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Notes About My Notes

These observations were jotted down in an e-mail (edited here a bit) for Jennifer Garrett, to offer help with her dissertation project on my chamber music involving piano.

Michael Mauldin, 2010

I've always been fascinated with the power (the gravitational pull) of the half-step. Since much tonal music is grounded in diatonic scales and arpeggios—which I found a bit boring—it was my goal to learn to use half-steps and wide-leaps well, integrating them—rather like spices—with "normal" conjunct and mildly-disjunct melodies in such a way as to liven them up a bit, but without leaving tonality. It's chromaticism, but with a harmonically functional purpose, other than just being amorphous or ambiguous (yet still incorporating those esthetics a bit).

At a young age, I became fascinated with modal scales and the "pulling" tendencies they have, trying to move the tonal center to the "winner"—Ionian (or the "runner up"—Aolian). If you use C Lydian too long, it modulates to G Ionian because of the F sharp. If you use C Mixolydian too long, it modulates to F Ionian because of the B flat—pulling one step either side of C in the circle of fifths.

A fair number of my melodies (one of the more complex ones is the B theme of the last movement of "3 NM Landscapes") are based on a C major scale with both an F sharp and a B flat, but with those notes harmonized by a D major chord and later a B flat chord—naturaling the F rather than arbitrarily using the triad created on each member of the scale C, D, E, F sharp, G, A, B flat.

The listener can enjoy the pull or tendency of each of the modes—going in opposite directions. But, like a pendulum coming to rest in the middle, by alternating the tendencies between Lydian and Mixolydian on the same tonic, we're left feeling that the tonic (C in this example) is still the tonal center. We didn't use either tendency long enough to modulate to Ionian in either G or F. We kept the same tonal center while also keeping a modal feel.

As a kid, I listened to anything modal—from Debussy to John Lennon—and tried to understand modes. Since I hadn't even had piano lessons yet, I more or less figured out my own system, which I happily adapted to the accepted one when I learned it.

Perhaps as important for me as modes has been the tetrachord, half-whole-half. Here's a quote from the biographical essay, "Beyond the Four Hills." It relates to a scale and its resulting harmonic scheme that I first used in my thesis piece, "Celebration of the Sun," but I've used it in many pieces since, including "Bird at the Great Kiva," "Glyph" and "Voices From Chaco":

One of the most important musical elements first developed in 'Celebration of the Sun'--and used in just about every work since then--is a synthetic tetrachord (or man-made four-note scale) consisting of the intervals of a half-step, whole-step and a half-step. I had become fascinated with the effect of the scale in its use in Ravel's 'Spanish Rhapsody'. I didn't know at the time of its use in such disparate musics as Bach, Copland, Indian ragas and Native American music.

When used as I had, connecting one of these scales on the tonic note with one on the dominant note by means of a raised fourth-degree (F-sharp in the key of C), the synthetic scale seemed to suggest almost all of the colors
of the seven old “church modes” at once, giving a sound that seemed both old and new, tonal yet dissonant, full of the rich colors, the incongruity, the timelessness of the land, its past, its people.

The resulting “scale” (which has “too many notes”—the enharmonic spelling is easier to use—C, D flat, E flat, E natural, then F sharp—which is a kind of “Lydian connector” to the upper tetrachord—G, A flat, B flat, B natural) is similar to the octatonic scale (alternating half & whole steps the whole way—C, D flat, E flat, E natural, F sharp, G natural, A natural, B flat). But the upper half-whole-half tetrachord of the octatonic begins on the tritone rather than the dominant and has the “correct” number of pitches.

I use “my” scale mostly for melodic purposes and the octatonic primarily to derive the harmonic scheme of many of the pieces. That scheme is often based on major (and/or minor) triads whose roots are a minor third apart. In other words, each triad (major or minor) is built on a member of a diminished seventh (again spelled enharmonically for ease): C, E flat, F sharp, A. The roots of the chords create interlocking tritone relationships—the C with the F sharp and the E flat with the A.

Just as with diminished seventh chords themselves (though I rarely use those), triads built on members of diminished sevenths facilitate changes of key center in what sound like “functional” ways, relatively smoothly and “tonally.” These triads create interesting effects when combined as polychords (as in the opening chords of “3 NM Landscapes,” and in the last measures of the last movement).

Another intervallic device that has remained important in many pieces is a descending pattern which I rarely maintain very far, but which is seen in C, B natural, G, F sharp, D, C sharp, A, G sharp, etc. It's just a half followed by a major third, then replicating the pattern. The example above starts out implying a tonic C chord, going to its dominant chord (the B, G), going to what at first feels Lydian, then like the dominant of the dominant (D chord), then outlining its dominant, A chord, etc. So, though descending, the harmonic motion is ascending through the circle of fifths—and going "backward" through the dominant-tonic relationships. It creates a kind of implosion, both descending and ascending, and a kind of inversion of harmonic function.

The first time I used it was in m. 73 of mvt I of “Voices from Chaco.” It's the B theme, in the oboe: B flat descending to A and F, then E natural and C. In this first use of it, I saw it as simply a momentary flirtation with Lydian before returning to the tonic B flat chord—then alternating (as described above) with the Mixolydian mode (here an A flat in the B flat scale).

I've used another way of building a scale with the half-whole-half tetrachord, other than "my" scale (C, D flat, E flat, E natural, F sharp, G, A flat, B flat, B natural) or the octatonic (C, D flat, E flat, E natural, F sharp, G natural, A natural, B flat).

It can be seen in "Shaman's Power Song." I call it "connected," for lack of a better term. That's where the top note of the first tetrachord (E) is also the starting note for second tetrachord (E, F, G, A flat), and the A flat is the starting note for the third and final tetrachord (A flat, A natural, B, C). In Power Song, which has A major as the tonal center, the "scale" would be A, B flat, C natural, C sharp, D, E, F, F sharp, G sharp (or easier to see tonally, the top tetrachord would be F, G flat, A flat (A)).

The "connected" way, that's used in "Shaman's Power Song," is a logical way of arriving at the "borrowed tone" that cinematic composers like to use. "Borrowed tone" is often used to describe the popular device of lowering the 6th degree in a major scale (like using A flat in a C scale, or F natural in an A scale, as in Power Song). The most common use is to walk up the tonic major triad, then go to the lowered 6th ("borrowed" from the parallel minor), then back down
(A, C sharp, E, F natural, then back down). I did something similar in the first measure of the left-hand piano part in Power Song, but, in an effort to avoid sounding too predictable, I walked on up to the upper tonic note A before turning around.

The opening theme in the soprano, starting at m. 19, starts with the lowered 6th, resolves a half step down (which is why I like the borrowed tone—it has gravitational pull) to the fifth, then walks up the tonic tetrachord (A, B flat, C, C sharp) on "my right should-er"). The next phrase of the theme, at m. 24, goes from the tonic note to the dominant note and then walks down the upper tetrachord, but when it arrives at its bottom note (C), the underlying harmony changes to F major. That root movement (from A to F) is a major third, so that comes from the "connected" scale, from which I derive chord progressions built on each member of an augmented triad, rather than octatonic, from which I derive chord progressions built on each member of a diminished seventh. Those two schemes—major/minor triads built on the augmented triad and major/minor triads built on the diminished seventh—account for many of the chord-progressions and key-area shifts in my music.

Let me mention one more use of the tetrachord. This shows up in the piano part at the opening of the third movement of "Voices from Chaco." Instead of trying to create a stable scale, with a constant tonic, I sometimes like to alternate between one of these tetrachords on the tonic note (F, G flat, A flat, B double flat) with one that starts on a note that's not in the first tetrachord (or any of its "scales"), as in the second beat of that measure, where the right hand uses (descending) the half-whole-half tetrachord, but built on G natural (C flat, descending to B flat, A flat, G). It gives a kind of "same but different" phase-shift effect.

That's my motto, by the way. I tell my comp students that I "bow down" every day to an imaginary plaque on the wall with three magic words on it: "SAME BUT DIFFERENT." If what we write is too predictable, we lose the audience. If what we write is too unpredictable, we lose the audience. Part of a composer's prime directive (but his playful joy too) is to constantly search for the right balance between same and different.

An example in harmony again would be the chords in the little piano piece, "African Desert" from "Three Views from Space." The chords are very different—harmonically unrelated—but the listener accepts them because chord progressions have a common tone: g minor, b minor, d minor, f minor, c minor, a minor, f minor, D (the only major triad, the dominant). I often use the common tone as the melody note, to emphasize the "same"ness, in an effort to offset the "different"ness of the harmonic progressions.

This kind of progression appears a bit in the B theme of the last movement of Voices. The C minor/E flat major tonality in m. 59 goes to a minor in 60 (sharing G natural) and returns to C minor in 36.