Music Theory and Kendrick Lamar's Element

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1 Music Theory and Kendrick Lamar's *Element*

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I'm sure you guys have all already listened to Kendrick Lamar's new album *DAMN.*

DAMN. indeed.

If you haven't listened to it yet, you should definitely stop reading this and do that. And also never talk to me again.

One of my favorite songs on the album is *Element*, a track about Kendrick being in his element, which is great because that's actually what it sounds like. The beat was produced by James Blake, another great artist you should check out and one of the best live performers you will ever see. If you've listened to Blake's music, you probably could have guessed that he wrote this beat. His stuff often involves these melancholy piano chords surrounded by reverb, skeletal song structures, and a lot of elements of hip-hop and electronic music. Arguably the most iconic part of this music is his soulful singing, which is pitched down and looped throughout this track (the humming is Blake *du jour*). The only non-Blake sounding part of the beat is the drums, and I have a sneaking suspicion that Sounwave (in-house producer for Kendrick's label TDE) had something to do with those, although we'll never know for sure.

When I listened to it, the first thing that struck me was the chord progression on those spacey keys. Let's dive into what's going on behind the scenes.

1.0.1 The Chord Progression

The chord progression is actually pretty simple, unlike, say, most of the progressions on *To Pimp A Butterfly.* To my ear, the chords are approximately:

Intro: Am, Em, A

Verse: Em [looped]

Hook: Am Em Cdim G

Post-Hook: F

Please correct me if I'm wrong!

1.0.2 Analysis

First, let's take a look at that intro. The first chord clues us into the fact that we're in the A minor scale, also known as the A nautral minor scale. The notes in this scale are:

A, B, C, D, E, F, G, A

So you would expect the v chord to be Em. But at the end, the piano modulates from the key of A minor to the key of A major. This is a pretty common pattern in Blake's music. It creates an atmosphere of unease and ambiguity, since you don't know what key the song is in for a minute. In Roman numeral notation, the chord progression is:

i, v, I

The verses are a pretty simple loop, and this is the point where the drums kick in and Kendrick starts doing his thing. But something cool happens when we get to the hook:

Hook: Am Em Cdim G

In Roman numeral notation, we write:

i, v, iiio,VII

You would think this phrase is also in A natural minor. But the Cdim chord really throws you off. I think I have a pretty reasonable explanation for how James Blake got there, but the thing to remember with music theory is that it doesn't really matter. If it sounds good, it sounds good, and music theory won't tell you what does or doesn't sound good. Music theory is only a theoretical framework for suggesting what we can do with harmony; it's up to you to actually apply those ideas in your playing. Nevertheless, we can reach the above chord progression with some creative ways of messing with that third chord to create tension, starting with an (almost) diatonic chord progression (meaning, all the notes are in the proper A minor scale). For example, we could start with something like this:

Am, Em, E7, G

This is the same sort of trick we saw earlier, where a minor chord changes to a major chord. What's happening here is a "modulation" (if you want to call it that) from the natural minor scale to the harmonic minor scale:

A, B, C, D, E, F, G#, A

The harmonic minor scale is the natural minor scale but with the 7th note raised up a half step. This scale is used a lot for the purposes of, you guessed it, harmony. In Music Theory 101, the first thing you learn is that the two most important tones in the diatonic scale are the first (the tonic) and the fifth (the dominant). The conventional wisdom is that chords built off the dominant have a sense of tension, and the strongest resolution goes from the dominant to the tonic (one possible explanation why is that there's a tritone interval hidden within the dominant seventh chord, as we will soon see). In the case of this chord progression, the E7 is borrowed from the harmonic minor scale (which contains the sharp seventh, so so close to the tonic) to create even more tension.

Note that it is entirely probable that Blake, when writing this progression, skipped directly to this next section.

1.0.3 Secondary Dominants & Diminished Seventh Chords

The concept of the dominant can be expanded by creating a separate scale based on every single chord tone in your scale. Thus, every note in the A minor scale has its own "dominant", and these are called the secondary dominants. Secondary dominants work pretty much the same as primary dominants, in terms of the atmosphere they create. Whereas E7 "wants" to resolve to Am, D7 "wants" to resolve to G. So in order to make the third chord resolve strongly to G, we could pick D7.

Am, Em, D7, G

And now something cool happens, which I don't know if there's a technical term for (music theory people help me out). Let's take a look at that D7 chord:

D F# A C

If you ignore the D, you're looking at a F# diminished chord! Diminished chords are chords which are built by stacking intervals of four semitones on top of each other (also known as minor thirds). We can in fact extend the diminished triad above to a diminished seventh:

D F# A C Eb = B7(b9)

The dominant seventh flat nine "contains" a diminished seventh chord! A common technique (well, I don't know how common it is really, but people definitely do it) is to ignore the root of this chord entirely, and instead replace the D7 or maybe a D7(b9) with the F#dim7 chord. In other words, we replace a dominant seventh chord with a separate diminished seventh chord. Before we go any further, let me make a quick note about diminished seventh chords.

Diminished seventh chords are unique because the chord tones are spaced equally 3 semitones apart, so they equally divide up an octave. This means that if you kept

stacking minor thirds on top of each other, you'd end up with the same four notes over and over again. It's clear that this can only be true if you pick intervals 3 or 4 semitones, both of which divide the 12 semitones of an octave evenly. But what this means is that you can write, for example:

F#dim7 is A#dim7 is Cdim7 is Ebdim7

All these chords have the same notes, so they're the same (up to inversions). The situation corresponding to stacking 4 semitone intervals on top of each other (major thirds) is the augmented chord:

D#+ is G+ is B+

Returning to the above example, we can replace D7 by, say, Ebdim7. You can use this trick to come up with all sorts of spicy riffs: instead of playing a dominant seventh chord, play the diminished seventh chord located a half step above the root. Applying this trick to our chord progression we get:

Am, Em, Ebdim, G

But why use Cdim rather than Ebdim? As covered before, they're basically the same chord up to inversions. One possible reason that the G chord above is definitely more of a G/D (in other words, the D is played in the bass). It sounds like the bassline goes from E to C to D in the last three chords of the progression. That's a pretty strong resolution for a bassline, and I can easily imagine why you would prefer this as a bass player over the "E-Eb-D" descending bassline, especially with the vocal melody at the top.

So just add some jazz and some music theory and voila, cool eerie chord progression. You can use this neat trick to come up with interesting ways to approach chords. Props to James Blake and the folks over at TDE for this one.