Applying 20th Century Harmonic Techniques to Jazz Improvisation

(A Starter's Guide)

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Thanks for coming, I realize this is yet another event at the end of a busy semester of recitals. And also it's cinco de mayo, though as Dariusz puts it that's a perfect day to talk about some interesting harmonies...

But I'm very glad that I can talk about this-it's a topic I've been trying to figure out ever since I got here.

Present-Day Jazz Pianists who "borrow" from classical Composers

Because practically all of my favorite teachers and players "borrow" from 20th century classical music. To name a few that I've interacted with or heard first-hand stories about: Billy Childs, who came here last semester and cited Hindemith as an influence, Bill Cunliffe, who I met a few summers ago, my current teacher Harold Danko who took some lessons from Chick Corea when he was stationed in New York. And of course my previous teacher Bill Carrothers, who you could frequently find in his office singing along with Stravinsky. These guys are all "students of the music."

And really people have been borrowing from 20th century music since Duke Ellington's use of Debussy and Ravel, etc.

All of these pianists say that classical techniques have helped shape their style.

We're lucky, we have Sibley. You could spend a lifetime in there.

Plus, we all have a bunch of scores by now...theory classes, ensembles, private lessons, etc. The question becomes what to do with all that stuff.

Common 20th Century Influences

(A very short list)

Alban Berg
Béla Bartók
Dmitri Shostakovitch
Alexander Scriabin
Igor Stravinsky
Sergei Prokofiev
Heitor Villa-Lobos
John Ireland
Ned Rorem
Charles Ives

Today's Focus

Paul Hindemith
Oliver Messiaen
Vincent Persichetti
Howard Hanson

John O'Gallagher

I've heard some of these players talk specifically about a few influences. The list is way, way longer than this, but on the left side are a few that are especially worth mentioning.

The most influential on me thus far have been Hindemith, Messiaen, and Persichetti, partly because all of these composers wrote volumes about their own processes. Those writings give us a lot of insight into how we can apply their harmonic language to our own work.

Also Messiaen was an improvisor and his system of pedagogy is far more advanced than a lot of Jazz pedagogy since it was so well-developed in the organ tradition. It's really worth studying these systems since they've been around way longer than Jazz has.

Messiaen was also synesthetic and very in touch with color and emotion. These are things sometimes Jazz musicians forget to think about.

And they all end up getting at the same thing in different ways. It's all about transforming shapes anyways...

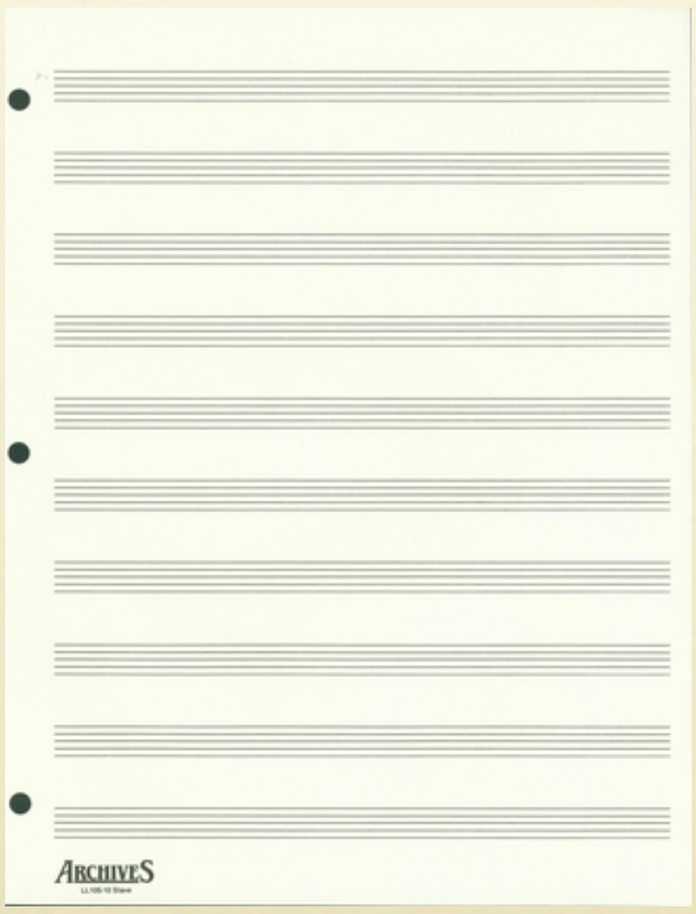
The Question

- How can educators help their students apply 20th century harmonic techniques in a way that is musical and organic?

So this leads us to the question...read it.
And how do we make this material engaging and rewarding from the very beginning rather than a bunch of very abstract concepts?
As Harold would say, what do you do when a student comes in and doesn't get it?
What are some ways of jumpstarting the creative process?
It's about bridging the gap between "I like this sound or concept" and being able to have it come out of your playing in an organic way.

Ambiguities/pitfalls

- Composition vs. Improvisation
- "Mathematical" playing vs. organic development of ideas
- With complex harmony, context is everything



However, it's not easy to use the information we have. It's very difficult to figure out how to practice this stuff, there's a serious learning curve.

Common issues that come up include the above. In order, here are some comments about these bullets:
You don't have time to think about math while you play. And that leads a lot of people to think "this stuff is for theory majors, not for me."
You also don't want it to sound like you're forcing things in. Playing a standard and all of a sudden here's a 10-note chord, etc.
My interaction with Gary Versace-context is everything
It's all part of the process and you try forcing things in, but at the same time, how do you practice using this stuff in a way that's organic and musical?

Today's Focus

Persichetti: Synthetic scales, harmonies, and compositional exercises

Messiaen: Chords derived from the modes of Limited Transposition
Alternative "Chromatic chords"

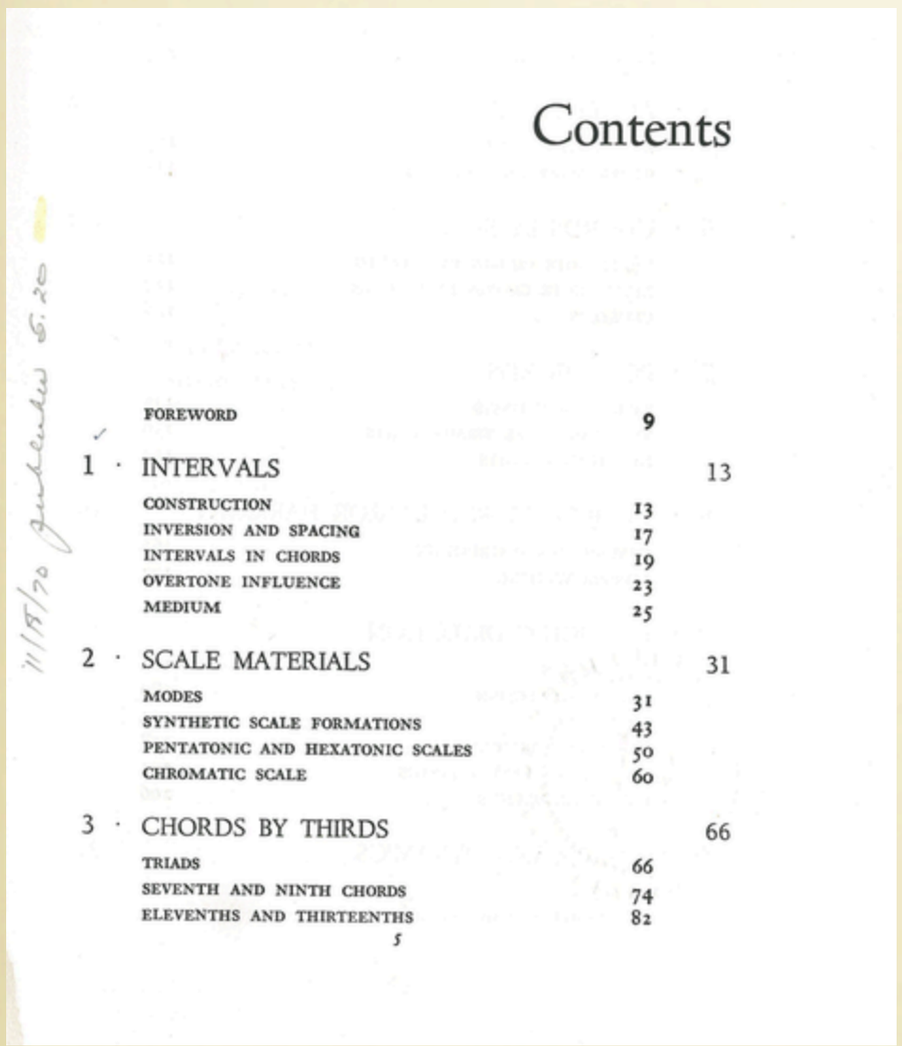
Hindemith: Harmonic fluctuations and chord analysis

O'Gallagher: Linear approaches to complex harmony, set-class improvisation with trichords, 12-tone rows, and "steering."

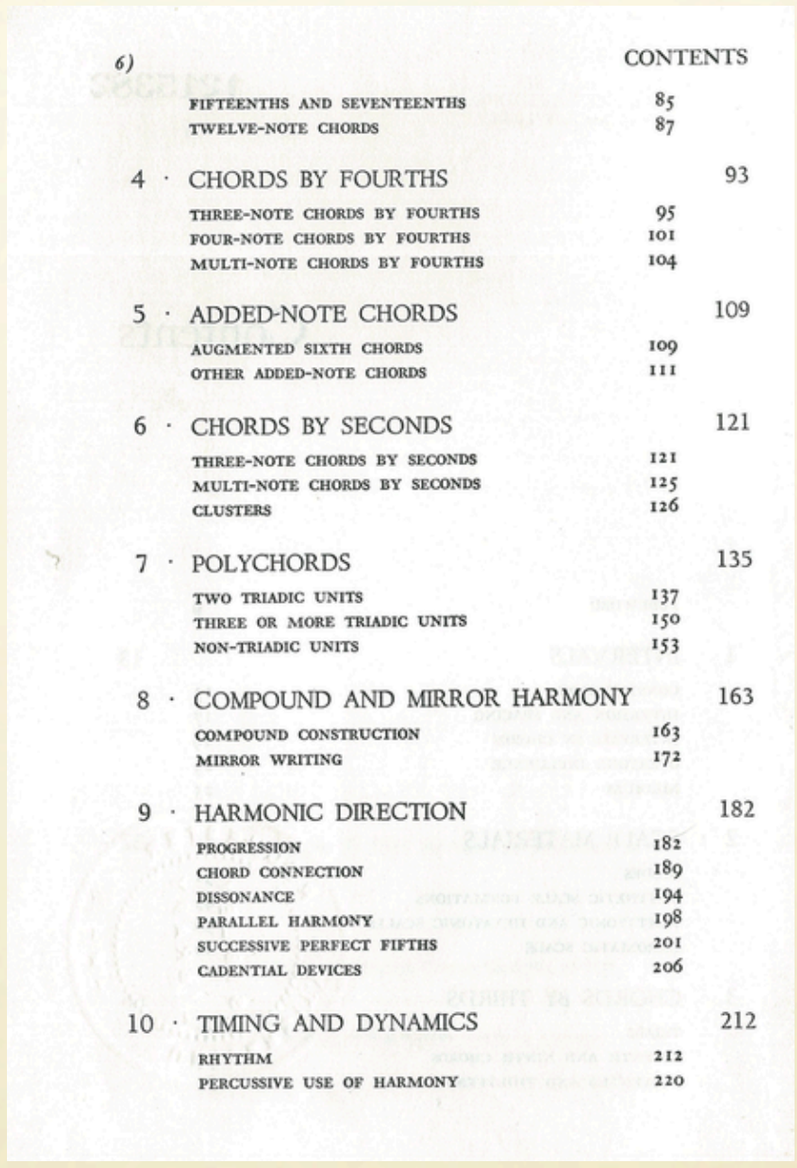
There's a lot here...but I'll try to give an overview of some of the really exceptional harmonic materials these composers present.

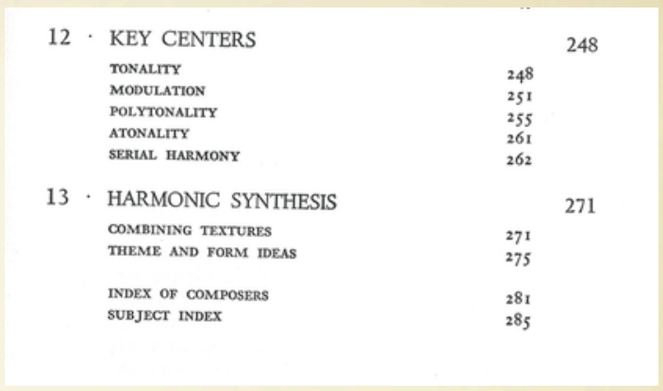
And throughout I'll try to include examples of how to integrate those sounds into your playing. Most of the time, the answer involves composing vamps to practice over or writing tunes based on the concepts or material. Then if you start paraphrasing your own material, you end up with some interesting ideas.

Persichetti's Treatise on 20th Century Harmony: an overview



Contents





Not a "speculative treatise...rather, it is an account of specific harmonic materials commonly used by twentieth-century composers."
(p. 10)

"For and about creativity"
(p. 10)

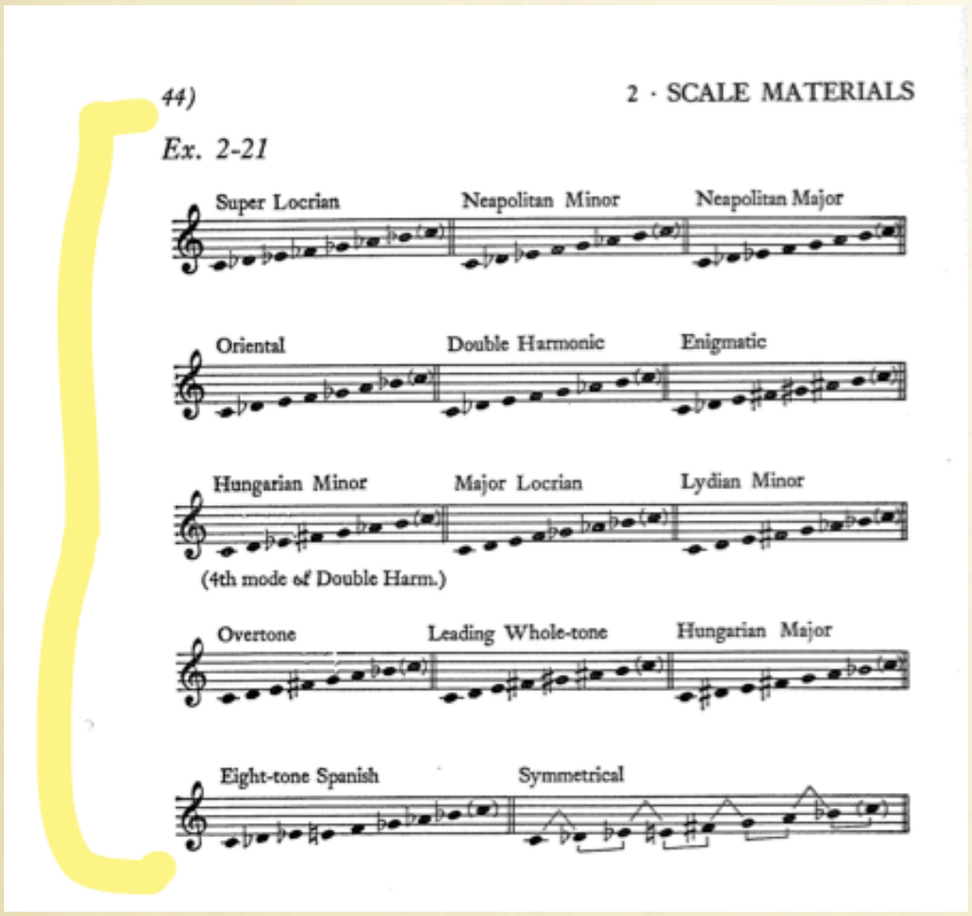
The whole book is worth reading, but I'll give a very brief overview today.

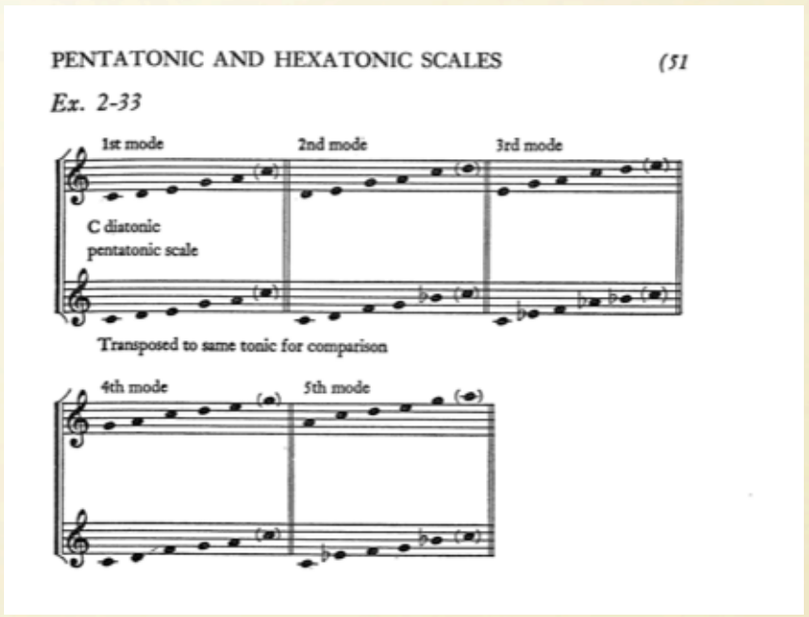
Summarize table of contents–focus mostly on the scalar stuff.

What I like about this is that it's descriptive, not perscriptive. So you go from sound to ways of thinking about generating similar sounds.

Persichetti on Synthetic Scales

Deriving Modes





Endless possibilities...

This is the page that changed Harold's life-you have a bunch of materials including the double harmonic scale.

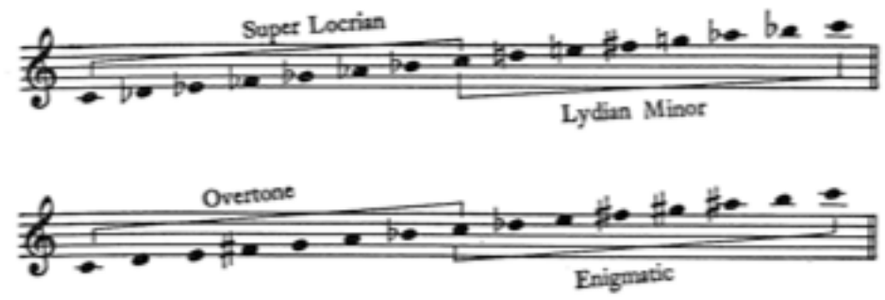
[play through a few of these]

And of course you can derive modes of all of them

Multi-octave scales

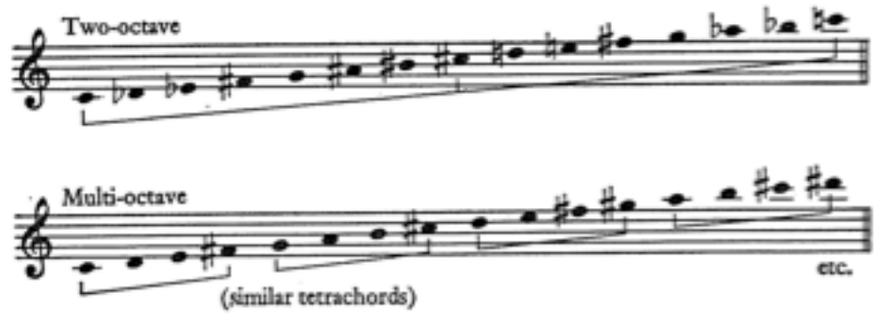
A second type of two-octave scale is built by combining two different one-octave scales with common tonics.

Ex. 2-30



New scales may be so built with similar or dissimilar tetrachords that the tonic is not repeated at the first octave. When the octave is missed and the tetrachords are continued, a two-octave scale or multi-octave scale may evolve.

Ex. 2-29



Why are we confined to a single octave?

And why confine yourself to a single octave? You can either combine two octave scales starting on the same note, or you can “miss” the octave and end up starting the second octave a half step away.

I can definitely think of some lines from players like Lovano that are best explained this way.

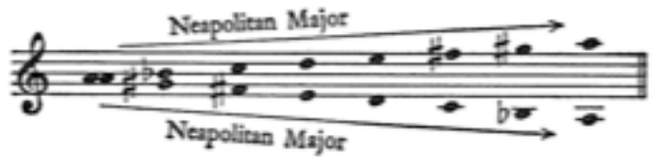
Set different octaves as parameters–I’ll play super locrian down here, lydian minor up here. Or write a piece, paraphrase it...

Play the second multi-octave scale example, not the first

Mirror Scales

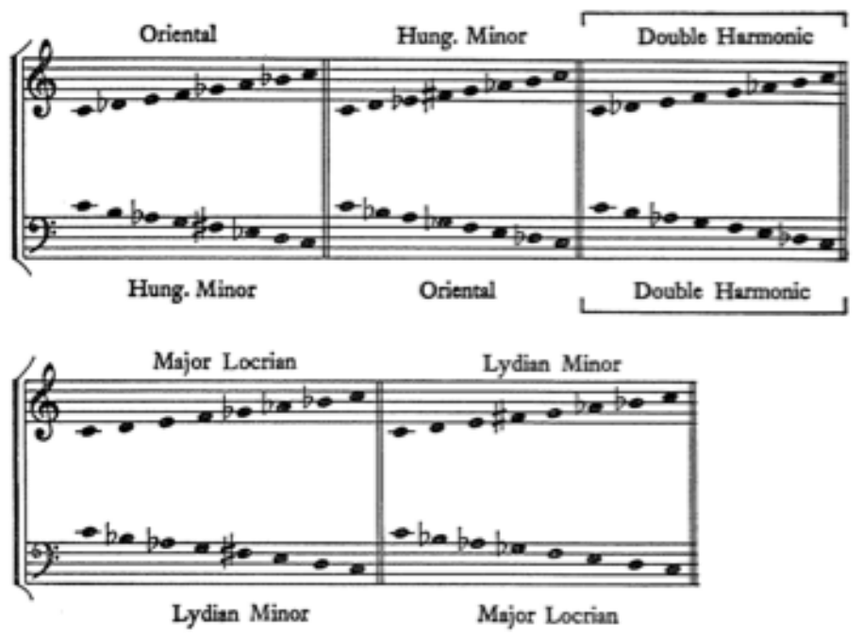
Some scales are reflectively identical, inversion producing an exact duplication of the original scale in retrograde.

Ex. 2-26

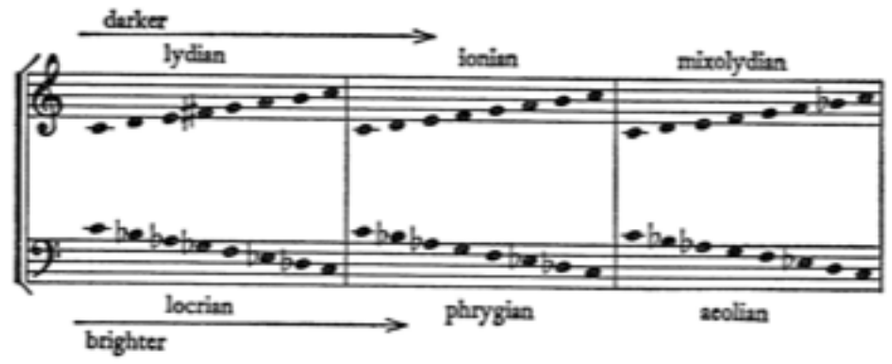


Any scale may be reflected. The following illustrates synthetic scale mirroring.

Ex. 8-22



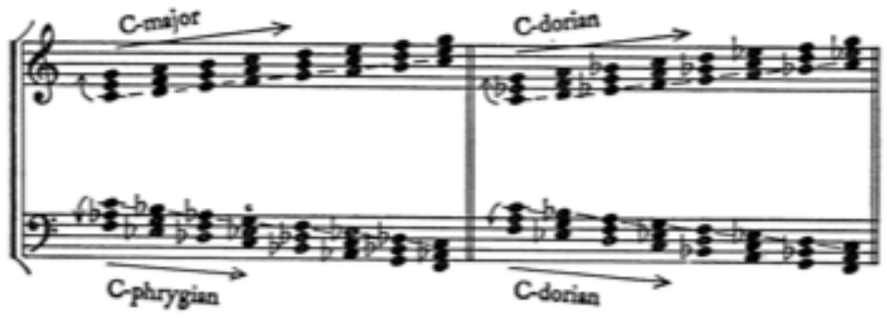
Ex. 8-21



Harmonic Implications

Reflective scales imply mirror harmony.

Ex. 8-23



The other thing (which Harold is also into) is that each scale has a mirror. You reflect it over an axis, then you generate another scale entirely.

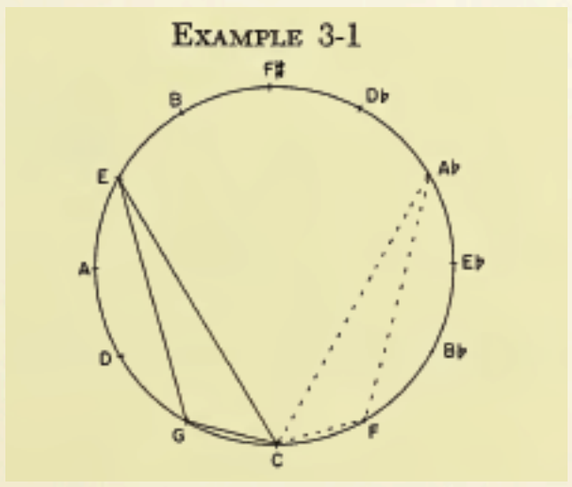
This is really good for pianists that are trying to teach their weaker hand to imitate their stronger one because the mirror scales have the same fingering descending as the original has ascending.

And the harmonic implications are endless, especially when you put them together.

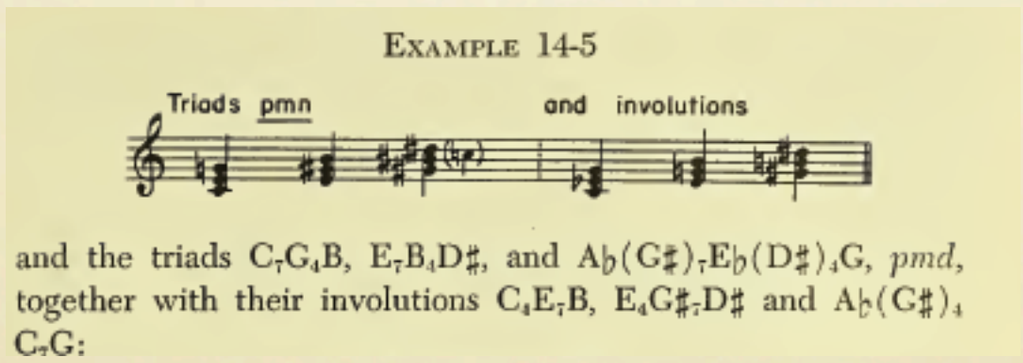
You end up with a polymodal system already when you combine them. That's coming next

Hanson: "Involution"

Reflecting a triad over the lowest note



Involution of triads

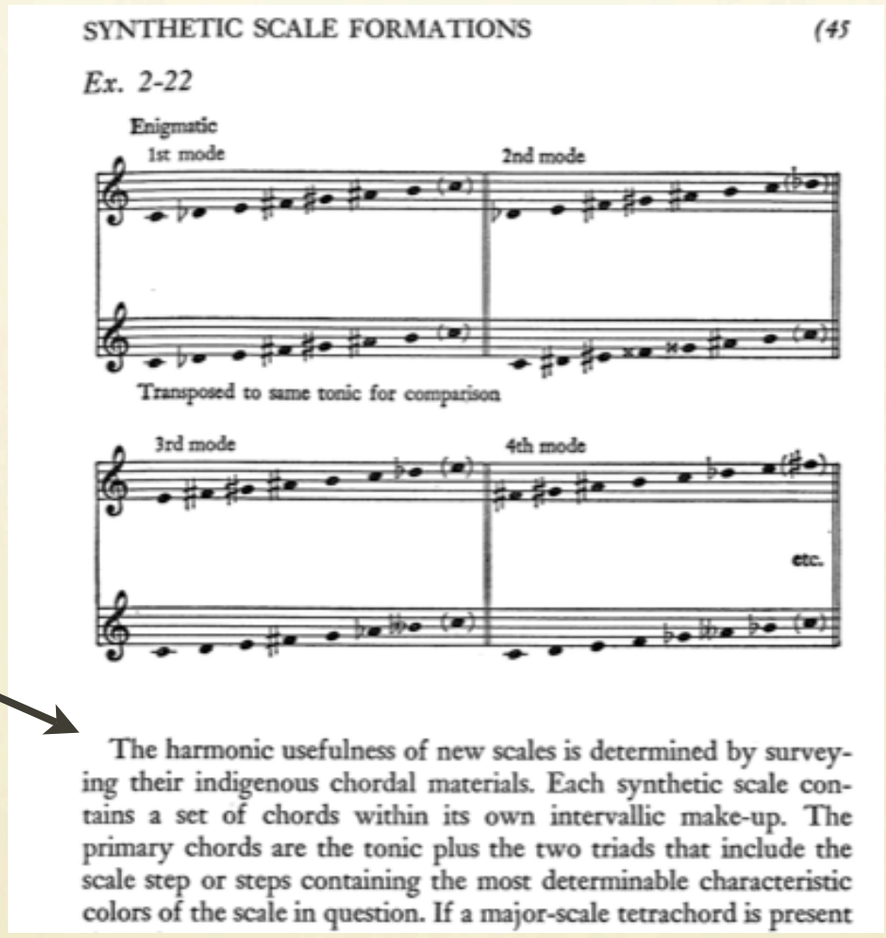


He defines simple involution as reflecting a chord over the axis to generate a different sound quality. This is a good graphic.

Isometric involution generates the same sound. In other words, the original is symmetrical. And enharmonic involution is kind of like chords of transposed inversion actually.

And you don't have to just do this with triads...

How to use a scale



SYNTHETIC SCALE FORMATIONS (45

Ex. 2-22

Enigmatic

1st mode

2nd mode

Transposed to same tonic for comparison

3rd mode

4th mode

etc.

The harmonic usefulness of new scales is determined by surveying their indigenous chordal materials. Each synthetic scale contains a set of chords within its own intervallic make-up. The primary chords are the tonic plus the two triads that include the scale step or steps containing the most determinable characteristic colors of the scale in question. If a major-scale tetrachord is present

How do we generate tension and release with our traditional modes?

How do we create compelling melodies?

At this point it's all pretty overwhelming...but Persichetti relieves us of some of the burden here.

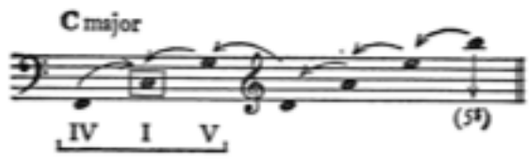
Practice as a raga...how Indian musicians do it

Chords by Seconds and Chords by Thirds

Traditional Fifths motion

TRIADS (67

Ex. 3-1



Cycle of 5ths 3rds 2nds

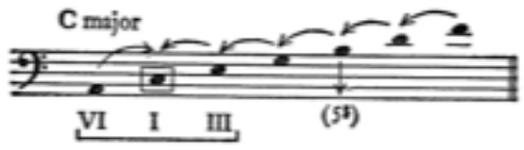
IV = VI = VII
VII = IV = VI
III = II = V
VI = VII = IV
II = V = III
V = III = II
I = I = I

and corresponding harmonic progressions:

Cycle of 5ths I III IV VI V I
Cycle of 3rds I II VI VII III I
Cycle of 2nds I V VII IV II I

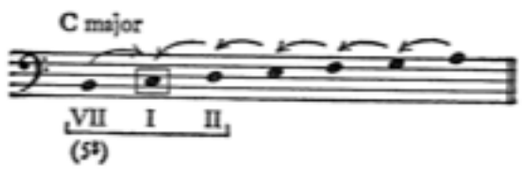
Thirds Relationship

Ex. 3-2

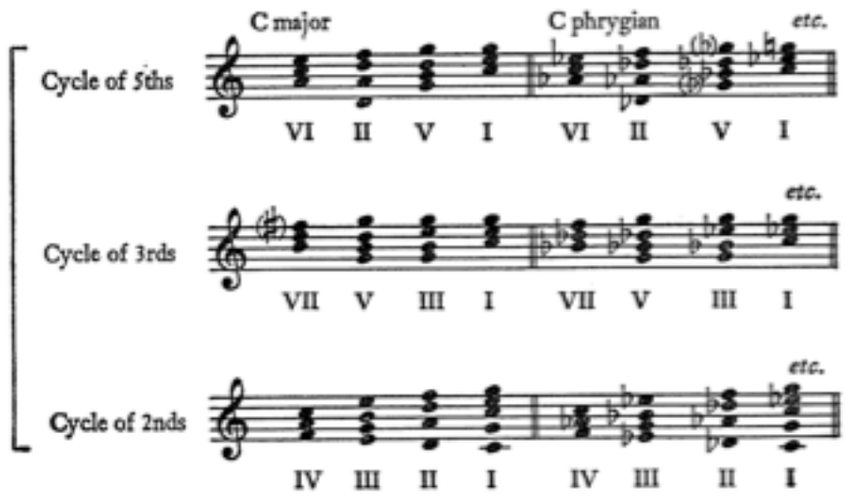


Seconds Relationship

Ex. 3-3



Ex. 3-4



Even better for compositional purposes, you can generate different types of harmonic motions from these scales. Tendency tones...

Depending on the type of scale you have, you might highlight the motion from VII–I, which would imply a second relationship.

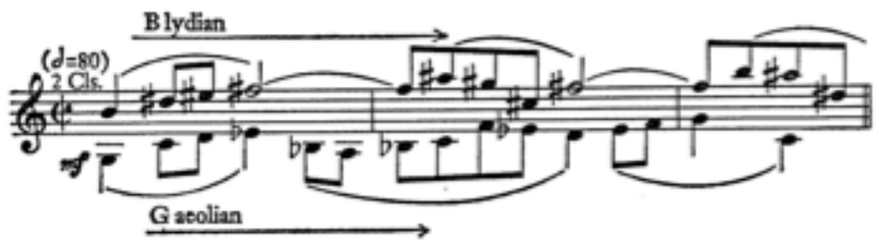
Then “applied” chords become the VII of etc.

Polytonality and Polymodality

One of Persichetti's Exercises

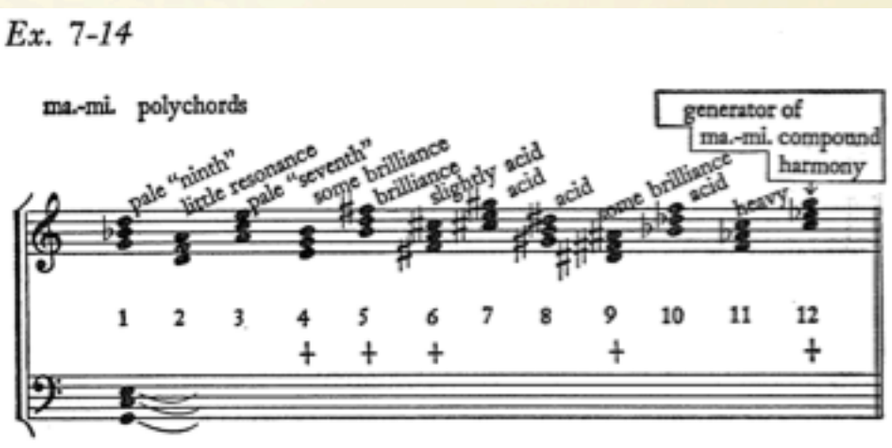
11. Extend the following polymodal and polytonal passage.

Ex. 2-56



Persichetti on Polychords

Ex. 7-14



Recommended listening/score study

Source Material

Polychords, two triadic units:

Béla Bartók, String Quartet No. 5, p. 87 (Boosey)
Peter Racine Fricker, Piano Concerto Op. 19 (red.), p. 40 (Schott)
Roy Harris, Soliloquy and Dance, for viola and piano, p. 7 (G. Schirmer)
Arthur Honegger, Symphony No. 5, p. 1 (Salabert)
Charles Ives, Piano Sonata No. 2, p. 65 (Arrow)
Albert Roussel, Bacchus et Ariane, p. 57 (Durand)
William Schuman, Symphony for Strings, p. 8 (G. Schirmer)
Igor Stravinsky, The Rake's Progress (red.), p. 195 (Boosey)

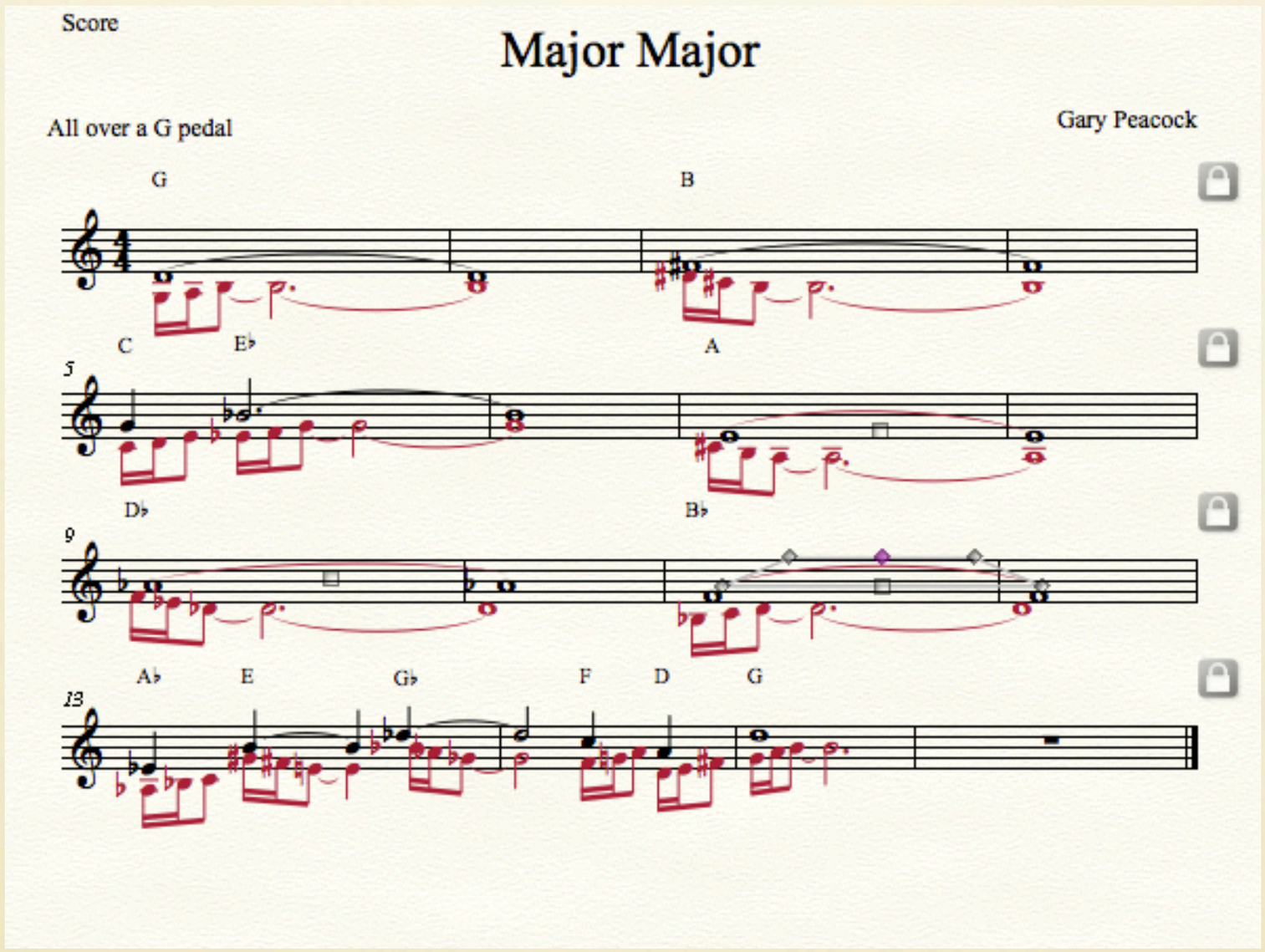
And when you put one of these scales over another, you end up with a polytonal/polymodal complex.

This is what we do all the time as Jazz musicians anyways, we superimpose things. Putting altered over mixolydian, etc.

Persichetti goes through polychords and categorizes all of them years before any Jazz musician was playing with it...

And the source material he mentions is amazing-this is a small list, but it's all great.

Major Major

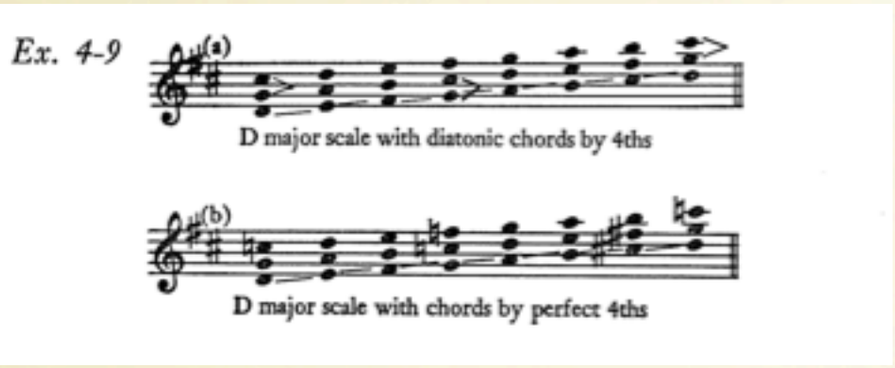


Can you think of other “études” written by jazz musicians?

Play through and improvise a little on this-it’s really great

If you were to do that with all these other synthetic scales, that would be a great compositional project. Pedal tones are great.

Quartal Harmony

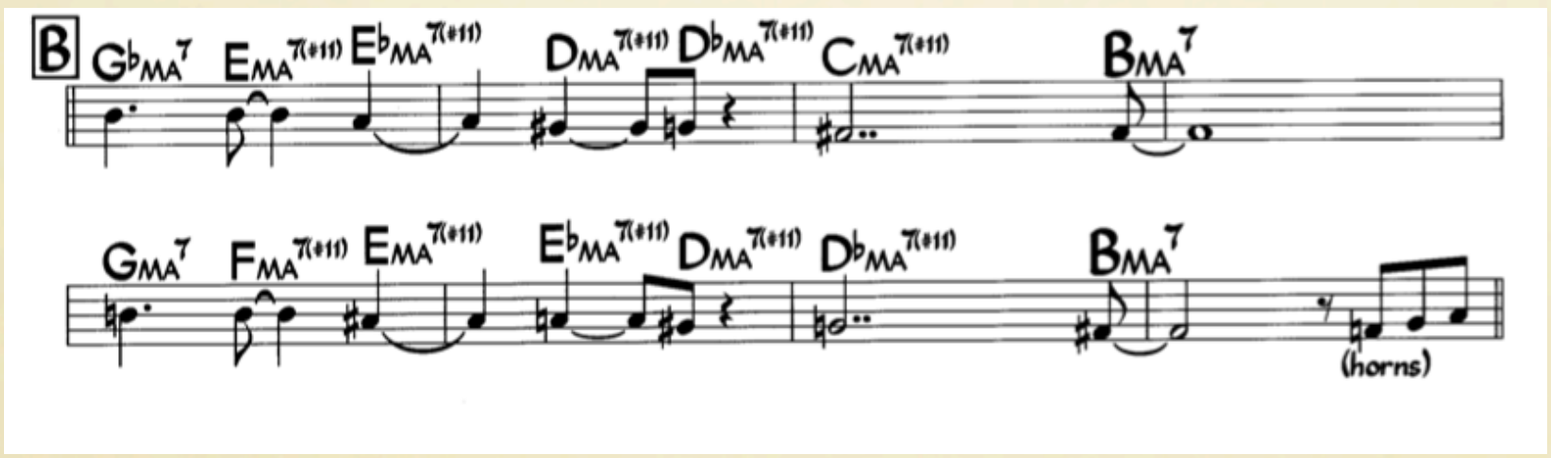


Source Material

Quartal harmony:

Alban Berg, Wozzeck (red.), p. 45 (Universal)
Leonard Bernstein, Seven Anniversaries for Piano, p. 3 (Witmark)
Valentino Bucchi, Piano Sonatina (1938), p. 3 (Zerboni)
Aaron Copland, Piano Fantasy, p. 2 (Boosey)
Paul Hindemith, Nobilissima Visione (orchestral suite), p. 49 (Schott)
Arthur Honegger, King David (red.), p. 5 (Foetisch)
Arnold Schoenberg, Kammersymphonie Op. 9, p. 1 (Universal)
Roger Sessions, Symphony No. 2, p. 67 (G. Schirmer)
Igor Stravinsky, Septet, p. 11 (Boosey)
William Walton, Concerto for Viola and Orchestra (red.), p. 12 (Oxford)
Anton Webern, Piano Variations Op. 27, pp. 5–6 (Universal)

B Section of "Gertrude's Bounce" (Bud Powell)



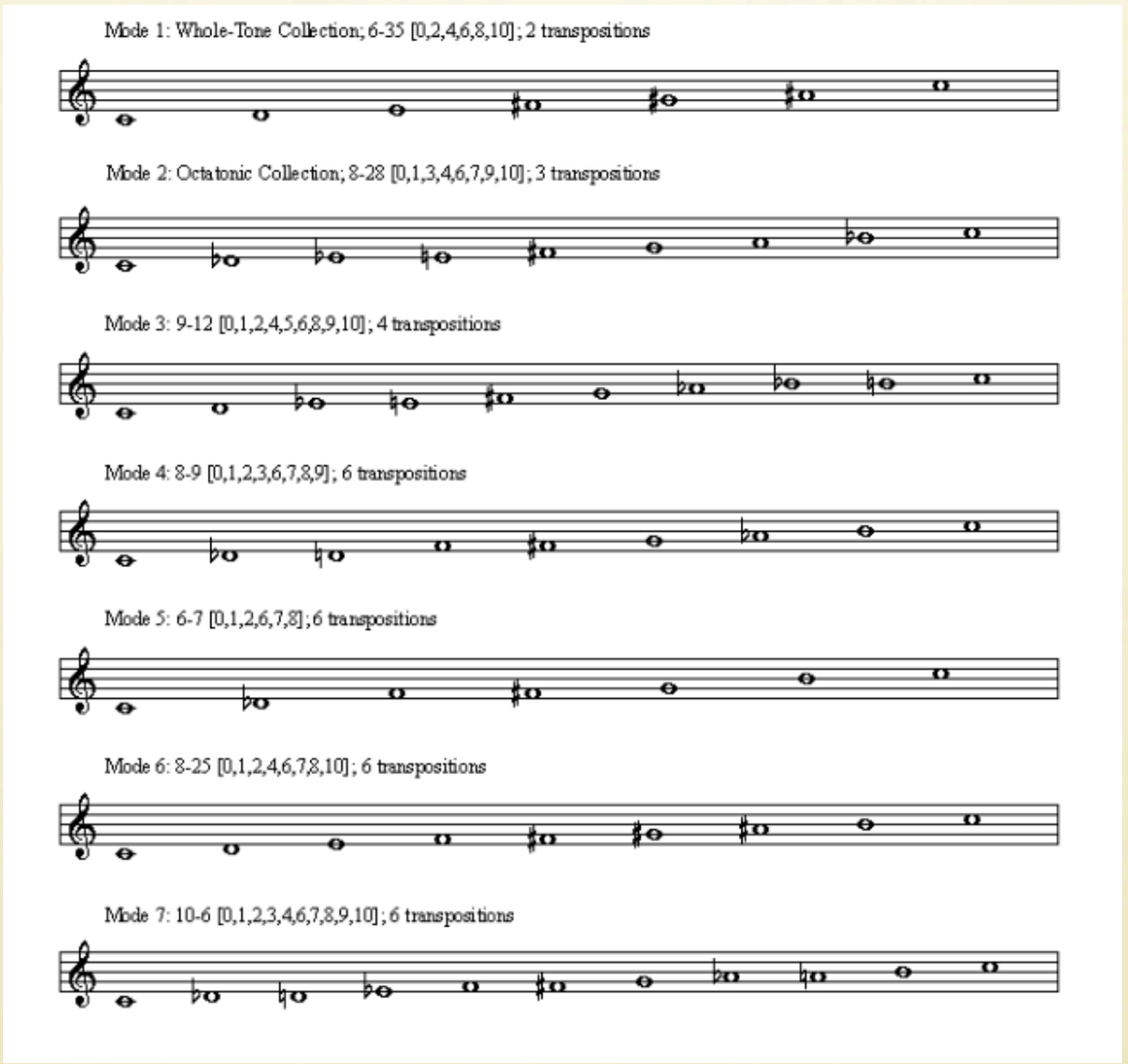
Other jazz examples of plaining in fourths: "So What" voicings...

Another way of explaining Quartal harmony, other intervallic structures...of course people like McCoy have been doing this for years. Plaining within a scale, you could do this with a synthetic scale, etc...

So basically I would compose a series of vamps or motives from a synthetic scale as opposed to telling a student to use the whole thing right away. This kind of gets into the idea of truncated modes too, though that might be a bit much for this presentation.

Truncated modes–try this with mode 2 just to demonstrate quickly

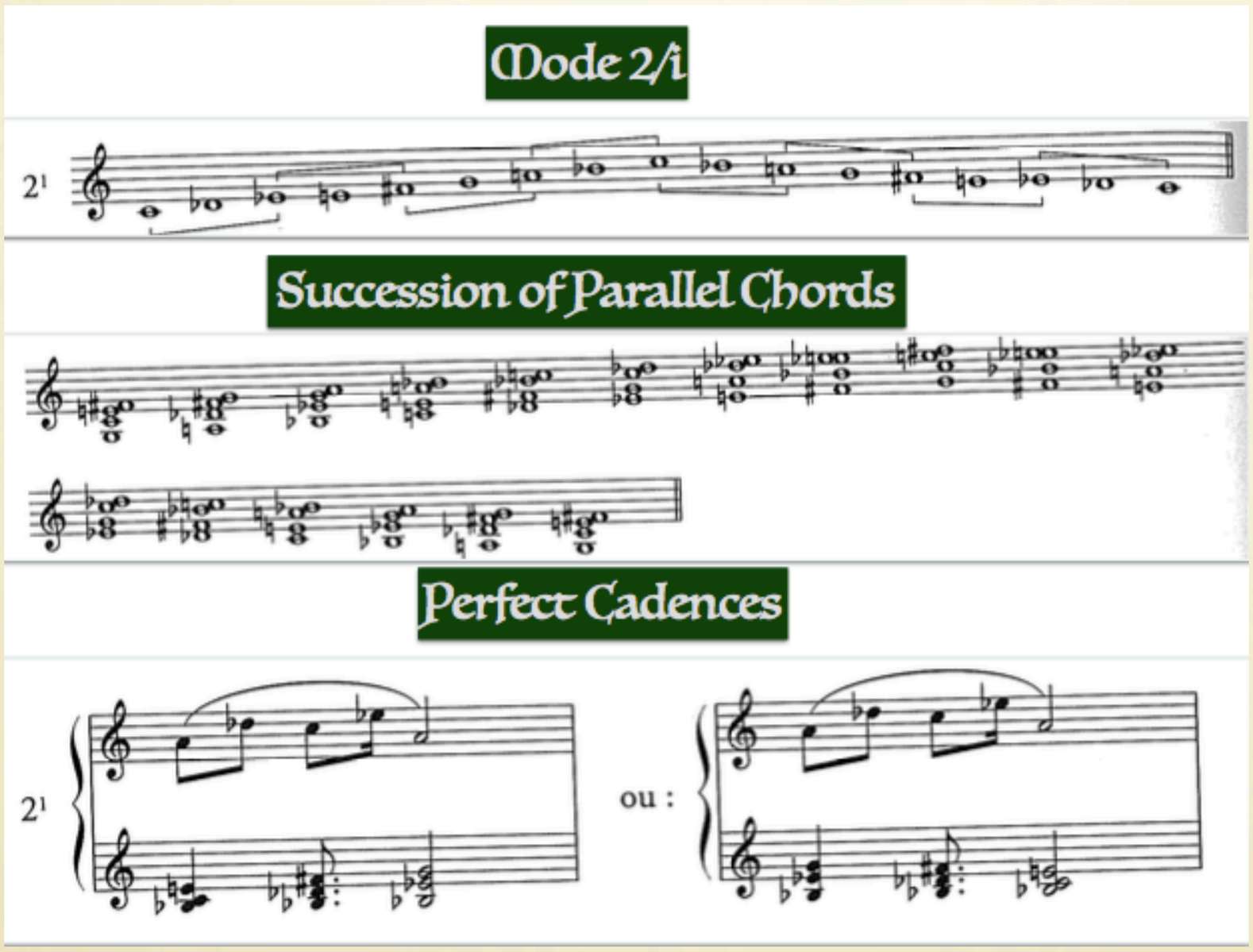
Messiaen: Modes of Limited Transposition



Of course this is exactly what Messiaen does with his compositions

Here you have 7 synthetic scales each with a set of properties. And by examining how he uses them, we get some good ideas of how he generates color, tension, release. And that shows us how we can do the same thing with other scales of our choosing to create our own language. And that's what you want to encourage students to do at a certain level.

Mode II



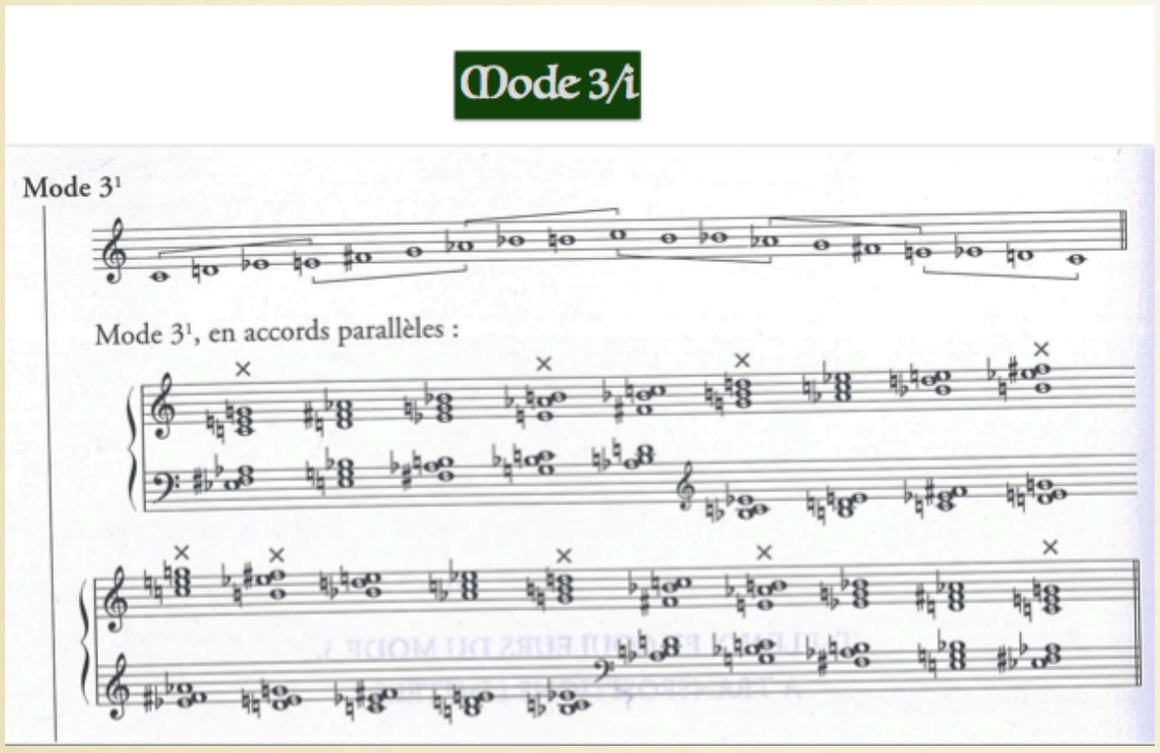
Let's take first a mode that all Jazz musicians are familiar with-the octatonic collection. Here you have successions of parallel chords that are built by extracting every other note. You end up with some interesting patterns that are akin to "plaining" through that mode.

And from there, Messiaen does exactly what Persichetti suggests-he develops cadential gestures that outline the color notes of the mode.

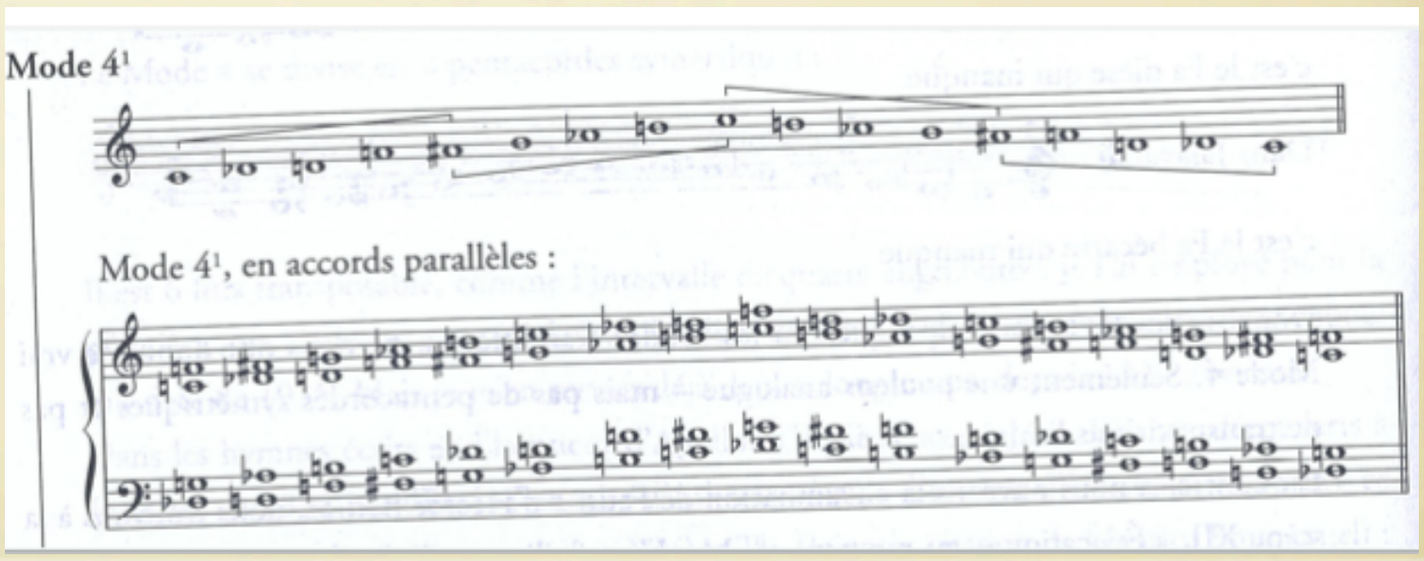
For us Jazz musicians, these gestures are incredibly useful. We can see this example as an expansion of Eb major or C major. Or we can superimpose this succession of parallel chords over a static bass note.

Modes III, IV

Harmonic Implications of Mode III



Harmonic Implications of Mode IV



The possibilities are endless when you get to the other modes, which are even more complicated. Mode IV in particular has some quartal characteristics worth exploring.

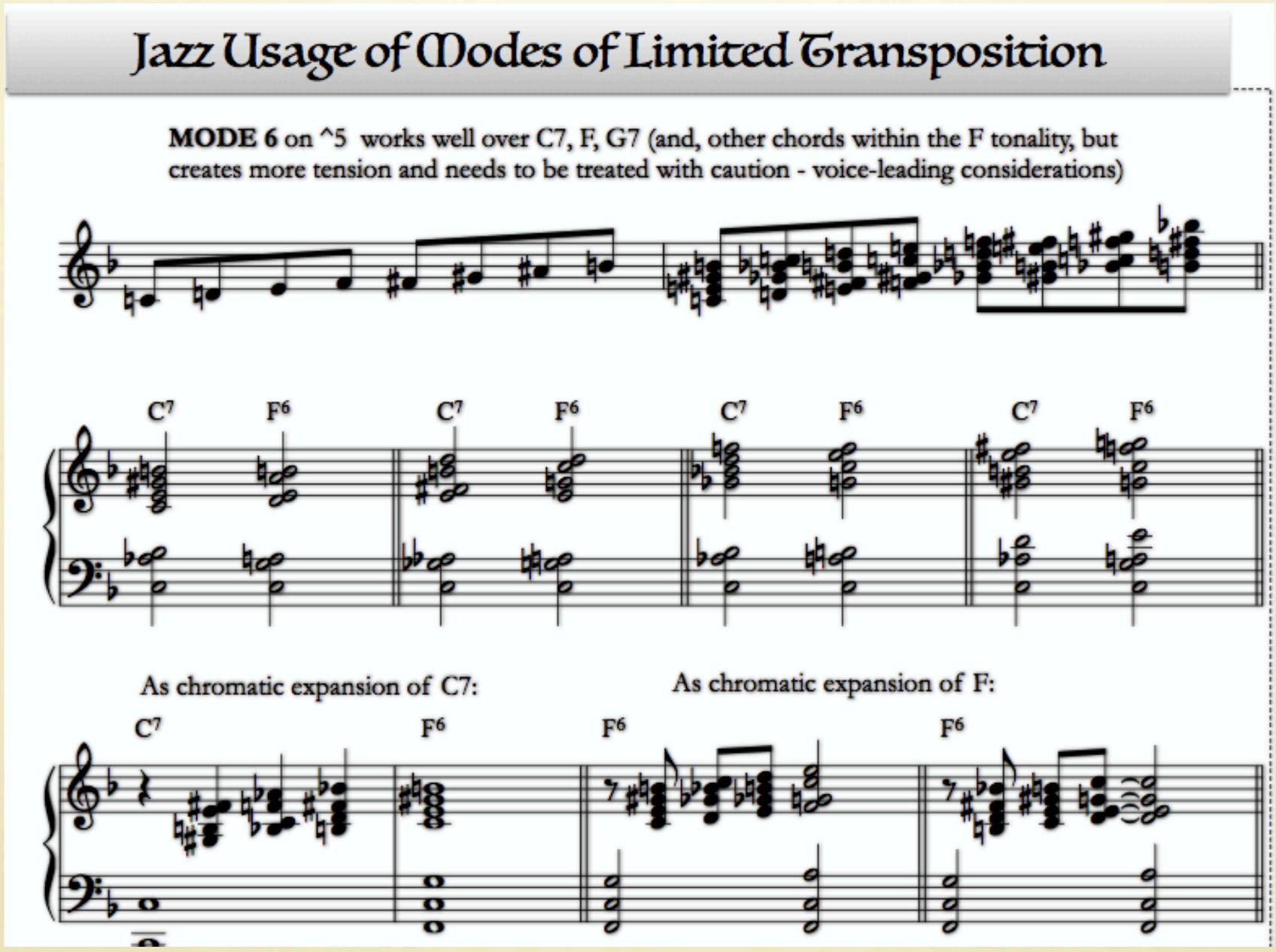
And actually sometimes the shorter modes are more interesting because you end up with wider intervals.

The sequences aren't quite symmetrical-that's what makes them so appealing in the end. With Mode III, your cycle repeats about every three chords. And that asymmetry gives improvisation and composition an organic quality.

[Give an example of a symmetrical sequence and an asymmetrical sequence] I'll play a little McCoy that illustrates this later, but for now just keep it in mind.

Messiaen was fascinated with the idea of establishing a pattern and breaking it, just like every other good composer...

Applying Messiaen's Modal Harmony to a Jazz Context



Here's Dariusz's breakdown of mode 6 and the process of using those expansions.

You figure out which scale degrees you can start on and what the traditional "chord symbols" would be. And from there you can create cadential gestures and chromatic expansions to try superimposing over traditional chord progressions.

You could go through a tune and either write in these alterations or just play them slowly to get them in your ears.

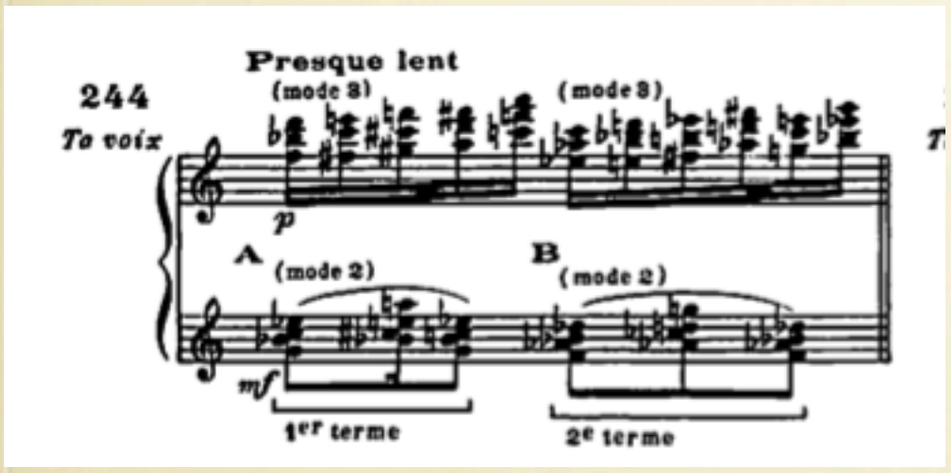
Reducing things down to a V-I is useful...

And of course the beauty of a lot of these is that given their symmetrical properties and tonal ambiguity, they're going to work over a bunch of different bass notes. Try these two over another bass note...

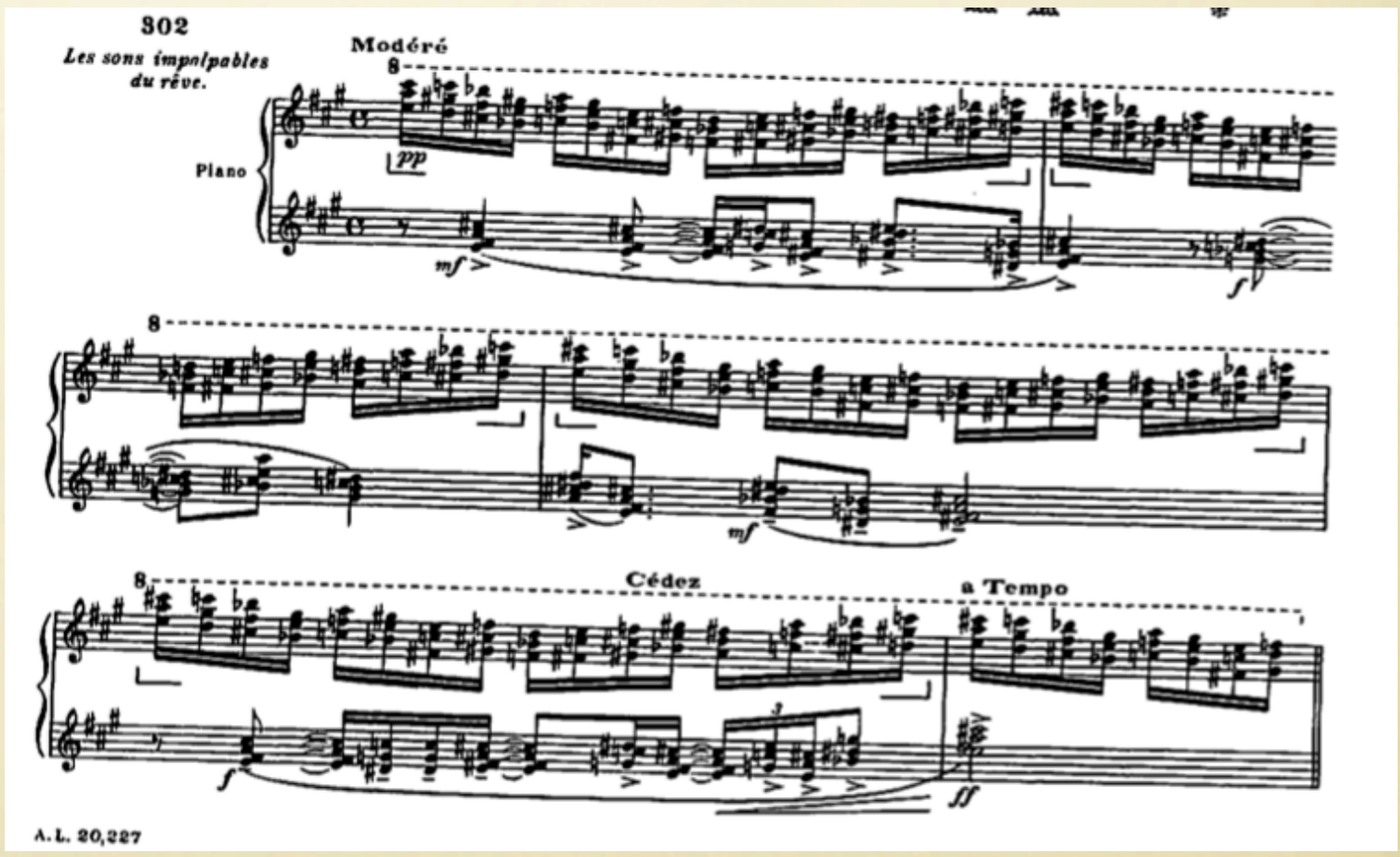
Play "This Land is Your Land" in a Messiaenic way

Poly-modal writing

Ex. 244 from Techniques of My Musical Language



Piano Prelude No. 5

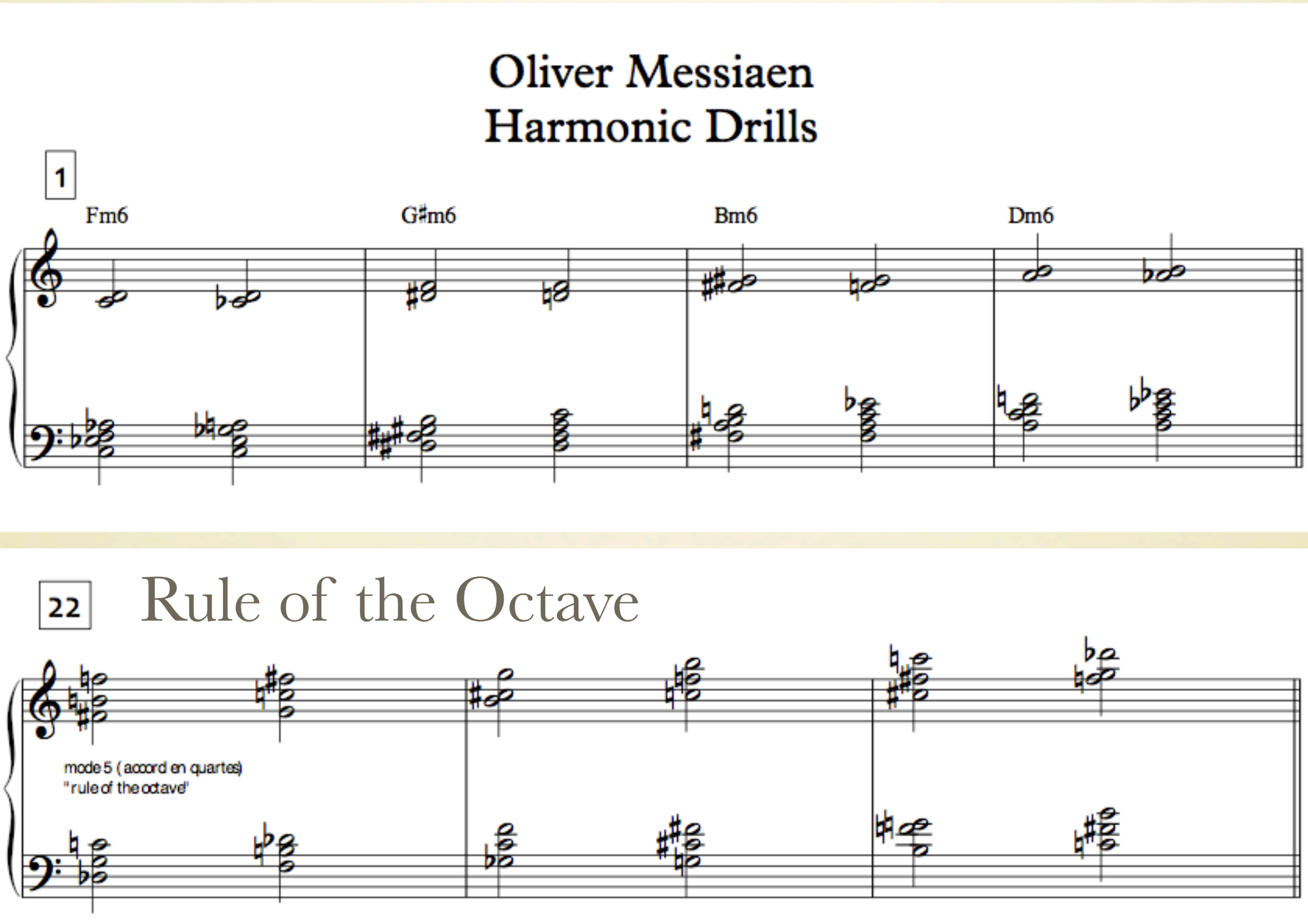


Of course, Messiaen's pieces often feature polymodal passages where one hand is in one mode and the other hand is in the other.

[Play a bit of the fifth prelude]

And this is especially useful for us Jazz musicians since we're thinking about superimposing things all the time. Altered over mixolydian, etc.

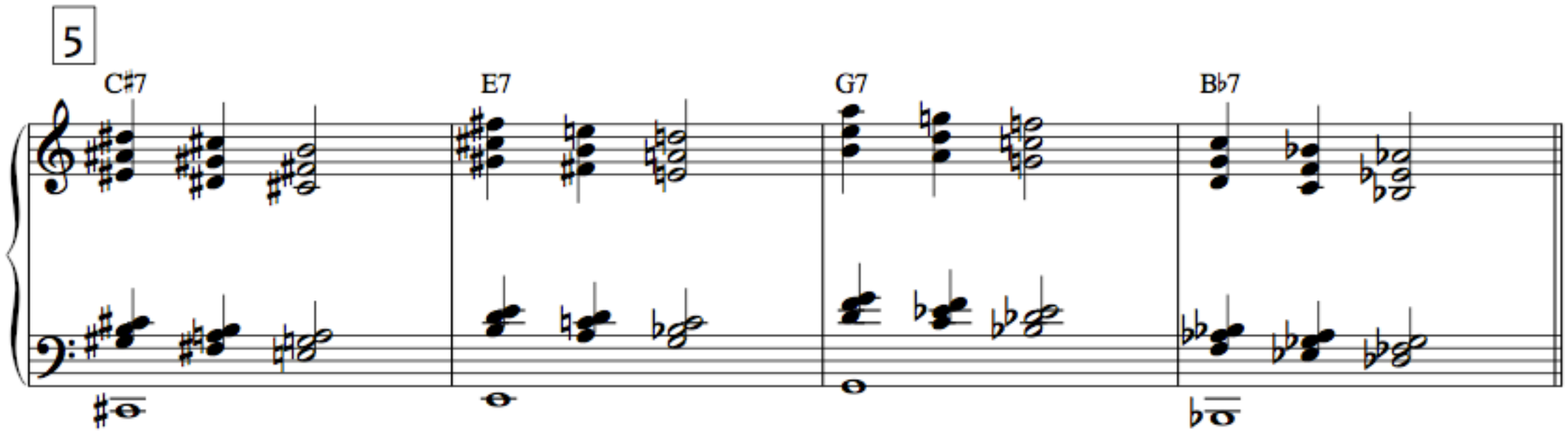
Dariusz's "Drills"



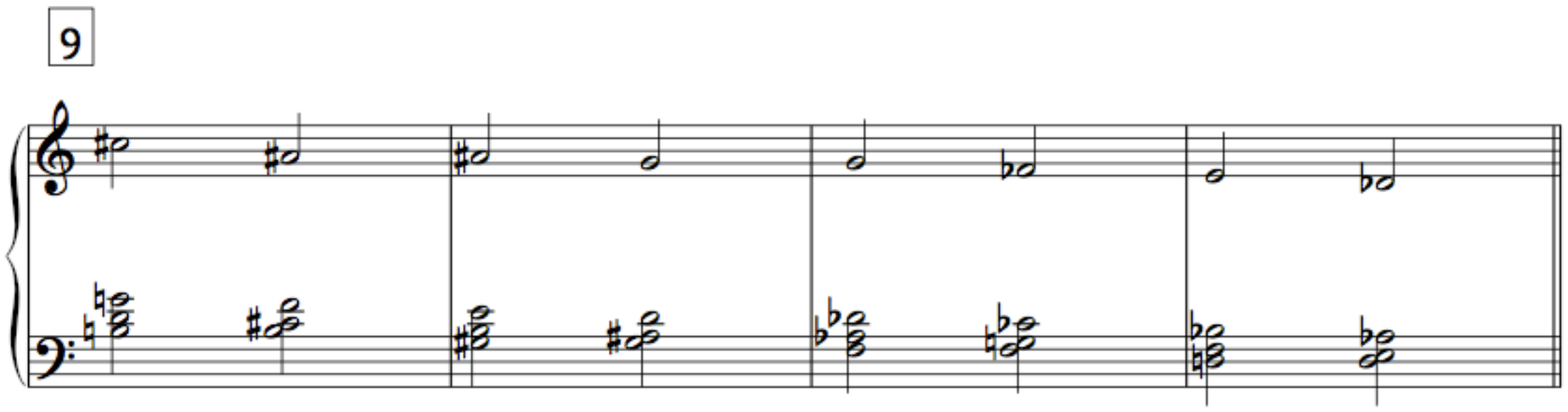
The same way you'd have sequences in figured bass notation, you can turn Messiaen's harmonic patterns into sequences to get them under your fingers. So Dariusz did that and created over thirty sequences to help internalize these passing sounds.

Emphasize-the rule of the octave has been around for a long, long time. This is all basically modal expansions on that.

Whole-tone plaining over dominant chords



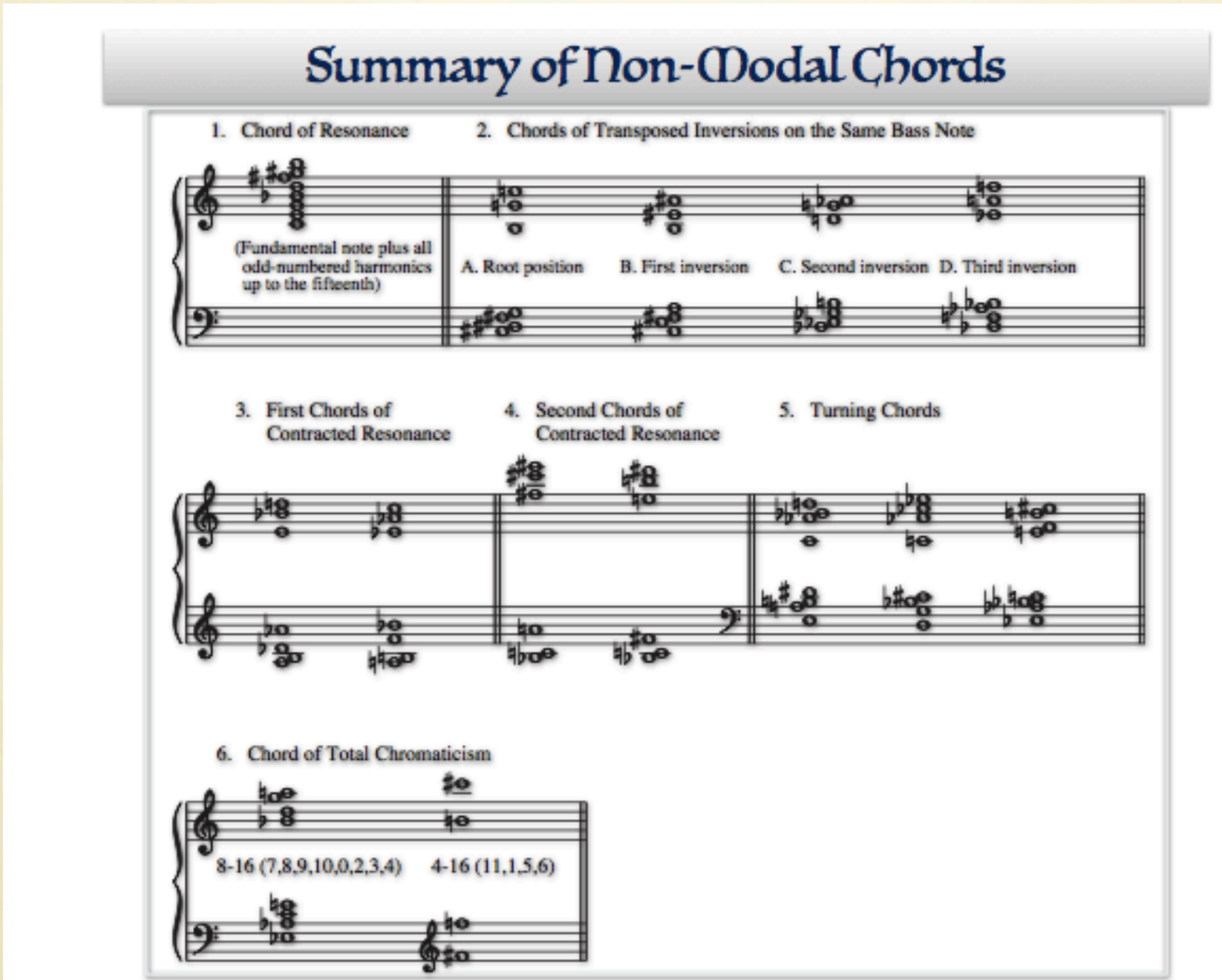
Mode II



Here are some of the cadential gestures that we talked about earlier transformed into sequences...

Alternate bass notes

Other Chromatic Chords



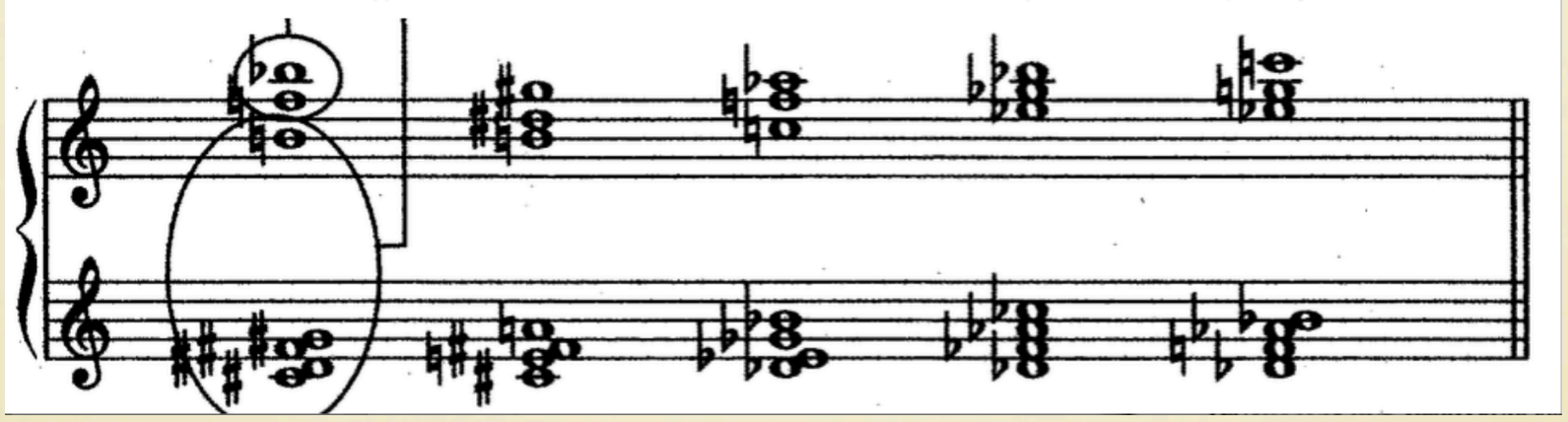
So at a certain point Messiaen felt a little confined by the modes of limited transposition and started playing with other chords. And actually in the end he generated some scales from chords that he liked.

Treatise on rhythm, color, and ornithology was his last project. Just thinking about color, not deriving from scales. He got way more into this stuff but died before he completed the seven volumes.

Chord of Transposed Inversion

Chords of transposed inversion (CTI)

fundamental	1st transposed inversion	2nd transposed inversion	3rd transposed inversion	4th transposed inversion
$\hat{3}$	$\hat{3}$	$\hat{5}$	$\hat{7}$	$\hat{3}$
$\hat{7}$	$\hat{7}$	$\hat{3}$	$\hat{5}$	$\hat{7}$
$\hat{4}$	$\hat{5}$	$\hat{7}$	$\hat{3}$	$\hat{5}$
$\hat{2}$	$\hat{4}$	$\hat{6}$	$\hat{1}$	$\hat{2}$
$\hat{1}$	$\hat{2}$	$\hat{4}$	$\hat{6}$	$\hat{1}$
$\hat{6}$	$\hat{1}$	$\hat{2}$	$\hat{4}$	$\hat{6}$
$\hat{5}$	$\hat{6}$	$\hat{1}$	$\hat{2}$	$\hat{4}$

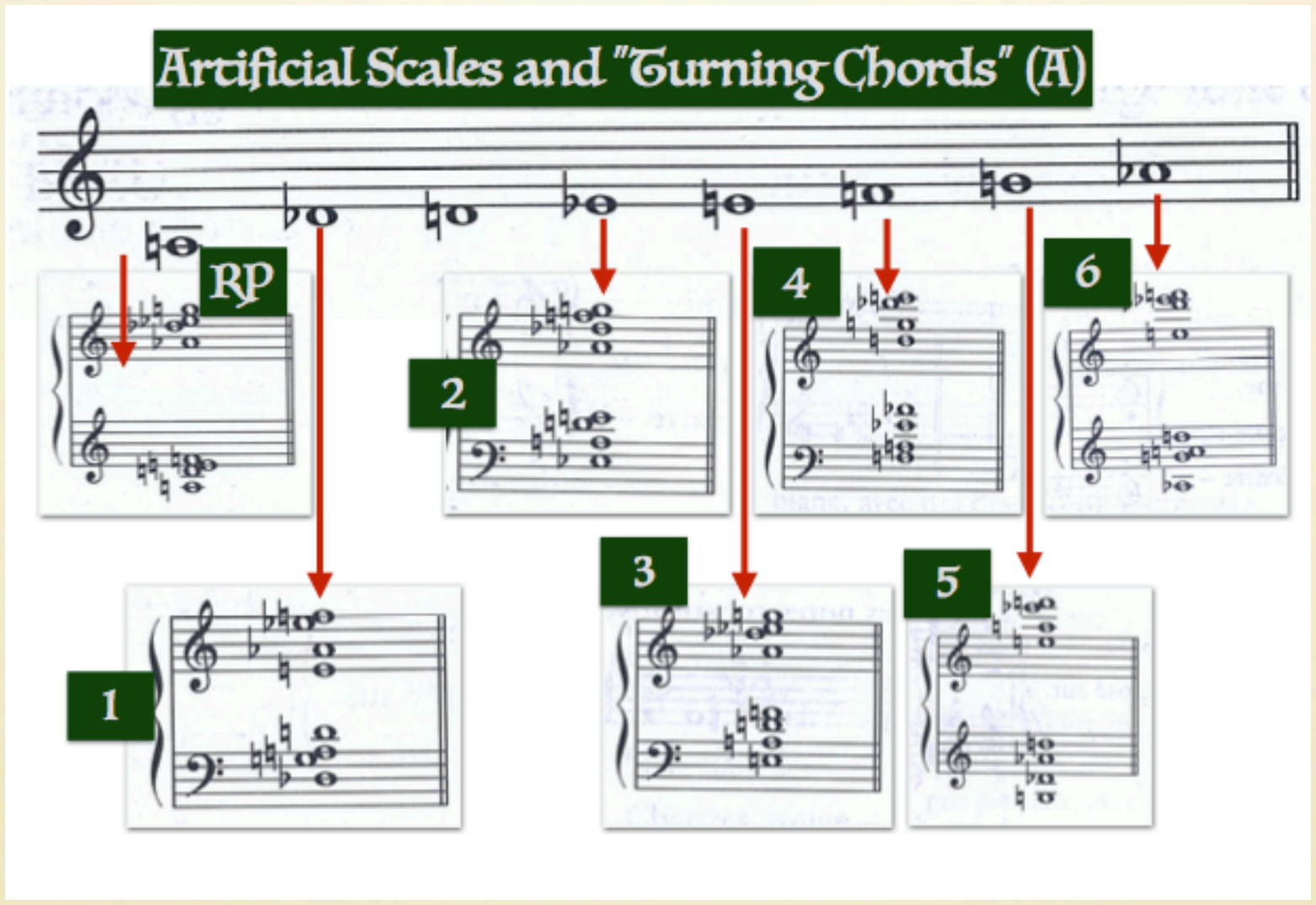


5 Related Sounds over the same bass note

Explain what to do with this, and stress that certain of Messiaen's pieces feature these chords in succession. They create their own sound world really.

Share same function, multiple choices per chord.

Turning Chords

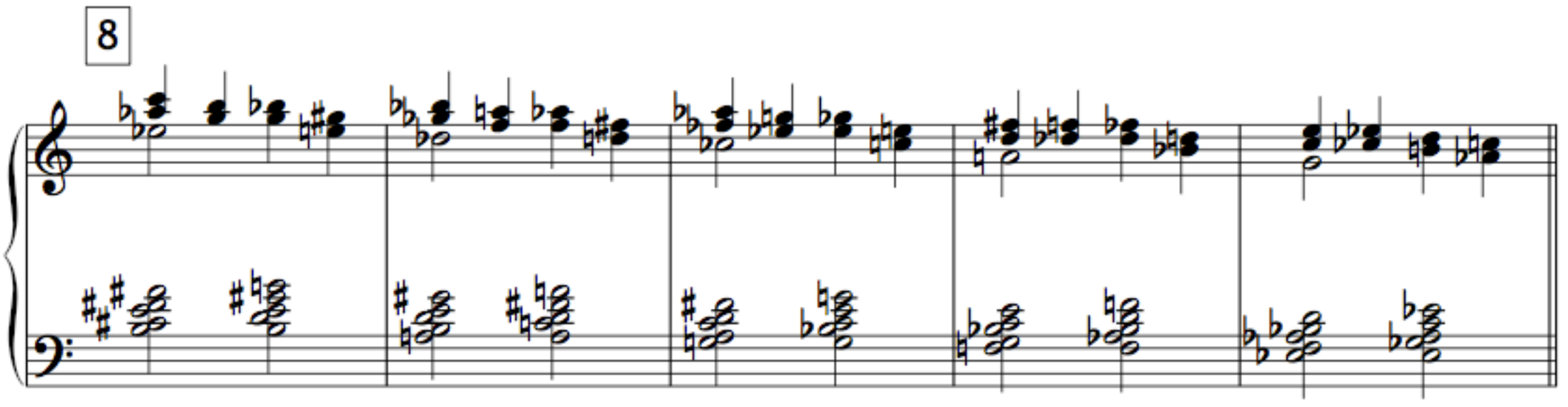


"Turning Chords" typically feature a fourth in the bass
Now the chord generates the scale...

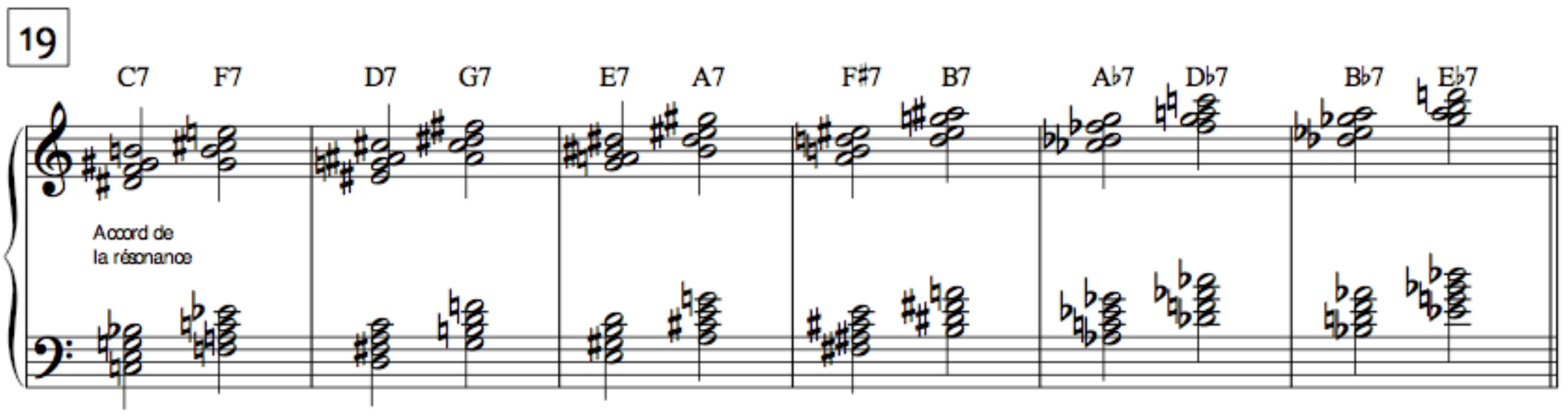
Artificial rule of the octave-same as technique of my musical language. But these chords came first.

Inverted chords in a different sense

“Appogiatura” chords



Chord of Resonance



Explain appogiatura chords-chords of transposed inversion where the upper two voices become accented NCTs.

And the chord of resonance has to do with how the overtone series is built.

How do we analyze complex Chords?

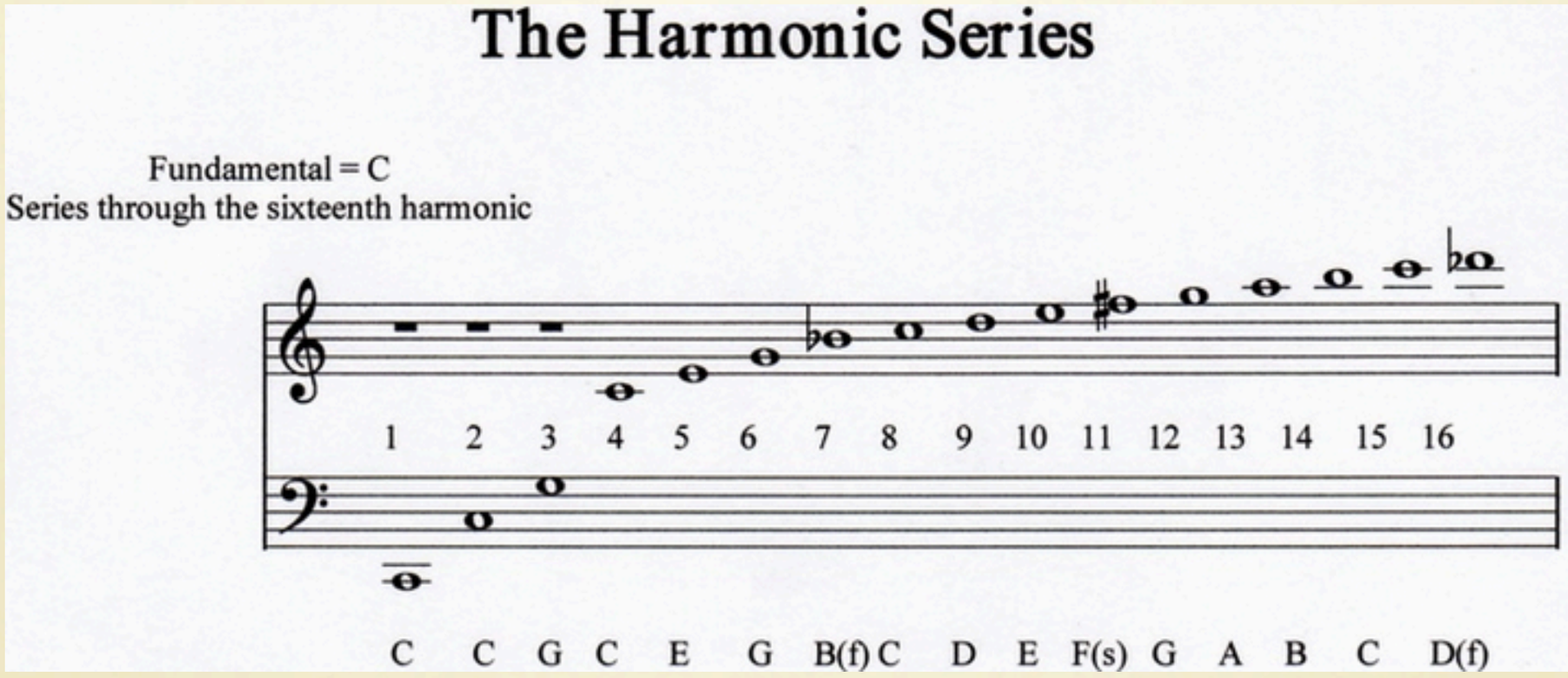
Things to consider:
Where is the root?
How does the chord function?
What is the overall color of the sonority?

Complex chords are like exotic spices in a dish–you need to understand how they work, how strong they are, and how they affect the other ingredients around them.

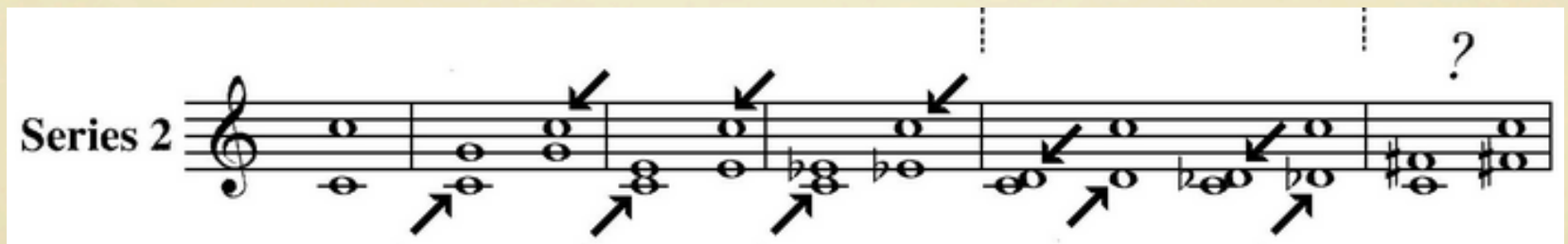
Among the musical questions you may have: where is the root? Is there more than one bass note that would work with these sonorities? How does the chord function? Simply put, is it a tense dominant sound or a relaxed tonic? And what is the overall color or effect?

Messiaen had synesthesia, so he had a leg up on figuring this part out.

Hindemith's "Interval Roots"



The "root" of each interval is the pitch that is (roughly) lower in the overtone series



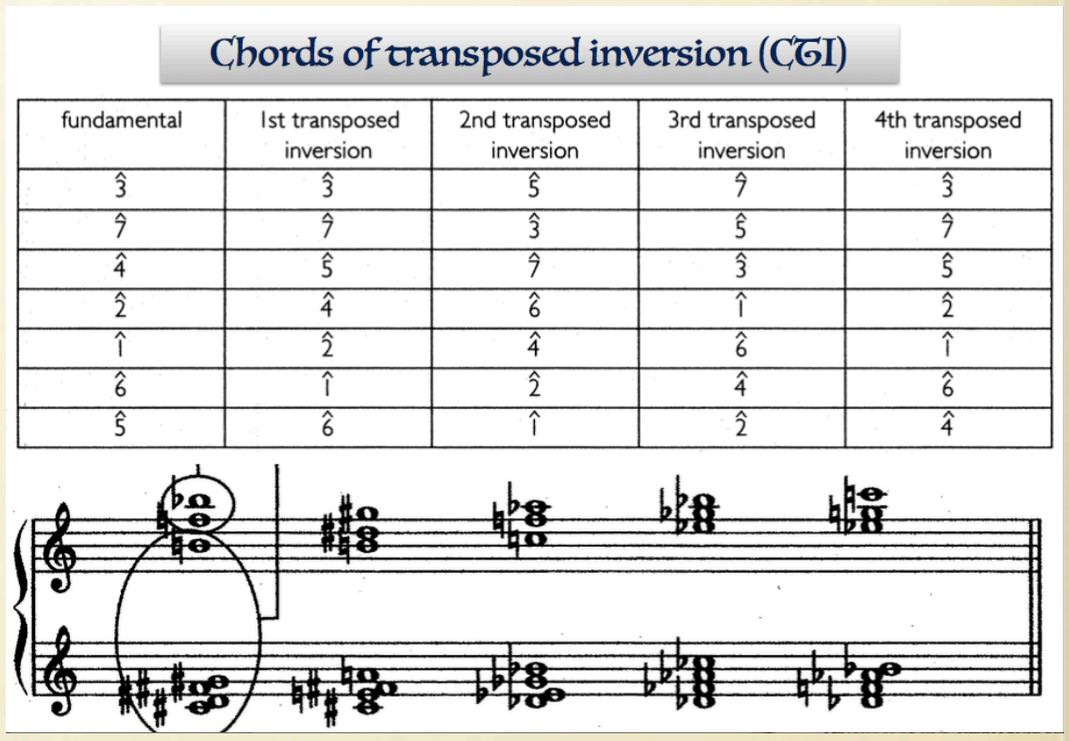
When you're looking at complex polychords like that, sometimes you can't even find the root.

Hindemith didn't believe in inversions, which actually makes a lot of sense. If you invert a major 9th chord, it doesn't really work. And I hate to bash some Jazz theorists like Liebmann, but you can't just invert a chord and turn it into a scale all the time.

What does help is Hindemith's theory of the interval roots.

"Best Intervals"

Let's look at this one again...



fundamental	1st transposed inversion	2nd transposed inversion	3rd transposed inversion	4th transposed inversion
$\hat{3}$	$\hat{3}$	$\hat{5}$	$\hat{7}$	$\hat{3}$
$\hat{7}$	$\hat{7}$	$\hat{3}$	$\hat{5}$	$\hat{7}$
$\hat{4}$	$\hat{5}$	$\hat{7}$	$\hat{3}$	$\hat{5}$
$\hat{2}$	$\hat{4}$	$\hat{6}$	$\hat{1}$	$\hat{2}$
$\hat{1}$	$\hat{2}$	$\hat{4}$	$\hat{6}$	$\hat{1}$
$\hat{6}$	$\hat{1}$	$\hat{2}$	$\hat{4}$	$\hat{6}$
$\hat{5}$	$\hat{6}$	$\hat{1}$	$\hat{2}$	$\hat{4}$

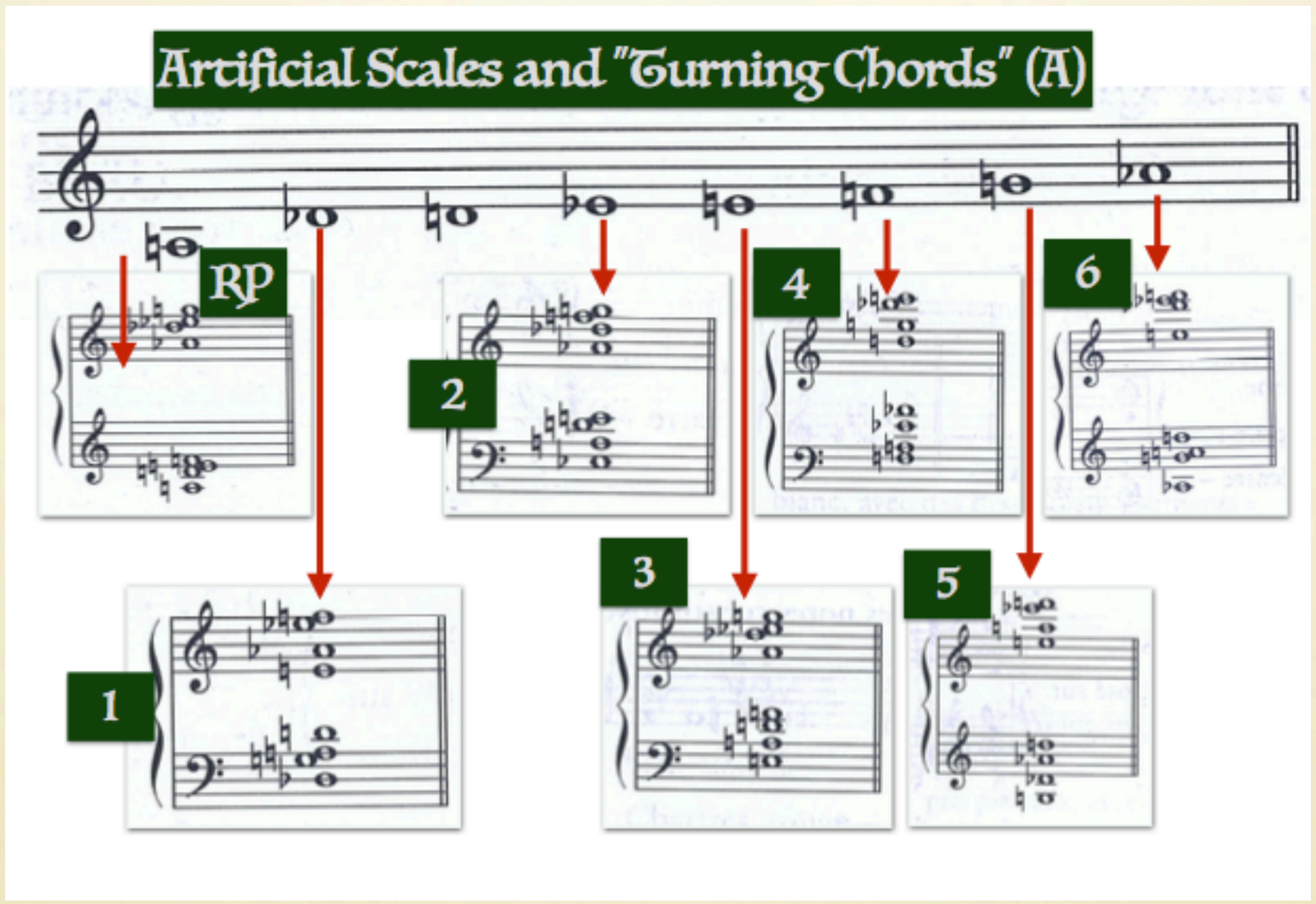
Roots
Inversion 1: C#
Inversion 2: C#
Inversion 3: C#
Inversion 4: C#
Inversion 5: C#

Determine the chord "root" by taking the "best" (most stable) interval

And in analyzing complex chords with many voices, often you just have to figure out what the "best interval" is. He defines "best" as most stable, starting with the octave and then progressing to fifths and thirds.

If you have a fifth or octave in the bass, it's almost like tonality by assertion. It's almost like McCoy's fifths in the bass to establish a root over which he could superimpose his quartal stuff.

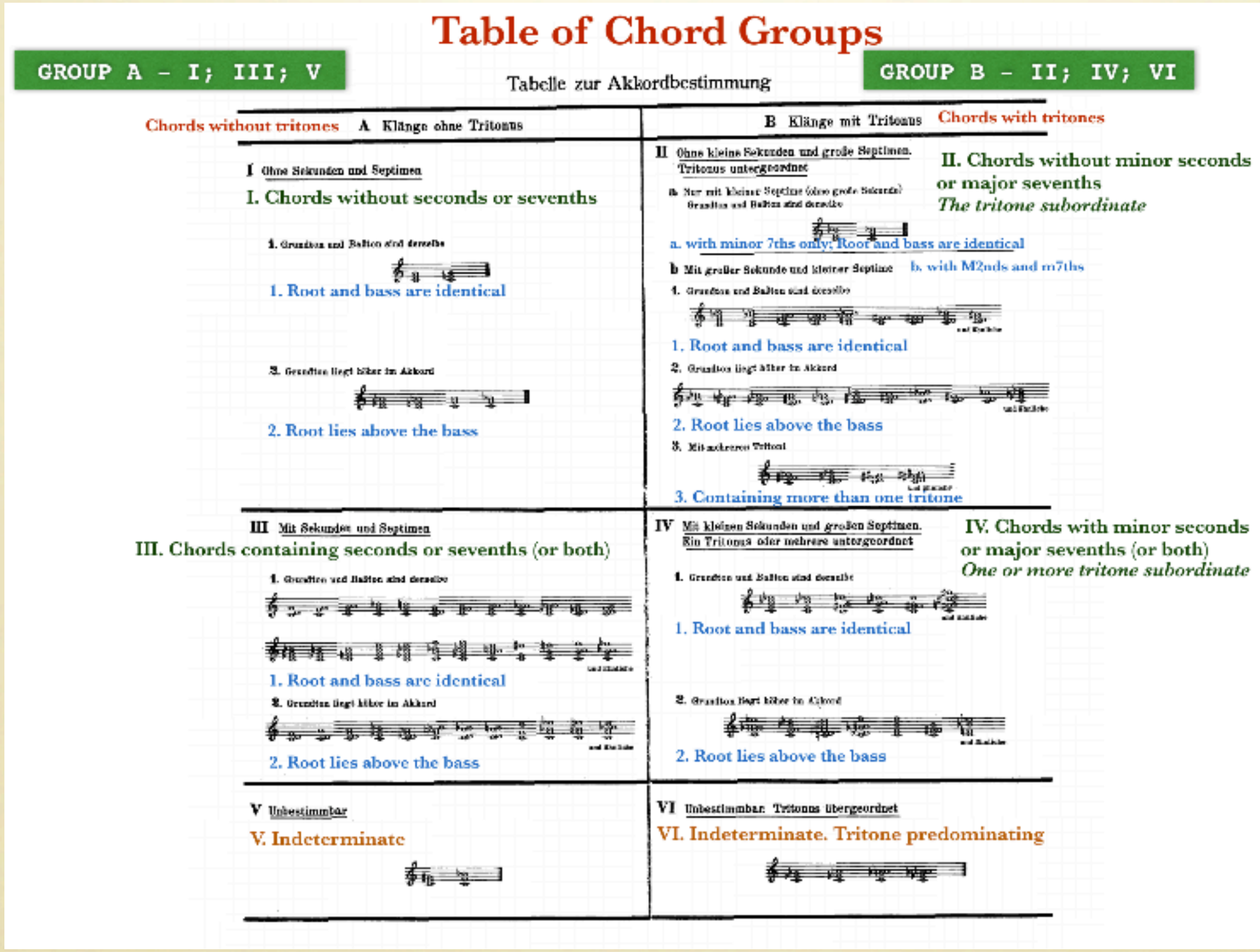
What about these?



These are a little more complicated because you don't have the fifth or the octave in the bass. That's what makes a lot of these left hand voicings so destabilizing, and why they're interesting practice tools for pianists.

The second one is interesting...

Hindemith's Chord Table



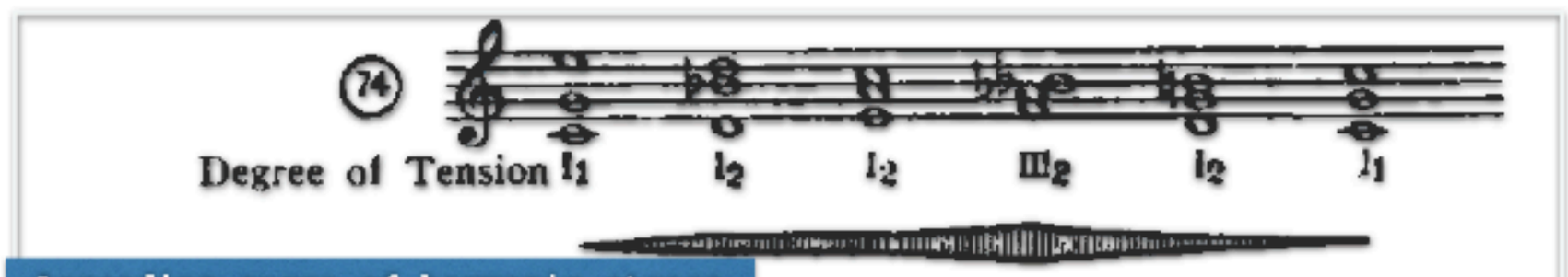
Hindemith also had a way of categorizing dissonance that's useful.

Graphing Fluctuations

Harmonic Fluctuation

Rise and fall of tension in the movement of chord groups.

The shift of harmonic gravity



Ascending curve of harmonic stress

I_1 chords without 2nd/7ths/root in the bass

I_2 chords without 2nd/7ths/root above the bass

III_2 chords with 2nd/7ths/root above the bass

Hindemith's Chord Classifcations

I. no seconds, sevenths, or tritones (major and minor triads only)
   - I.1 root in bass
   - I.2 root above bass

II. at least 1 tritone, m7, and P5 or M3
   - II.a. contains tritone and m7 (only),P5 or M3 (dom7 R357 and R37)
   - II.b.1 contains tritone, P5 or M3, and any M2 or m7, root in bass
   - II.b.2 as above but root is above bass
   - II.b.3 same as II.b.1 or II.b.2, but contains more than 1 tritone

III. no tritones, includes seconds and sevenths
   - III.1 root in bass
   - III.2 root above bass

IV. includes m2 and tritones
   - IV.1 root in bass
   - IV.2 root above bass

V. no tritone, root indeterminate (augmented triad, perfect quartal triad)

VI. contains tritone, root indeterminate (diminished triad, dim 7)

These categories allow you to map the dissonance level of practically any harmonic progression.

The idea of a “tension” graph would be great for writing chord progressions or analyzing transcriptions.

Remember the “context is everything” problem? You could address this by showing a graph that’s very angular, making the point that dissonance needs to be introduced gradually and deliberately. It’s also a way to track the inversions.

You could adapt this concept for Jazz harmony and come up with some good visuals.

Hanson: pmnsdt

P = perfect 5th or 4th
M = major 3rd or minor 6th
N = minor 3rd or major 6th
S = major 2nd or minor 7th
D = minor 2nd or major 7th
T = tritone

Ex. 1: Projection of fifths

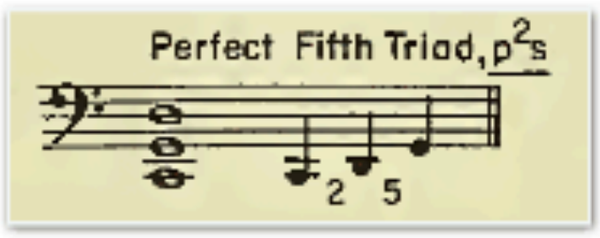
What does this tell us about each sound?

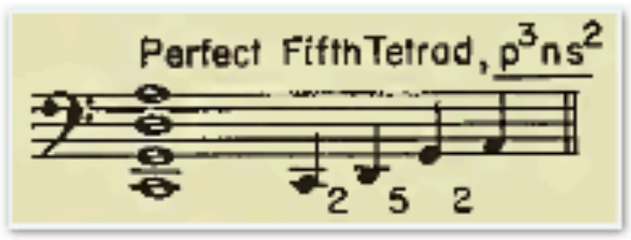
doad:	p
triad:	p^2s
tetrad:	p^3ns^2
pentad:	$p^4mn^2s^3$
hexad:	$p^5m^2n^3s^4d$
heptad:	$p^6m^3n^4s^5d^2t$
octad:	$p^7m^4n^5s^6d^4t^2$
nonad:	$p^8m^6n^6s^7d^6t^3$
decad:	$p^9m^8n^8s^8d^8t^4$
undecad:	$p^{10}m^{10}n^{10}s^{10}d^{10}t^5$
duodecad:	$p^{12}m^{12}n^{12}s^{12}d^{12}t^6$

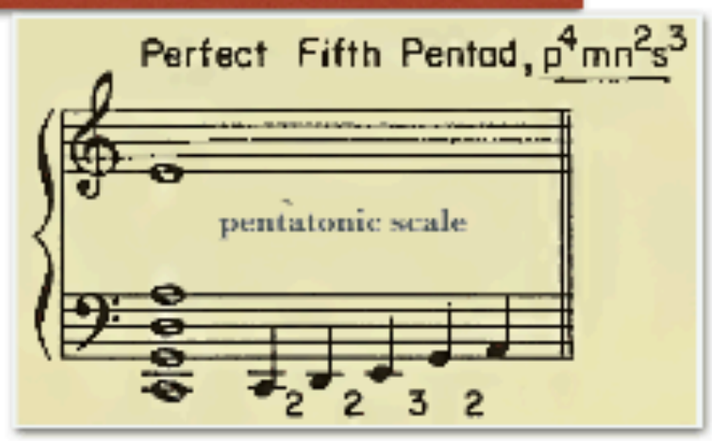
Hanson's way of analyzing intervals comes into play here too. His notation indicates the number of consonant and dissonant intervals using his own nomenclature.

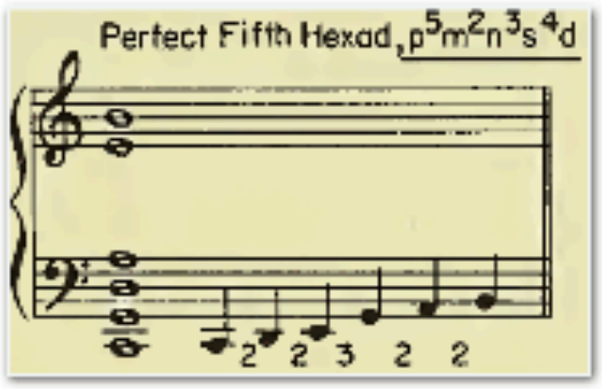
He takes the approach of projecting intervals up and down, keeping track of how many dissonances of each type there are.

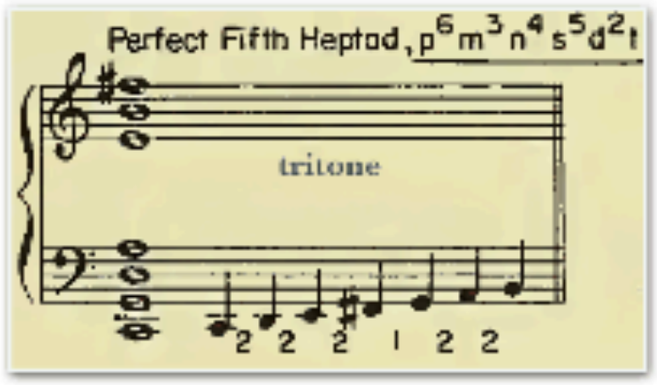
The PROJECTION of the Perfect Fifth

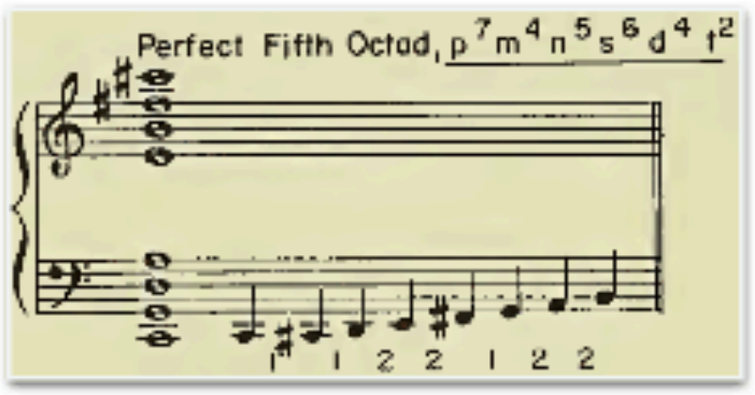


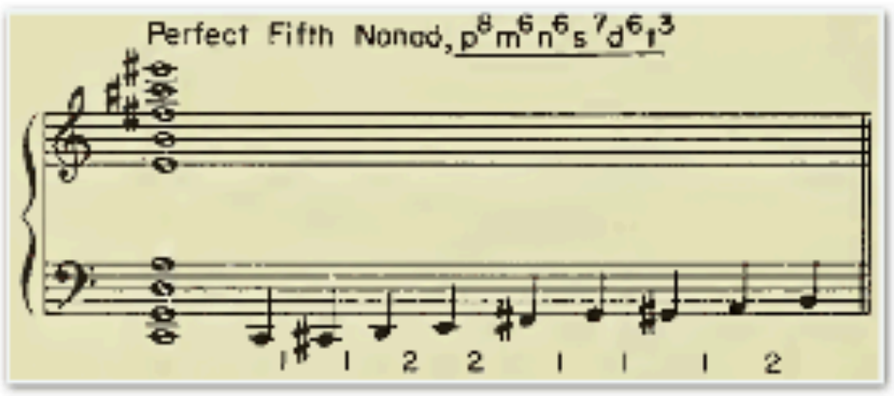


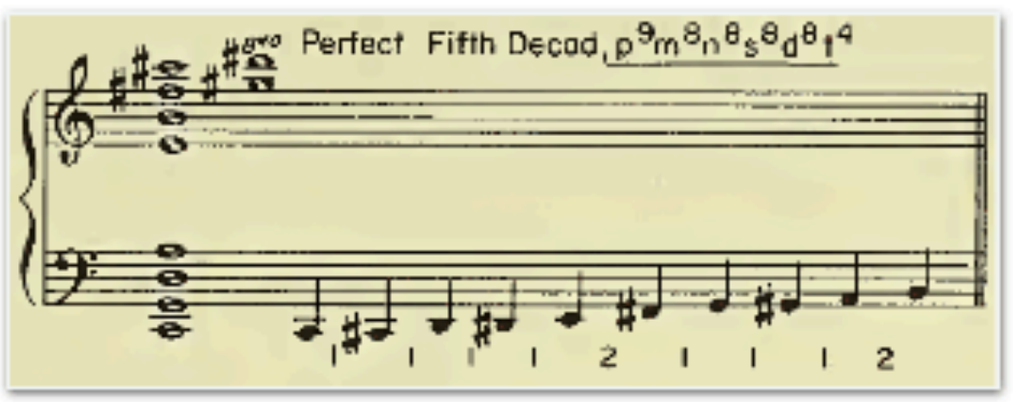


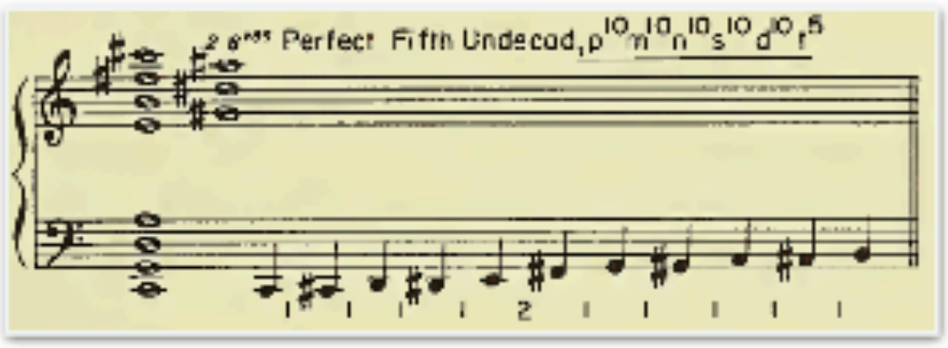


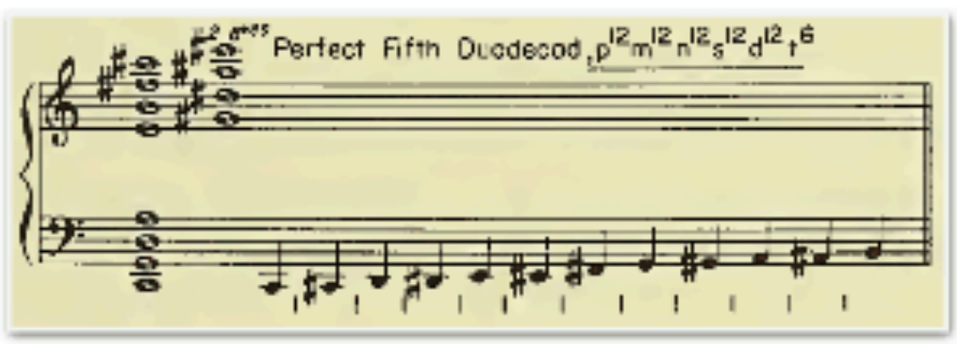






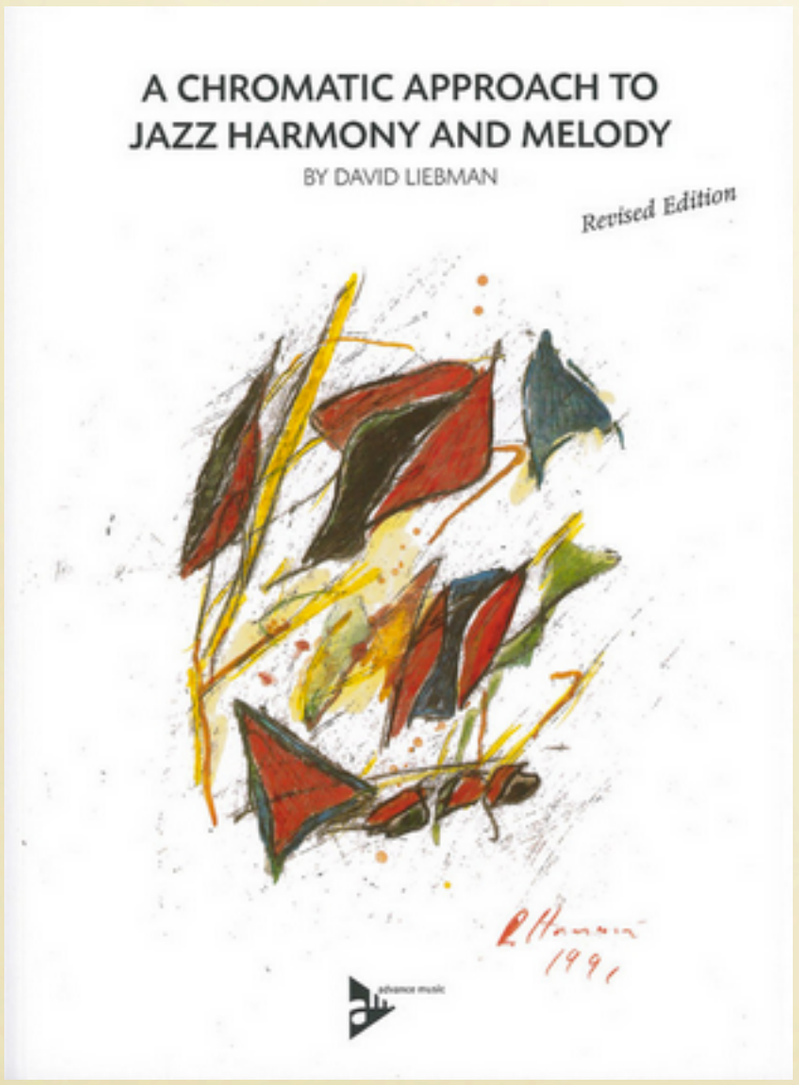






Here's his projection of 5ths, thanks to Dariusz's compiling skills. And I like how he reduces each sound to a scale too.

How do you Improvise on Complex/Chromatic Chords?



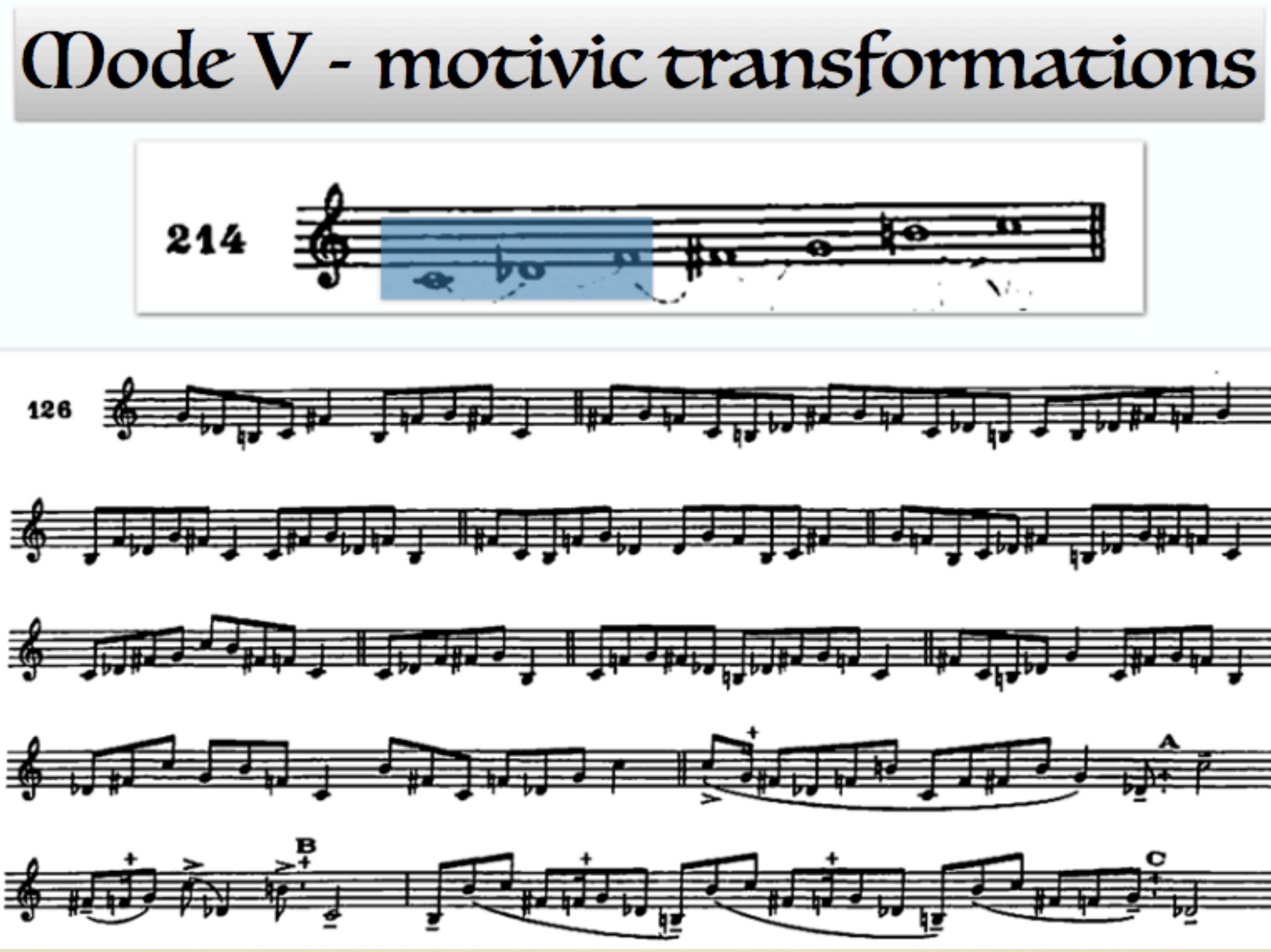
$$\frac{G7^{\#5}}{\frac{FM7^{\#5}}{Bb}}$$

That all leads me to another question–how do you improvise over harmony that's multilayered and non-scalar in nature? I remember transcribing dozens of voicings that I liked from Carrothers and realizing that I didn't have the slightest idea how I would shape a line over them.

Liebmann addresses this in his book, but his nomenclature is definitely complicated and abstract. He gets at basically the same thing as these other players I'll talk about, but a lot of young musicians get turned off by his approach.

Most horn players would say to solo over the top layer, and for the most part it works. But the passing tones in between sometimes need tones from the lower layer, etc.

Permutations of Messiaen's Motives

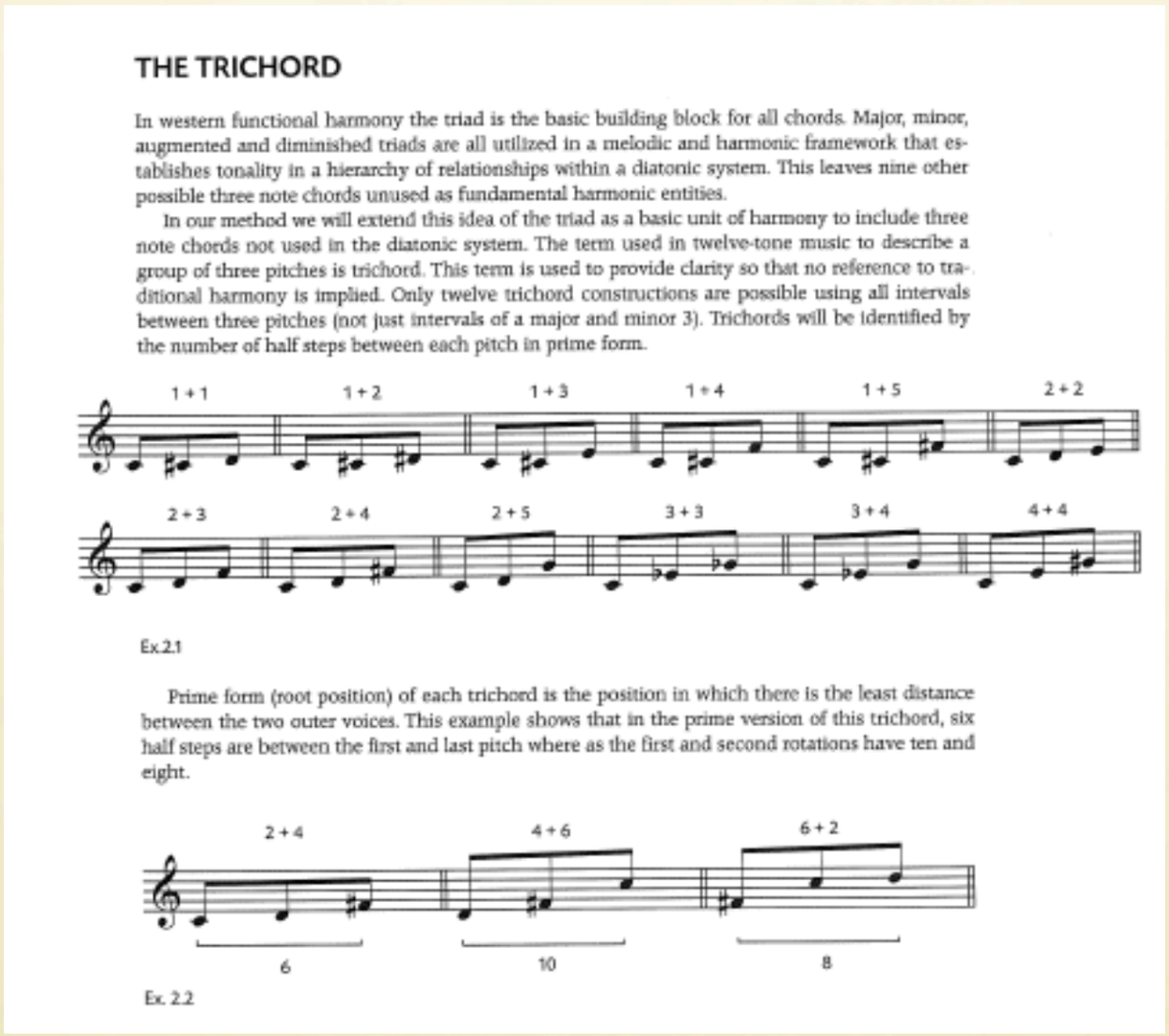


First of all, many of the composers we're talking about wrote lines over their chromatic chords. Look at all the permutations of those first. Messiaen has a great example already.

It highlights just how many compound melodies and contours there are within these sounds when you turn them into lines.

And when you're soloing, you want to be able to take advantage of where you are within the sound to connect that sound to the next one. So you have to be intimately familiar with permutations like this.

Linear applications: John O' Gallagher



THE TRICHORD

In western functional harmony the triad is the basic building block for all chords. Major, minor, augmented and diminished triads are all utilized in a melodic and harmonic framework that establishes tonality in a hierarchy of relationships within a diatonic system. This leaves nine other possible three note chords unused as fundamental harmonic entities.

In our method we will extend this idea of the triad as a basic unit of harmony to include three note chords not used in the diatonic system. The term used in twelve-tone music to describe a group of three pitches is trichord. This term is used to provide clarity so that no reference to traditional harmony is implied. Only twelve trichord constructions are possible using all intervals between three pitches (not just intervals of a major and minor 3). Trichords will be identified by the number of half steps between each pitch in prime form.

1+1 1+2 1+3 1+4 1+5 2+2

2+3 2+4 2+5 3+3 3+4 4+4

Ex 2.1

Prime form (root position) of each trichord is the position in which there is the least distance between the two outer voices. This example shows that in the prime version of this trichord, six half steps are between the first and last pitch where as the first and second rotations have ten and eight.

2+4 4+6 6+2

6 10 8

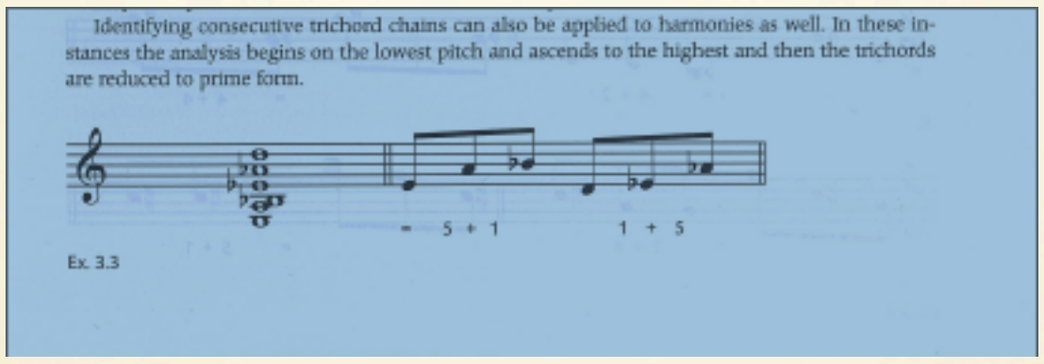
Ex. 2.2

Types of trichord broken down

O'Gallagher's work gives us some insight on how horn players approach playing over dense harmony.

Basically, you reduce the chord into separate layers and segment the sound into trichords or tetrachords that best describe the sound. Then you play over those just like you would play over an arpeggio.

Applying trichord improvisation to each "layer" of a complex sound

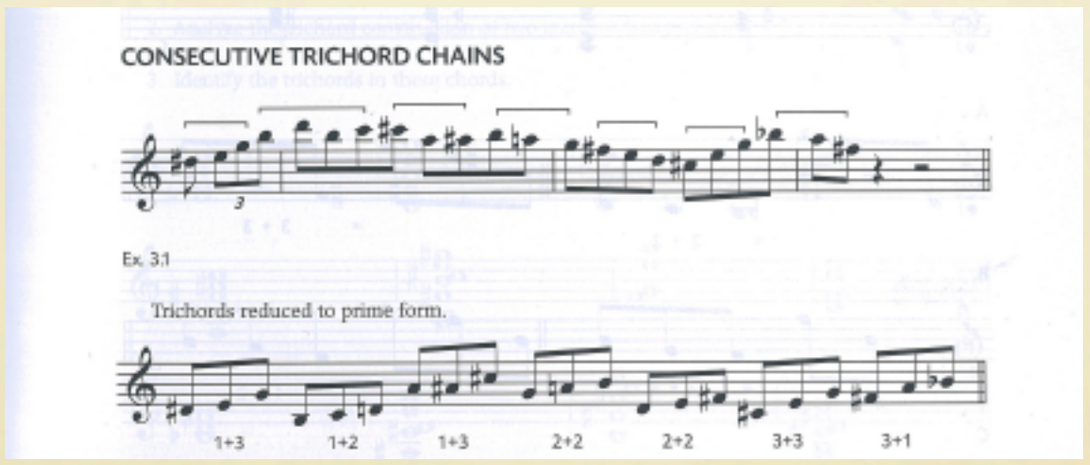


Identifying consecutive trichord chains can also be applied to harmonies as well. In these instances the analysis begins on the lowest pitch and ascends to the highest and then the trichords are reduced to prime form.

= 5 + 1 1 + 5

Ex. 3.3

Charlie Parker's famous line as a series of trichords



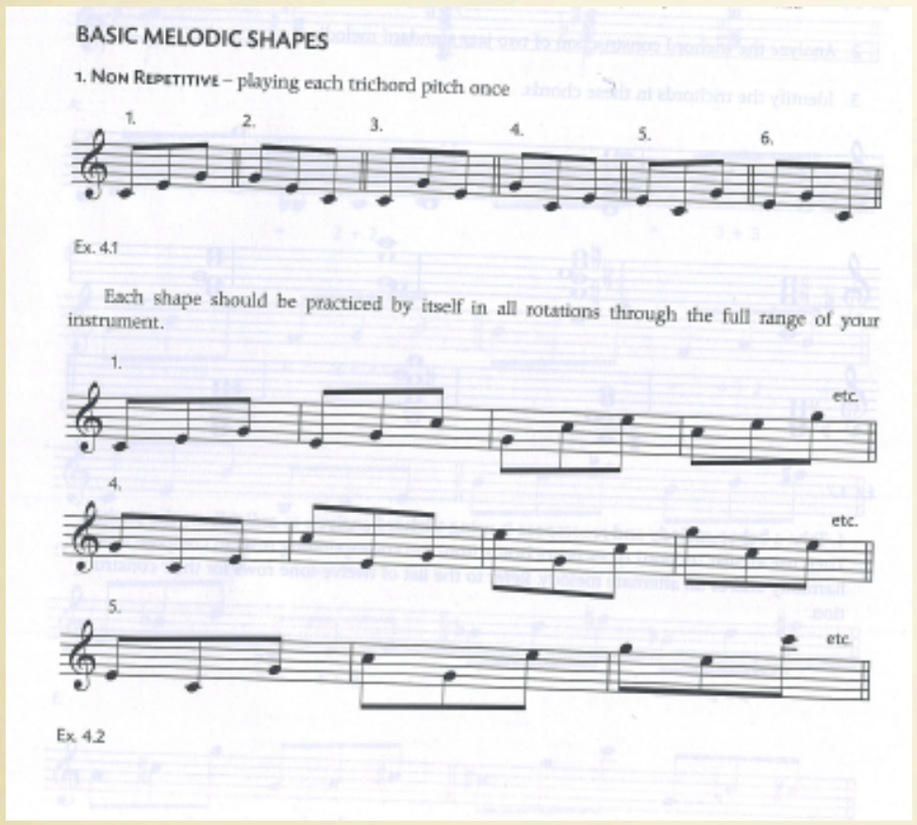
CONSECUTIVE TRICHORD CHAINS

Ex. 3.1

Trichords reduced to prime form.

1+3 1+2 1+3 2+2 2+2 3+3 3+1

Melodic Use of Trichords


BASIC MELODIC SHAPES

1. NON REPETITIVE – playing each trichord pitch once

1. 2. 3. 4. 5. 6.

Ex. 4.1

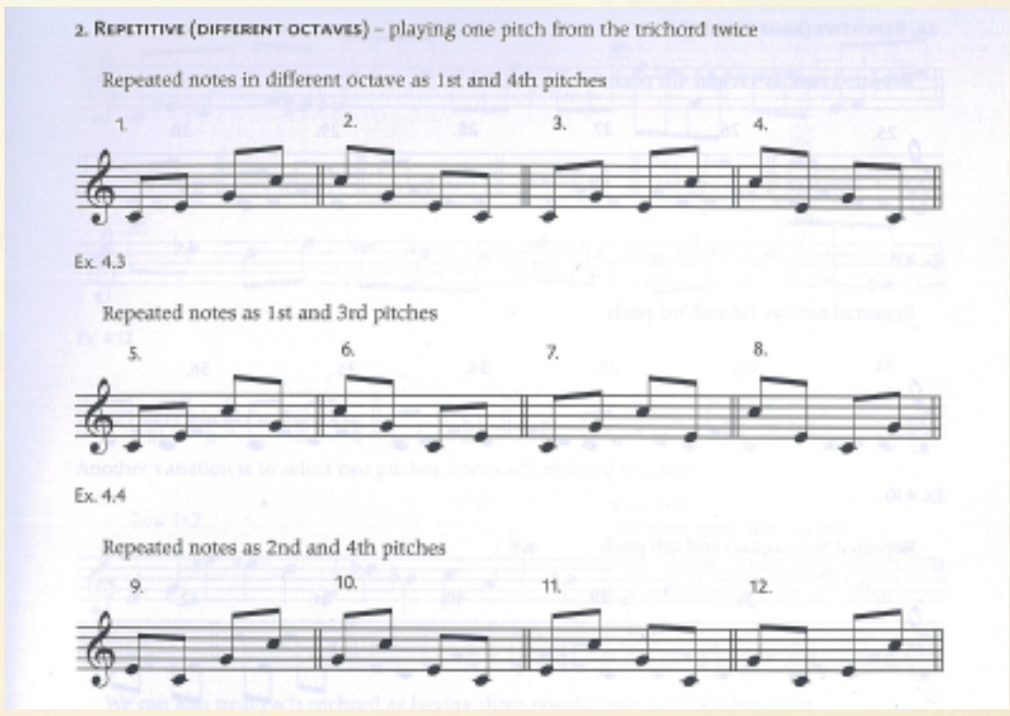
Each shape should be practiced by itself in all rotations through the full range of your instrument.

1. etc.

4. etc.

5. etc.

Ex. 4.2


2. REPETITIVE (DIFFERENT OCTAVES) – playing one pitch from the trichord twice

Repeated notes in different octave as 1st and 4th pitches

1. 2. 3. 4.

Ex. 4.3

Repeated notes as 1st and 3rd pitches

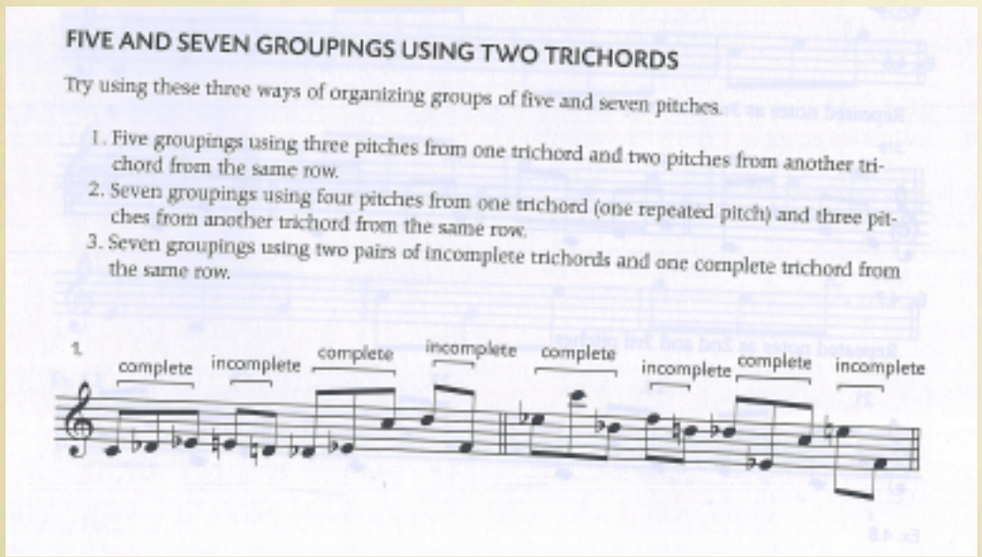
5. 6. 7. 8.

Ex. 4.4

Repeated notes as 2nd and 4th pitches

9. 10. 11. 12.

Partial trichords

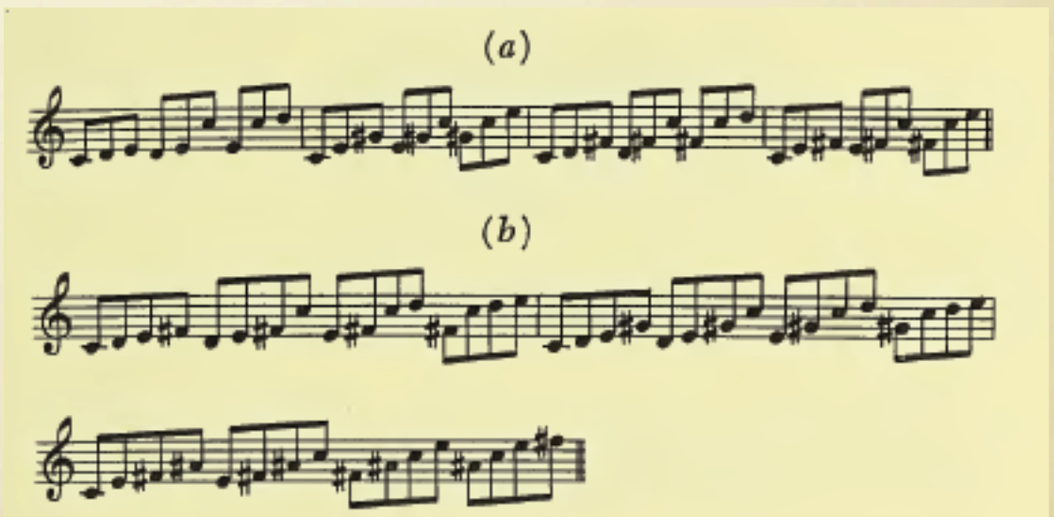

FIVE AND SEVEN GROUPINGS USING TWO TRICHORDS

Try using these three ways of organizing groups of five and seven pitches.

1. Five groupings using three pitches from one trichord and two pitches from another trichord from the same row.
2. Seven groupings using four pitches from one trichord (one repeated pitch) and three pitches from another trichord from the same row.
3. Seven groupings using two pairs of incomplete trichords and one complete trichord from the same row.

1. complete incomplete complete incomplete complete incomplete complete incomplete

Hanson: Trichord rotations as melodic material

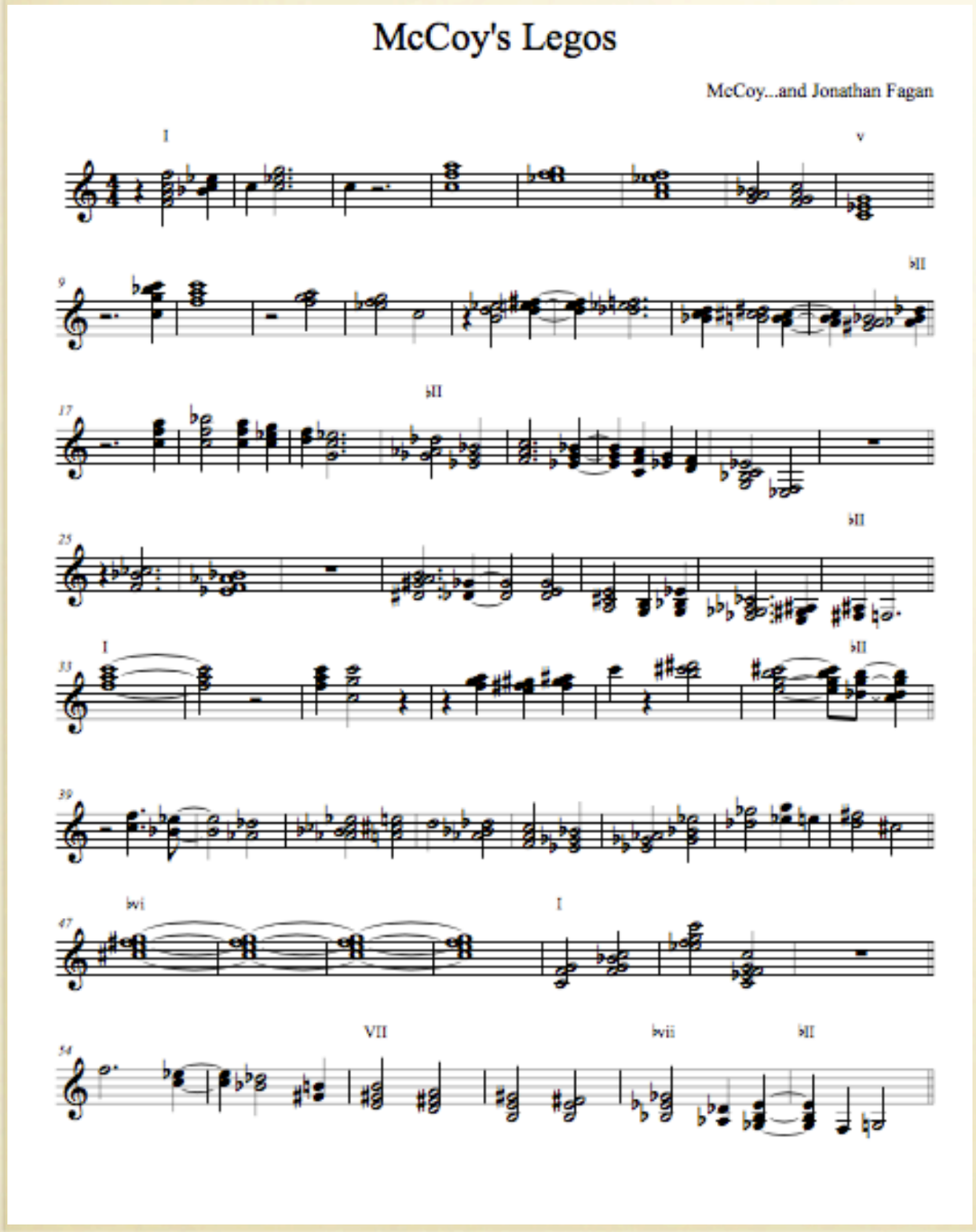

(a)

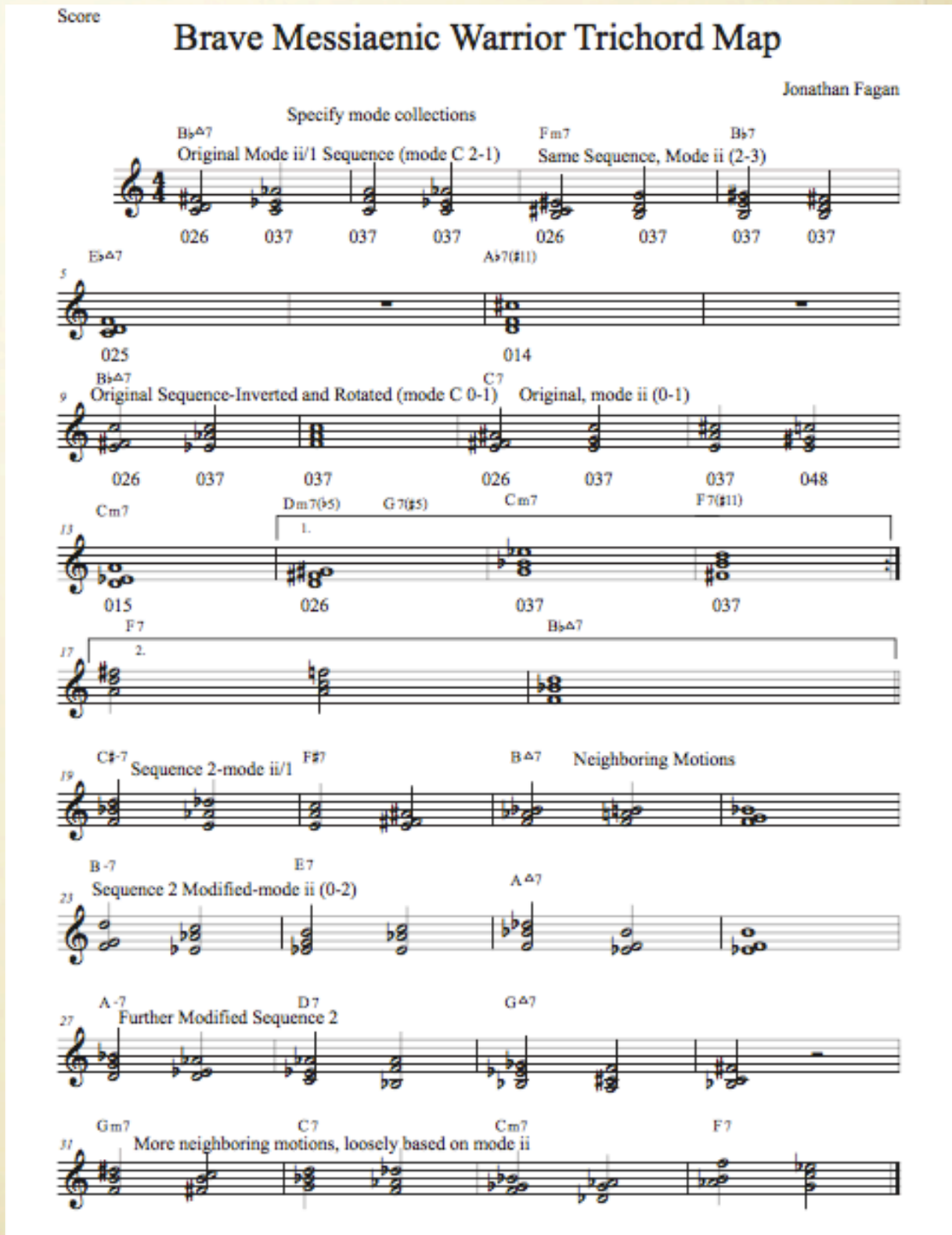
(b)

Coltrane talks about this too...a very valuable way of looking at small cell development. It's endless.

And also Slominsky talks about how you can "interpolate" and "exterpolate" different notes to these simple shapes, generating synthetic sounds. Coltrane practiced out of that book for two years, and I think it kind of integrates these kinds of wedge-like progressions with bebop.

Trichord Maps

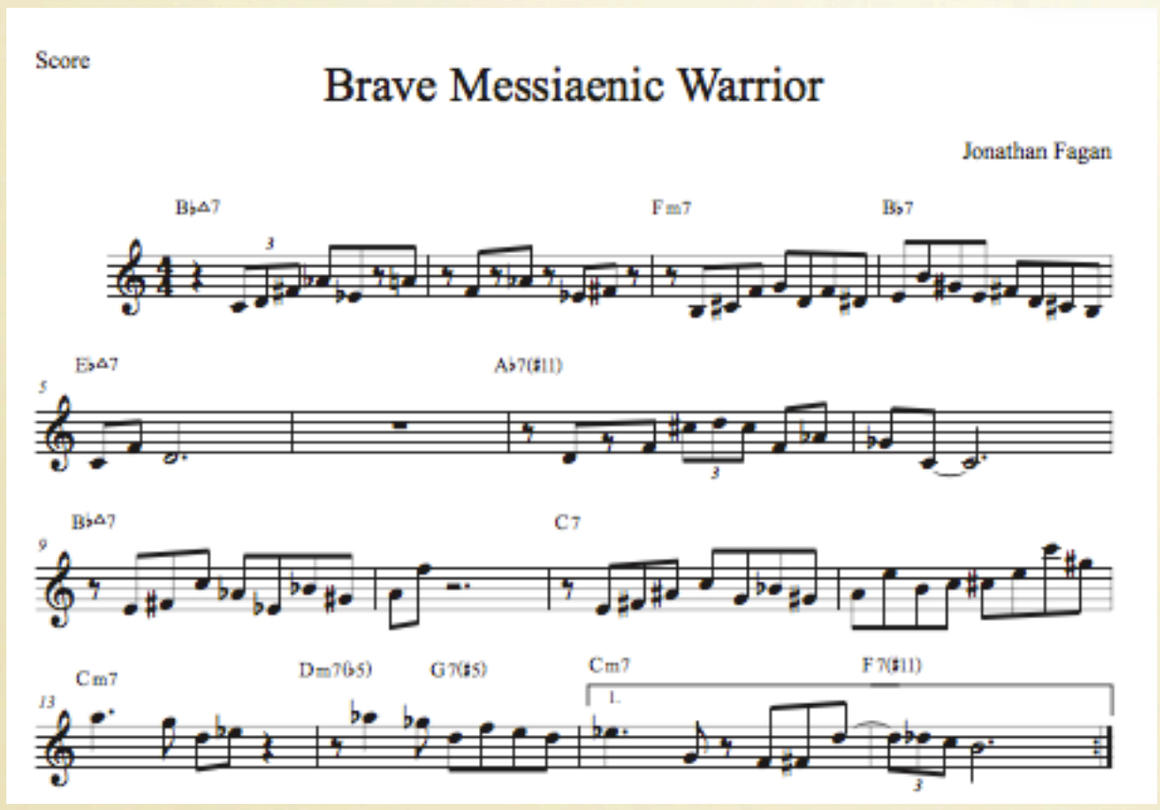


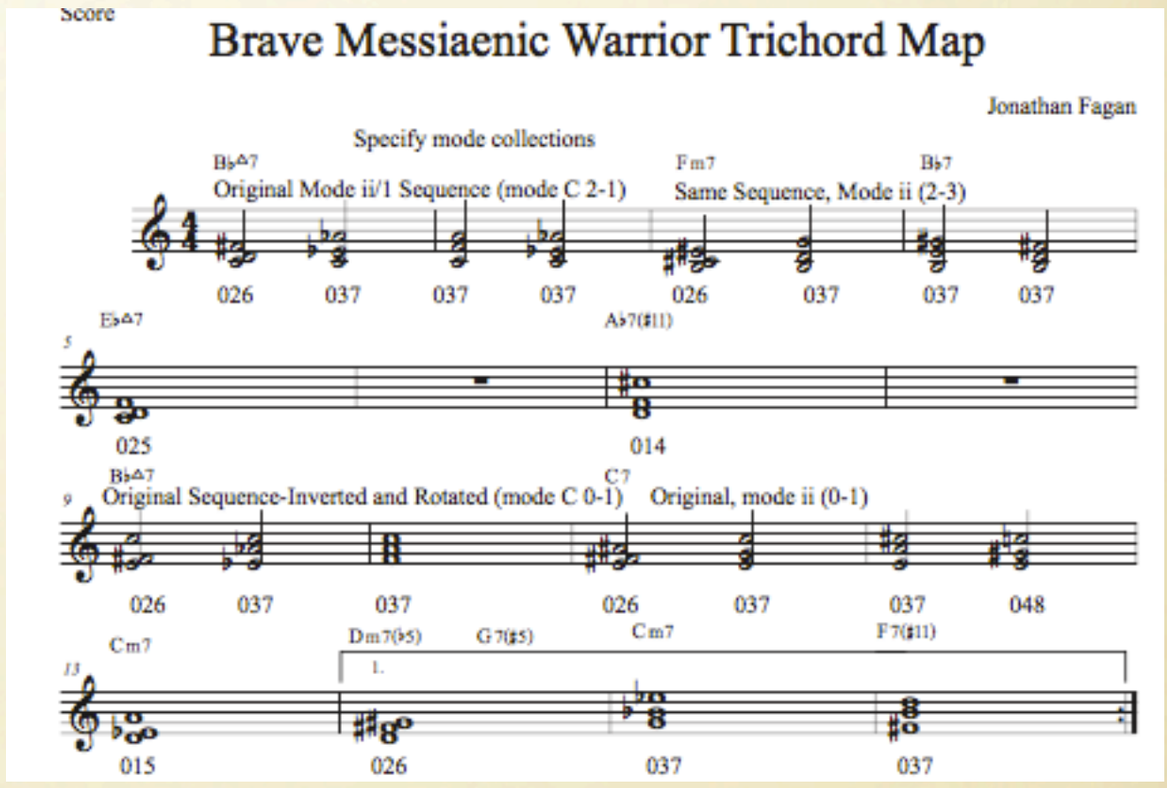


Trichord maps have become a great improvisation tool for me, and they come also from a Brookmeyer exercise. The root of that exercise is having a certain trichord that serves as your “target” and forming others around it.

In the second measure of my trichord map, I was thinking of F major as a target. The other sounds voice-lead up to it. It’s exactly what Dariusz does with the keyboard exercises. But now the challenge is to put that in linear form.

Brave Messiaenic Warrior





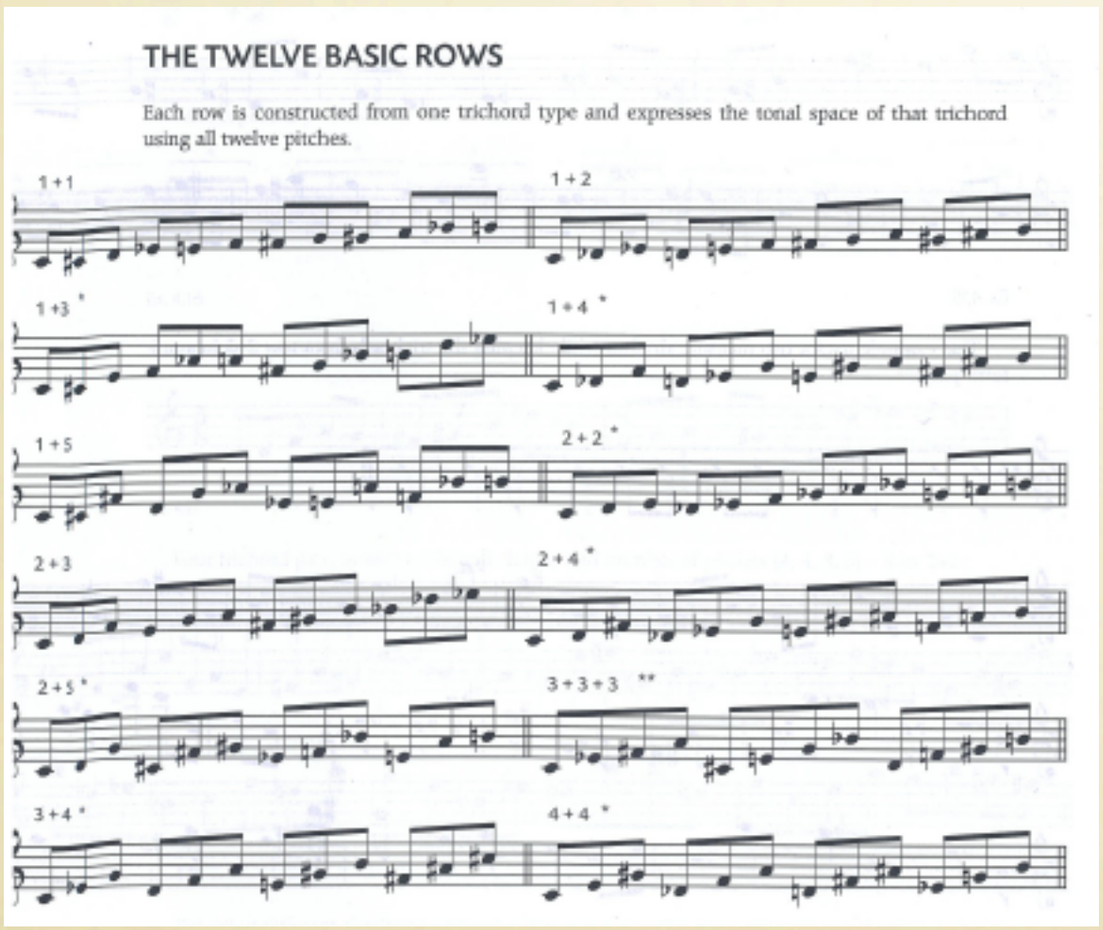
Compound melodies start to surface with lines based on a trichord map

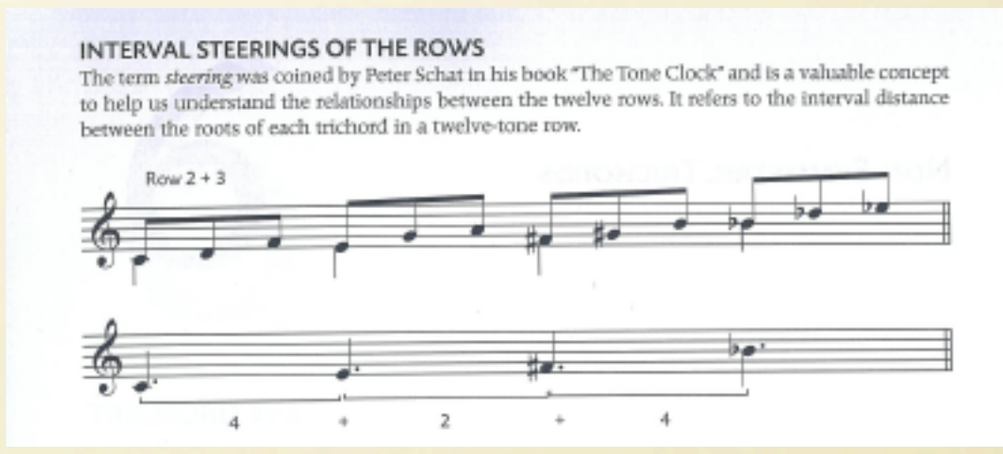
So in composing this contrafact I noticed several interesting things. First, now you're dealing with rhythmic elements too, which are perhaps the most important things. Also, you end up with interesting compound melodies and you have to be really conscious of how the voices move within.

Practicing your bebop is going to really help with these kinds of instincts too. That's why it's such an important foundation before you get to any of this stuff. It's about being harmonically clear in the same way.

Trichord "Steering"

Ways to transpose/invert the same trichord to create a 12 tone row



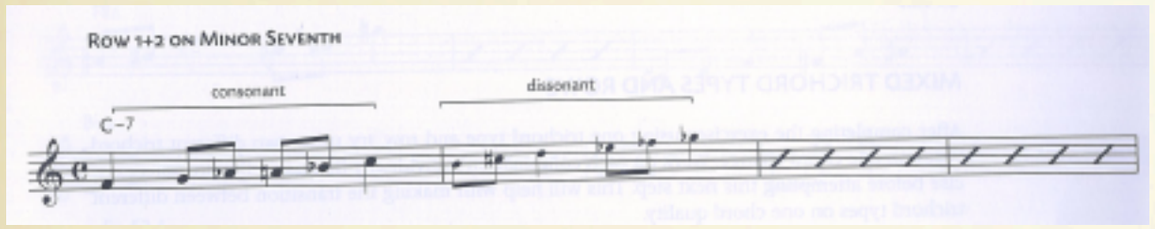


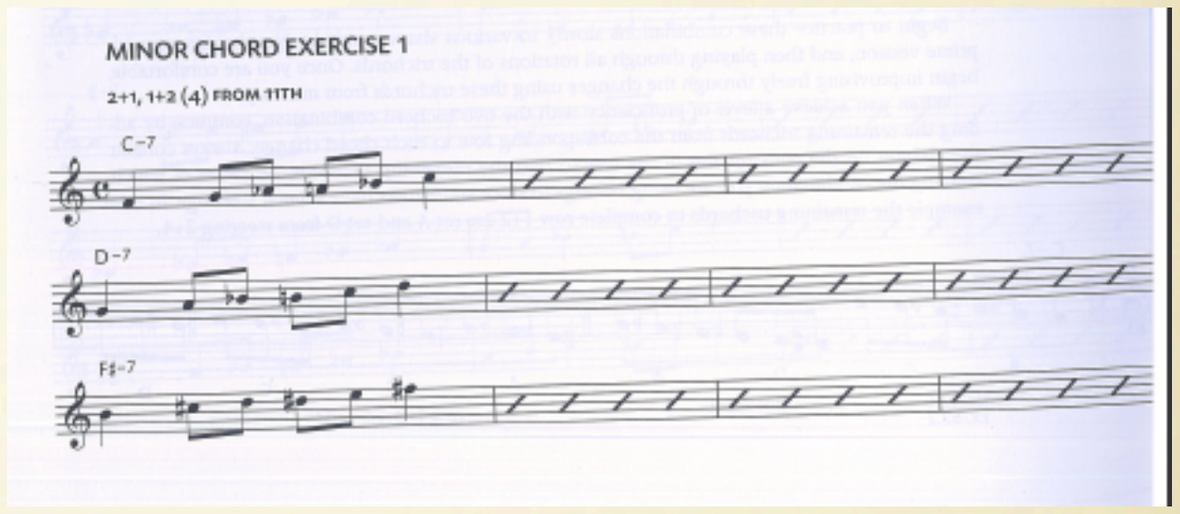
No reason this has to just be 12 tone...

The concept of trichord improvisation extends to improvising twelve-tone rows too, and Gallagher introduces the idea of "steering."

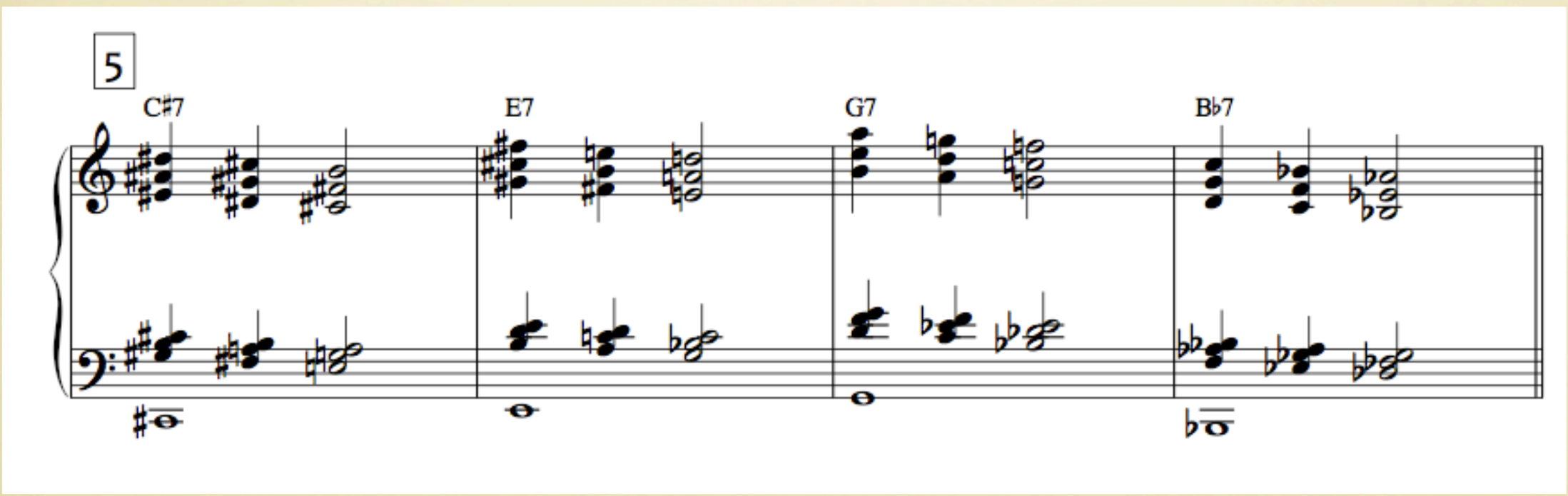
Steering refers to transposing the same cell or its inversion to form the aggregate-all 12 tones. There's no reason you couldn't use the same process to form a 6-tone row, etc. too just how Stravinsky did when he was experimenting with serialism.

Improvisational Exercises





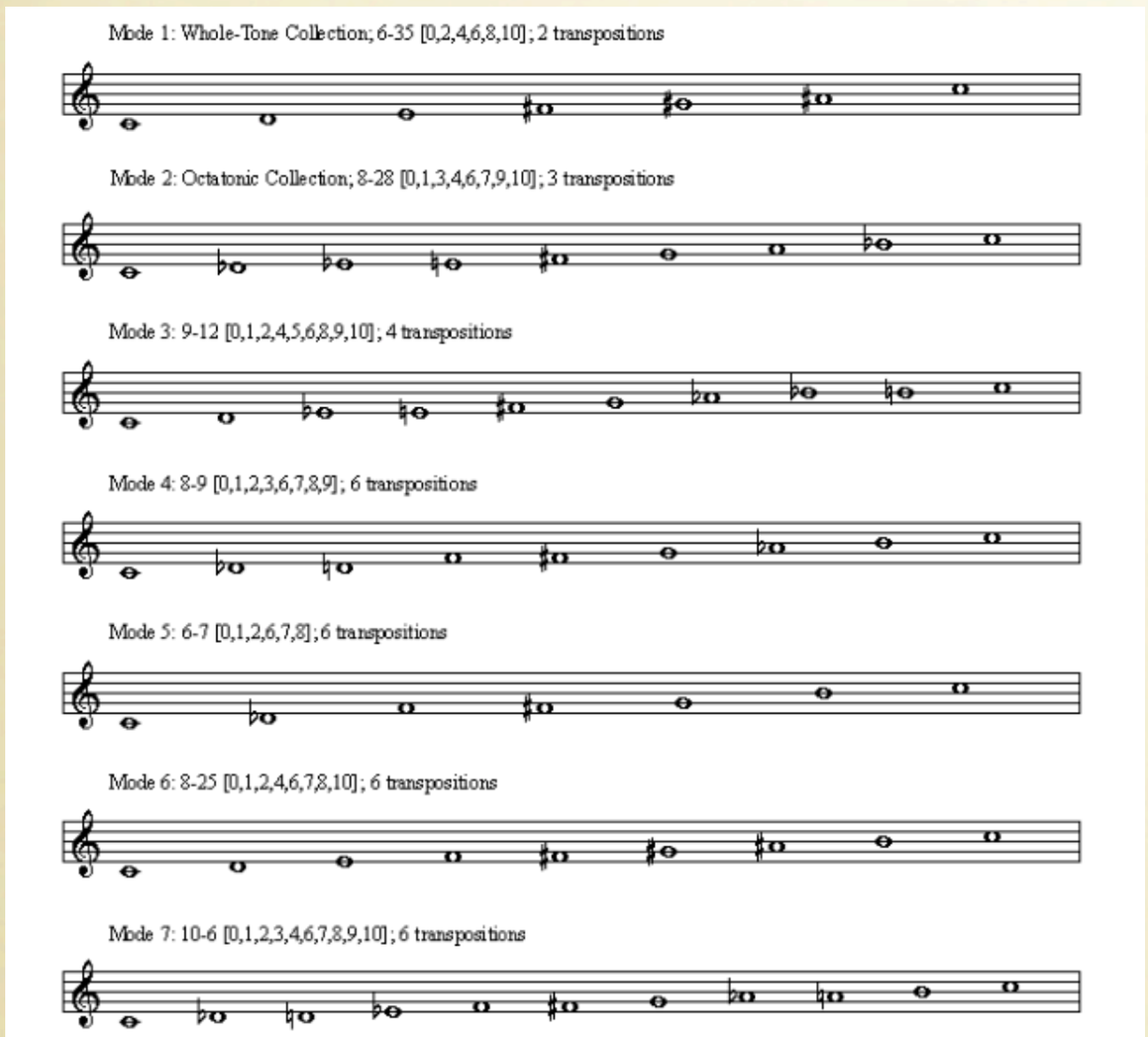
What is the "steering" for the top staff?



What I like is how he derives exercises from certain trichords and their steering. You could apply these same types of exercises to the types of progressions Messiaen uses.

Horn players could think about this bottom example as 027 with a steering of 2. Useful teaching tool for sure.

"Steering" Applied to Messiaen's Modes

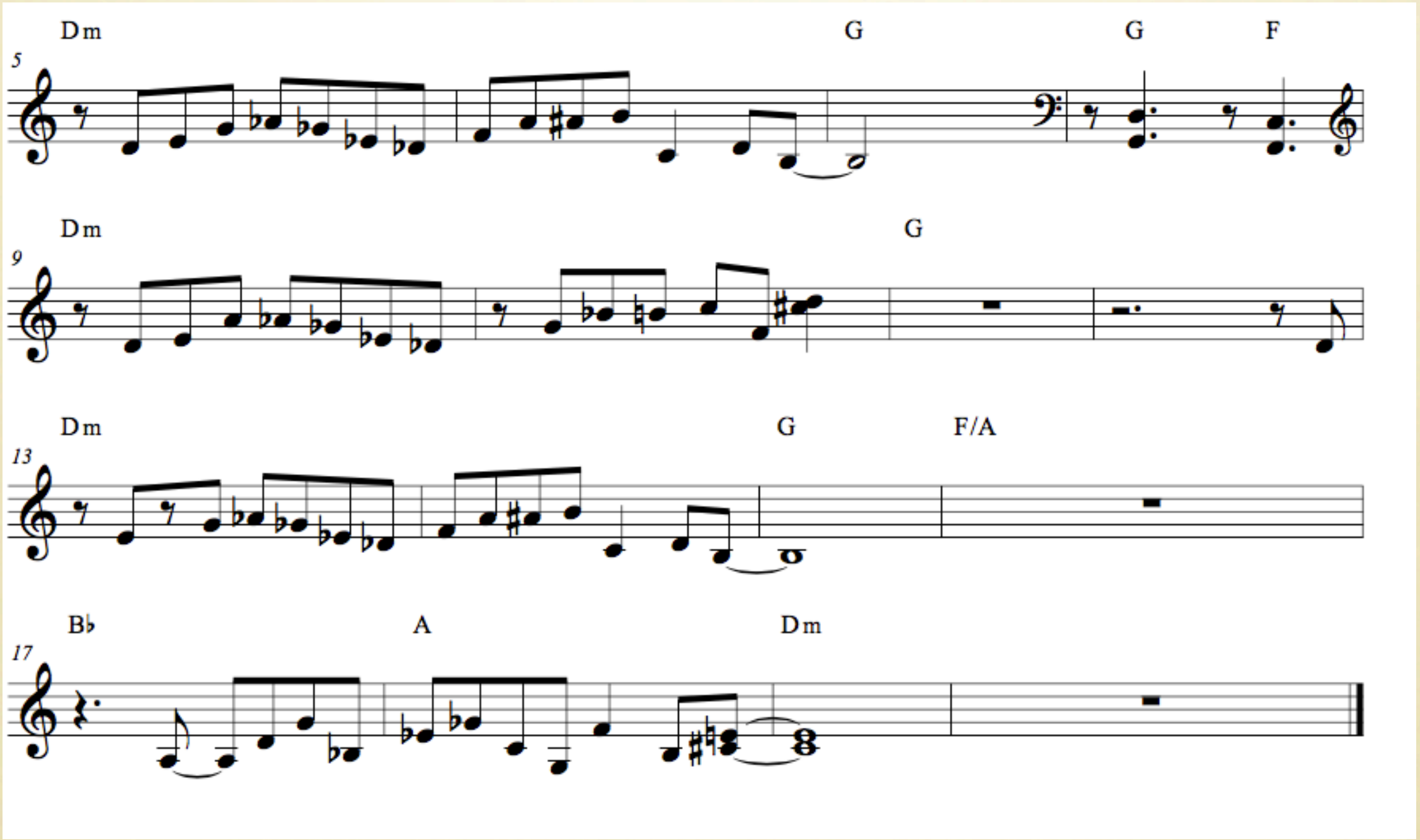


Mode 1:[024] with steering 2
Mode 3:[013] with steering 4
etc.

What else can you think of with a distinct "steering"?

And actually if we think about it, synthetic scales often rely on steering to begin with. Mode 3 is 013 with a steering of 4...

My experiment: Kennying Around



I tried my hand at this, composing a 12-tone tune featuring one specific pentatonic-sounding trichord.

The last line is basically a collapsing wedge featuring some of the voice-leading I've gotten from people like Kenny Garrett, Brookmeyer, Dave.

In soloing over it, my idea would be to keep with the trichord and try using different rotations and steerings to add color. The harmonic framework is open enough that pretty much everything works as long as you keep your resolutions clear.

Practicing these types of things over blues or stable vamps really helps-there's a reason why Joe Lovano, Bill Stuart, Ben Street, Abercrombie opened their set by blowing on one chord for 10 minutes. The possibilities are endless.

Summary

Persichetti: Use what the scale gives you

Messiaen: Derive your own harmonic language from plaining through different scales

Hindemith: Analyze complex chords by taking the "best" (most stable) interval and graph the dissonance level. Hanson gives us more tools to classify interval content and develop mirror harmony.

O'Gallagher: Improvise over complex harmony by using trichords and "steerings" that best fit the context

They all obtain pretty similar results, it's all basically sound exploration.
O Gallagher deals with different issues, but you arrive at a very similar place.

It's all about transforming shapes anyways...but these are some of the best people to look at in my opinion. They're very practical and simple about it all in a way.

And to quote Einstein, the hardest thing is to make things simpler, not more complicated. It's about working with this stuff until it becomes intuitive on a certain level.

And again I would suggest writing tunes based on all these concepts, improvising over vamps, then applying those progressions to standards. And if a student is struggling to make the connection, tell them to write it out first. I used to think that there was some kind of shame in that, but it's part of the process.

Plus you might end up with some tunes that work pretty well...I can think of several tunes that became major parts of the performer's repertoire but started as exercises for a teacher in school. Dariusz's class is no exception

Now the beauty of it is that we can all be our own teachers over the summer and beyond and generate some interesting stuff.

This all culminates in having a specific "voice," just like all these great composers.

Questions?

If I can't answer them, Dariusz probably can...

That was a lot of information...questions or comments?

I have a recording of this-message me if you want me to send it to you along with the powerpoint. And I have a lot more stuff too, such as the complete document of keyboard exercises, scores, etc.

I look at it as we're all in this creative process together, we might as well share resources.