

Beginning to Learn the Byzantine Musical System Using Western Notation and Theory

by Stanley J. Takis

The traditional music of the Greek Orthodox Church is called Byzantine chant. Without getting deeply into the long and complex history of this ancient form of vocal music, let us establish right away that it is a type of music that is meant to highlight and enhance the liturgical texts of the Church, and therefore weds itself to language using a strict set of rules, and yet at the same time employs a wide range of modes and styles. The many services of the Orthodox Church consist of a vast catalogue of lyric poetry, which exists in many forms to many different purposes. There are thousands of hymns, each with its own prescribed place in the yearly calendar of the Church. The most common hymns are of the Divine Liturgy, the Church's central service, which holds the sacrament of Holy Communion. However, there are several daily services, which include Vespers, Matins (Orthros), and Compline, and every day has a different celebration with a unique set of hymns. There are also services for the other sacraments and for various occasions. All of these services and their texts are designated to be chanted in the various modes of Byzantine music.

Byzantine chant has its roots in the ancient religious music of the synagogue and secular music of the Syrians and the Greeks. In the early Eighth Century, St. John of Damascus codified a system of eight musical styles appropriate to Christian worship. This system is called the *Octoechos* (eight tones). Over the centuries, the performance practices of this music were most likely influenced by various historical and cultural changes. However, because of the fact that this music was specified in the Church canons and was handed down from generation to generation as a tradition, combined with the development of a unique system of notation beginning in the 11th Century and standardized in the 19th Century, it is generally agreed among Byzantine scholars that Byzantine chant as it is practiced today is essentially close to the ancient music, with the exception of some additional modal practices which were added to the tradition around the 14th Century.

Each echos of the Octoechos is a family of modes. A mode is a musical system that relies on a fundamental tone and a set of melodic formulas built around it. These formulas are made from a defined set of scale steps that have uniquely tuned intervals. Byzantine chant, being modal, is basically a melodic system that does not lend itself to modern harmonization. Usually, the melody is only accompanied by a voice that is droned on the fundamental tone of the mode. This practice is popularly referred to as "holding the *ison*." Western style harmony, with its use of chords, dictates the use of major and minor scales, so that the chords will be in tune. This, if applied to Byzantine music, effectively destroys the character of the modes. Some reformers within the Greek Orthodox Church in the last two centuries have westernized the scales of Byzantine chant and employed harmony. This so-called neo-Byzantine music represents a significant break from the traditional Byzantine music.

Learning the characteristics of the different modes of the Octoechos is essential for the person wishing to practice Byzantine chant. The Byzantine notation, which is almost exclusively used by trained chanters, takes much study and practice to understand and be executed correctly. This article is an attempt to describe the basic musical theory of Byzantine chant in a way that people who have been educated in the Western theory of music and notation would be able to understand. It is not meant to replace the Byzantine theory and notation, but only to explain the fundamental theory behind it. There are many who wish to continue the modernization of Byzantine music, but it is not the purpose of this article to enter into this debate. This article deals with the theory of traditional Byzantine music, which will always be the historical basis and example for how music is used within the Church. Even if evolutionary changes should occur, it is still important to know the fundamental character of traditional Greek Orthodox Church music. There are many other articles on the artistic and emotional qualities of Byzantine music that can be accessed if the reader desires a further understanding of these important aspects of Orthodox ecclesiastical art.

THE DEFINING CHARACTERISTICS OF THE TONES

Many scholars insist upon the use of the word "mode" as a definition of echos, however, this author has chosen to use the word "tone" because it is much more frequently used in liturgical texts, and each echos is really a collection of related modes, so for the purposes of this article, the word "mode" will be used more

specifically within each tonal family. In identifying the eight tones of the Octoechos, some people simply number them one through eight. The standard Greek practice is to identify them by their authentic and plagal forms: First Tone, Second Tone, Third Tone, Fourth Tone, Plagal First Tone, Plagal Second Tone, Grave Tone (a Plagal form of Third Tone), and Plagal Fourth Tone. The plagal forms are modally related to their authentic counterparts and may differ slightly in their tonic and dominant tones as well as their melodic formulas.

Melodic Formulas. Byzantine chant has a lexicon of melodic formulas for every mode in the system. The collection is so vast, it can only be commented upon here, but its importance is enormous. These formulas correlate to the meter of the poetry, the pattern of groups of accented and unaccented syllables found in words and phrases. It is important to note that in liturgical Greek, the original language of the Orthodox Church, all of the thousands of liturgical texts are already set to specific melodies or modes according to these formulas. For many hymns, the Church established a series of model melodies (*automela*), which could be memorized by chanters. Each model melody has a series of hymns (*prosomia*) that follow its meter exactly, so that they can be chanted to the tune of the model. Therefore, these lyric poems had to be constructed with a particular melody in mind, a remarkable feat, considering the multitude of hymns that had to be written this way and yet maintain their religious integrity and their poetic mastery. There is also a set of hymns with unique melodies (*idiomela*).

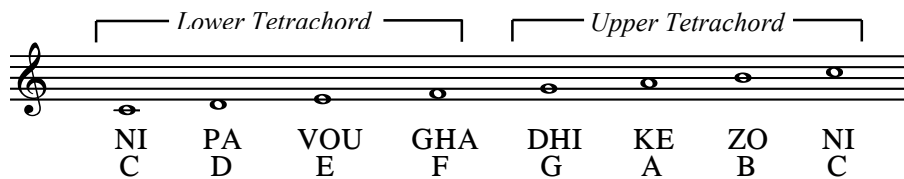
While all of these have been handed down to us complete in the Greek language, the metrical factor, (let alone the poetic one), has generally not been considered when translations of Orthodox liturgical texts have been made. Therefore, when one encounters a prosomion that has been translated but not metered to the model melody, the result is usually a breaking of the formulaic rules that comes from placing unaccented syllables where accented ones should be and vice versa, or the use of repeated or extraneous words and awkward phrasing to fill in melodic content that was made for a different number of syllables. This underscores the importance of knowing the formulaic rules, not only for chanters, but for translators as well. If a chanter knows the melodic formulas well and encounters a non-metered translated text, he or she can construct a new melody that follows the meter of the translation, according to the formulaic rules.

The creation of melodies is not, however, merely a matter of stringing together formulas of varying meters. Most hymns have a form of musical word painting, where certain formulas are matched to certain words or phrases depending on their meaning or emotional content. Giving accented syllables a higher pitch, an extra beat or more, extra notes, or a heavier stress can emphasize certain words or phrases. For example, the accented syllable of the word “heaven” is usually placed on a high note, just as we consider heaven to be a place high above us. Similarly, the words for sin, death, or hell often go low on the scale below the main note and sometimes are modulated to a hard chromatic scale. The name of Christ or a saint being celebrated is often elongated and ornamented, making it a musical highlight of the hymn. Byzantine chant is a brilliantly expressive form of religious music.

Rhythm and Tempo. Byzantine ecclesiastical music is divided into three groups of hymns according to rhythmic style. Most Orthodox hymns employ a short, quick, one-note-per-syllable format, a classification called *heirmologica*, named after the *heirmos*, which is the first hymn in an ode of a canon, one of the poetic forms. Other hymns employ a lengthier, stately rhythm associated with a classification called *sticherarica*, named after the *stichera*, hymns that are interspersed between *stichi*, or verses, usually from the Psalms. Sticheraric hymns feature two or more notes on most or many syllables. Certain hymns, such the Cherubic or Communion hymns, need to be drawn out to give the priest (*papas*) more time to complete his prayers, so a very slow, melismatic, and ornamented style called *papadica* is used.

It is important to note that the three styles do not define the actual tempo, but rather the simplicity or complexity of the melody relative to the words. In some cases, a heirmological hymn may actually be sung at a slower tempo than a sticheraric hymn. The division into these three styles is important because each one within a Byzantine tonal family has different modal characteristics.

Scales. Scales, or more precisely, genres, are one of the defining characteristics of a Byzantine mode. Despite the fact that you often hear Byzantine melodies sung in various keys, Byzantine music really has a fixed-note system. If we use the natural scale (the white keys of the piano) from C to C, the Byzantine notes are named NI, PA, VOU, GHA, DHI, KE, ZO, and the octave NI. Actually, this system is based on the Greek alphabet, beginning with “PA.”



Scales can be divided into subscales: a 4-note subscale is called a tetrachord (see fig.), a 5-note subscale a pentachord, and a 3-note subscale a trichord. Byzantine music uses these subscales by alternating melodic phrases among them. Byzantine music theory does not distinguish between major and minor scales as Western music does. Instead, it employs four full scale genres called *diatonic*, *enharmonic*, *soft chromatic*, and *hard chromatic*. (These are not to be confused with similar terms as used in Western music theory.) While Western scales are made up of intervals called steps and half-steps, Byzantine scales have precise tunings that are in most cases micro-tonally different from Western scale steps.

Diatonic Scale. The Byzantine diatonic scale that begins and ends on C looks just like a Western C-major scale. However, it does not *sound* exactly like it. The E and the B are sung a little bit flatter than a normal E and B. Also, B is normally natural when the melody is ascending and flat when the melody is descending. Sometimes when Byzantine chant is written in Western staff notation, one might see the diatonic genre notated with a single B-flat as a key signature. This does not mean it is in a key like F major or D minor. It only means that B-flat is used frequently as an accidental note in that scale. The First Tone, Fourth Tone, Plagal First Tone, and Plagal Fourth Tone, as well as the papadic mode of Grave Tone, all use the diatonic scale.

Enharmonic Scale. The enharmonic scale is tuned very much like a major scale. Since the main note is usually F, one could say it is similar to F major. Third Tone and Grave Tone (except for the Grave diatonic mode) are in the enharmonic genre.

Chromatic Scales. The soft chromatic scale is based near G natural. The A above it is slightly flatted, and the scale rarely rises above C, but when it does, the high E is usually flatted. Descending from G, most melodic phrases rest on E, but if they should reach down to C, the D is flatted like the hard chromatic scale (see below). Staff transcriptions of this scale sometimes use a flat sign for the A, however the true pitch of the note is somewhere between A and A-flat. The Second Tone, Fourth Tone, and Plagal Second Tone all employ the soft chromatic scale in some of their modes.



The hard chromatic scale (see fig.) is based on D, followed by E-flat, F-sharp (sharpened *more* than a half-step), G, A, B-flat, C-sharp (very sharp), and D. Note that there are two intervals in this scale with a distance of more than 1½ steps. This scale has that “oriental” feel to it that Western culture associates with exotic Middle-Eastern music. It is the scale Roubanis used in his hit song, “Miserlou.” Saint-Saëns used it for the “Bacchanale” of his opera *Samson and Delilah*. Although for some, this scale may induce visions of belly dancers, in Byzantine ecclesiastical music it is often used for slow, solemn themes. The hard chromatic scale is the normal scale for longer melodies in Plagal Second Tone and is also found in some modes of Second Tone.

Modulations. In Western music, modulations refer to changes in key within a piece. Byzantine melodies sometimes modulate into a different scale or mode in order to add expression to the text.

Accidental Notes. There are accidental notes in Byzantine chant. For example, if a melody in a diatonic scale only reaches as high as B and then immediately descends, B will be sung flat. Although there are signs in Byzantine notation for accidentals, sometimes they are not even noted, since their operation is governed by “laws of attraction” from note to note unique to each mode, and the chanter is expected to be familiar with the practice. In fact, the actual execution of many musical idioms may differ from the notation of the music. The corollary to this in Western music is called *musica ficta*.

Embellishments. Ornamentation is an important part of Byzantine music. In Byzantine notation, there are symbols of quality that could be likened to embellishment symbols in Western theory and notation. Other embellishments are part of the *musica ficta* that is gained by performing experience. Embellishments are

frequent and help accent or otherwise highlight certain words within a phrase. Although these ornaments have their own Byzantine character, the person trained in Western theory will notice figures very similar to turns, trills, mordents, and grace notes, both in their authentic forms and their inversions.

The Main Notes. A defining characteristic of a musical mode is the main note (or keynote), called the *tonic* in Western theory. The main note may vary between the different modes within an echos. We often refer to this main note as the “final” because it is usually the last note in a melody. Notes other than the tonic that are extensively used more than others are called *dominant* notes, (not to be confused with the dominant fifth in a Western scale). The dominant notes in a scale are one of the defining features of the mode.

Ison. The ison (*isokratima*), or accompanying drone on the tonic, may be chanted in several ways, varying from mode to mode. In the heirmological and the quicker sticheraric forms, it is most often sung to the texts. In the slower and ornate forms like the papadic, it is often droned on a neutral syllable or hummed with the mouth slightly open. In some modes, it is primarily on one pitch, but in other modes it may move up or down based on the fundamental tone of the musical phrase. For example, if a melody places a phrase on the upper tetrachord, the ison will move to the base note of that tetrachord. The last note of a phrase normally ends upon the ison. When the melody dips below the ison, the ison becomes unison with the melody or drops to the base note of the tetrachord below.

One chanter referred to the ison as “a floor upon which the melody dances.” This is a good metaphor. The tension and resolve that one feels by the changing notes of the melody against the unchanging ison create an expressiveness that can enhance the meaning of the texts in a way that other forms of harmony cannot.

Cadences. All texts contain phrases and sentences, which are usually ended by commas and periods. The endings of musical phrases and melodies are called *cadences*, and they often serve as a musical punctuation. A cadence consists of the last note of a phrase and the note or notes just before it. In Byzantine music, certain notes and peculiar musical patterns are consistently used as cadences and help to define the mode. Cadences can generally be divided into two categories: non-final and final. Non-final cadences (also known as partial cadences) conclude on a dominant note and are located in the middle of phrases, acting as a kind of comma or pause. Final cadences end on the tonic note at the ends of phrases and act as a semicolon or period. In Byzantine music, there is also an elongated, ultimate cadence, which occurs at the very end of some hymns, thus acting as a cue to the priest to continue to the next part of the service.

The following chart shows the scales and main notes of the eight tones. It is not meant to be complete or authoritative, but it demonstrates the variety of modes found within the Byzantine system. It shows the most basic identifying components of each Tone, apart from the melodic formulas and cadences. This chart is limited to the heirmological and sticheraric rhythmic styles, but it should be mentioned that papadic modes sometimes have their own scales and main notes.

COMMON BYZANTINE MODES

Tone	Rhythmic Style	Scale (Genre)	Tonic Note/Ison	Dominant Notes
First	Heirmological	Diatonic	D	G
First	Sticheraric	Diatonic	D	F
Second	Heirmological	Soft or Hard Chromatic	G/E	E/A
Second	Sticheraric	Soft Chromatic	G	E, C
Third	Heirmological	Enharmonic	F	A, D, C
Third	Sticheraric	Enharmonic	F	A, D, C
Fourth	Heirmological	Diatonic or Soft Chromatic	E	G
Fourth	Sticheraric	Diatonic	E	D, G
Plagal First	Heirmological	Diatonic	A	C
Plagal First	Sticheraric	Diatonic	D	A, G
Plagal Second	Heirmological	Soft Chromatic	G	E, C
Plagal Second	Sticheraric	Hard Chromatic	D	G, A

Grave	Heirmological	Enharmonic	F	Bb, G, C
Grave	Sticheraric	Enharmonic	F	Bb, G, C
Plagal Fourth	Heirmological	Diatonic	C or F	G, E or A, G
Plagal Fourth	Sticheraric	Diatonic	C	G, E

The following paragraphs describe and give examples of some of the characteristics of each of the eight tones. These are in no way complete, but illustrate some of the more common features. The examples do not show the ornaments and nuances of Byzantine vocal practice, nor do they indicate the micro-tunings of the different modes.

First Tone. To Western ears, this tone has a “minor” feel. Two well-known hymns in Tone One are “*Soson Kyrie*” and “*Osi Is Christon.*” The main note, D, is at the lower and upper ends of the scale.

Allegro



Σώ-σον, Κύ-ρι - ε, τον λα - όν σου, και ευ - λό-γη-σον την κλη-ρο-vo - μί-αν σου...
So-son Ky-ri - e ton la - on sou, ke ev - lo-yi-son tin kli-ro-no - mi-an sou...

First Tone in the Heirmological Mode. Note the dominant note G, and how accented syllables are emphasized.

In the heirmological mode of First Tone, a B-flat, rather than B, is frequent since the melody rarely goes above it and thus B is attracted downward, and G is the dominant note. Beginning with the first accented syllable, everything seems to center around G until the end of the hymn. The ison remains constantly on D, so the feeling of D is never lost. This example also demonstrates a common practice of moving the ison occasionally to avoid clashing tones. This is a relatively modern practice. The sticheraric mode of First Tone uses a dominant of F and has a more restricted melodic range, although it can go wider where dramatic expression is called for.

Second Tone. The Second Tone employs the soft chromatic scale centered on G, and is used extensively in the Divine Liturgy: in the first two antiphons, the small entrance hymn, the Trisagion Hymn, the hymns after Communion, and the kontakion of the Theotokos, “*Prostasia ton Christianon.*” In the heirmological style, there is also a mode that uses the hard chromatic scale with a base note of E.

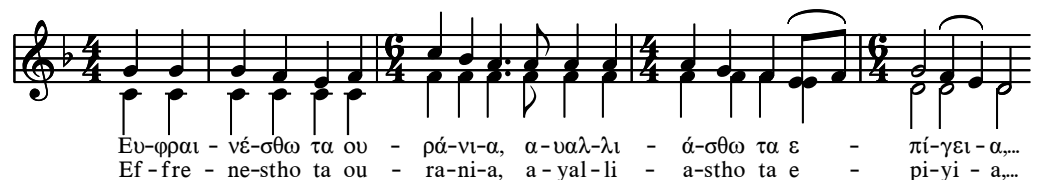


Δέυ - τε προ - σκυ - νή - σω - μεν και προ - σπέ - σω - μεν...
Dhef - te pro - ski - ni - so - men ke pro - spe - so - men...

Second Tone in the Heirmological Mode. Since the main note (G) of this mode is in the middle of the scale, the ison follows the melody when it falls below G.

The two accidentals depicted above are intended to show where a micro-tuning of the scale may occur.

Third Tone. The Third Tone and its plagal form both use the enharmonic scale, centered on F and sounding like F major, especially since the ison often bounces back and forth between F and C (like tympani, which implies a F-C7-F harmonic pattern to the Western ear). Middle cadences usually rest on D, as in “*Efrenesto ta ourania*” (below). The Christmas kontakion, “*I Parthenos Simeron,*” is a familiar hymn in the Third Tone. Another is the third stasis of the Holy Saturday Lamentations, “*Eghene Pase.*”



Ευ-φραι - νέ-σθω τα ου - ρά-νι-α, α-υαλ-λι - ά-σθω τα ε - πί-γει-α...
Ef - fre - ne-stho ta ou - ra-ni-a, a - yal - li - a - stho ta e - pi-yi - a...

Fourth Tone. The Fourth Tone has a complex set of modes, and most of them are based on E. This gives a very distinctive and recognizable character. Inexperienced ison-singers invariably want to drone on C instead of E in this Tone, making the melodies sound like a harmony part in the key of C. Two well-known hymns in Tone

Four are the kanon of the Akathist Hymn, “*Anoixo to stoma mou*” and the anavathmi “*Ek neotitos mou*” which we hear in the service of the Paraklesis. Apolytikia and Kontakia in the Fourth Tone, such as the Christmas troparion “*I Ghennisis Sou Christe* (below) and the troparion of the Annunciation, “*Simeron tis Sotirias*” are actually chanted in the soft chromatic scale, with the main note of G, but final cadences always on E. An example of this mode with very distinctive melodic formulas is the kontakion, “*O Katharotatos*.”

Moderato

Fourth Tone in the Heirmological Mode for Apolytikia. In the example to the left, the Christmas apolytikion demonstrates the ison on E in the first phrase. In hymns of this soft chromatic mode, fundamental tone is G. This is shown on the second line. Note how the ison moves up to be pitched on G during this phrase.

Plagal First Tone. The heirmological mode of the Plagal First Tone is a high-pitched mode based on A of the diatonic scale. For vocal comfort, it is often chanted on a lower note. The *Evloghitaria* from the memorial service are an example of this mode. The tetrachord on A mimics the tetrachord on D, so the B is natural if a phrase extends past it. In the sticheraric mode, there are frequent modulations between D and A, although, oddly enough, the final note is G, except for ultimate cadences (that cue the priest) which come back down to D. Examples of Plagal First Tone in the sticheraric mode are “*Christos Anesti*” and the first two stases of the Holy Saturday Lamentations. The papadic mode of Plagal First is a very free ranging and expressive D minor mode.

Plagal First Tone in the Sticheraric Mode. This megalynarion shows a tetrachordal scale based on D and A. The moving ison rests on the base note of each tetrachord. Note the B natural in the ascending phrase.

Plagal Second Tone. Plagal Second Tone uses a soft chromatic scale in its heirmological mode (an example is the Resurrection apolytikion “*Angelike Dhynamis*”) and a hard chromatic scale in its sticheraric and papadic modes. These longer modes are often seen in Cherubic and Communion hymns. Like Plagal First Tone, it often uses a tetrachordal form of the scale, and modulates frequently between tetrachords.

Lento

Plagal Second Tone in the Papadic Mode. Most papadic pieces can be identified as the work of an individual composer. This example is from a composition by John Sakellarides, a relatively modern composer who was influenced by Western music. Note the hard chromatic scale and the use of melisma in measures 7 and 8.

Grave Tone. The plagal form of the Third Tone is called the Grave Tone because one of its modes ends on an unusually low note. The Greek word, *varys*, is also used to identify this tone. It mostly uses the same enharmonic scale and main note as the Third Tone, but with different formulas and dominant notes.

Maestoso

Τίς Θε - ός μέ - γας ως ο Θε - ός η - μών.
 Tis The - os me - ghas os o The - os i - mon.

For an example of this Tone, see the Resurrection Apolytikion, “*Katelysas to Stavro Sou.*” The prokeimenon of Pentecost, “*Tis Theos Meghas,*” (above) is another. The papadic form of Grave Tone, has the lowest final note of all the Byzantine modes, ZO (B). This mode is diatonic, not enharmonic and is referred to as “Grave Diatonic.”

Plagal Fourth Tone. The wonderful and versatile Plagal Fourth Tone is very widely used and has hymns of all tempos and rhythms written for it. It is set to a diatonic scale that starts with C or, in the case of apolytikia and kontakia, F. In the latter case, a B-flat is used, not because the scale is enharmonic, but because the scale is transposed up to F and the intervals from the C scale are kept the same.

Allegro

Ευ-λο-γη - τός εί, Χρι - στέ ο Θε - ός η - μών,...
 Ev-lo-yi - tos i Chri - ste o The - os i - mon,...

The Hermological Mode of Plagal Fourth Tone for Apolytikia.
This particular mode of Plagal Fourth is based on F,
rather than C and is referred to as “triphonos.”

CONCLUSION

The understanding and appreciation of traditional Byzantine chant is important, not just for those who practice it in the Church, but for musicologists as well. Its influence on Western music is a frequently neglected topic. There is much to know about Byzantine music theory and practice, and this short introduction to the Octoechos gives just a small sample of the huge variety of musical material in Byzantine chant. It is useful to read about this music, but there is no substitute for listening to the real thing sung by good Byzantine chanters and choirs. There are many recordings available on the Internet and on compact disc. There are also more and more transcriptions of Byzantine music into staff notation becoming available. Byzantine music is also being applied to other languages, but the quality of this work is uneven, because the rules of Byzantine theory are often not applied. It is hoped that this small article will spark an addition investigation into this ancient art form, and the knowledge and familiarity thereby gained will contribute to the perpetuation of this holy art.

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New Byzantium Publications: www.newbyz.org – The author’s web page, which contains many more articles on chant and Greek Orthodox Church music and many downloadable scores of music in staff notation, in both Greek and English.

St. Anthony’s Monastery Divine Music Project: www.stanthonysmonastery.org/music/Index.html – A site with many musical scores in English and many articles, essays, and links about traditional Byzantine music.

Cappella Romana: www.cappellaromana.org – This site offers professional recordings of Byzantine music and some scores which juxtapose both Byzantine and staff notation on the same page.

The Axion Estin Foundation: www.axionestin.org – An organization dedicated to the advancement of Byzantine music. The site contains information on their frequent public symposiums.