

An Idiot's Guide to Square Notes

By Arlene Oost-Zinner and Jeffrey Tucker

You can't get too far into Catholic sacred music without running into "neumes," those little square notes on four lines that look beautiful if oddly antiquated. Most people have no idea how to read them, and most trained musicians are as much at a loss as anyone else. They don't teach reading neumes (pronounced "nyoomz") in graduate school.

What to do?

There are two typical responses. An ambitious person scrambles to find the same chant in modern notation, and usually fails. Modern-note editions of chant are out there but they are difficult to find and the repertoire is limited. A less ambitious person assumes that he or she doesn't need to know this old notation anyway, since it is too complicated and outmoded in any case.

Either response leads the person out of chant, and back into the status quo. Well, be not afraid. This is your time-saving, ten-minute, clip-n-save intro to chant.

There are serious trends alive today that are going to require Church musicians at all levels to revisit the chant tradition. Pope Benedict XVI and his predecessor John Paul II have stated this very explicitly. Rome's efforts in this regard, which date back decades and, indeed, centuries, are intensifying to the point where they will soon touch every musician in every parish if they haven't already.

Some people look at square notes and think they are some little more than a pious affectation. Surely modern notes are more "advanced" in the same way modern English is over Middle English or the iPod is over the 8-track tape. This is not true. The square notes are precisely appropriate for the purpose for which they are used. You wouldn't render a Beethoven symphony in neumes any more than modern notes are a long-term chant solution.

If you are not comfortable with neumes, the formal chant that built church music and Western music generally will be forever closed to you. The propers, psalms, hymns, and many Mass settings will be off limits. Meanwhile, the authoritative books of the Solesmes Monastery in France will continue to be forbidding.

And there is another problem: if you only sing chant with modern notation, the music will never sound quite right. The phrasing will be missing. You will be afraid or unwilling to abandon the written key signature. The inflections and "special effects" will be lost. Tempos will drag. In any case, it will sound more like modern music than the sung prayer that it should be.

There is no viable substitute for learning how to sing in the way the Church has sung for centuries - with the aid of notation developed specifically for the chant. Musicologists observe that singing from square notes comes closest to replicating the timeless sound

heard in the earliest centuries of Christianity. That's why they are in use today. It's not that anyone is opposed to innovation. The square notes themselves were an innovation by Guido d'Arezzo, father of modern notation. The point is that neumes capture the essence of the sound and feel of chant and express those better than any alternative.

Once reconciled to this reality, the enthusiast faces yet another problem. There are vast numbers of books available on chant, both scholarly treatises and texts written for monastic study. Some books claim to make chant simple only seem to add unnecessary complications. Even the reader-friendly versions you find at the beginning of old Missals seem to be missing critical pedagogical steps.

Below we provide all essential information to get you up and singing quickly. It is not a substitute for more extensive training, intense listening, hours of practice, and careful study. The goal is to get the singer past the intimidation stage so that the chant books don't look so scary after all.

If you already know how to read music, you face an advantage: you already know what whole steps and half steps are, and you know what it means to sing in tune. Unfortunately you also face a disadvantage: you will be constantly tempted to translate from modern notation to medieval and back again. This is pointless. The best approach is just to start fresh.

The Notes

The chant is written on four lines, not because it is a different language from modern notes but because most chants do not extend beyond that range. There is nothing odd about this. In modern notation, if you remove the top or bottom line on a treble or bass clef, will the music sound any different? No.

It is the same with the chant staff. The four lines are read just like five lines of modern notes, minus one line. Chant is written down specifically for the human voice, which has a more limited range than most musical instruments. There is no need for five lines. So you can dispense with any issues you have concerning this question immediately.

Also, there are no time signatures and no key signatures.

Otherwise, it is the same. When the printed notes go up, the sung notes go up. When the printed notes go down, the sung notes go down. This is not different from modern notation: in reading from left to right, you may go up or down one whole step, one half step, a major third, a minor third, a perfect fourth, and so on.

The only remaining question is: how do you know if the relationship of a space to a line or a line to a space represents a half step or a whole step? The answer is simple. There are two half steps in a Gregorian scale. The rest are whole steps. The trick, then, is to find the half steps among the neumes.

Finding the half steps is not difficult. Think of a C scale, the white keys of a piano starting on middle C going to the next C. Since neumes have relative pitches, the C is described as Do. You can make any note the Do and go from there. No matter what you call Do, the scale has 5 whole steps and 2 half steps. The half steps occur between E and F (or Mi and Fa) and between B and C (or Ti and Do).

With Chant, this sequence of whole and half steps does not vary. The only thing that changes is your starting point. If, for example, you begin on Do and end at Do, the placement of whole and half steps will be as follows: whole, whole, half, whole, whole, whole, half. If you begin on Re, the relationship of the whole and half steps to each other will still be the same; again, only your starting note has changed. Your Re to Re scale will sound like this: whole, half, whole, whole, whole, half, whole. Once you understand this “slide rule” principle, you will be able to sing any chant melody.

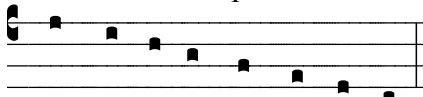
The best method for learning this is "solfege," the do-re-mi system of singing that Maria used in the Sound of Music used to teach the children. That song is a charming Hollywood creation but it is based on the way people learned chant for centuries.

If you don't know that system, there is another way. See the clef marking at the beginning of the chant.



This is the C or Do clef. It always rests on a line. The Do clef simply tells you where Do is. The space just beneath this is sung a half step lower (Do to Ti)

The other half step occurs between the Mi and Fa.



Do -Ti La Sol Fa - Mi Re Do

Again, the first half step occurs on the space just under the line marked by the clef. From that note in the Do clef, count down three whole steps, landing on Fa. The next space down is another half step. So if we count down from the note marked by the C clef, we get: **half**, whole, whole, whole, **half**, whole, and then whole.

The same holds if we are using the F or the Fa cleff, as well.



The Fa cleff rests on a line. It tells you where the Fa is. The relationship of half to whole steps stays the same. The pattern will be as follows, starting on the Fa and moving down: **half**, whole, whole, **half**, whole, whole, and then whole.

A chant rarely has a range that extends beyond this. But it can extend upward, with another half from the Mi to the Fa going up from the Do.

That's the whole answer to reading the melodies. If you ever sit under the direction of a chant master, you will hear him (under his breath) running up and down scales all the time. He will find a starting pitch and move quickly down or up to find the starting note.

If you get confused, just look at the piano keys and place the starting clef note as C and walk down the white keys to find the half steps and whole steps. If you play a musical instrument, you can think of the notes as they occur in a C scale. But always remember that your instrument is your voice, and your goal is to coordinate it with your mind and heart.

The Clefs

There are only two clefs in Gregorian notation:

The Do clef or the C clef:



and the Fa clef or F clef:



The clef works as a signal for you to find the melody. It can appear on most any line. It is not the tonic or centralizing pitch of the piece of music. It is there only to orient you to the relationship between the notes, or the whole steps and half steps. It marks the spot below which the half step occurs. That is why it exists.

Why are there two clefs and not just one? Each indicates a different range in the scale where the chant is centered. By carefully choosing a clef and a line on which it is placed, the entire line of notes can easily fit on the staff and become easily readable.

But don't be distracted by terms C and F. We are better off thinking of them as Do and Fa. That's because, unlike modern notation, the singer enjoys complete freedom of choice on placing these notes within the comfort zone of singing. The clef sign indicates C or F but the sound you make (or hear) can start anywhere that feels right, which is to say that chant can be transposed into any range.

It's fine to begin the discovery process by using the piano or some other instrument. But it is important to move away from the piano soon after. You can move the pitch up or down as much as needed to accommodate the voice. Any voice of any range can sing the chant if you choose the starting notes properly. It is a good idea to keep a pitch pipe nearby. You can use it to find a comfortable starting pitch, and then check related pitches as you learn the chant at hand.


Most musicians ask: but where is the tonic—the resting note of the chant—in all of this? It is not dictated by the clef. It emerges as you get to know the chant. It is sometimes the


starting note. More often it is the ending note. If you feel you must know "note of repose" before you sing, the last note or the "final" is a good place to start.

Chant's Got Rhythm


In chant, there is a basic, constant pulse that underpins all melody, and upon which the various melodies are then hung. You don't hear this pulse but you feel and sense it.


Let's begin with some examples. The chants below include the following rhythm figures.

The **Punctum** gets a pulse for one syllable. 


The **Podatus** is two notes, each with one pulse. 

The lower note is sung first, and may be sung on one syllable or two. Remember that, and you unlock one of the seeming mysteries of the chant melody.

The **Clivis** is two notes on one syllable, each with a pulse, top note sung first. 

The **Torculus** is three notes on one syllable, each with a pulse. 

The **Porrectus** is three notes on a syllable. It begins up, goes down, and goes up again,

for a total of three pulses. 

It is written with that sliding look because the early transcribers didn't want to lift their quill pens to write the figure. It later became a convention. But there is not slide in the sound. It is just three clean, legato notes, each of which is held one beat.

Two additional rules: the notes with a dot are held two pulses, and the notes with the line on top (the episema) are held a bit longer with a warming of the tone. You'll develop a feel for it before long.

Since some of the neumes look unlike anything we see in modern notation, there is one final point that seems obvious, but is worth mentioning: chant is read from left to right. This is true whether we are talking about a one neume with three various strokes and squiggles, or a series of simpler neumes all in a row, or a series of simple and what look like more complicated strokes and squiggles. Left to right, always.

Now you have all the information you need to sing:

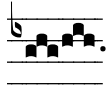
<p>VIIIc</p>	<p>Confirm, O God, what Thou hast wrought in us; from Thy temple, which is in Jerusalem, kings shall offer presents to Thee.</p>
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Which is:

C C C C CDC CBC;	C C C C A C B A G;
Con fir ma hoc de us	quod o pe ra tus es in no bis

G G GA F A CB G;	A C B C A G G
A temp lo sanc to tu o	Quod est in Je ru sa lem

From time to time, you may see something that looks like a flat sign:



It is precisely what it looks like: a flat. It is the *only* "accidental" that you see in chant. It applies to the note on the space on which it is written. So i. It does precisely what it appears to do: lowers the Ti by one half step. The resulting note is called a Te. There is no other note to which you can apply it. The flat applies to the note for the whole word and as far as the next bar line.

There is no such thing as a sharp sign anywhere in chant.

Here is Da Pacem, written with the Fa Clef:

<p>II</p>	<p>Give peace, O Lord, in our time Because there is no one else Who will fight for us If not You, our God.</p>
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A few other rhythm rules:

The **Quilisma** looks like this



It looks like a squiggle and some scholars believe that it was sung in the past with a slight tremolo. But the standard practice today is to treat it as a sign to begin, lengthen the first note of the three, and then move through the next two with energy.

The final notation effect we need to know for our purposes is the **Liquescent Neume**. This means you see a smaller note attached to a larger note:



The smaller note addresses the special treatment of the consonant on which it is sung.

Here is an example of a liquescent neume occurring in a familiar Sanctus:



Ho-sánna in excél-sis.

The "n" in Hosanna should occur exactly on the smaller note of the two notes in "san". The same goes for the "cel" in excelsis. The instant you start to sing the smaller note, you should be on the "l" in "cel."

In the case of the the "n" in "san," sing it as sonorously as possible, without its losing its tactile quality. Think of putting your tongue on the roof of your mouth and singing a clean and glorious "nnnnn."

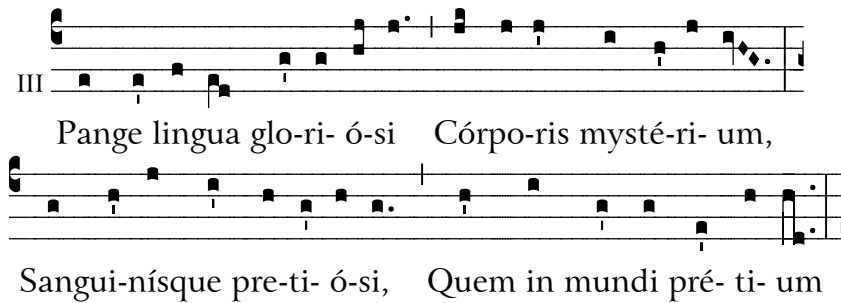
The same goes for the "l" in "cel," although here you will be placing a different part of your tongue a little further forward on the roof of your mouth. It pays to experiment a little until you develop the proper feel and sound. Use your best Latin pronunciation, and don't be afraid to make funny faces.

It is important to note that a podatus is not the only kind of liquescent neume. Be on the lookout for the small notes in different neumes you come across, and pay close attention to the consonant to which they find themselves attached.

As for the accented syllables, they are, well, the accented syllables that occur in the Latin. That Latin accent is high and bright and brief. An acquaintance the pronunciation of ecclesiastical Latin is important, but don't worry too much about the accents when you are singing. Your good pronunciation will see that they are taken care of automatically.

However, the tiny, vertical marks that looked apostrophes that you see above and below the different neumes throughout the Solesmes editions are the "icti" or singular "ictus." Those are just to help in the organization of rhythm.

Here is a familiar chant that you can now read with understanding:



III

Pange lingua glo-ri- ó-si Córpo-ris mysté-ri- um,
Sangi-nisque pre-ti- ó-si, Quem in mundi pré- ti- um

The image shows two staves of musical notation. The first staff begins with a treble clef and a common time signature. The notes are represented by square black marks on the staff lines. Below the first staff, the Roman numeral 'III' is written. The lyrics are written below the staves, with hyphens indicating syllables that span across notes. The second staff continues the melody. At the end of each staff, there is a small black smudge, which is a 'custos'.

Notice the tiny smudge that appears at the end of each line. It is a "custos" and it is not sung. It is there to help you know what the note on the next line will be. It is a singing aid, and that is all.

Style

To have a notion of what music should sound like, according to modern music, is the great enemy of chant. You have throw out all stylings that you hear on the radio or even in classical music.

- Forget vibrato
- Forget bar lines
- Forget jazzy inflections
- Forget singing in a punctuated note-by-note manner.
- Forget holding out long notes that build to dramatic cut offs.
- Most of all: forget your own singing personality and spin.

The chant is sung as a prayer that is spoken privately—with self surrender, deference, and humility—except for one difference: it uses music. If you can remember that, the rest will fall into place.

Think of yourself praying in private, but audibly. Perhaps it is the Rosary. Now add notes and move them up and down. Your style is always legato.

The chant is the same. Always smooth and extended. If you break the legato in the middle of a phrase, the spell will be broken. This is especially important when you have moving notes on one syllable. You have to concentrate on not adding extra sounds, like an h or a w. Never sing *vo-ho-biscum*. Always sing *vo-biscum*.

The Kyrie should not sound like Kee ree ay hey hey hey hey hey, but rather one long vowel sound, such as in the following:

I

K Y-ri- e * e- lé- i-son. iij.

The sound should swell up slightly to the middle of phrases and fall toward the end of phrases. That creates the effects of waves within waves of sound.

The Many Modes of Chant

Modern music is written in major and minor scales. By medieval standards, that's pretty narrow, like a year that includes only summer and winter. Of course you can add a few accidentals and deviate from the two types of scales, but the more you do, the messier it gets.

Chant has many more possibilities and moods, built into the 8 modes of Gregorian chant. They provide sounds from grave to joyful to everything in between: 8 full seasons, if you will. The mode is marked at the beginning of the chant in a Roman numeral (An Arabic numeral indicates century of composition).

The Kyrie above, for example, is in Mode I.

Each mode creates a certain musical coloring. The first four are considered to be minor modes because they contain a minor third at the outset. The remaining four modes are considered major modes because their first third is a major third. But you can discover the different moods by going to the piano and playing just the white keys. Mode I starts on D and marches up the white key to the next D. Mode two begins a fifth above that, on A. It runs A to A.

You can remember the modes sequences by going up a fifth with each advance from Mode I to VIII: D, A , E, B, F, C, G, D.

In our schola, we use a silly system for remember this: Don't Always Eat Bacon For Calorie Gain, Darnit. But you can just remember the circle of 5ths or make up your own memory trick. The trouble here is to remember that the pitches are relative. You can start on any note provided you keep the pitch relationships constant.

As learn more, you can find out about the relationship between plagal and authentic modes. Authentic modes (modes I, III, V, VII) have ranges that extend from the tonic, or "final" as it is called in chant speak. Plagal modes (modes II, IV, VI, VIII) have ranges that extend up five full notes from and including the final, and down four notes, including the final. Plagal modes, then, split the scale in half and treat the final as the middle point.

Strictly speaking, you don't need to know the mode of the chant to sing the chant. But it does help to remember the sound and feel of each mode. You will get to know them in time.

Pronunciation

Why not sing the chant in English? The short answer is: it is just not the same. It strips away an important layer of solemnity. Even in the most competent hands, the text cannot and will not work as well with the music. The delicate dance of music and text is missing. Also, the vernacular always introduces struggles over text, many of which can be quite political.

And so long as you are going to the trouble of learning chant, why be not embrace the real thing? It has the merit of authenticity and the full sound that is most compelling. In the parish setting, English chant only tempts people to demand a modernized everything.

The basics of pronunciation you can learn quickly.

The vowels:

U = oo
O = oh
A = ah
E = ay
I = ee

The consonants are just like English except:

C = hard K, unless it is before e, ae, i, and y. Then it is the soft "ch"
Y = ee
TH = t
GN = ny
R = slightly rolled
H = silent except in mihi and nihil. Then it is a k

Knowing the meaning of what you are singing can only improve the chant. You begin see the way the words are illustrated in the music, how rising pitches indicate Heaven and a note struck three times can indicate the Trinity, how descending notes can suggest sadness or peace or some other emotion. If you know all this, it can only enhance your ability to sing it well.

Now You Can Chant

Want chants to start with? The chant hymns are a great starting place for practice. Try the Pange Linqua, the Jesu Dulcis, the Adoro Te Devote, Ave Maria, or any of the others that congregations once sang all the time.

For parish use, start with the Mass settings: Kyrie, Sanctus, and Agnus Dei. The most familiar ones are the *Missa de Angelis* and *Orbis Factor*. But don't feel hemmed in by these settings. One advantage of "starting over," as it were, is that we don't have to feel stuck into certain paths. Explore the full range of settings of the Mass Ordinary. There are 18 of them, enough for the entire liturgical year and, really, for all time.

The next step in liturgy is to attempt the *Communios*. You can expect to spend an hour or so on each, just to get the sense of them. They are the easiest part of the sung propers of the Mass but they are still rather difficult for those just starting out.

Your group and your congregation will not sound like the Solesmes monks right away. Maybe you never will. That is OK. What matters is that you are making the effort in that direction. Even a little bit of chant done with attention to style is better than the alternative.

You will need some materials such as the *Parish Book of Chant* and *Gregorian Missal* from Solesmes (available from most Catholic publishers).

Many other resources are available online, including from the website of the CMAA: MusicaSacra.com.

The Perfect Music

Singing the chant requires an intellectual adjustment too. Singers typically approach music with a critical eye, seeking to discover whether we like the piece or not. We want music to impress us, and we are ready to debunk it if it does not.

The chant is different: it is perfect musical expression of perfect prayer. The challenge it presents a musician is part of its universal appeal. Thus can you approach the chant with the foreknowledge that it is beautiful, provides flawless integration between text and music, and offers aesthetic illumination unlike any music you will ever encounter.

Spiritually, too, you can look forward to something completely unexpected: the chant will bring you peace of mind, heart, and spirit. Like the liturgy, and even like a sacrament, singing the chant will bring you grace. Like the faith itself, chant requires that we trust and believe in its truth and beauty.

How valuable is the chant? Hear the words of Dom Gueranger, the founder of the Solesmes monastery:

Lo, who has not been startled a thousand times by the accents of this grave music, whose severe character, nevertheless, animates itself with the fires of passion and throws the soul, enlarged, into a religious reverie a thousand times more inebriating than the imposing voices of the great waters of which the Scriptures speak? Who has not tasted the charm of so many pieces sublime or original,

stamped by the geniuses of the centuries past, who are no more and who have not left any other traces? Who has not shuddered at the simple planning of the Office of the Dead where the tender and the terrible are so admirably mixed? What Christian has ever been able to hear the Pascal chant of the *Haec Dies* without being tried with that vague sentiment of the infinite, as if Jehovah Himself was having His majestic voice heard? And who has not heard, during the solemnities of the Assumption of All Saints, an entire congregation making the sacred vaults of the roof resound with the inspired accents of the *Gaudeamus*, without his being brought back through the ages, to the epoch when the echoes of subterranean Rome resounded with this triumphant chant, when the Empire was painfully terminating its course, and the Church was starting its eternal destinies?

Can you imagine such words being written about any other form of music? And to think that this is the very music the Church has always and continues to ask us to sing at Mass. Is it worth the extra time to learn to read square notes? It is worth all the efforts of those whom God has given the desire and ability to sing His praises.

Arlene Oost-Zinner and Jeffrey Tucker are directors of the St. Cecilia Schola Cantorum in Auburn, Alabama. They would like to thank David Hughes and Scott Turkington for their comments. A version of this piece ran in *Crisis*, May 2006.

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