirmos*."
[221r]: "Εἰς τοῦτον τὸν στίχον ψάλλουσιν εἱρμὸν μετὰ κρατήματος, εἰς ἤχον πλ.ἀ. Σοὶ τῷ παντουργῷ."	"At this verse they chant *eirmos* with a *kratēma* in *ēchos* 1st plagal. For Thee the omnipotent."

53   Andrew Walker White, *Performing Orthodox Ritual in Byzantium* (Cambridge University Press, 2015), 190–218.

54   White, *Performing Orthodox Ritual in Byzantium*, 194.

55   Velimirović, "Liturgical Drama in Byzantium and Russia," 354.

56   Text and translation from White, *Performing Orthodox Ritual in Byzantium*, 190–202.

Text	Translation
[221r]: "Καὶ λέγουσε κράτημα εἰς ἦχον Δ᾿· καὶ τὸν εἱρμόν· Παῖδες εὐαγεῖς ἐν τῆ καμίνω· οἱ δὲ παῖδες χορεύοντες, καὶ τὰς χεῖρας ἐκτείναντ[ες], ψάλλουσιν εἰς ἦχον πλ. Δ.᾿"	"And they recite/sing *kratēma* in *ēchos* 4th plagal and the *eirmos*: *The pure children in the furnace.* And the children dancing and extending their hand, they sing in *ēchos* 4th plagal."
[221r]: "Εἶτα κράτημα· καὶ τὸν εἱρμὸν ἦχος πλ. Β.᾿"	"Then *kratēma·* and the *eirmos* in *ēchos* 2nd plagal."
[221r]: "Οἱ μέντοι ψάλται, λέγουσι κράτημα, εἰς ἦχον πλ.᾿Δ."	"Only the *psaltes* sing *kratēma* in *ēchos* 4th plagal."

A₂-Athens, National Library of Greece, EBE 2406[57]

Text	Translation
[151v]: "ἠχίσματα δὲ λέγομεν κρατημάτων πλαγίων τετάρτεων· ἀνάλογος πρὸς τὸν διπλασιασμὸν τῆς φωνῆς τῶν παίδων· Εἰς δὲ τὸ τέλος τοῦ ἠχίσματος λέγομεν ἀπόκρισιν πάντες εἰς τὴν αὐτὴν φωνὴν οὕτως πλ.᾿δ. Εὐλογηητὸς εἶ Κύριε, σῶσον ἡμᾶς."	"We sing *ēchēmata* of the *kratēmata* in the *ēchos* (mode) 4th plagal according to the doublings of the children's voice. At the end of the *ēchēma*, we sing the response in one voice, thus in 4th plagal: *Blessed art thou Lord, save us.*"

I-Iviron, Iviron Monastery, Iviron 1120[58]

Text	Translation
"Εἶτα ἠχίζει ὁ δομεστικὸς ἤχημα πλ. δ›."	"Then the *domestikos* sings *ēchēma* in 4th plagal."
"Εἰς δὲ τὰ τέλη τῶν ἠχημάτων ψάλλεται τοῦτο ἀπὸ χορῶν πλ.᾿δ. Εὐλογητὸς εἰ, εἶ, Κύριε, σῶσον ἡμᾶς."	"At the end of the *ēchēmata* it is sung by the choruses in 4th plagal: *Blessed art thou Lord, save us.*"
"Ψάλλονται οὖν καὶ οἱ λοιποὶ στίχοι εἰς αὐτὸ τὸ μέλος, καὶ μετὰ τὸ τέλος αὐτῶν, εὐθὺς ἠχίζει ὁ δομέστικος, εἶτα λέγει ἀσματικόν."	"The remaining verses are sung in this *melos* and after their end the *domestikos* sings *ēchēmata*, then sings the *asmatikon*."
"Ὅτε δὲ φθάσει τὸ μέσον τῆς ὠδῆς, εὐθὺς πάλι ἠχίζει ὁ δομέστικος, εἶτα ὁ ἕτερος χορὸς ἤχημα, καὶ μετὰ ταῦτα λέγει ἀσματικόν, εἶτα ψάλλεται τὸ ἐπίλοιπον τῆς ὠδῆς."	"And when it comes to the middle of the ode, the domestikos begins straightaway to sing *ēchēmata*, then the other choir *ēchēma*, and after these, he sings he *asmatikon*, and then the rest of the ode."

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57   Text and translation from White, *Performing Orthodox Ritual in Byzantium*, 203–207.
58   Text and translation from White, *Performing Orthodox Ritual in Byzantium*, 208–211. No folios are provided by White. The Service's instructions can be found on folios 440r–443r; see Spyridon Antonopoulos, "The Life and Works of Manuel Chrysaphes the Lampadarios, and the Figure of Composer in Late Byzantium" (PhD diss., Vol. 2, City, University of London, 2014), 58–59, and Stathis, *The Anagrammatismoi and Mathēmata of Byzantine Chant*, 104.
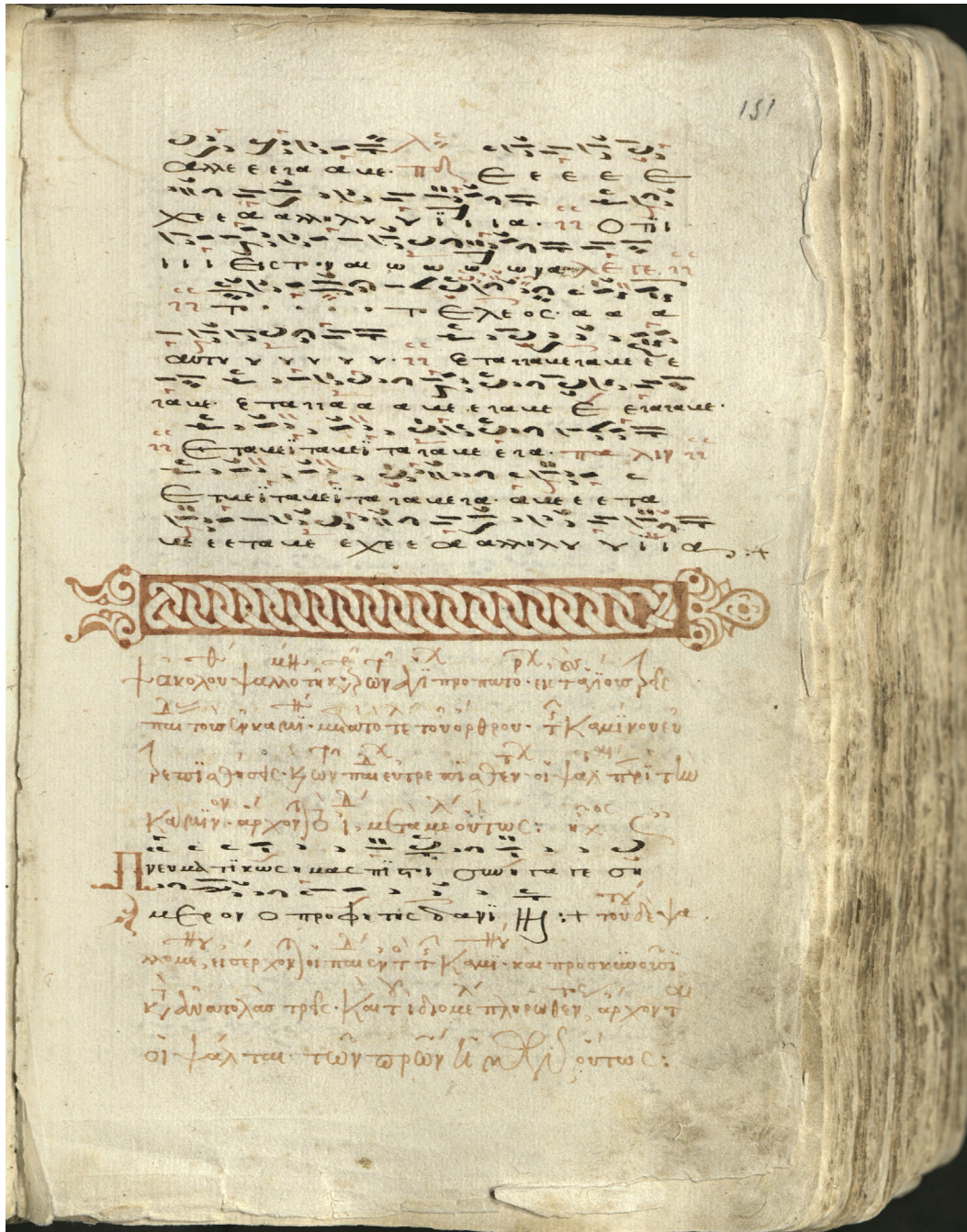
Figure 3. The beginning of *The Service of the Furnace* (c. 1453).
© National Library of Greece.[59]

S-Sinai, St Catherine's Monastery, Sinai Gr. 1527[60]

Text	Translation
[215v]: "Λέγουσι δὲ οἱ *ψάλται* διὰ μέσον καὶ *ἠχίσματα* εἰς πλάγιον δʹ καλοφωνικά."	"The *psaltes* sing *ēchēmata* kalophonically in *ēchos* 4th plagal."

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59   EBE 2406, fol. 151r.
60   Text and translation from White, *Performing Orthodox Ritual in Byzantium*, 212–214.

L-Lavra, Monastery of Great Lavra, Lavra Λ 165[61]

Text	Translation
"Ψάλλεται οὖν καὶ ἡ λοιπὴ δοξολογία εἰς αὐτὸ τὸ *μέλος*· καὶ μετὰ τὸ τέλος αὐτῆς ἠχήζει ὁ *Δομέστικος*."	"Then, the remaining *doxologia* (recitation) is sung to this *melos*. After the end of this, the *domestikos* sings *ēchēmata*."
"Ὅτε δὲ φθάση εἰς τὸ μέσον τῆς ὠδῆς, εὐθὺς ἠχήζει ὁ *Δομέστικος*, εἶτα ὁ ἕτερος χορὸς *ἤχημα*."	"When it comes to the end of the ode, the *domestikos* straightaway sings *ēchēmata*, then the other choir *ēchēma*."

The comparative historical analysis of the passages dealing with the use of nonsense syllables in *ēchēmata* and *kratēmata* in the five versions of *The Service of the Furnace* (dating from 1416–29 until the seventeenth century) reveals some very interesting points. The term *teretismos* does not appear anywhere, but only *ēchēmata* and *kratēmata*. This observation resembles Stathis's theoretical approach about the origin of the *kratēmata* from the *ēchēmata* or the identical meaning and use of the two terms.[62] The use of *ēchēmata* as prolonged intonation formulae transformed into melismatic interpolations in the beginning, the middle, and the end of the chant, is described in various passages of the texts of the service. The *ēchēmata* and the *kratēmata* are sung along with the *heirmos* and the *domestikos* gives the intonation formula of the *ēchos* by singing the *ēchēmata*.

The doubling (or echoing) of the voice of the children indicates the singing of the *kratēma* in octaves (choir and children). This is also supported by Alexander Lingas: "After the conclusion of a kalophonic interlude of *ēchēmata* and *kratēmata* in the Fourth Plagal Mode evidently involving singing in octaves with the children, Symeon requires the refrain 'Εὐλογητός εἶ, Κύριε· σῶσον ἡμᾶς'."[63] This device resembles Bryennios's description of *teretismos* but with two voices instead of an instrument and a voice. The doubling of the voices in octaves could possibly indicate an early practice of polyphony, maybe similar to parallel organum or an improvisation similar to the spontaneous polyphony encountered in Greece's traditional music. After all, the idea of the strictly monophonic Byzantine music was reconsidered after the discovery of the two-part polyphonic composition "Αἰνεῖται" by Manuel Gazis (late 14th cent.– early 15th cent. musician who also travelled to Crete)[64] (see fig. 4).

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61   Text and translation from White, *Performing Orthodox Ritual in Byzantium*, 215–218. No folios are provided by White. The Service's instructions can be found on folios 324r–325v; see Alexander Lingas, "Late Byzantine Cathedral Liturgy and the Service of the Furnace," in *Approaching the Holy Mountain: Art and Liturgy at St Catherine's Monastery in the Sinai*, ed. Sharon E.J. Gerstel and Robert S. Nelson (Turnhout: Brepols, 2010), 191.
62   Varelas, "Existing Hypotheses.", 41, 43.
63   Lingas, "Late Byzantine Cathedral Liturgy", 214–215.
64   Michalis Adamis, "Πολυφωνική εκκλησιαστική μουσική στο Βυζάντιο του ιε΄ αιώνα," *Μουσικολογία* 2, no. 1 (1986): 51–63.
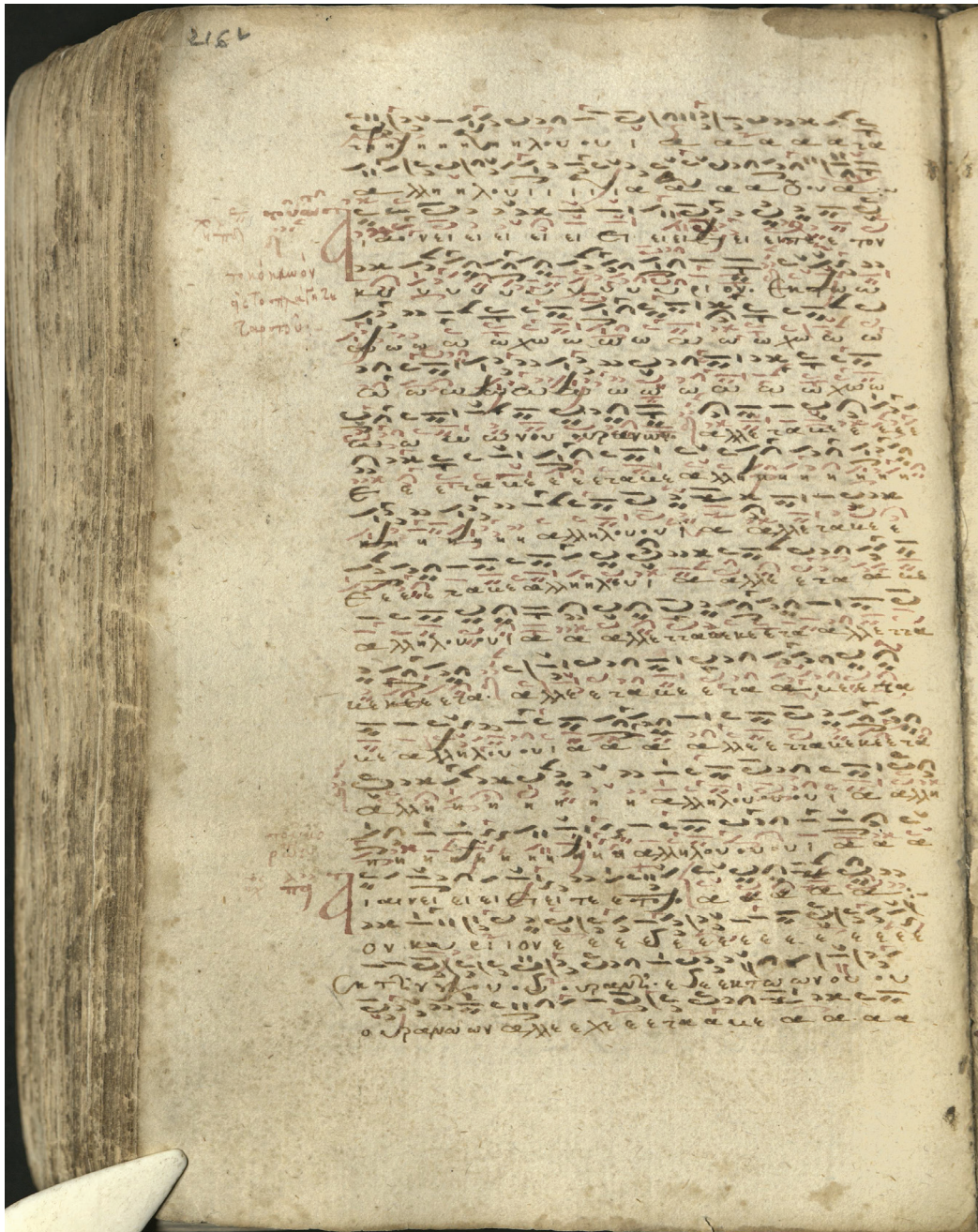
Figure 4. A sample of polyphony in Middle Byzantine notation. At the top we see the beginning of one of the two "Αἰνεῖτε" by Manuel Gazis. It is sung by two voices: the upper voice with neumes in brown in the fourth ēchos, and the lower voice with neumes in red ink in the fourth plagal ēchos. The second "Αἰνεῖτε" by Gazis, in the fourth-fourth plagal ēchos, is in the same manuscript (fol. 328r). © National Library of Greece.[65]

Some scholars have proposed the possible interpretations for the Byzantine *kratēmata* in terms of *idée fixe*, *leitmotif*, and *word-painting*.[66] The interpretation of *idée fixe* ('reoccurring theme') could possibly describe only *kratēmata* which bear names of extra-musical features (e.g., names of

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65 Manuel Gazis, "Αινείτε" in EBE 2401, fol. 216v. See also, Adamis, "Πολυφωνική εκκλησιαστική μουσική στο Βυζάντιο του ιε΄ αιώνα," 51–63.
66 Laura Steenberge, "We who musically represent the cherubim," in *Aural Architecture in Byzantium: Music, Acoustics, and Ritual*, ed. Bissera V. Pentcheva (New York, NY: Routledge, 2018), 145–146.

instruments, emotional states, etc.). According to the rubrics of *The Service of the Furnace*, it is not defined which *kratēma* is sung (whether it is the same each time or whether it is the same in the various versions of the service). The device of *leitmotif* cannot apply in the case of the *kratēmata* as those are long music passages and not short characteristic motifs. Although the interpretation of *kratēmata* as *word-painting* seems plausible in some respects, it ought to be noticed that *word-painting* is used mainly by musical events and patterns in order to reflect the text. We do not always know exactly what the *kratēmata* described or referred to. It is also unclear whether they always reflected the plot of *The Service of the Furnace*, and if so, in which way. Moreover, *word-painting* is not applicable to the *kratēmata's* text in the sense that they are sung upon irrational (non-semantic) syllables. In the case of the *Service*, perhaps the term *incantate painting* could be more appropriate. From the text of the *Service*, it seems that the *kratēmata* function as instrumental sections interpolated between the music and the recited parts of the liturgical-dramatic narration, a function similar to operatic narration.

Another interesting observation concerns the references made to *ēchēmata* and *kratēmata*. After A_1, their frequency chronologically decreases in the sources, i.e., in A_2, *I*, *S*, and *L*.

Constantine Porphyrogennetos: nonsense syllables in Byzantine ceremonies

The *Book of Ceremonies*, written by the Byzantine emperor Constantine Porphyrogennetos (d. 959 CE) constitutes the main source describing imperial, secular, and ecclesiastical ceremonies in Byzantium from the fifth century to 960 CE.[67] In chapter 83, Constantine describes in detail the *Gothic Game*, a ceremony taking place in the palace on the ninth day of the twelve days of Christmas. The ceremony consists of two Goths carrying shields in their left hand, staffs in their right, wearing masks and furs turned inside out, two teams of players, the Greens and the Blues, pandouri-players, and the audience attending the game.[68] The description is of great importance for evidence of the use of Gothic words together with non-Gothic words, as well as nonsense syllables of the *ēchēmata* that the Goths recite, while the pandouri-players play the appropriate tones. Among those, the words *nana (νανά), anana (ανανά)* and *hagia (άγια)* are recited as intonations.[69]

> *Gauzas bonas bekidias. Hagia. Gaudentes elkebonides enkertus. Hagia. Bona hora toutou bantes bona amore episkuantes idesa/batous. Nana. Deous deous sebakiba. Nana. Deumonoguggubele gubilous gubelares. Hagia. Gubilous gubelares. Nana. Tou gegdema de toulbele nikato touldo. Nana.* Hezekiah, having taken up arms in the wars against the Assyrians… *Anana.* And placing his hope only in God, the lover of mankind ... *Nana.* Subdued all the nations and the tyranny of the godless. *Hagia.* May the Saviour, virtuous rulers…

67   Constantine Porphyrogennetos, *The Book of Ceremonies*, trans. Ann Moffatt and Maxeme Tall, *Byzantina Australiensia*, vol. 18, no. 1–2, Australian Association for Byzantine Studies (Leiden: Brill, 2017).

68   Constantine Porphyrogennetos, *The Book of Ceremonies*, 381-386.

69   Anastasiou, *Τα Κρατήματα στην Ψαλτική Τέχνη*, 91.

> *Nana.* Make all your enemies slaves at your feet… Then the instructors along with the demesmen recite the alphabetical acrostic *"Anana"*: (from *alpha* to *ōmega*)… [Delta]: *"Granting life-giving benefactions to the Romans."* Then the instructors again recite *Hagia; ta; ana te anetane."* [70]

The general claim about the nonsense character of the syllables *hagia, nana,* and *anana* should be re-examined as they do not seem to lack specific meanings. The Gothic word *nana* is translated as "God God" or "God's God's." In Hebrew, the same word means, "Save, yes, save." The word *hagia* is from Latin, meaning 'guard.'[71] The same syllables *hagia, nana,* and *anana* are commonly used as *intonation formulae* in the *ēchēmata* of Byzantine music.[72] The appearance of these common syllables in both a secular ceremony and in ecclesiastical Byzantine music reinforces the hypothesis about the secular character of nonsense syllables. Moreover, the use of syllables with some meaningful content in the *ēchēmata* seems to weaken the hypothesis of Stathis and Anastasiou, which maintains that the *kratēmata* originate from the *ēchēmata.* The logical evolution of the former from the latter would entail the origin of the nonsense *kratēmata* from a more archaic 'non-lexical' form and not the opposite.[73]

Other text sources

Kompismos, melismos, teretismos, ēchēma in music treatises

Apart from Bryennios, there are also other music treatises where the terms *kompismos, melismos, teretismos,* and *ēchēma,* are explained. According to Martin L. West,[74] the first evidence of instrumental ornamented music can be traced back to the third century CE, in the Berlin musical papyri for *aulos* and *lyra.*[75] West notes that:

> A symbol for *kompismos* has in fact been identified in the two Berlin instrumental pieces, and Pollux mentions *teretismoi* as part of the aulete's technique, while Agathias, speaks of the *teretismata* of the lyre. *Kompismos* signs also seem to appear in two or three of the unpublished vocal fragments.[76]

The oldest discovered theoretical handbook about ecclesiastical Byzantine music is an anonymous treatise called the *Αγιοπολίτης* (BNF gr. 360) dated to 1400 CE. In the *Αγιοπολίτης*, it is mentioned that "neither can an *ēchos* be found without a melody, nor melodies without an *ēchēma*,"[77] and that the *enēchēma* is the intonation formula of each *ēchos* based on the words *ne,*

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70   Constantine Porphyrogennetos, *The Book of Ceremonies*, 382-383.
71   Constantine Porphyrogennetos, *The Book of Ceremonies*, 385-386.
72   Stathis, *The Anagrammatismoi and Mathēmata of Byzantine Chant*, 111.
73   For a critical review by the present author of the main existing theories on the topic, see also: Varelas, "Existing Hypotheses."
74   Martin L. West, *Ancient Greek Music* (Oxford: Clarendon Press, 1994).
75   Ioannis Zarias, "Η Διαποίκιλση στην Ελληνική Παραδοσιακή Βιολιστική Τέχνη (Ornamentation in Greek traditional violin art)" (PhD diss., University of Macedonia, 2013), 32.
76   West, *Ancient Greek Music,* 204.
77   Jørgen Raasted, *Hagiopolites: a Byzantine Treatise on Music Theory*, ed. Jørgen Raasted (Copenhague: E. Paludan, 1983), 17.

lege, agie, nana, etc.[78] In the same treatise, three types of *kompismoi* (plural of *kompismos*) are described, low tones with low ones, low with high, or high with high.[79]

In the ecclesiastical Byzantine music treatise *Μέθοδον τῶν νεανισμάτων καὶ τερετισμάτων,* written by Xenos Koronēs,[80] the term *teretismos* is related to a special type of *melismatic melos*.[81]

Teretismos and teretismata in Byzantine and post-Byzantine written sources

There are multiple references to *teretismos* and *teretismata* in various Byzantine manuscripts. The irrational, non-verbal, symbolic, theological, and secular character of the *teretismata* is described in the *Exegesis* of Gerasimos, a mid-seventeenth century monk:

> We must know that the *teretismos* is sung in the holy psalms, it is not something accidental as many imprudently admit, but it is finite and with reason […] therefore daily sing with this wordless voice the *terere* […] and according to the symbolic theology, the *terere* aims only to the non-understandable of the Divine. Because, just as you cannot glean any reason from the *terere,* neither can you understand the Divine […] But most people today […] dare to claim that the *teretismos* and the gesture of heavenly music, is an indecental thing, as they know neither the reason nor the evidence […] that the *terere* is a symbolic melos which aims to various things […] the *teretismos* is a living *kithara* (guitar) aiming to the holy resurrection […] but now, by having with us the resurrected Christ, the real life, as he says by himself "I am life," he does not need the non-living, but as alive with a living voice *teretizei* (singing upon nonsense syllables) that melos that the old ones used to *teretizei* with guitars and percussions.[82]

Touliatos considers the association of *teretismata* with *glossolalia* (the 'wordless jubilation,' i.e. the attempt of mimicking the singing of angels) as a possible explanation for the allowance and evolution of this type of singing in the strictly religious Byzantine empire, despite its possible roots in the antique

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78 Raasted, *Hagiopolites*, 51.
79 Raasted, *Hagiopolites*, 82.
80 Hannick, "Βυζαντινή Μουσική," 406–407.
81 Hannick, "Βυζαντινή Μουσική," 399.
82 Ioannis Lampadarios and Stefanos A. Domestikos, "Ἑρμηνεία τοῦ Κρατῆματος τοῦ τερερέ," in *Πανδέκτης τοῦ Χριστοῦ Μεγάλης Ἐκκλησίας IV*, ed Ioannis Lampadarios and Stefanos A. Domestikos (Constantinople, 1851), 885–891. The original text in Greek: "Πρέπει νὰ ἠξεύρωμεν, πῶς ὁ τερετισμὸς ὅπου εἰς τὰς ἱερὰς ψαλμῳδίας ψάλεττι, δὲν εἶναι ἁπλῶς καὶ ὡς ἔτυχε, καθὼς τινες ἀφρονέστεροι ληροῦσιν, ἀλλὰ εἶναι μὲ τέλος καὶ λογαριασμόν […] δια τοῦτο καὶ ἡμεῖς καθημερινὸν ψάλλομεν μὲ τούτην τὴν ἄναρθρον φωνὴν τὸ *τερερέ* [...] και τοῦτο κατὰ τὴν συμβολικῆς θεολογίαν το, τερερέ, δὲν θέλει νὰ σημαδεύσει ἄλλο παρὰ τὸ ἀκατονόητον τῆς Θεότητας. Διατί, καθὼς δὲν ἠμπορεῖς νὰ κατανοήσης ἀπὸ τὸ *τερερὲ* λόγον, μήτε εἰς τὴν θεότηταν ἠμπορεῖς νὰ κατανοήσεις […] Μὰ οἱ περισσότεροι σήμερον […] τολμῶσι νὰ εἴπῶσι πῶς ὁ τερετισμὸς καὶ ἡ χειρονομία τῆς οὐρανομιμήτου μουσικῆς εἶναι ἄπρεπον πρᾶγμα, μὴν ἠξεύροντες μήτε τὴν αἰτίαν, μήτε τὴν ἀπόδειξιν […] ὡς τοῦτο τὸ *τεριρὲ* εἶναι μιὰ συμβολικὴ μελουργία, καὶ σημαδεύει πολλὰ καὶ διάφορα πράγματα […] ὁ τερετισμὸς εἶναι μιὰ ζῶσα κιθάρα, καὶ σημαδεύειν τὴν θείαν Ἀνάστασιν […] μὰ τώρα ἔχουσα τὸν Χριστὸν ἀναστάντα, τὴν ὄντως ζωήν, καθὼς λέγει μονάχος τοῦ «ἐγὼ εἰμὶ ἡ ζωὴ» δὲν χρειάζεται ἀψύχων, μὰ ὡς ζῶσα μὲ ζῶσαν φωνὴν τερερίζει ἐκεῖνο τὸ μέλος ὅπου οἱ παλαιοὶ ἐτερερίμαζι μὲ τὰς κιθάρες καὶ τύμπανα." (Author's translation).

magic papyri and pagan rituals. Monk Gerasimos also explains how the *teretismata* resemble to the running of rivers, the singing of birds, and the trilling of cicadae, as well as how the *teretismata* represent the Trinity (the Father, the Son, and the Holy Spirit) with the letter τ, which is equivalent to the number 300 according the Byzantine system of numbering.[83] This enables a comparison with the common practices in Western church music, specifically the melismatic sections of the 'Alleluia' of the mass in Gregorian chant. The 'Alleluia' melodies were possibly derived from the liturgy of the synagogue; these melodies exist in the Gregorian Alleluia *jubili*.[84] According to Cochrane, "These extended and elaborate vocalizations on the final vowel of the word 'Alleluia' were described by St Augustine: "He who sings a jubilus, speaks no words […] It is the voice of a heart dissolved in joy […] His joy is too great to put into words."[85] Robert Reynolds explains that, according to St Augustine, the term *jubili* expresses how "A man bursts forth in a certain voice of exultation without words […] because filled with too much joy, he cannot explain in words what it is in which he delights."[86]

Anastasiou quotes various sources in post-Byzantine codices, relevant to *teretismata*, and how these relate to birds and cicadae (see table 1).

Table 1. **Quotations from post-Byzantine codices.**

Quotation 1	Quotation 2	Quotation 3
"The swan, the most musical, and the glory of the saints, never stops to sing with *teretismata*, God's songs."[87]	"You after all, a swan with golden voice best sing *teretismata* of God's melos."[88]	The *teretismata* are described as "deceptive odes or immoral songs imitating the cicada and the swallow."[89]

Chrysantos remarks in his *Θεωρητικόν* about the rational and irrational nature of music: "As for the humans and the use of music for their pleasure, two ideas are distinguished, the rational and irrational."[90] For further explanation about the divine nature of the nonsense syllables and their use and origins in music, Chrysantos quotes passages from a music grammar

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83   Touliatos, "Nonsense Syllables," 240–241.

84   Marian Bennett Cochrane, "The Alleluia in Gregorian Chant," *Journal of the American Musicological Society* 7, no. 3 (1954): 214.

85   Cochrane, "The Alleluia in Gregorian Chant," 214.

86   Robert D. Reynolds, "Textless Choral Music," *The Choral Journal* 41, no. 3 (2000): 19.

87   Anastasiou, *Τα Κρατήματα στην Ψαλτική Τέχνη*, 71. Author's translation. The original Greek text is: "Κύκνος ὁ μουσικώτατος, καὶ τῶν ὁσίων δόξα, ἀεὶ οὐ παύει τῷ Θεῷ ἄσματα τερετίζειν." (Xenophontos Monastery, Xenophontos 128 (c. 1761), fol. 26v.).

88   Anastasiou, *Τα Κρατήματα στην Ψαλτική Τέχνη*, 71. Author's translation. The original Greek text is: "Ὡς κύκνος χρυσεύλαλος σὺ ἐν τῷ τέλει τερετίζεις κάλλιστα μέλος Κυρίῳ." (Iviron Monastery, Iviron 980 (c. 1680), fol. 198v.).

89   Anastasiou, *Τα Κρατήματα στην Ψαλτική Τέχνη*, 71. Author's translation. The original Greek text is: "Ὠδαὶ ἀπατηλαὶ ἢ ἄσματα ἔκλυτα ἀπὸ τῆς μεταφορᾶς τοῦ τέτιγγος ἢ τῆς χελιδόνος." (Grigoriou Monastery, Grigoriou 4 (c. 1744), fol. 24v.).

90   Chrysanthos, *Θεωρητικὸν Μέγα τῆς Μουσικῆς*, §§ 446, 203. Author's translation. The original text in Greek: "Εἰς δέ την πρὸς ἀνθρωπαρέσκειαν χρῆσιν τῆς μουσικῆς ἰδέαι διακρίνονται δύο· Λογική, καὶ Ἄλογος."

that he does not name, but claims that the same explanation in the form of an assumption has also been formulated by John of Damascus (d. 749 CE):

> By the same way, you follow those who have the obligation to sing together the holy songs with words rational and irrational […] because the *terere* and the *tititi* and the *nenanne* and the others, typical of angelic glorification (hymns), are written upon rational and irrational words. Because those considered as nonsense words, imply something (meaning). Because, by keeping his word, someone shows who he is and what he is singing. As then, which apology will you give to the judge as the human nature happens to be unstable and fragile? So, the *terere* is produced by the *tēri rou* (meaning: 'following the flow,' 'to keep flowing'). The *toto* from *tote* (meaning: 'then'). The *titi* from *ti tini* (meaning: 'what it is'). These I found written in a grammar of music, although the same conjecture about this matter was also made by John of Damascus.[91]

Secular kratēmata as autonomous post-Byzantine music compositions

In 2011, Kyriakos Kalaitzidis, another student of Grigorios Stathis in the Department of Musicology at the University of Athens, defended a very rigorous work on the topic of oriental secular music discovered in post-Byzantine music manuscripts.[92] The thesis was published in 2016 in German and translated into English by Kiriaki Koubaroulis and Dimitri Koubaroulis.[93] In this work, Kalaitzidis traces the appearance and use of parasēmantiki Byzantine music notation in post-Byzantine manuscripts with compositions of secular music by eighty eponymous oriental composers of various ethnicities (Greek, Turkish, Iranian, Armenian, Jewish, etc.).[94]

Kalaitzidis states that the appearance of nonsense syllables in the text, the melismatic character and the presence of extra-ecclesiastical musical names in the discovered *kratēmata*, are indications of their secular nature. The presence of foreign language syllables in the text such as, ντιλ, ντος, το, γιαλλαλλι, ντος, τουμ, για, λα, λλα, λλε, τοστουμ, γελελα, etc., excludes their relationship to worship and indicates secular melos.[95] The scholar mentions that the writing of secular music in manuscripts was a result

91 Chrysanthos Θεωρητικὸν Μέγα τῆς Μουσικῆς, §§ 446, 203. Author's translation. The original text in Greek: "Οὕτω καὶ ἡμεῖς ἑπόμενοι τούτοις, καὶ συναμιλλώμενοι, μετὰ φόβου καὶ τρόμου καὶ πολλῆς εὐλαβείας ὀφείλομεν ἵστασθαι, τὰ ἅγια συνάδοντες ἄσματα, ἐν λέξεσι σημαντοῖς καὶ ἀσήμαντοις […] Τὸ γὰρ τερερε, καί το, τοτοτο, καὶ τὸ τιτιτι, καὶ τὸ νενανε, καὶ τὰ λοιπά, εἰς τύπον ἐκείνων τῶν ἀγγελικῶν δοξολογιῶν, τῶν σημαντοῖς καὶ ἀσήμαντοις λέξεσι γινομένων. Εἴ καὶ αἱ ἀσήμαντοι δοκοῦσαι λέξεις, αἰνίττονται τί. Τήρει γὰρ φησι, τίνι παρίστασαι καὶ τί προσάδεις. Καὶ τότε πῶς ἀπολογήσει τὸ κριτή, ρευστὴ γὲ φύσις καὶ διαλτήρει γὰρ φησι, τίνι παρίστασαι καὶ τί προσάδεις. Καὶ τότε πῶς ἀπολογήσει το κριτή, ρευστὴ γὲ φύσις καὶ διαλυομένη τυγχάνων ὦ ἄνθρωπε; Παράγεται γοῦν το μὲν τερερε, ἀπὸ τοῦ τήρει ῥού· τὸ δέ, τοτο, ἀπὸ τοῦ τότε· τὸ δὲ τιτι ἀπὸ τοῦ τί τίνι. Εὖρον αὐτὰ γεγραμμένα ἐν τίνι γραμματικῇ τῆς Μουσικῆς· ὅμως ἐλήφθησαν, ἐξ ὦν περὶ τῆς τοιαύτης ὑποθέσεως εἴρηκεν Ἰωάννης ὁ Δαμασκηνός."
92 Kalaitzidis, Κοσμική Μουσική στη Χειρόγραφη Παράδοση της Ψαλτικής Τέχνης (ιε΄- ιθ΄αι.).
93 Kalaitzidis, *Post-Byzantine Music Manuscripts*.
94 The oldest sample of secular music written in Byzantine notation and also the oldest notated sample of Persian music, "Περσικόν," is found in EBE 2401 (late 14th–early 15th century), fol. 122v., accessed August 14, 2024. https://digitalcollections.nlg.gr/nlg-repo/dl/el/browse/3437. See also Kalaitzidis, *Post-Byzantine Music Manuscripts*, 341.
95 Kalaitzidis, Κοσμική Μουσική, 61.

of the evolution of the *kratēmata*, which became the linking point between ecclesiastical and secular Byzantine music. According to Kalaitzidis, in the strict environment of the Orthodox Church, where instruments were banned, the *kratēmata* offered the composers the chance for artistic expression through the composition of music released from the fetters of the poetic text.[96]

The interaction between religious and secular life was constant in Byzantium and the mutual influence of music from both spheres was unavoidable. For this reason and in order to face and fight heresies, the fathers of the Church adopted secular melodic elements from e.g., the thymelic scenes, the Hippodrome, or the megalynarion of the Feast of the Presentation of Jesus at the Temple. The influences operated from both sides and the psaltic art was the main influential power on secular music during the centuries.[97]

In this cultural framework, the ecclesiastical composers very often were inspired by the sounds of the secular music melodies, a trend which spread during the fourteenth and fifteenth centuries. The *kratēmata* of these centuries do not obey a particular morphological form and incorporate and adopt melismatic elements of extra-Byzantine (secular) music.[98] The wide appearance of secular *kratēmata* in post-Byzantine music indicates the freedom and the opportunities that they offered to the composer, due to their rhythmical simplicity based on the doubling or quadrupling of the old neumatic signs.[99]

Conclusions

The term *teretismos* has two dimensions, one hermeneutic and one semiotic. Both are encountered and described by Bryennios in his treatise, the *Harmonics.* The *kratēmata* in the case of *The Service of the Furnace* seem to function as instrumental sections interpolated between the music and recited parts of the liturgical drama's narration and plot, similar to operatic narration. Also, they seem to be improvised and unwritten. The *ēchēmata* are intonation formulae which can be extended to shorter—compared to the *kratēmata*—interpolating melodic parts (probably improvised). The doubling of the voices in octaves of the children and cantors resembles the device of *teretismos* as described by Bryennios, but with two voices instead of one voice and a string instrument. The doubling of the voices could be an early form of organum in Byzantine music. Moreover, the *kratēmata* function as interpolated parts between the *Service*'s other various parts, similar to operatic instrumental parts. The *ēchēmata* are registered since the tenth century as intonation formulae, and in the case of the description by Constantine Porphyrogennetos, used as recited intonation formulae

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96   Kalaitzidis, *Κοσμική Μουσική*, 128.
97   Kalaitzidis, *Κοσμική Μουσική*, 56–57.
98   Kalaitzidis, *Κοσμική Μουσική*, 128–129.
99   Kalaitzidis, *Κοσμική Μουσική*, 471–476.

at secular ceremonies. Such observations reinforce the theories about the close relationship between secular Byzantine music and the nonsense syllables.

The devices of *idée fixe*, *leitmotif* and *word painting* cannot categorically describe the *kratēmata*. The device of what has later been termed "program music" seems applicable for the *kratēmata* as they are distinguished from *teretismos*. In the case where they bear extra-musical features, this device is even more applicable.

The theological and esoteric state of the divine seems to be well-expressed through nonsense syllables, as the non-verbal, theological, and ritual character of the *teretismos*, and the wordless *jubili* of the nonsense syllables in Byzantine music, are evidenced by various Byzantine and post-Byzantine textual sources.

Overall conclusions and new historical explanation about the role and evolution of nonsense syllables in Byzantine music

The nonsense syllables in Byzantine music seem to have multiple meaningful functions, despite their non-semantic (non-lexical) and irrational character. They seem to have functioned as incantations and to have been associated with paganism and ritual. The nonsense syllables have been used for solmization practices and have aimed to mimic nature, such as cicadae and different birds. The term $\tau\varepsilon\rho\varepsilon\tau\iota\sigma\mu\acute{o}\varsigma$, derived from the verb $\tau\varepsilon\rho\varepsilon\tau\acute{\iota}\zeta\omega$ (denoting a mimicking of the sounds of cicadae and birds), has both hermeneutic and semiotic functions. The former resembles a music technical feature, a trill-like singing. The latter constitutes an attempt to mimic a specific element of nature.

The nonsense syllables in ancient Greek music functioned as incantations and were linked to the seven vowels of the Greek alphabet in gnostic music. The most appropriate consonant to juxtapose the vowels, was τ, the consonant that sounds like a string instrument and precedes the vowels in all Greek articles. The selection of the consonant τ created the combinations of syllables $\tau\alpha$, $\tau\varepsilon$, $\tau\eta$, and $\tau\omega$. The latter were used in a solmization music system which was based on the four vowels and the consonant τ used for singing the music intervals.[100]

The $\tau\varepsilon\rho\varepsilon\tau\acute{\iota}\sigma\mu\alpha\tau\alpha$ (plural of $\tau\varepsilon\rho\varepsilon\tau\iota\sigma\mu\acute{o}\varsigma$ or $\tau\varepsilon\rho\acute{\varepsilon}\tau\iota\sigma\mu\alpha$), reappear in the Kalophonic melodic style of Byzantine chant during the fourteenth century and evolve further to independent and freely composed melismatic compositions based on nonsense syllables, mainly $\tau\varepsilon$, $\rho\varepsilon$, ρo, $\tau\iota$, $\rho\iota$, etc. The practice of nonsense syllables was further evolved into the *kratēmata*. Apart from the consonant *tau* and *rau*, other letters such as χ, $o\upsilon$, and $\gamma\gamma$ were in use. The *kratēmata* were interpolated ornamentation parts and evolved to become autonomous eponymous melismatic compositions. The echoing

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100   Touliatos, "Nonsense syllables," 234–236.

of the sound of musical instruments in the *kratēmata* is similar to the tone painting in programmatic music. Another category of nonsense syllables in Byzantine music, are the *ēchēmata,* which function as intonation formulae for each *ēchos*. Various scholars have formulated theoretical hypotheses about the origin of *kratēmata* mainly from the *ēchēmata*, but such hypotheses need deeper investigations before any conclusions may be drawn with certainty.

Those syllables have constituted distinctive features of the "Kalophonic melodic style" of Byzantine chant and they have functioned as interpolating ornamentation parts and autonomous eponymous melismatic compositions in the t*eretismata* and *kratēmata*. In the *kratēmata*, the nonsense syllables obtained various roles and could function as improvisation parts, instrumental interpolating parts instead of instruments in between vocal parts, and introductive parts in a melic or autonomous composition. The *kratēmata* are carriers of the expression of certain sentimental states, moods, sounds of instruments, images, etc. It seems that from these observations, the *kratēmata* could be described by the term "painting music." Especially, during the post-Byzantine era, the tradition of the *kratēmata* gave rise to a new style of music, the secular *kratēmata*.

The theory about the *kratēmata* as the linkage point between ecclesiastical and secular Byzantine music seems the most predominant and profound, if we trace their evolutionary processes and take—without any prejudice—all the current theoretical considerations and findings on the topic. Further research could possibly enlighten this very interesting affiliation. The research and critical study of sources dealing with other performative arts in Byzantium can offer a different view and a more holistic perspective on the topic.

My hypothesis, which builds on the synthesis and analysis above and which may be used as the foundation for further research about the emergence of nonsense syllables in Byzantine music, could be summarized thus:

The nonsense syllables in Greek music are traced in antiquity as incantantory and solmization syllables based on the Greek vowels, as argued by Diane Touliatos. Their existence and practical significance are encountered in Byzantium in *teretismos*, as Bryennios describes it in his *Harmonics*, a treatise heavily influenced by Quintilianus's treatise and his observations about the combination of the four vowels α, ε, η, and ω with the consonant τ.

The *ēchēmata*, as described by Constantine Porphyrogennetos, were in use in secular ceremonies since the ninth or tenth century. The *kratēmata* appear later and in parallel orbits with the *ēchēmata* in ecclesiastical music, but gradually those two terms coincide during the fourteenth century. The origin of the *ēchēmata* could be traced to the tradition and origin of the intonation formulae in Byzantine music. The *kratēmata* do not seem to originate from the *ēchēmata*, but rather from the *teretismata*, as Touliatos also claims. This is also indicated by the different nonsense syllables found in

kratēmata compared to those found in the *ēchēmata*. Apart from intonation formulae, the *ēchēmata* seem to evolve into improvised vocal sections, shorter than *kratēmata*. The *kratēmata* were thus longer interpolating sections which also could be based on improvisation. Furthermore, the *kratēmata* could be autonomous compositions.

The *teretismata* were in use in Byzantium due to their pagan, ritual and incantational character, and also as solmization mnemonic devices. Their mystic and divine character and their function as mimeses of the nature were not abandoned but conveyed and passed to the *kratēmata*, something that is testified to in various Byzantine manuscripts and sources describing the phenomenon of *teretismos* (mimicking cicada or birds) and the *glossolalia* (mimicking the angels). This is in accordance with the aesthetics of *hesychasm*, the spiritual movement from the late Byzantine period, meaning 'esoteric calm' or 'tranquility.' In order to describe the non-verbal, irrational and ritual character of the nonsense syllables in music, aiming to mimic nature, the author proposes the use of the term "mental representations," while the term "melotropic representations" is proposed for *teretismata* and the *kratēmata* (see also fig. 5).

The Byzantine composers of the Kalophonic style, seem to have gradually realized the potential of the representational dynamics of the nonsense syllables, not only to represent sounds and realities of nature but also, other mental and aesthetical categories and notions. This potential developed into composed *kratēmata* bearing extra-musical names. We cannot be sure if the ban of secular music from Orthodox rituals or the above-mentioned historical and cultural coincidence—or both, or neither—were the generative cause for the emergence and the development of the *kratēmata*, but the result was, in effect, an early type of programmatic or mimetic vocal music, aimed at representing various notions, concepts, or entities.[101]

At the same time, this was also an evolutionary leap which could be described in the following terms: The vocal music of the *kratēmata* functions as instrumental programme music or instrumental music parts, replacing in some cases, and when it is needed, those parts missing from vocal music.[102] From this point of view, the *kratēmata* directly reflect instrumental notated artistic music, and not non-religious secular Byzantine music in the general meaning of the term (that includes songs accompanied by instruments). I shall not overlook the fact that secular Byzantine music was rich and active and it is very possible that it borrowed from ecclesiastical music through a flowing exchange of musical ideas (e.g., sounds of

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101   "In the sense of Peirce's semiotic of signs. An information-carrying 'sign' (which may be visual or auditory, for example, such as a representation, a sound or word)." In Iain Morley, *The Prehistory of Music* (Oxford University Press, 2013), 21.

102   In the sense of instrumental music without words, performed by voices singing on non-lexical syllables, i.e. a type of very early programme music, not in the strict sense of 19th-century programme music, which does not include music that represents extra-musical concepts or is merely imitative. See also Britannica, s.v. "Program music," accessed August 23, 2024.; Grove Music Online, "Programme music," accessed August 23, 2024.

instruments). However, when it happened, the 'secular' elements were absorbed by the Byzantine ecclesiastical composers and transformed into the *kratēmata*. This may explain the great lack of manuscripts containing secular Byzantine music.

The music of the *kratēmata* is the 'rational' continuation of the *teretismata*, as the former reflect notions of artistic expression through complete instrumental and/or programme-music compositions, while the latter echo a more 'irrational' and pagan character. The proposed evolutionary scheme is in accordance with the further evolution of the *kratēmata* of the post-Byzantine era into complete secular compositions notated by the Byzantine *parasimantikē*.

The findings of the present study, consisting both of a critically examined synthesis of previous theories, and with new analysis of sources not hitherto considered, may be depicted in the following diagram (fig. 5).
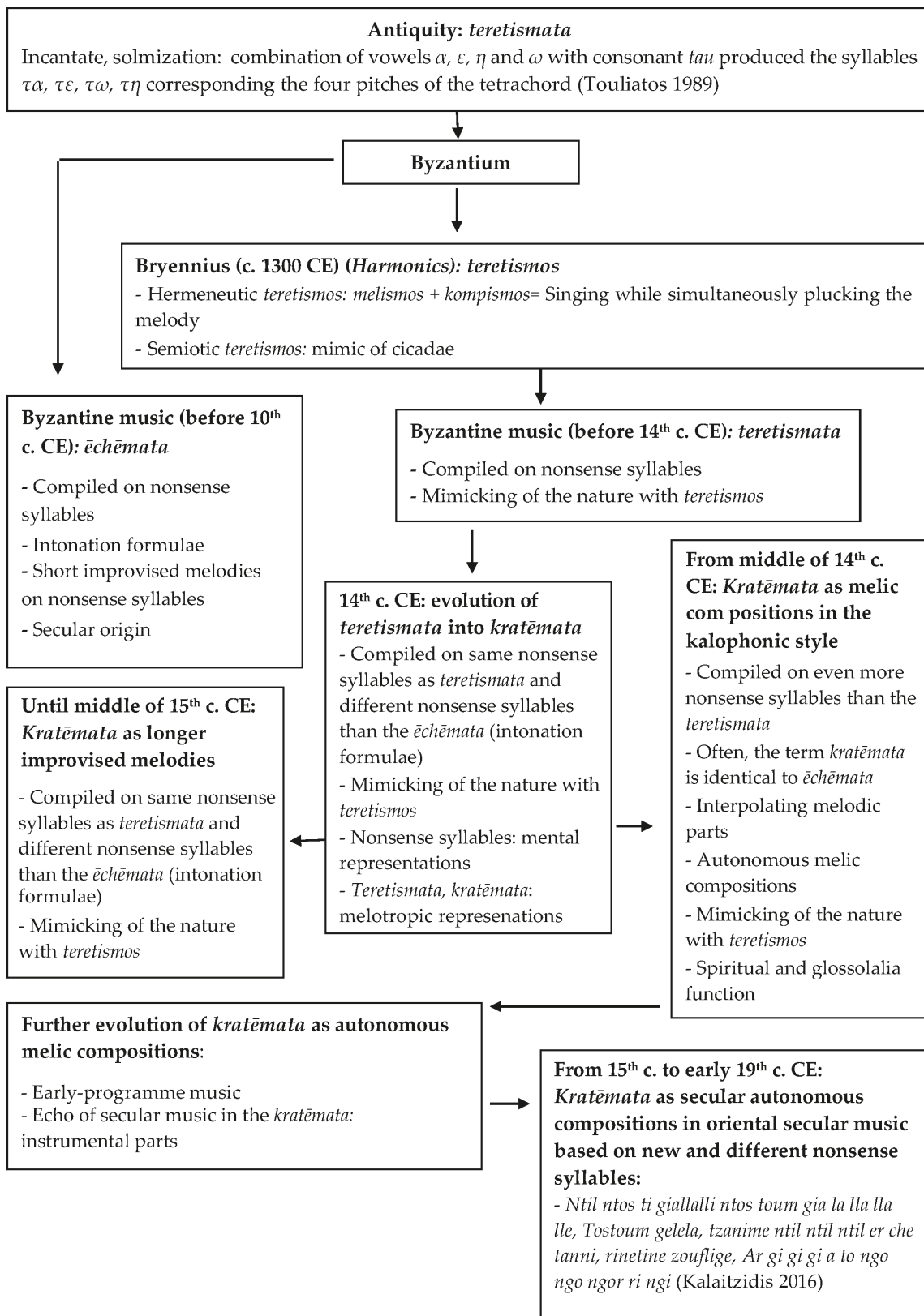
Antiquity: *teretismata*

Incantate, solmization: combination of vowels α, ε, η and ω with consonant *tau* produced the syllables $\tau\alpha$, $\tau\varepsilon$, $\tau\omega$, $\tau\eta$ corresponding the four pitches of the tetrachord (Touliatos 1989)

Byzantium

Bryennius (c. 1300 CE) (*Harmonics*): teretismos
- Hermeneutic *teretismos: melismos + kompismos*= Singing while simultaneously plucking the melody
- Semiotic *teretismos:* mimic of cicadae

Byzantine music (before 10th c. CE): *ēchēmata*

- Compiled on nonsense syllables
- Intonation formulae
- Short improvised melodies on nonsense syllables
- Secular origin

Byzantine music (before 14th c. CE): *teretismata*

- Compiled on nonsense syllables
- Mimicking of the nature with *teretismos*

From middle of 14th c. CE: *Kratēmata* as melic com positions in the kalophonic style

- Compiled on even more nonsense syllables than the *teretismata*
- Often, the term *kratēmata* is identical to *ēchēmata*
- Interpolating melodic parts
- Autonomous melic compositions
- Mimicking of the nature with *teretismos*
- Spiritual and glossolalia function

14th c. CE: evolution of *teretismata* into *kratēmata*
- Compiled on same nonsense syllables as *teretismata* and different nonsense syllables than the *ēchēmata* (intonation formulae)
- Mimicking of the nature with *teretismos*
- Nonsense syllables: mental representations
- *Teretismata, kratēmata:* melotropic represenations

Until middle of 15th c. CE: *Kratēmata* as longer improvised melodies

- Compiled on same nonsense syllables as *teretismata* and different nonsense syllables than the *ēchēmata* (intonation formulae)
- Mimicking of the nature with *teretismos*

Further evolution of *kratēmata* as autonomous melic compositions:

- Early-programme music
- Echo of secular music in the *kratēmata:* instrumental parts

From 15th c. to early 19th c. CE: *Kratēmata* as secular autonomous compositions in oriental secular music based on new and different nonsense syllables:
- *Ntil ntos ti giallalli ntos toum gia la lla lla lle, Tostoum gelela, tzanime ntil ntil ntil er che tanni, rinetine zouflige, Ar gi gi gi a to ngo ngo ngor ri ngi* (Kalaitzidis 2016)

Figure 5. Hypothesis by Varelas (2022)

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