

# The Alphabetic Notation and the *Anthologion* of Petros Manouil Ephesios

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**ABSTRACT** – The Library of the Romanian Academy in Bucharest preserves an unusual printing from the first half of the 19th century, which contains Byzantine musical repertories in Greek, notated with an alternative semiography to the Chrysanthine one. The chant anthology is a collection of hymns for Vespers, Orthros, and the Divine Liturgy, printed in Bucharest in 1832 by Petros Manouil Ephesios (†1840) with his own musical notation, based on an alphabetic system capable of accurately capturing the parameters of vocal interpretation: melody, dynamics, agogic, and ornamentation. The aim of this article is to explore the peculiarities of the alphabetic notation developed by the Constantinopolitan teacher and to study the collection of hymns from the point of view of its arrangement and the possibilities of deciphering its musical content. Although Petros Ephesios' system was never widely adopted, being considered an inappropriate innovation for the representation of the traditional music of the Orthodox Church, his semiographic model successfully records various options for the oral decoding of the most common musical formulas.

**Keywords:** Petros Ephesios, alphabetic notation, alternative semiographic systems.

## 1. Introduction

In the aftermath of Constantinople's fall, ecclesiastical musicians working in the field of Orthodox sacred chant began to consider the necessity for a more explicit semiographic system, one capable of visually capturing the full breadth of what was actually chanted. By the close of the 18th century, efforts to reduce the ambiguity of Byzantine musical notation had given rise to innovative theoretical approaches, some of which advocated for the complete abandonment of traditional notation in favour of new systems. These intellectual endeavours reached their zenith in the early 19th century, when three

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musicians from the capital of the former Ottoman Empire significantly simplified the understanding of semiography, culminating in the Chrysanthine Reform, named after Chrysanthos of Madytos (c. 1770-1846), the principal theoretician of the New Method.

Notwithstanding these advances, certain ambiguities persisted within the Chrysanthine notation, particularly with regard to stenographic formulas, expression characters, the quality of certain intervals, and the mobility of steps. These unresolved issues prompted some musicians to persist in their pursuit of an optimal system. Consequently, by the mid-19th century, two additional notations emerged: the systems of Georgios Lesvios (19th century) and Petros Ephesios (†1840). The developers of these new semiographic models sought to persuade adherents of the Chrysanthine method to adopt them. However, these notations encountered resistance from conservative performers and lacked the unanimous support of Church leaders, preventing them from achieving widespread acceptance.

## 2. The alphabetic musical system developed by Petros Ephesios

One of the most intricate musical notations of the mid-19th century is the alphabetic system devised by Petros Ephesios.<sup>1</sup> This system is notable for its complexity and innovative approach to capturing the nuances of Byzantine music.<sup>2</sup> Developed around 1830 and likely influenced by the similar notation of Agapios Paliermos,<sup>3</sup> who passed away in Bucharest 15 years earlier (1815), the alphabetic semiographic model showcases a remarkable precision in musical scoring. The system stands out for its ability to accurately capture all the intricate layers of psalmody, including melody, rhythm, and expression, which were not satisfactorily addressed by neumatic notations.<sup>4</sup>

A codex from the Romanian Academy Library in Bucharest, Rom. MS 4402, provides the ‘key’ for the system.<sup>5</sup> The plates between ff. 328v and 330v of the manuscript contain 18 music scales and their derivations, as well as some explanations of how the system is organized. Ephesios employs the Greek alphabet letters from α (representing *di grave*) to ι (representing *Zo*), rearranging or combining them to produce the remaining sounds of

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<sup>1</sup> An extensive bio-ergography of Petros Ephesios can be found in the volume published in 2019 by Professor and researcher Emmanouil Giannopoulos (*Πέτρον Μανουήλ Εφεσίου [†1840]. Πολυέλεσι και εκλογέσι Αναστάσιμα εωθινά δοξαστικά*).

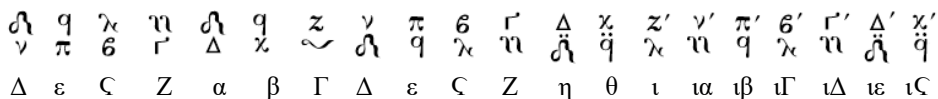
<sup>2</sup> The description of his alphabetic system is made for the first time in a clear manner by Grigorios Stathis (See “I Sistemi Alfabetici di Scrittura Musicale per Scrivere la Musica Bizantina nel Periodo 1790-1850”).

<sup>3</sup> Kritikou, “Accepting or rejecting liturgical rules in the Ecumenical Patriarchate of Constantinople in the 18th century. Attempts at Notational Reform: The case of Agapios Paliermos and Jacob the Protopsaltes”, 54.

<sup>4</sup> Cernătescu, “Some Remarks on Petros Ephesios’ *Heirmologion Kalophonikon* in Alphabetic Notation”.

<sup>5</sup> A similar codex is preserved in the library of Xiropotamou monastery located at number 401. See Chaldæakes, “...τιμή πρὸς τὸν διδάσκαλον...”. *Ἐκφραση ἀγάπης στὸ πρόσωπο τοῦ καθηγητοῦ Γρηγορίου Θ. Στάθη*, 494.

the grave and acute registers. This configuration of the scale, encompassing both natural and altered steps, enables the use of a range spanning two octaves and a sixth, from *low Ni* to *high Ke*.



Ex. 1. The ambitus used by Petros Ephesios' notational system.

The intervals between two adjacent notes in Ephesios' system reveal four possible distances: a quarter-tone, a semitone (two-section tone), a three-quarter tone (three-section tone), and a whole tone (four-section tone). For instance, the interval from *Ni* to *Pa* spans 4 sections, from *Pa* to *Vu* spans 3 sections, and from *Vu* to *Ga* spans 2 sections. To precisely indicate each sound, Ephesios appends the Greek letters μ, ν, and ξ to the note names. Thus, *Ni* raised by a quarter-tone becomes *νημ*, *Pa* raised by a semitone becomes *παν*, and *Ga* raised by three-quarter tones becomes *γαξ*, with other notes following the same pattern. Additionally, a dot is placed above the letters for each quarter-tone increment. Notably, the system lacks symbols for descending altered steps, relying instead on enharmonic equivalents. For example, the note *κεμ*, representing *Ke* raised by a quarter tone, is used to denote *Zo agem*.

Based on possibilities of arranging pitches of sounds, characteristic modal structures emerge, organized in extended scales. Interestingly, Ephesios' disciple, Anton Pann (1796/7-1854), uses the same musical scales in his book theory, published in 1845.<sup>6</sup>

Mode	Petros Ephesios' scales	Anton Pann' scales
First mode, Plagal first mode	3 2 4 4 3 2 4 Pa Vu Ga Di Ke Zo Ni Pa (22 sections)	3 2 4 4 3 2 4 Pa Vu Ga Di Ke Zo Ni Pa (22 sections)
Second mode <sup>7</sup>	2 4 2 4 2 4 2 Ni Pa Vu Ga Di Ke Zo Ni (20 sections)	3 4 2 4 3 4 2 Ni Pa Vu Ga Di Ke Zo Ni (22 sections)
Third mode	4 4 1 4 4 1 4 Ni Pa Vu Ga Di Ke Zo Ni (22 sections)	4 4 1 4 4 1 4 Ni Pa Vu Ga Di Ke Zo Ni (22 sections)
Fourth mode, Plagal fourth mode	4 3 2 4 4 3 2 Ni Pa Vu Ga Di Ke Zo Ni	4 3 2 4 4 3 2 Ni Pa Vu Ga Di Ke Zo Ni





<sup>6</sup> Pann, *Bazul teoretic și practic al muzicii bisericești sau gramatica melodică*.

<sup>7</sup> Following the constantinopolitan model of interval arrangement according to the diphonia chaining principle (See Chrysanthos, *Εισαγωγή εις το θεωρητικόν και πρακτικόν της εκκλησιαστικής μουσικής*, 31), Ephesios also obtains a heptachordic scale, but a smaller one, of only 20 sections. Anton Pann, realizing that the two ends of the scale did not form a perfect octave, modified the intervals so that they totaled 22 sections.

Mode	Petros Ephesios' scales (22 sections)	Anton Pann' scales (22 sections)
Plagal second mode	2 6 1 4 2 6 1 Pa Vu Ga Di Ke Zo Ni Pa	2 6 1 4 2 6 1 Pa Vu Ga Di Ke Zo Ni Pa
Varys mode	2 4 3 2 4 4 3 Zo Ni Pa Vu Ga Di Ke Zo	2 4 3 2 4 4 3 Zo Ni Pa Vu Ga Di Ke Zo







**Table 1.** Comparison of musical scales of Petros Ephesios and Anton Pann.

In Petros Ephesios' system, musical notes are denoted by Greek alphabet letters and correspond to precise pitches. These notes are placed on horizontal brackets known as *orai* (Greek: *ώραι*). Each *ora* typically represents one beat, but if its left side has one, two, or three additional dashes, the number of dashes indicates the corresponding number of beats.

The symbol in alphabetic notation	Time duration
	1 beat
	2 beats
	3 beats
	4 beats

**Table 2.** Main musical time signatures in alphabetic notation.

Above a standard *ora*, it is possible to place from one to four musical notes, the time being divided equally between them. Thus, two notes written above an *ora* indicate two eighths (two halves of a beat), three notes – a triplet (three equal parts of a beat), four notes – four sixteenths (four quarters of a beat). An *ora* with no note shows the prolongation of the previous sound by one beat.

Equal rhythmic divisions in alphabetic notation	Correspondence in Western notation
	
	
	

**Table 3.** Rhythmic divisions in alphabetic notation.

Using sounds of the first tetrachord of the scale (*ni-ga* in the lower register), determines to write them under an inverted *ora*, to distinguish them from the other four that have a similar name ( $\Delta, \epsilon, \zeta, Z$ ).















**Ex. 2.** Orthography of alphabetic notes in the lower register.

When the melody modulates, due to the effect of a *phthora*, the actual pitch of the sound is noted below the *ora*, and the name of the new note will be written above it.








**Ex. 3.** Modulation and sound renaming in Ephesios' system.


Unequal time divisions occur when notes are marked with one or two augmentation dots. When two notes are separated by a single dot, they follow a 2:1 time ratio, with the first note occupying two-thirds of the beat and the second one-third. If two dots are placed between the notes, the ratio becomes 3:1, meaning the first note takes up three-quarters of the beat while the second takes one-quarter. For triplets, a single dot can be placed after any of the three notes in the sequence. The note with the dot to its right takes half a beat, while the remaining two notes each take a quarter of a beat.

Unequal rhythmic divisions in alphabetic notation	Correspondence in Western notation
	
	
	
	
	
	

**Table 4.** Unequal rhythmic divisions in alphabetic notation.

Tempo is indicated using Arabic numerals from 1 to 4, where 1 denotes the fastest tempo, typically used in recitative, and 4 signifies the slowest tempo, often found in ‘slow’ papadic. One of the most notable innovations introduced by Petros Ephesios through his alphabetic notation is the set of nine expression symbols, probably intended to describe the way Byzantine music was performed at the time, or at least his own view on performance.

Expression symbols in alphabetic notation	Meaning
ψιλῆ	 in a gentle voice
δασεῖα	 in a full voice
ὀξεῖα	 with accent
βαρεῖα	 with constriction of the larynx
γάμμα	 is placed before vowels that are sung preceded by the consonant “γ”, pronounced slightly softer

Expression symbols in alphabetic notation		Meaning
σταυρός	+	legato effect (eteron/syndesmos)
ὀργάνισμα		interpretation like the instrumental one (the term οργανική used by Ephesios is not further explained)
ρινόφωνον	∧	it is sung “through the nose”, endophonized (endophonon)
μηδενικόν	( )	Rest

**Table 5.** Expression symbols in alphabetic notation.

Some expression signs accompany the melodic line everywhere (*psilē, daseia, oxeia, vareia, stavros, mēdenikon*), but others, such as *organisma* and *gamma*, are used sparingly in alphabetic scores. Also, *rhinophonon* occurs before or between the nasal consonants ν and μ. Although its occurrence is low in liturgical text chants and does not follow a particular pattern, the symbol nevertheless appears frequently in kratemata. The Greek musician’s preference for the use of endophon in performance is confirmed by a possible direct listener of his, the literate Ion Codru Drăgușanu (1818-1884):

In Marseilles, a commercial sea town, where we arrived by post, the next day being Sunday, I went to the Greek chapel over there for the divine service, and at the liturgy I chanted a cherubikon in Romanian, as I had not forgotten it since I was a chanter, which astonished the Greek worshipers, but since *I chanted a little through the nose with the sweetness of Kyr Petros Ephesios*, as the Greeks like it, they swallowed it whole, even though they didn’t understand the text.<sup>8</sup>

### 3. The Alphabetic *Anthologion* (MS BARB II 6701), an outstanding musical document

Despite Petros Ephesios’ commitment, the alphabetic system failed to establish itself as a viable alternative to Chrysanthine notation. However, the few prints that have survived in various archives in the country and abroad provide important information for understanding his approach to church chant.

Among the rare books in the custody of the Romanian Academy Library in Bucharest (BARB) stands MS II 6701, an anthology of Byzantine music printed in Greek by Petros

<sup>8</sup> Drăgușanu, “Foisior’a. Câte-va epistole a le unui peregrinu Transilvan, revediate și ajustate după mai mulți ani”.

Ephesios in Bucharest in 1832.<sup>9</sup> The volume in question is one of the few copies preserved in alphabetic notation, containing analytical musical versions of chants written by some canonical composers of Byzantine music from the 18th to 19th centuries (such as Petros Peloponnesios, Petros Byzantios *et al.*) or by the editor of the work.

Originally conceived as a selection from the *Anastasimatarion*, Ephesios' anthology has been expanded with chants from the Holy Mass and some hymns from the Triodion and the Pentecostarion. In the preface of the book, he announced the intention of printing a second volume with other hymns missing from the present collection, but this was never completed. The Greek musician's foreword also illustrates other interesting aspects. Ephesios claims not only the invention of the alphabetic musical system, but also of the typographical technology which he calls *chartotypia* (χαρτοτυπία).

The *Anthologion* had been noticed since 1907-1909 by the deacon Nicolae M. Popescu who tried to decode the musical document. His opinion was that Ephesios' system had not been accepted because "it was inferior to the usual notation, which had with it the past and the multitude of connoisseurs."<sup>10</sup>

It was pointed out above that, although the original name of the collection was *Anastasimatarion*, the arrangement of the chants is specific to the *Anthologion*, being a collection of hymns for Vespers, Orthros, and Holy Liturgy.<sup>11</sup> The volume brings together selections of the most important hymns necessary for the daily course of divine worship: kekragaria, doxastika of kekragaria and aposticha, pasapnoaria, eothina, doxologies, cherubika, *Axion estin*, megalynaria of the Theotokos and communion hymns, supplemented with chants from the Triodion and the Pentecost. It is notable that in the case of megalynaria, Petros Ephesios organizes the hymns according to the order of the modes, not according to the principle of calendar sequence. This is also found within modes, where the logical sequence of the chants is not always respected. The traditional arrangement of hymns following the linear principle of the feasts during the church year returns with the section dedicated to the festal communion hymns.

In the process of exegeting and transcribing chants from alphabetic notation to the New Method, I encountered some interesting situations. Petros Ephesios' modal approach, reflected in a system of precise notation of pitches of sounds, does not seem to resemble entirely the interpretative tradition of the phenomenon called "sound attraction". There are very few instances in which the musician alters the steps that are now considered mobile. For example, in the case of soft diatonic genre modes, current theories state that some steps may have some mobility, depending on the melodic progression. However, at Ephesios this mobility is extremely limited, sometimes non-existent. In fact,

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<sup>9</sup> The photos of MS II 6701 were provided to me in 2019 by the monk Filotheu Bălan, whom I thank.

<sup>10</sup> Popescu, "Notația muzicală a lui Petru Efesiu".

<sup>11</sup> By 1830, Petros Ephesios had published two volumes of the *Anthology* in Chrysanthine notation, the second of which contained hymns from the service of the Orthros: polyeleos, pasapnoaria, eothina and short doxologies. See Ephesios, *Αρθολογία*.

his drafts of the system do not even mention this aspect. The contemporary performer may be surprised that the plagal fourth mode is conceived as a superposition of two identical tetrachords with fixed intervals. Thus, the melody conducted between *Di* and *high Ni* (the two extremities of the upper tetrachord), mirrors the musical progression of the first tetrachord (*Ni-Ga*). For this reason, *Zo* is insistently notated in its diatonic position, three-quarters of a tone above *Ke*, including in the descending passage. To faithfully transcribe the melodic lines, I have used various diatonic phthorai placed in the second tetrachord. Another aspect is related to the notation of some chants originally composed in plagal second mode (such as cherubika or communion hymns), for which Ephesios uses the scale of the median second mode from *Vu*, alternating it with structures of the hard chromatic.

## Conclusion

Careful investigation of alternative notations, especially Petros Ephesios' system, can lead to significant theoretical conclusions. From patterns of ornamentation and expression to subtleties of interpretation, the alphabetic model encapsulates a rich and unique documentary archive from which one can reconstruct, at least in part, the modal universe of the Greek musician and, by extension, of a generation of disciples formed after this 'second system'. Of course, the field must be explored cautiously, since no absolute value can be assigned to the system in the absence of further theoretical explanation. It is quite possible that some aspects, such as the attraction of sounds, were understood in a slightly different key from that offered by the notation itself, especially since it is not possible to establish the existence of a complementary aural layer or its relationship to the notation system, although there probably was one.

In 2023, the alphabetic *Anthologion* of Ephesios was transcribed in Chrysanthine notation and printed by the Publishing House of the National University of Music in Bucharest (UNMB) within the "SEMNE" project, developed by REVIVART Association in partnership with the UNMB.<sup>12</sup> The book offers performers the opportunity to study in depth the trends in the analytical notation of sacred chant, particularly in the music books published since the third decade of the 19th century. Its didactic value is undeniable, inviting the chanters to reflect, study and practice. In comparison with the Greek originals, the hymns translated into Romanian at the end of the volume provide a possible insight into how a certain repertoire can migrate from one liturgical language to another.

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<sup>12</sup> Efesiul, *Antologhion*, vol. 1.

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