



Understanding the Byzantine Musical System Using Western Notation and Theory or Name That Tone!

by Stanley Takis

Most Greek Orthodox church musicians have seen references to “tones” and “modes” in liturgical texts and choir music. But many ask the question, “What are they?” How do you recognize one tone from another? What exactly is a mode? Are modes and tones the same thing? Why do chanters use those squiggly lines while choirs use “real” music? This article provides some observations and information to help “tone-deaf” or “non-mode-ivated” persons understand more of the Byzantine musical system which has been part of Orthodox hymnology from the earliest days.

During the first centuries of the Church, our music was greatly influenced by the religious music of the synagogue and the secular music of the Syrians and the Greeks. This ancient music contained a multitude of scales and styles. It was St. John of Damascus who codified a system of eight musical styles, selected because they were not too theatrical or worldly and they helped create a prayerful attitude in the faithful. This system is called the *octoechos* (eight tones). Over the years, our hymnographers used this eight-Tone system to carefully construct music around the liturgical texts. Every word, every syllable was meticulously melded to specific musical figures that enhanced and emphasized the meanings and emotions invoked by these texts. Dimitri Conomos has pointed out “its perfect alliance with the texts of liturgical poetry.”

As for the question of what to call these styles in English, “tone” is the common translation of the Greek word *echos*. In most liturgical books, like the big, black Easter book by Fr. George Papadeas, they are referred to as tones. However, many musicologists claim the term “mode” is historically more correct. On the other hand, I think this may cause confusion, because in modern Western musical theory, “mode” is a more precise term that refers to a *single* scale, the location of its keynote, and the relationship of its intervals to the keynote. Using this definition, each Byzantine *echos*, employs multiple modes. Therefore in this article, I use the traditional word “Tone” for *echos* and I will capitalize it to distinguish it from the common word “tone,” which simply means a pitched sound.

As a teacher, I often hear, “Why do we have to learn this?” It is important because our generation is embarking on an important task — that is, to perpetuate this perfect alliance of melody with our *English* liturgical texts. We cannot keep squeezing English words into melodies that were meant for Greek words. We need to learn the rubrics of Byzantine Chant so that we may apply them to our English translations in the way the master hymnographers applied them to the Greek texts, thus creating melodies worthy of our great and sacred traditions.

In the earliest times, hymns were passed on by rote from one generation to the next. The earliest Byzantine notation we have is from the 8th century. This evolved through a number of distinct systems that also reflected

distinct phases in the development of Byzantine chant. The current system of Byzantine notation was created in 1814 by the so-called “Three Teachers,” Chrysanthos, Gregory, and Chourmouziou. This is what priests, chanters, and Byzantine choirs use today. In the late 19th and early 20th centuries, some chanters and priests in Greece found Byzantine chant too “Turkish” and wanted a more European sound, with harmonies. The pioneer of this style was John Sakellarides, the chanter at the Royal Court in Athens. Since then several church musicians, including Christos Vrionides, George Anastassiou, and Nicholas Roubanis, created choral hymns in Western musical notation to meet the needs of Greek Orthodox Christians in the United States. What they did has really shaped how we view our music today, because they took chants based on the ancient Tones, simplified them and harmonized them according to Western music theory. The melodies may have been based on the Byzantine tradition, but the major and minor triads these arrangers used effectively obscured the musical properties of the eight Tones, which are essentially monophonic music. Byzantine chant is harmonized only by the *ison*, a droned holding-note also referred to as an *isokratima*, which means “holding of the even note.”

As more contemporary Greek Orthodox musicians further Westernized the music by using fugal entrances, polyphony, more complex harmonies, and certain melodic variations, the defining characteristics of the chant were further obscured, and it became harder and harder to search through the music for melodic clues that identify the Tone or mode. Although many of our composers have created incredibly beautiful and moving arrangements of our hymns, the price for this beauty is that most of us are not able to sift through the elaborate harmony and counterpoint to concentrate on hearing the Tone which the hymnographers intended for us to hear.

Byzantine chant is stark for a reason; it eliminates all the excess in the music and cuts to the core. Constantine Cavarnos has written of its “inner essence...pureness...its mystical quality, its power of evoking contrition.” One may compare harmonizing chant to colorizing Ansel Adams’ photography. It may add visual richness, but there is a unique beauty found in his black and white photography: starkness, definition, and clarity. There is a contrast between light and shadow, which disappears when the element of color is added. Furthermore, there is a link between Byzantine chant and iconography. There is a purpose in holy art beyond aesthetic beauty. The iconographer uses strict conventions to create art that invokes a spiritual experience, not a sensual one. The same is true of the Byzantine hymnographer.

With all of this in mind, let’s take a look at the Eight Tones through the Western musical tradition. In this article, I have tried to use familiar musical terms and symbols to make a complex subject as understandable as possible. Byzantine Tones are analogous to the “church modes” of Gregorian chant, which were derived from the more ancient Byzantine Tones. But the Gregorian modes are basically just scales, whereas the Byzantine Tones are much more of a *system*. In identifying the Tones, some people number them One through Eight. Instead, I will try to follow the Greek pattern and call them First Tone, Second Tone, Third Tone, Fourth Tone, Plagal First Tone, Plagal Second Tone, Grave Tone, and Plagal Fourth Tone. Some people put the words “of the” after Plagal (e.g. Plagal of the First Tone).

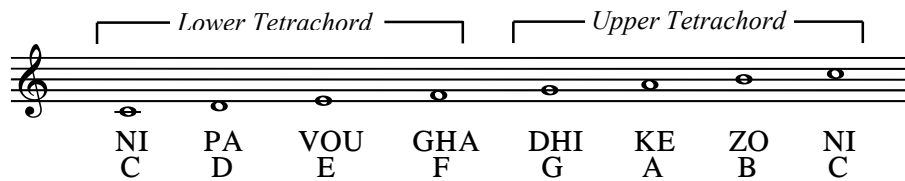
THE DEFINING CHARACTERISTICS OF THE TONES

Rhythm and Tempo. Byzantine ecclesiastical music is divided into three groups of hymns according to rhythms and tempi. Faster hymns usually employ a short, quick, one-note-per-syllable format, a classification of hymns called *heirmologica* (named after the *heirmos*, which is the first hymn in an ode of a canon). Slower hymns employ a lengthier, stately rhythm associated with a class of hymns called *sticheraica* (named after the *stichera*, hymns that follow “Lord I have cried” in Vespers or “Let every breath praise the Lord” in Orthros). Sticheraic 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, ornate, melismatic 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 sticheraic hymn. The division into these three styles is important because each one within a Byzantine Tone has different modal characteristics.

Scales. Scales 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 “P_A.”



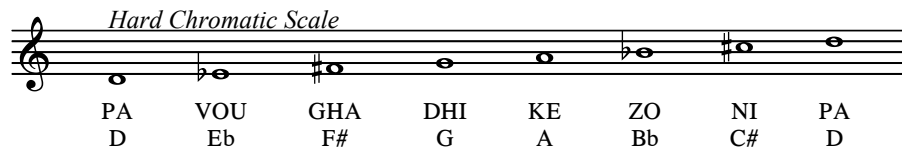
Scales can be divided into subscales: a 4-note subscale is called a *tetrachord*; a 3-note subscale is a *trichord*. Byzantine music uses both these kinds of subscales by alternating melodic patterns between them.

Byzantine music theory does not distinguish between major and minor scales as Western music does. Instead, it employs four full scales called *diatonic*, *enharmonic*, *soft chromatic*, and *hard chromatic*. (Not to be confused with similar terms as used in Western theory.) While Western scales are made up of intervals called steps and half-steps, some Byzantine scales have precise tunings that are 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 Byzantine chant written in Western notation shows a single Bb in the key signature of a diatonic scale. This does not mean it is in a “key” like F or D minor. It only means that Bb 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* variant of Grave Tone, all use the diatonic scale.

Enharmonic Scale. The enharmonic scale is tuned exactly like a major scale. Since the main note is usually F, the B is flatted in the key signature. The enharmonic scale is the only one that can be played accurately on a keyboard instrument. Third Tone and Grave Tone (except for Grave Diatonic) are enharmonic.

Chromatic Scales. The soft chromatic scale is based on 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). When I transcribe the music of this scale, I do not use a flat sign for the A, because it should not be flatted all the way, but some composers, most notably Roubanis, have used it. The Second Tone, Fourth Tone, and Plagal Second Tone all employ the soft chromatic scale in some of their modes.



The hard chromatic scale is based on D, followed by Eb, F# (sharpened *more* than a half-step), G, A, Bb, C# (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 we associate with exotic middle-eastern music. It is the scale Roubanis used in his hit song, “Miserlou.” Although to most Western musicians, this scale may induce visions of belly dancers, in our ecclesiastical music it is often used for slow, solemn themes. Also, many modes that use other scales often borrow brief phrases from this scale in order to add expression to the text. The hard chromatic scale is the normal scale for Plagal Second Tone and is also found in some modes of Second Tone .

Scale Tunings. In actual practice, American choral singers, whose ears are trained to the equal-tempered system of modern music, and who often sing with an organ accompaniment, will not employ the micro-tonal differences between the steps of the diatonic, enharmonic, and soft chromatic scales. Only the steps of the hard chromatic scale make it markedly different to Western ears than the other three scales. Classically trained chanters, on the other hand, believe that the unique Byzantine scale tunings are essential and spend much time with ear-training so that they may employ them.

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. Mostly, the use of accidentals is not even noted, since their operation is governed by “laws of attraction” from note to note unique to each Tone.

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 a Tone. We often refer to this main note as the “final” because it is usually the last note in a melody. In Byzantine music, the tonic or final is also the main note of the ison. This note is droned against the melody (see below). Notes other than the tonic which 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*) may be chanted in several ways, varying from mode to mode. In the heirmological and the quicker sticheraic 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. In some modes, it is primarily on one pitch, but in other modes it may move up or down based on the properties 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.

Vasili Stavropoulos, a chanter who assisted me in the editing of this article, has called the ison “a floor upon which the melody dances.” I think 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.

Pattern of Accented Syllables and Melodic Formulas. Byzantine hymnographers were very careful with words and syllabic structures. Byzantine chant consists of building blocks of standard musical phrases which are based on patterns of accented-to-unaccented syllables and are strung together to form unique melodies. Accents are always emphasized and the melody shaped to ensure that the music is accented according to the proper pronunciation of the words. An example of this can be seen in the opening phrase of a common melody of the Plagal Fourth Tone Communion hymns. When the tonic note is C, the formula calls for the first accented syllable to be on E. Thus, for “*Enite ton Kyrion*,” there must be a pickup note or two beginning on C for the first syllable, which is unaccented. The second syllable is accented and thus is on the E. However, when “*Litrosin*” is chanted, the accent is on the first syllable, so the melody begins immediately on E with no pickup notes. In the Palm Sunday Communion Hymn, the accent of the first word, “*Evloghimenos*,” is on the fourth syllable, so three pickup notes are needed. It is very important that adaptations to English obey this fundamental rule about accents, rather than slavishly fitting English words to a melody composed for the Greek.

These melodic formulas are actually *the main defining component* of the Tones, since each Tone contains its own unique patterns. The formulas place are used in such a way as to emphasize certain words or phrases. This can be accomplished by giving accented syllables a higher pitch, an extra beat or more, an extra note(s), or a heavier downbeat. For example, the accented syllable of any form of the word for heaven is usually placed on a high note. Similarly, the word for Christ is given an emphasis on the accented syllable. The words for death or Hades usually go low on the scale below the main note and are modulated to a hard chromatic scale. In a *dhoxastikon*, the name of the saint being celebrated is often elongated and ornamented, making it the musical highlight of the hymn. There are many other examples. Byzantine chant is the most brilliantly expressive of all traditional religious chant forms.

Melodic Endings (Cadences). All texts contain phrases and sentences, which are usually ended by commas and periods. The endings of musical phrases 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 Tone. 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 a hymn, thus acting as a cue to the priest to continue to the next part of the service.

It takes more than an article of this size to define the plethora of musical patterns that are the soul of the Eight Tones. However, to quote the great Italian-American philosopher, Yogi Berra, “You can observe a lot by watching.” By looking at the melodic lines of Greek Orthodox music in a hymnal, you will notice these

In the heirmological mode of First Tone, a Bb, 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. Also, when the ison drops at an ultimate cadence, it drops to C natural before returning to D, never to C#. The sticheraic 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, “O Monoghenis,” the small entrance hymn, “Dhefte proskinisomen,” the Trisagion Hymn, the hymns after Communion, and the regular kontakion, “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 law of attraction sharpens F in the first measure and flattens the A even more than normal in the second. In the third measure, the B preceding it draws the A back to its normal place. This represents a compromise that is often made when transcribing the soft chromatic scale to Western notation. When chanted traditionally, there is never A or Ab, but something in between.

Third Tone. Although the Great Doxology at the end of Orthros is supposed to be chanted in the Tone of the day or the Tone of the *dhoxastikon*, American choirs commonly sing the Third Tone Doxology every Sunday. 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).

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...

The Christmas kontakion, “I Parthenos Simeron,” is a familiar hymn in the Third Tone. Another is the third stasis of the Lamentations, “Eghene Pase.”

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 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 a very distinctive melodic formula is the kontakion, “O Katharotatos.”

Η γεν - νη - σίς σου Χρι - στέ ο Θε - ός η - μών...
 I yen - ni - sis sou Chri - ste o The - os i - mon...

...αυ - τή γαρ οι τοις ά - στροις λα - τρεύ - ον - τες...
 ...af - ti ghar i tis a - stris la - trev - on - des...

Fourth Tone in the Heirmological Mode. In the example to the left, the Christmas troparion demonstrates the ison on E. Note how the ison drops before the last note of the first cadence. In hymns of this soft chromatic mode, there are usually some phrases that end on 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 sticheraic 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 sticheraic mode are “*Christos Anesti*” and the first two stases of the Holy Friday Lamentations. The papadic mode of Plagal First is a very free ranging and expressive D minor mode.

Plagal First Tone in the Sticheraic 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 sticheraic and papadic modes. These longer modes are often seen in Cherubic and Communion hymns (e.g. “*Enite ton Kyrion*” in Dr. Frank Desby’s liturgy). Like Plagal First Tone, it often uses a tetrachordal form of the scale, and modulates frequently between tetrachords.

Plagal Second Tone in the Papadic Mode. Note the hard chromatic scale and the use of melisma.

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. Sometimes the Greek word, *varys*, is used to identify the scale for English. It mostly uses the same enharmonic scale and main note as the Third Tone, but with different formulas and dominant notes.

For an example of this Tone, see the Resurrection Apolytikion, “*Katelysas to Stavro Sou.*” The prokeimenon of Pentecost, “*Tis Theos Meghas,*” 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 either C or 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

The Heirmological Mode of Plagal Fourth Tone Transposed to F.

same. This is why you might see a hymn like “*Tou Dhipnou Sou*” transcribed as a C major melody and “*Evloghitos I Christe*,” the Pentecost troparion, transcribed as an F major melody, yet they are both in the Fourth Plagal Tone. This Plagal Fourth melody (see figure above) gives us a chance to consider syllabic formulas. The first accented syllable begins on the high note A, so there are *three* pickup notes for the unaccented syllables. In the third measure, the accented syllable falls on the high note, followed by a half note on an unaccented syllable. This is often transcribed entirely in 4/4 time, but this places undue emphasis on the unaccented syllable. Meters change frequently in Byzantine chant, because the music is so closely wedded to the texts. Finally, the long cadence formula with three groups of two-notes-per-syllable is very idiomatic of this Fourth Tone melody, but in order to use it, a definite pattern of accented-to-unaccented syllables must be employed. An accented syllable is always placed on the second group of notes, meaning that this formula can only be used when an accented syllable is the *third* syllable from the end. If the accented syllable is the *second* one from the end, this formula cannot be used and another one must be employed instead.

The melodic formulas, which are the heart and soul of Byzantine chant, pose a challenge to the person who transcribes these melodies into English, because the accent patterns are different and the transcriber must not be tempted to fit an English phrase into a melodic formula meant for a Greek syllabic pattern. Instead, a proper Byzantine melodic pattern must be selected to fit the English words. This is a painstaking process that requires knowledge and constant practice of the art of language and Byzantine music.

CONCLUSION

The contribution of harmonized music to Greek Orthodox hymnology is still being debated. But apart from that debate, it is still important for all church musicians to understand and appreciate the traditional music of the Church. I hope this small article has sparked an interest in church musicians to learn more about this great treasure of our Church. There is much to know about Byzantine music theory, and this short introduction to the Tones indicates the huge variety of melodies in Byzantine chant, only a small portion of which find their way into the Divine Liturgy sung by most choirs. 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. Take the opportunity to hear any noted chanters or Byzantine choirs and search out recordings on the web and on compact disc. You will be greatly rewarded and will come to love the rich musical heritage of our faith!

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For more articles, or to download many Orthodox hymns set to Byzantine chant in Greek and English and transcribed into Western notation, visit our website at <http://geocities.com/takistan>. A thank you goes to my wife, Nancy, for starting this article, abandoning it, and then allowing me to finish it. Thanks also to Dr. Vicki Pappas whose editing suggestions made the article more comprehensible, and to Vasili Stavropoulos, who graciously took the time to edit the article and make some valuable informational contributions as well.