

Remembering "Giant Steps" Changes

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The seeming complexity of "Giant Steps" by John Coltrane is due to the rapidity with which the key centers change rather than the number of key centers as such. This note gives a formula that one can remember to construct the changes.

The tune is 16 measures long and there are only three key centers, which alternate every one or two measures. In the first eight measures, the alternations are mostly every measure, with key changes on the half-measure while in the last eight, the alternations are every two measures, with key changes on even-numbered measures.

The tune sounds tricky because the key centers are separated by major thirds. While this is mathematically an easy relation to remember (it is perfectly symmetric, since three major thirds add up to an octave), the keys sound unrelated, due to only three common tones between any pair and no tones common to all three, as shown below:

B major	B	C#	D#	E	F#	G#	A#
G major	B	C	D	E	F#	G	A
Eb major	Bb	C	D	Eb	F	G	Ab

Coupling the distinctness of keys with rapidity of key changes gives the tune an unusual sound and presents a unique challenge for the player. The same aural challenge can be heard in the bridge to a standard tune, "Have You Met Miss Jones", by Richard Rodgers, however the latter has a more obvious pattern and is only eight measures long.

Here are the changes to *Giant Steps*:

BM7 D7	GM7 Bb7	EbM7	Am7 D7
GM7 Bb7	EbM7 F#7	BM7	Fm7 Bb7
EbM7	Am7 D7	GM7	C#m7 F#7
BM7	Fm7 Bb7	EbM7	C#m7 F#7

The stable (major seventh) chords are shown in bold, and represent the end of a cadence in that key center, except for the first chord, which ends the cadence started in the last measure. The cadences are seen to be either V-I, mostly in the first eighth measures, or ii-V-I in the last eight and at bars 4 and 8.

Below is the derived key map for *Giant Steps*, where the top designates the keys (in italics) and the second row the chords:

<i>B</i> BM7	<i>G</i> D7	<i>G</i> GM7	<i>Eb</i> Bb7	<i>Eb</i> EbM7	<i>G</i> Am7 D7
<i>G</i> GM7	<i>Eb</i> Bb7	<i>Eb</i> EbM7	<i>B</i> F#7	<i>B</i> BM7	<i>Eb</i> Fm7 Bb7
<i>Eb</i> EbM7	<i>G</i> Am7 D7	<i>G</i> GM7	<i>B</i> C#m7 F#7	<i>B</i> C#m7 F#7	
<i>B</i> BM7	<i>Eb</i> Fm7 Bb7	<i>Eb</i> EbM7	<i>B</i> C#m7 F#7		

Apparently the second four measures parallel the first four, but a major third lower. Similarly measures 13-16 parallel measures 9-12 a major third lower.

In terms of the amount of harmonic space devoted to each key, we have:

Key	Measures
<i>B</i>	5
<i>G</i>	4.5
<i>Eb</i>	5.5

an almost even distribution.

The changes can be reconstructed using the following two formulas:

1. **If the next pattern is a V-I:**

as in bars 1-3 and 5-7, then the chord following a M7 is a dominant up a minor 3rd, and the following key is **down** a major 3rd.

Major 7 chord	Following dominant chord	Following key
B	D7	G
G	Bb7	Eb
Eb	F#7	B

2. **If the next pattern is a ii-V-I:**

as in bars 4-5, 8-9, and the sequel, then the chord following a M7 is a ii up a tritone, which is followed by the corresponding V chord, which is down a half-step from the M7, and the following key is **up** a major 3rd.

Major 7 chord	Following ii-V	Following key
B	Fm7 Bb7	Eb
G	C#m7 F#7	B
Eb	Am7 D7	G

The only **exception** to these two rules is found in the last measure, which is a turnaround to the first chord of the piece.

So to summarize the rules:

Next Pattern	Next Chord	Next Key
V-I	Dominant, up a minor 3 rd	Down a major 3rd
ii-V-I	Minor seventh, up a tritone	Up a major 3rd
Last ii-V		Back to the original key