

# THE CHURCH MODES & THE MODERN MODES - I'M CONFUSED.

BY ROGER GOODMAN

If you are anything like me, you've long been confused about Modes. There's good reason for that but read on (all the way through), and it will become clear as a church bell.

Modes, as we use them today, are essentially scales built on the successive white keys of the piano. The modes are referred to by their Greek names or by a numerical designation using Roman numerals. Look at the piano keyboard in **Figure 1** and notice that the spacing of the white keys is uneven, broken up by

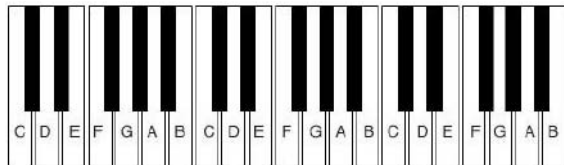


Fig. 1

the occurrence of black keys between some of them. Starting on the piano's C and playing each successive white key results in the note spacing that we recognize as the modern Major scale. That same spacing is also known as Ionian or Mode-I (see **Table 1**). This mode covers most "normal" songs like *Happy Birthday to You* and *Twinkle Twinkle Little Star*. If you start on the next scale at D instead of C and, again, use only the white keys, the half-step whole-step spacing is in a different layout giving us the Dorian mode or Mode-II. Dorian mode has a sad, mysterious sound and is used for songs like *What Shall We Do with a Drunken Sailor*. Continuing this process of starting each mode on the next white key will give us all seven of our modern modes as noted in **Table 1**.

To make it a little easier to compare the spacings shown in **Table 1**, they can be lined up as shown in **Table 2**. From this alignment we can see that four of the modes have a minor 3rd (b3) so that II-Dorian, III-Phrygian, VI-Aeolian and VII-Locrian are considered minor key modes. The remaining three, I-Ionian, IV-Lydian and V-Mixolydian have major 3rd intervals and are considered to be major key modes. The note spacing of each mode defines what chords it can produce. The I-Ionian mode—our modern day Major scale—is the only one that has a naturally occurring V7 (dominant 7th) chord. **Table 2** shows more information about the intervals and chords for each mode. The rebel in this family is VII-Locrian mode. Locrian's lowered 5th (the dreaded tritone) produces a diminished tonic chord (i dim) which makes this mode almost unusable.

All of this seems pretty straight forward, so why then are modes always perceived as confusing? One explanation may lie in the use of the Greek names and their historical mis-application. The ancient Greeks had a system of modes. They named their modes after some of the regions and peoples of ancient Greece. The Greek system used only the diatonic notes, the white keys, and recognized only four keys: D, E, F and G. The Greeks did not yet think in terms of scales and keys. Instead each mode was defined by its *finalis*, the equivalent to our concept of *key*. The *finalis* was the tonal center of its mode, and melodic lines tended to resolve toward it. Then, like now, the final note of a melody usually indicated the key. The *reciting-tone* was the secondary tonal center and was roughly equivalent to our dominant note. The reciting-tone was usually, but not always, a fifth (or four diatonic steps) above the *finalis*. The *range* of a mode stipulated the bottom and top allowable notes for melodies in that mode. The ranges of the four original modes were bounded top and bottom by their *finalis* (see **Table 3**).

Mode Number	Ecclesiastical/Liturgical/Greek Name	Modern Name	Range	Ending-Note/Finalis	Co-Finalis/Tenor/Dominant/Reciting Tone	Authentic/Plagal
1	Dorian	Dorian	d-d'	D	A	Authentic
2	Hypodorian	Aeolian	A-a	D	F	Plagal
3	Phrygian	Phrygian	e-e'	E	C	Authentic
4	Hypophrygian	Locrian	B-b	E	A	Plagal
5	Lydian	Lydian	f-f'	F	C	Authentic
6	Hypolydian	Ionian	c-c'	F	A	Plagal
7	Mixolydian	Mixolydian	g-g'	G	D	Authentic
8	Hypomixolydian	Dorian	d-d'	G	C	Plagal

Table 3 - Medieval/Gregorian/Church Modes showing Range, Finalis & Reciting Tone

The Greeks used a four-string lyre, and there is some speculation that the modes began as designations for the tunings that were popular in various regions. This may also explain the Greek limitation of only four keys. The lyre evolved into an instrument with seven strings and the system of modes may have evolved with it. The four original modes were called the *authentic* modes. Each of these was then paired with another mode that was called *plagal*. The *plagal* modes kept the same *finalis* but had a different *range* and *reciting-tone*. Here is another way to visualize this. If the melodies were consistently above the *finalis*, they were in an *authentic* mode; if they ranged both above and below the *finalis*, they were in a *plagal* mode. The eight resulting modes were numbered in order. Within each pair, the *authentic* was odd-numbered and the *plagal* was even-numbered (see **Table 3**). The *plagal* mode kept the name of its authentic pair but added the prefix, *hypo* (again see **Table 3**). The Greek word *plagos* apparently means side or oblique and *plagal* melodies can extend to either side of the *finalis*. This modal method of defining tonal centers came to be the system of Church Modes and provided a musical structure that was religiously (snicker) adhered to for quite some time. If all this seems overly complex and darkly mysterious, let me remind you that the Church Modes were also

known as the Medieval Modes.

The Church Modes supported a system of liturgical chants and plain-songs. These had only horizontal melody and no vertical harmony. In modern times the harmony became just as important as the melody and required a different approach. The modern system of modes began with the same four modes: Dorian, Phrygian; Lydian and Mixolydian. Since there was no longer the restriction of the four key limit which had spawned the *plagal* overlay system, the three additional modern modes of Ionian, Aeolian and Locrian were added (see **Table 1** and **Table 2**). The Ionian mode survives today as our Major scale and the Aeolian as our natural minor scale. The fact that both the old and new systems use Greek names without a one-to-one correspondence is a major point of confusion. Also the original assignment of the Greek names is lost in the haze of history and those that survived may be a matter of speculation or misinterpretation by music theorists of the past. The system of Roman numerals instead of Greek names may be less ambiguous but it is also less romantic.



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Having said all that, I hope that the Church Modes don't seem like Greek to you anymore. Now might be a good time to get your seven-stringed lyre out of the closet and, as usual, stay tuned.

Roger Goodman is a musician, mathematician, punster, reader of esoteric books and sometime writer; none of which pays the mortgage. For that, he is a computer network guy for a law firm. He has been part of the Los Angeles old-time & contra-dance music community for over thirty years. While not a dancer, he does play fiddle, guitar, harmonica, mandolin, banjo & spoons. Roger has a penchant for trivia and obscure and sometimes tries to explain how the clock works when asked only for the time. He lives with his wife, Monika White, in Santa Monica.

Mode#	Greek Name	Key	C	D	EF	G	A	BC	D	EF	G	A	BC	Remarks - Applications & Examples
I	Ionian	C	1	2	34	5	6	71						Present day Major, "Happy Birthday", "Twinkle Twinkle"
II	Dorian	D	1	23	4	5	67	1						"What Shall We Do With a Drunken Sailor"
III	Phrygian	E		12	3	4	56	7	1					Spanish mode, Flamenco, "White Rabbit"
IV	Lydian	F		1	2	3	45	6	7	1				"The Simpsons" theme & "Danny Boy"
V	Mixolydian	G		1	2	34	56	7	1					"Norwegian Wood"
VI	Aeolian	A		1	23	45	6	7	1					Present day natural minor
VII	Locrian	B			12	3	45	6	7	1				Considered unstable

Table 1 - Modes as used in the present day are scales built on successive white keys of the piano.

Mode#	Greek Name	Key	C	D	EF	G	A	BC	Major/minor	Remarks - Intervals & Chords
I	Ionian	C	1	2	34	5	6	71	Major	The only mode where the V7 chord occurs naturally.
II	Dorian	D	1	23	4	5	67	1	minor	A raised sixth, makes a IV maj chord and a ii min.
III	Phrygian	E	12	3	4	56	7	1	minor	A b2nd makes a bII maj and a v dim chords.
IV	Lydian	F	1	23	4	56	7	1	Major	A raised 4th makes a iv dim, vii min & a II maj chord.
V	Mixolydian	G	1	2	34	5	67	1	Major	A b7th makes a I7, a v min, and a VII maj chord.
VI	Aeolian	A	1	23	4	56	7	1	minor	A b6th & b7th makes a iv min and a v min chord.
VII	Locrian	B	12	3	45	6	7	1	minor	A b2nd. The b5th makes an almost unuseable i dim chord.

Table 2 - Modes from Table 1 aligned to allow comparison of half-step & whole-step spacings.

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