

Modes, Mistakes, and Melody

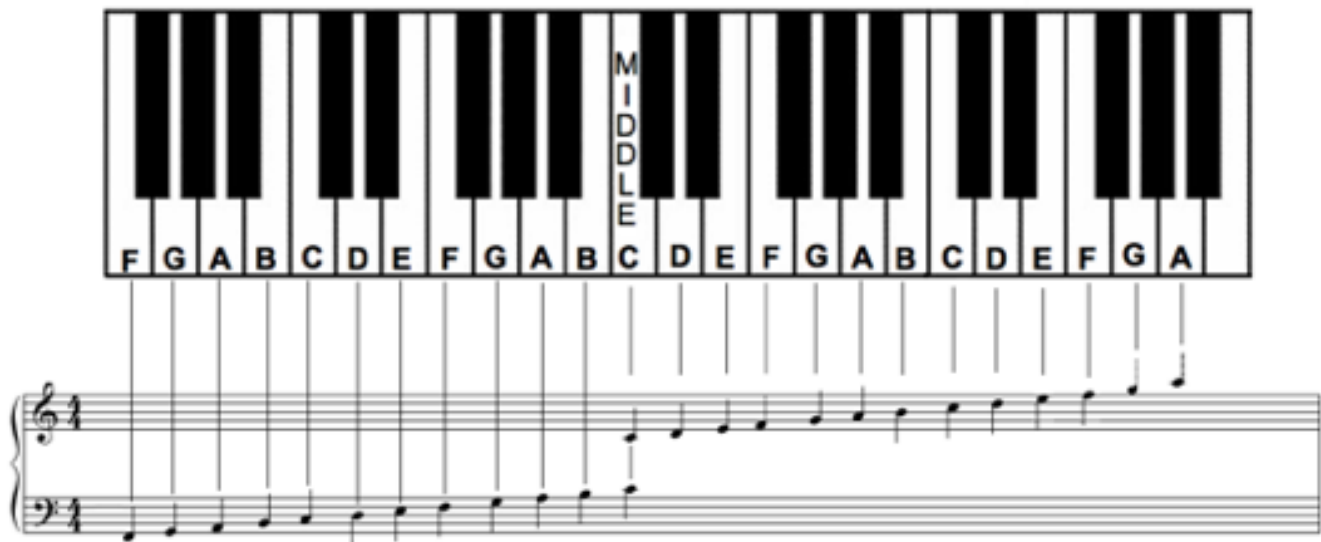
How to tell which is which when writing arrangements for period music

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What Modes Are:

The Major Scales

The separation between pitches in a scale (from one note stepwise to the next an octave up) are called intervals. The two intervals used between succeeding notes of a scale are half-steps and whole-steps. If you are looking at a piano, the distance from one note to the next note beside it, be it white or black, is a half step. Two half steps, are, of course, a whole step.



When you are playing a C Major scale, the first one most of us learn, you start on middle C, and play only the white notes. The pattern is:

- Whole step (C to D) - that is - two half steps; C to C#, C# to D),
- Whole step (D to E),
- Half step (E to F),
- Whole step, (F to G)
- Whole step, (G to A)
- Whole step, (A to B)
- Half step (B to C again).

While this may seem very simple to those of us with any musical training, it is important here to note the arrangement of Wholes and Halves. 2 wholes, a half, 3 wholes, a half.

Note that this is the pattern of the black keys on a piano.

In the examples below, W=Whole Step, H=Half Step.

W-W-H-W-W-W-H is the pattern of a Major mode.

Notice that in the key of C, the halves come in at the places where there is no black key between the white keys.

When you are doing, say, D Major, that easy way of knowing where the half steps are, is gone, but it still works to the same pattern.

Whole step (D to E),

Whole step (E to F#),

Half step (F# to G),

Whole step (G to A)

Whole step (A to B)

Whole step (B to C#)

Half step (C# to D again).

You can work out any Major scale (named for the note you start on) by using the same intervals of W-W-H-W-W-W-H.

The Minor scale

To play a minor scale in the same manner as the major scale of C you started with, simply start the scale at A, instead and play upwards with the same white keys. Since it uses the exact same notes as the C scale, just starting at a different place on the scale, C is said to be the "relative major" of the key of A Minor. The scale looks like this:

Whole (A to B),
Half (B to C),
Whole (C to D),
Whole (D to E),
Half (E to F),
Whole (F to G),
Whole (G to A)

W-H-W-W-H-W-W.

In like fashion, you can construct the "relative minor" of any major key by starting out on the note three half steps down from the tonic (starting note) of the "relative major". The relative minor for the key of G major would be E minor (three half steps down from G).

Whole (E to F#),
Half (F# to G),
Whole (G to A),
Whole (A to B),
Half (B to C),
Whole (C to D),
Whole (D to E)

W-H-W-W-H-W-W.

The key signature, since each relative minor uses the exact same notes as its relative major, is also exactly the same. (No sharps or flats for C Major/A Minor, one sharp for G Major/E Minor) You are basically in the same key, just starting the scale 3 half steps down.

Ancient Greek Science

Ancient Greeks were among the first people to study music scientifically. They made it a branch of mathematics, because the way they arrived at the intervals we have, is that they strung a string across two sharp wood blocks and plucked it. Measuring the length of the line, then stopping it at measured places along its length, they were able to mathematically construct the intervals we know today. At one point, a single division makes a fourth above and a fifth below and sounds very good. As an exercise for the student, get on a long keyboard and go up a fifth and down a fourth, and repeat until you play all the notes. You will note that you never play the same note twice until you get right back to your starting note (though not in the same octave). This is called the "Circle of Fifths" and is a great way to transpose key in the middle of a song. I learned this from a Leonard Bernstein lecture. (Showing my age, there.)

These same Greeks were also the ones to notice the patterns to the scales we use today. After they derived the Major and Minor scales, they competed to arrive at ways to compose in other groupings, as well. The Aeolian mode (Minor) was constructed by starting on the sixth note of the Ionian mode (Major), so they created the other modes by starting on different notes of the Major scale and noting the intervals. Since they worked them out, they got to name them.

Scales other than Major and Minor (the Modes)

Ionian - Also known as the Major scale; follows the pattern W-W-H-W-W-W-H. Starts on the Tonic of the key. (First note C in the key of C)

Dorian - Constructed from the second note of a major scale; follows the pattern W-H-W-W-W-H-W. (First note D in the key of C)

Phrygian - Constructed from the third note of a major scale; follows the pattern H-W-W-W-H-W-W. (First note E in the key of C) This mode sounds melancholy and reflects the music of Spain.

Lydian - Constructed from the fourth note of a major scale; follows the pattern W-W-W-H-W-W-H. (First note F in the key of C) This mode sounds jazzy and is used in rock music quite a bit.

Mixolydian - Also known as "mixo," is constructed from the fifth note of a major scale and follows the pattern W-W-H-W-W-H-W. (First note G in the key of C) Used most in Blues, but also in Jazz and rock.

Aeolian - Also known as the natural Minor scale, is constructed from the sixth note of a major scale and follows the pattern W-H-W-W-H-W-W. (First note A in the key of C)

Locrian - Constructed from the seventh note of a major scale; follows the pattern H-W-W-H-W-W-W. (First note B in the key of C) This sounds really strange to the modern ear. Seldom used.

The chart on the next page shows the scales and useful chords for all the modes in the keys of C and D. Mind your sharps! I debated writing it with no key signature and just putting the sharp in, but I went with standard instead. Feel free to make up your own versions, constructing in any key with the same patterns.

7 Modal Scales in Keys of C and D with 1,4,5 chords

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Written by Charric Van der Vliet

In the Key of C

Ionian (Major) CFG Dorian DGA Phrygian EAB Lydian FBC

Harpsichord

Mixolydian (Mixolydian) GCD Locrian BEF

9 Aeolian (Minor) ADE Ionian (Major) CFG

Hch.

Same Modes in key of D

18 Ionian (Major) Dorian Phrygian Lydian Mixolydian

Hch.

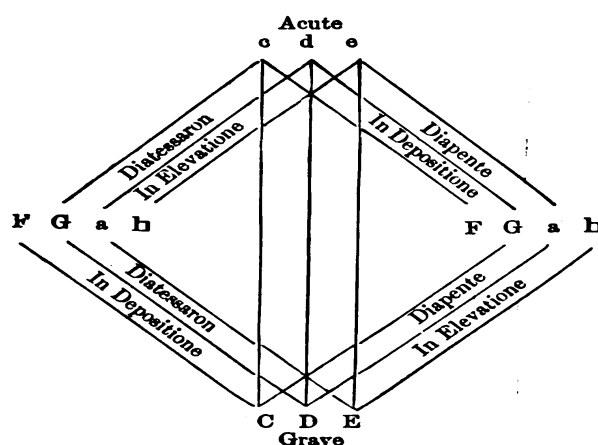
27 Aeolian (Minor) Locrian Ionian (Major)

Hch.

The Problem:

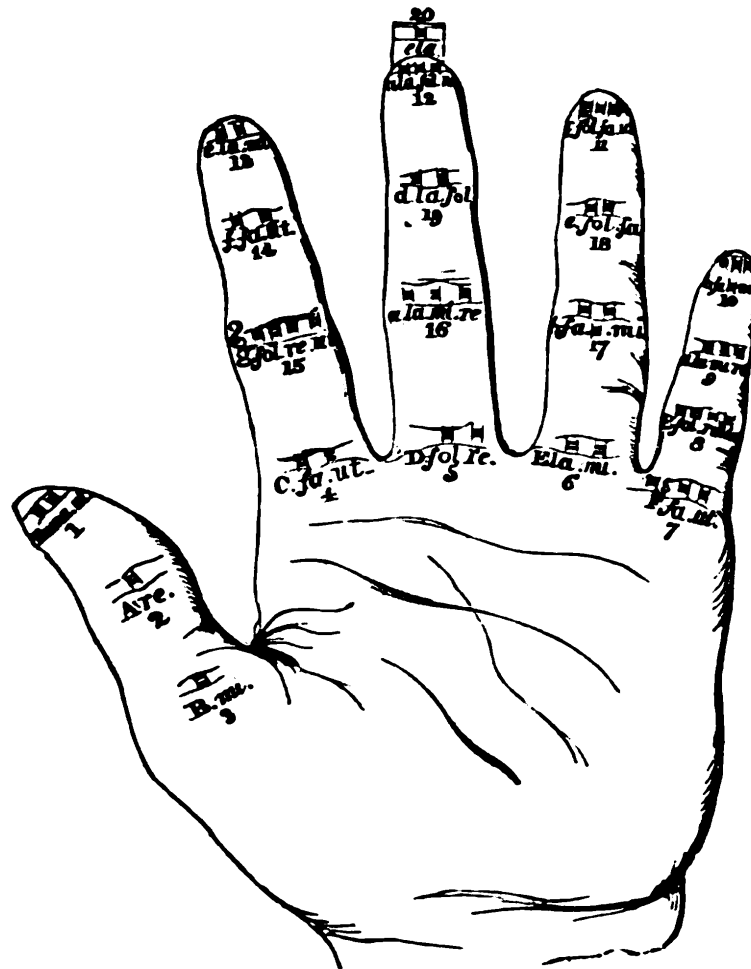
Errors in Period

During the Middle Ages, much of the mathematical and theoretical underpinnings of the modes were lost for a time, but the names were largely maintained, and used in a somewhat haphazard style. You usually can't trust what a medieval churchman may say about music theory, or modes, as the underlying theory could be quite daunting, and the schools that did exist worked mainly to confuse the issue by making students memorize long lists of the terminology, such as names of intervals, and having interminable arguments about terminology rather than extending the theory in useful ways.



In the twelfth and thirteenth chapters he speaks of the division of the four modes into eight, and says that as there are eight parts of speech, and eight forms of blessedness, *i. e.* beatitudes, so ought there to be eight modes in music. In the fourteenth chapter he treats more particularly of the modes, which he calls Tropes; and of the effects of music: of these he says their properties are so different, that in the same manner as a person accustomed to different countries is able out of several men placed before him, to say 'this is a Spaniard, this an Italian, 'this a German, and this other a Frenchman;' so may one that is skilled in music by their diversities distinguish the tropes. Farther he ascribes to the tropes different properties; for 'one person,' says he, 'delights in the broken leaps of the second authentic; 'another in the softness of the third plagal; a third 'shall be delighted with the garrulity of the fourth 'authentic, and another shall approve the mellifluous 'sweetness of the fourth plagal.' As to the power of music, he says it is so great as to cure many diseases of the human body; he cites a relation of a frantic person who was restored to reason by the music of Asclepiades the physician; and mentions also that a certain other person was by the sound of the lyre, so stirred up to lust, that he attempted to force into the chamber of a young woman with intent to violate her chastity, but that the musician, immediately changing the mode, caused him to desist from his purpose.

(Example of medieval theoretical underpinnings. From Hawkins.)



(The Guidonian Hand, also Hawkins)

hand was an invention posterior in time to that when Guido is supposed to have lived ; * its use was to instruct boys in the names and respective situations of the notes of his scale ; and for choosing the left hand rather than the right this notable reason is given, ' that it being nearest the heart, the instruction derived from thence is likely to make the deeper impression on the minds of learners '

(How it was used)

Another example, same source:

‘The first has its final in D, and its dominant in A, the fifth to its final; RE LA.’
‘The second has its final in D, and its dominant in F, a third to its final; RE FA.’
‘The third has its final in E, and its dominant in C, a sixth to its final; MI UT.’*
‘The fourth has its final in E, and its dominant in A, a fourth to its final; MI LA.’
‘The fifth has its final in F, and its dominant in C, a fifth to its final; UT SOL, or else FA UT with B_h, not b.’
‘The sixth has its final in F, and its dominant in A, a third to its final; UT MI, or else FA LA, with B_h, not b.’
‘The seventh has its final in G, and its dominant in A, a fifth to its final; SOL RE.’
‘The eighth has its final in G, and its dominant in C, a fourth to its final; SOL UT.’

Since teaching careers were at stake, usefulness often took a back seat to gobbledegook. Since the notation of music itself was largely uninvented at the time, the confusions were, perhaps, understandable. Certainly it was a frustrating time to be a music theorist.

While musical tastes were slightly wider modally than they are now, most music worth preserving was at least basically melodic, and so assuming a clinker is just "medieval taste" is unjustified. With the ability to write music so limited, sometimes the writer themselves could make an error, putting a bad time on a note or writing a note on a line that belonged on another staff. Medieval staves could make this kind of error more common, since there were C, F, and G clefs, 4 to 6 line staves, and the C, F, or G could be on any line of the staves the writer found convenient. Another common usage was to just assume the singers knew which notes were flatted (usually B_b) or sharped and so the author never bothered to write the flat down. One useful way of thinking about it is that medieval musical notation was even worse than medieval spelling. Sometimes you have to assume that the notes were not exactly what was written down.

Errors from Enthusiastic Amateurs, in the 1800's

The medieval enthusiasm of the 1800's was a great thing in many ways. It helped to preserve a lot of material that would have otherwise been lost. That said, a lot of ignorant damage was done to music in the name of "correcting" material that was meant to be in the mode it was, in collecting just the top line of music in the surety that this was the melody (when the melody was often in the alto or tenor), and in the same sort of staff skipping and mode missing that happened even to music copyists in period.

What To Do Today

Errors today

This kind of mistake is very common even today. Just last week I found a "Cantiga de Santa Maria" which was listed as F Major (the key signature) when it was actually in G Dorian mode (F is it's

relative Major). Since all you have to work with in the Cantigas is the melody, the mode has to be reconstructed from the phrasing of the music. It was a very sad sounding melody, and would not have worked at all with Major chords. (F Bb and C) The Dorian chords in the key of F (Gm, C, and Dm) worked much better, and since the ending phrases all ended with a G...it was obvious.

Ideas to help identify modal usage.

Presented with a medieval tune for arrangement, the first thing to do is to identify the key. We will assume you have a modern transcription. If you don't it's time to go learn medieval notation, then come back. Not a bad idea for checking assumed transcription errors, anyway.

First play the melody and listen for obvious clinkers. These are usually (though not always) because of a transcription error. A modal piece may not sound right with Major or Minor chords, but the melody should sound right. Sometimes it's a clue to a mode using a key shift to a relative major key. An example of this would be ending an A minor piece with a Am/C chord ending. (Moving A tonic to G)

Next is to look at the final notes of the phrases. These will usually (even more usually in medieval than in modern times) be the fifth at mid song and the tonic at the end. If the end note is not the tonic of the key you are in, it is a good clue that you may be dealing with a mode.

Try putting the 1-4-5 chords in place and see how it sounds.

Try putting chords in the phrase endings based upon the last note indicating the tonic of the mode. (1 chord on the tonic note, 5 chord where the 7th note of the modal scale is used, etc.) If this is working, it's probably the right mode.

When You Did It Right

The best indication of good calls on mode and chords comes when the chords are all added and it sounds right. If it sounds like you're straining the phrases, or if the melody is producing clinkers against your chording, you've done something wrong, and should adjust. When it sounds right, it's time to add ornamentation and pacing, pretty up the printing, and "mess it forth" to the musicians.

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Illustrations of Medieval Music Theory from:

Hawkins, Sir John, "A General History of the Science and Practice of Music", London, Novello, Ewer and Co., 1875