

**A brief history from Ancient Greek musical notation to  
West musical notation**

**A B Γ Δ Ε Ζ Η**

Αρχαία σημειογραφία

**ΠΑ Βου Γα Δη κε Ζω νΗ**

Βυζαντινές νότες

**A B C D E F G**

Δυτική σημειογραφία

**Ancient Greek musical notation** was in use from at least the 6th century BC until approximately the 4th century AD; several complete compositions and fragments of compositions using this notation survive.

**The notation consists of symbols placed above text syllables.** An example of a complete composition is the Seikilos epitaph, which has been variously dated between the 2nd century BC to the 1st century AD.

Three hymns by Mesomedes of Crete exist in manuscript. The Delphic Hymns, dated to the 2nd century BC, also use this notation, but they are not completely preserved. Ancient Greek notation appears to have fallen out of use around the time of the Decline of the Roman Empire.

C     $\bar{Z}$      $\overset{\cdot}{Z}$     K I Z  $\overset{\cdot}{I}$      $\bar{K}$     I     $\dot{Z}$      $\overset{\cdot}{I\bar{K}}$     O     $\bar{C}$      $\overset{\cdot}{O\Phi}$   
 Ὁ σον ζῆς, φαί νου, μη δέν ὄλ ως σὺ λυ ποῦ·  
 C    K Z  $\overset{\cdot}{I}$      $\overset{\cdot}{K}I\bar{K}$   $\bar{C}$      $\overset{\cdot}{O\Phi}$     C K O  $\overset{\cdot}{I}$      $\dot{Z}$      $\overset{\cdot}{K}$     C  $\bar{C}$   $\overset{\cdot}{C\bar{X}I}$   
 πρὸς ὄλ ί γον ἐ σπιτὸ ζῆν, τὸ τέ λος ὁ χρόνος ἀπαι τεῖ.

### A brief history of Byzantine Notation

#### Introduction

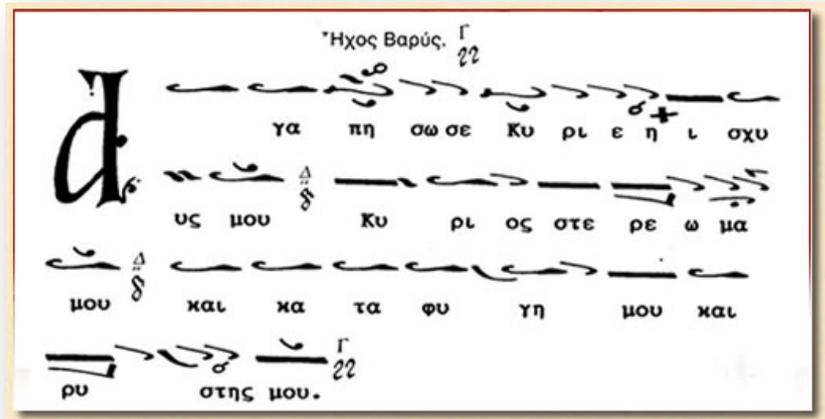
Byzantine music is vocal religious music, based on the monodic modal singing of Ancient Greece and the pre-Islamic Near East. The notation developed for it is similar in principle to subsequent Western notation, in that it is ordered left to right, and separated into measures. The main difference is that notation symbols are differential rather than absolute, i.e. they indicate pitch change (rise or fall), and the musician has to deduce correctly, from the score and the note they are singing presently, which note comes next.

The pitch symbols themselves resemble brush strokes and are colloquially called *gántzoi* ("hooks") in Modern Greek. Notes themselves are represented in written form only between measures, as an optional reminder, along with modal and tempo directions if needed. Additional signs are used to indicate embellishments and microtones (pitch changes smaller than a semitone), both essential in Byzantine chant.

### Old Byzantine Notation

The **Old Byzantine or Palaeo-Byzantine notation** can be described as several groups of new melodic notation systems which had been developed in different regions between the 10th and 13th century.

The fundamental difference with respect to the neumes used in Latin liturgical traditions since the late 10th century is, that modal clefs which indicate the echos, can be already found in the earliest Papyrus fragments of the 6th century. Hence, the different systems of Byzantine notation had been always related to those modal clefs.



The neume signs indicated certain steps above or below. These clefs have been called "modal signatures" by philologists who studied medieval chant manuscripts. The terminology has been established by Jørgen Raasted.

Concerning neume notation, already in its early stage, he makes a difference between "main signatures" which indicate the tonality of a certain hymn, and "medial signatures" which can be found within the lines of notation, often written in red ink.

Among psaltes of the living tradition, those medial signatures are called "martyriai" which means "witnesses". In performance practice the modal signatures stand for intonation formulas which have been sung by the choirleader (Lampadaroi, Domestikoi, Protopsaltes) or a soloist. Thus, the turn to one of the choirs had been indicated, but the pitch of the beginning as well.

### Ekphonic Notation or lectionary

**Byzantine notation** has been developed as a neume notation, and like the notation of Western plainchant, its origins are ekphonic signs which originated from the simplest forms, dots situated on different heights which marked the syntactical structure of liturgical lessons. Different traditions of Christian liturgies as they can be found in the earliest medieval papyri are strongly connected with their Hebrew origin.

But since the Stoudios Monastery developed their own chant books from the 10th century on, there is a fundamental distinction between ekphonic notation as the notation used for the lecture of the prophets, the epistle, and the gospel, and a notation which has been used to transcribe an oral tradition of the Octoechos hymns, which had been the **book heirmologion, and the four books of the sticherarion**, and another Constantinopolitan notation system which has been ordered according to **16 modes**, which transcribed the earlier hymn compositions of the **kontakion**, but also the elaborated psalmody of the cathedral rite like doxologies, the biblical recitation of the canticles, the **koinonika**, but the ordinary chant based and its rare counterparts as well, like the **trisagion** and the **cherouvikon** which have been originally based on psalmody.

Though the later notations did not replace ekphonic notation, they did less exclude than integrate certain ekphonic signs. The seven standard note names in Byzantine "solfege" are: **pá, vύ, ghá, dhē, ké, zō, nē**, corresponding to Western **re, mi, fa, sol, la, si, do**. Byzantine music uses the eight natural, non-tempered scales called **Ēkhoi**, "sounds", exclusively, and therefore the absolute pitch of each note may slightly vary each time, depending on the particular **Ēkhos** used.

### Round or Middle Byzantine notation

Fully diastematic Byzantine notation, which can be readily converted into the modern system, surfaces in the last quarter of the 12th century. Currently known as **round or middle Byzantine notation**, it differs decisively from earlier forms (*paleobyzantine notation*) in that it represents an explicit technique of writing, accounting even for minor details of performance.

When reading the earlier, simple notation, the singer was expected to interpret or realize the stenography by applying certain established rules (generally unknown now but absolutely familiar to him) in order to provide an accurate and acceptable rendition of the music.

The change to greater precision came about initially in response to an urgent need: to capture the vestiges of an old and dying melodic tradition then losing its supremacy in the face of more progressive and complex musical styles.

Ἰδοὺ δὴ πῶς γράφεται καὶ τὸ μέλος τούτων τῶν φθόγγων.

$\alpha'$ : C D D |  $\beta$ : C D E |  $\gamma$ : F  
 A 22a λεσ ή λε α λεσ 2α  
 F  $\delta$ : G G G |  $\epsilon$ : F E F |  $\zeta$ : E D F |  $\eta$ : D C D |  $\theta$ : C C D |  $\iota$ : C C D  
 2α 22 α γι α δ A α λεσ ή λε χε αλεσ κτος A (α)  
 F E D η  $\delta$ : C D C | C C | D  $\theta$  C  
 λε α λεσ ή λε α γι ε ς A 22α λεσ ή

But the actual process of substitution from the implicit to the explicit system is not easily explained, since mixed traditions characterize notational procedures used in the Byzantine world, each new manuscript revealing a variance, an inconsistency, or a deviation.

Broadly speaking, scholars have discerned two principal paleobyzantine notations, of common origin yet distinct and contemporaneous in their development: **Coislin and Chartres** (*the names are taken from two exemplars, MS Coislin and a fragment of MS Lavra Γ. 67, which was formerly at Chartres*). Their origins are believed to lie in the ancient grammatical accents, and they are comparable to the Latin staffless neumes.

Specifically, **Coislin** is a notation that chiefly employs a limited number of rudimentary diastematic [ interval] neumes -**oxeia, bareia, apostrophos, petastē, and klasma**- independently and in combination, with the addition of a small number of simple auxiliaries and incidental signs. Byzantine chant notation in its fully developed and unambiguous form represents a highly ingenious system of interrelationships among a handful of symbols that enabled scribes to convey a great variety of rhythmic, melodic, and dynamic nuances.

**Certain signs called somata (bodies)** refer to single steps up or down; others called **pneumata (spirits)** denote leaps. Five of the former groups also carry dynamic value, and when combined with the pneumata, they lose their step value but indicate the appropriate stress or nuance.

For example, the *oxeia* (acute) marks an ascending second with emphasis -usually denoted by >.

When placed with the *hypsēlē* (high), the ascending fifth, the *oxeia* loses its intervallic value but has its dynamic quality applied to the new note.

<b>Φθόγγοι</b>	Nη	Πα	Βου	Γα	Δι	Κε	Ζω	Νη'
<b>Μαρτυρίες</b>	ν δλ	π q	ε λ	ρ ηη	Δ δλ	κ q	ζ λ	ν' ηη

Standing apart from these is the *ison* (equal), which asks for a repetition of the note sung before.

Another group of signs refers to the rhythmic duration (note lengthenings), and another the hypostases to ornaments. At the beginning of the chant, a special signature - *martyria* indicates the mode and the starting pitch. Therefore, in order to sing from a medieval Greek chant book, the trained cantor - *psaltes* would work his way through the piece by steps and leaps, applying the necessary nuances and durations as required by the neumes. To avoid confusion, scribes frequently drew the *somata* and *pneumata* in black or brown ink and the *hypostases* in red.

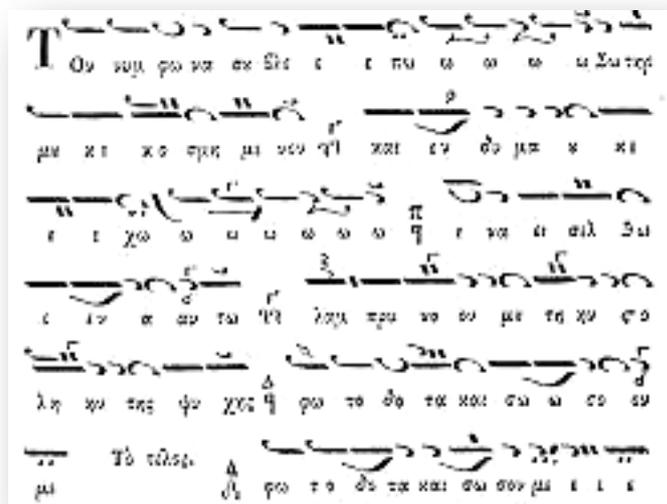
**Chartres notation**, on the other hand, is mainly characterized by its use of elaborate signs that stand for melodic groups. Melodies written in round notation developed an aura of sanctity and became models for subsequent generations of composers. One immediate result of this was the appearance of new music books for soloists - **the Psaltikon**, for choristers -**the Asmatikon**, and for both **the Akolouthia**. But much more was involved in the substitution of notations than a mere evolution to greater clarity.

Other changes were taking place in liturgical ordos and in performance practices, and the advent of the round system satisfied the demands placed on music by a new class of professional musicians -**The Maistores**, who naturally favored an exact method of writing that could capture the nuances and elaborations of their highly specialized art. Marked developments in the liturgical tradition, which had reached a culminating stage by the end of the 12th century, gave the scribes an additional incentive to provide appropriate musical material in newly edited choir books.

### The Maistores

With the end of creative poetical composition, Byzantine chant entered its final period, devoted largely to the production of more elaborate musical settings of the traditional texts: either embellishments of the earlier simpler melodies, or original music in highly ornamental style.

This was the work of the so-called Maistores, "masters," of whom the most celebrated was St. John Koukouzeles (active c.1300), compared in Byzantine writings to St. John of Damascus himself, as an innovator in the development of chant. The multiplication of new settings and elaborations of the old continued in the centuries following the fall of Constantinople, until by the end of the eighteenth century the original musical repertory of the medieval musical manuscripts had been quite replaced by later compositions, and even the basic model system had undergone profound modification.



**Chrysanthos of Madytos (ca. 1770-46), Gregory the Protopsaltes, and Chourmouzos the Archivist** were responsible for a much needed reform of the notation of Greek ecclesiastical music. Essentially, this work consisted of a simplification of the Byzantine musical symbols which, by the early 19th century, had become so complex and technical that only highly skilled chanters were able to interpret them correctly. Despite its numerous shortcomings the work of the three reformers is a landmark in the history of Greek Church music, since it introduced the system of neo-Byzantine music upon which are based the present-day chants of the Greek Orthodox Church.

Following an independent development and surviving until the 14th century in a relatively unchanged state is the notation that was devised to accommodate Biblical lessons: **ecphonic or lectionary notation**.

It comprises a small set of signs that occur as couples, one at the beginning and one at the end of every phrase in the text, presumably requiring the application of different kinds of cantillation formulas. Like the **Coislin and Chartres systems**, **Ecphonic notation** was of value for the singer, who used it only as a memory aid; but complete reconstruction of the melody line is impossible today.

### Now days

#### **Byzantine notation - Western notation Common and different points.**

Byzantine notation is very different from Western notation in most ways. The following comparison assumes familiarity with Western notation.

-Western notation is based on a staff, where the pitch is determined by the location of the note with regard to the staff, regardless of the previous note.

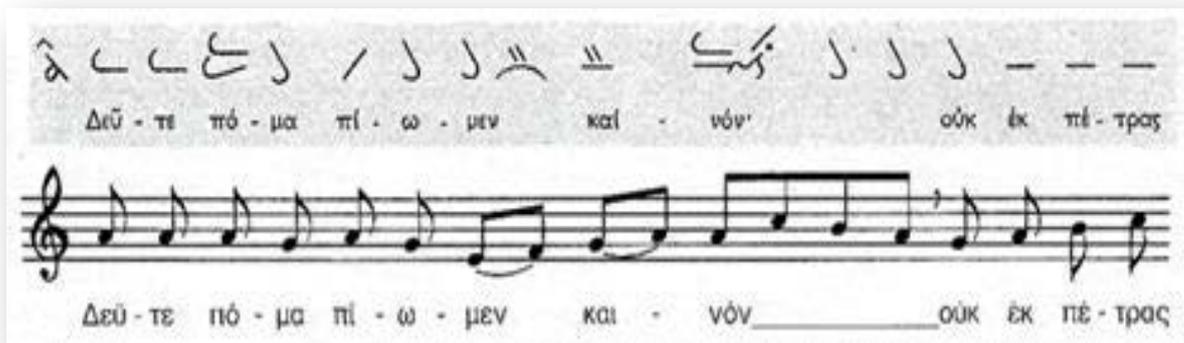
-Byzantine notation, on the other hand, is relational; the note is dependent on the previous note and the symbol itself, which specifies the interval from the previous note.

- While there are differences in speed and in whether a certain note should be flat or sharp in Western music, Byzantine music has this down to a (very complicated) artform, using certain tones which always have a specific note being sharp or flat.

-One near-similarity is the scale. In Western music, Do (the start of the scale) corresponds to the Byzantine note Ni, which is a note below the start of the Byzantine scale.

-Byzantine music has eight tones (or modes), sometimes associated with particular "moods" (though the notion that the music is designed to be emotional would certainly be distasteful to the saints who developed it).

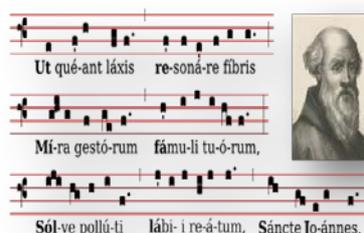
- Also, much of Byzantine chanting can be done without use of written music, due to the use of original melodies and improvisation. While there are tens of thousands of hymns in Byzantine music, they are all based on less than two hundred original melodies.



### Early music notation ... to West

To address the issue of exact pitch, a staff was introduced consisting originally of a single horizontal line, but this was progressively extended until a system of four parallel, horizontal lines was standardized. This is traditionally attributed to Guido of Arezzo, an Italian Benedictine monk who lived from about 991 until after 1033. He taught the use of solmization syllables based on a hymn to Saint John the Baptist, which begins *Ut Queant Laxis* and was written by the Lombard historian Paul the Deacon. The first stanza is:

1. *Ut queant laxis*
2. *resonare fibris,*
3. *Mira gestorum*
1. *famuli tuorum,*
2. *Solve polluti*
3. *abii reatum,*
4. *Sancte Iohannes.*



Guido used the first syllable of each line, Ut, Re, Mi, Fa, Sol and La, to read notated music in terms of hexachords; they were not note names, and each could, depending on context, be applied to any note. In the 17th century, Ut was changed in most countries except France to the easily singable, "open" syllable Do, said to have been taken from the name of the Italian theorist Giovanni Battista Doni.

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Αρχαία σημειογραφία
2. **BYZANTINE NOTATION**    **ΠΑ ΒΟΥ Γα Δη ΚΕ Ζω νΗ**  
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