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Basic Course

Intervals

Intervals

(vertically)

In Music Interval Theory, we count the distance in chromatic steps between two notes to determine the interval. For reference, we've included the Diatonic names above all intervals in blue. The green numbers show the distance in semi-tones between the notes.

Ex. 1a: Intervals inside the octave

Musical notation showing intervals inside the octave, numbered 1 to 12. The intervals are: 1 (minor second), 2 (major second), 3 (minor third), 4 (major third), 5 (perfect fourth), 6 (tritone), 7 (perfect fifth), 8 (minor sixth), 9 (major sixth), 10 (minor seventh), 11 (major seventh), and 12 (octave). The notation is in 4/4 time, with the treble clef and a key signature of one flat (Bb). The intervals are shown as pairs of notes on a single staff, with the lower note on a lower line and the higher note on a higher line. The notes are: 1 (Bb, C), 2 (C, D), 3 (Bb, D), 4 (C, E), 5 (F, C), 6 (F, Bb), 7 (C, G), 8 (F, D), 9 (F, A), 10 (F, Eb), 11 (F, E), and 12 (C, C).

Ex. 1b: Intervals outside the octave

Musical notation showing intervals outside the octave, numbered 13 to 16. The intervals are: 13 (minor ninth), 14 (major ninth), 15 (minor tenth), and 16 (major tenth). The notation is in 4/4 time, with the treble clef and a key signature of one flat (Bb). The intervals are shown as pairs of notes on a single staff, with the lower note on a lower line and the higher note on a higher line. The notes are: 13 (Bb, C), 14 (C, D), 15 (Bb, D), and 16 (C, E). The fifth measure is empty and labeled "and so on ...".

Please note that a 13-interval is special. This interval does not appear in the Overtone Series which is a natural physical phenomenon (Please refer to our ebook "The Overtone Series" for more information about that).

Let's have a closer look at the intervals inside the octave. Every interval has its own complementary partner (called complementary interval in the Diatonic System). Usually, you take the lower note and put it an octave up or you take the upper note and put it an octave down. That is how you get to related intervals in general!

In addition to that general guideline, the related intervals when using 2 parts always add up to 12!

Ex. 1c: Relation via Position Change (PC)

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The musical notation for Ex. 1c shows six chords in the treble clef, each with two notes. The intervals between the notes are labeled in green: 1-11, 2-10, 3-9, 4-8, 5-7, and 6-6. The bass clef is empty.

This concept of using intervals that add up to 12 is part of what we call "Position Change" (PC). However, this concept of PC is not limited to 'complementary intervals' as it can also be applied to vertical structures that consist of more than 2 parts like 3p, 4p, or even 5p. In a more general sense, it means: "What is on top?" ...

Ex. 1d: Demonstration of PC with more than 2 parts

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The musical notation for Ex. 1d shows three chords in the treble clef, each with 3, 4, and 5 parts. Red arrows indicate the movement of the top part between chords. The bass clef is empty.

The concept of PC is quite simple but you might wonder why it is important and why you should be able to apply it to your writing. Because ... **it gives you control!**

Below you see examples in which PC comes in very handy to keep up movement, but also clarity and transparency. Remember that PC can also be used in conjunction with shifts. This is a very powerful way to break out of a key or tonal center!

"Off to Slumberland" (Developed Sketch)

FRANK HERRLINGER

♩ = 88

27 (cl+celeste) 3 9s ... free line ... (cello+bsn) 1s into note 'C' ... (str.) 3 1s into note 'Eb' but skipping 'E'

Note: You know that 3 goes to 9 and vice versa. But don't forget that you may apply shifts as well!

30 (cl+celeste) 9 9 variation of the free line from above ... (fl+picc) (celeste) 4 (harp) 4 (str. pizz)

The image displays a musical score for the piece "Off to Slumberland" by Frank Herrlinger. It consists of two systems of music. The first system, starting at measure 27, features a piano part in the upper staff and a string part in the lower staff. The piano part includes a triplet of eighth notes marked "(cl+celeste)" and "3", followed by a sequence of notes with a "9s ..." annotation. A "free line ..." is indicated by an orange bracket over a series of notes in the lower staff. A triplet of eighth notes is marked "(str.)" and "3", with a green annotation "1s into note 'C' ..." above it. Another triplet is marked "3" with a red annotation "1s into note 'Eb' but skipping 'E'". The string part is marked "(cello+bsn)". The second system, starting at measure 30, continues the piano part with a triplet of eighth notes marked "(cl+celeste)" and "9". A "variation of the free line from above ..." is shown in red in the upper staff, with a red bracket connecting it to the "free line" in the first system. The piano part continues with notes marked "9" and "9". The string part has a section marked "(harp)" and "4", and another section marked "(str. pizz)".

This is how a 'developed sketch' might appear. After we've gathered some basic ideas, we can organize those ideas and write down notes for orchestration.

Intervals

(horizontally)

In Music Interval Theory, we count the distance in chromatic steps between two notes to determine the interval. For reference, we've included the Diatonic names above all intervals in blue. The green numbers show the distance in semi-tones between the notes.

Ex. 2: Intervals inside the octave played horizontally

The image displays two musical staves illustrating intervals from 1 to 12. The first staff, starting at measure 33, shows intervals 1 through 6: minor second (1), major second (2), minor third (3), major third (4), perfect fourth (5), and tritone (6). The second staff, starting at measure 39, shows intervals 7 through 12: perfect fifth (7), minor sixth (8), major sixth (9), minor seventh (10), major seventh (11), and octave (12). Each interval is represented by a pair of notes on a treble clef staff with a green arrow indicating the chromatic distance and a green number below it. The notes are connected by a horizontal line, and the intervals are labeled with their diatonic names in blue above the staff.

When intervals are used horizontally they become part of a line or a melody. Theoretically, all intervals could be used melodically but you'll see that intervals higher than one octave are not really practical in a line.

As a general rule: Strong melodies can be reproduced with our human voice (singing, humming, whistling, etc.) and it is very difficult to intonate intervals higher than one octave. This excludes arpeggios on open-harmony chord structures which are not considered strong lines.

Have a look at some of your favorite scores and probably you won't find many intervals in lines (if at all) which are greater than 12. Simply because it doesn't sound good!

See the demonstration below. Although it might evoke the idea that it was written in a key, it is based completely on intervals only. One of the big advantages of small intervals (like 1 or 2) is that their complementary partner gets pretty wide (like 11 or 10). We can use this space in between two notes to fill in other parts! This preserves transparency and clarity!

The upper line uses a locked interval (3) with shifts only and moves in between the other part shown in green. The green part has been written first and it is based completely on PC using the interval 1 (and 11), together with some shifts in order to add some interest to the ostinato.

"Don't Let Them Pass" (Developed Sketch)

$\text{♩} = 96$ FRANK HERRLINGER

45 locked 3-interval with shifts ...

trbs + hns add trps + high WW

low str + low br and so on ... still 1s, but shifted add low WWs

48 still 1s, but shifted all 1s ...

Hopefully, this gives you an idea about powerful PCs in combination with intervals.