

Thesaurus of Scales and Melodic Patterns

Nicolas Slonimsky

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THESAURUS OF SCALES AND MELODIC PATTERNS

INTRODUCTION

THE PRESENT THESAURUS is a reference book of scales and melodic patterns, analogous in function with phrase books and dictionaries of idiomatic expressions. But while phrase books are limited to locutions consecrated by usage, the THESAURUS includes a great number of melodically plausible patterns that are new. In fact, many compositions appearing in recent years contain thematic figures identical with those found in the THESAURUS.

From time to time musical theorists have suggested the possibility of forming entirely new scales based on the division of the octave into several equal parts. As early as 1911 the Italian musician Domenico Alaleona proposed such new scales. Alois Haba, in his *Neue Harmonielehre* (1927), classifies a great number of scales based on equal intervals and suggests harmonizations of these new scales. Joseph Schillinger in his posthumously published *Schillinger System of Musical Composition* classifies new tonal progressions in the chapter Theory of Pitch-Scales.

The scales and melodic patterns in the THESAURUS are systematized in a manner convenient to composers in search of new materials. The title THESAURUS OF SCALES AND MELODIC PATTERNS is chosen advisedly. The term scale, as here used, means a progression, either diatonic or chromatic, that proceeds uniformly in one direction, ascending or descending, until the terminal point is reached. A melodic pattern, on the other hand, may be formed by any group of notes that has melodic plausibility. There are scales of 4 notes only; and there are scales and patterns of 12 different notes. But counting repeated notes appearing in different octaves, a scale may have as many as 48 functionally different notes, as in the Disjunct Major Polytetrachord (No. 958). As to melodic patterns, there is virtually no limit to the number of such tones.

The THESAURUS is arranged in the form of piano scales and melodic studies. No fingering is given, for the pianist will readily find the type of digitation best suited to the hand. Other instrumentalists, too, will find most of the scales and melodic patterns in the THESAURUS adaptable to their instruments. The notation throughout is enharmonic, and accidentals are used according to convenience. Double sharps and double flats are avoided entirely. Precautionary natural signs are placed here and there when an unusual melodic interval occurs. All accidentals affect only the note immediately following.

The scales and patterns in the THESAURUS are arranged according to the principal interval of each particular section. In order to avoid association with a definite tonality, these basic intervals are here referred to by Latin and Greek names derived from old usage. In addition, new terms had to be coined for intervals not in the system of historic scales. In these new terms the prefix *sesqui* stands for the addition of one-half of a tone. Thus, Sesquitone is $1\frac{1}{2}$ tones, or a minor third; Sesquiquadritone is $4\frac{1}{2}$ tones, or a major sixth; and Sesquiquinquetone is $5\frac{1}{2}$ tones, or a major seventh.

The table of intervals from the semitone to the major seventh appears as follows:

<i>Semitone</i>	Minor Second	<i>Tritone</i>	Augmented Fourth
<i>Whole Tone</i>	Major Second	<i>Diapente</i>	Perfect Fifth
<i>Sesquitone</i>	Minor Third	<i>Quadritone</i>	Minor Sixth
<i>Ditone</i>	Major Third	<i>Sesquiquadritone</i>	Major Sixth
<i>Diatessaron</i>	Perfect Fourth	<i>Quinquetone</i>	Minor Seventh
	<i>Sesquiquinquetone</i>		Major Seventh

The interval of a major ninth is called Septitone, to indicate that it contains 7 whole tones.

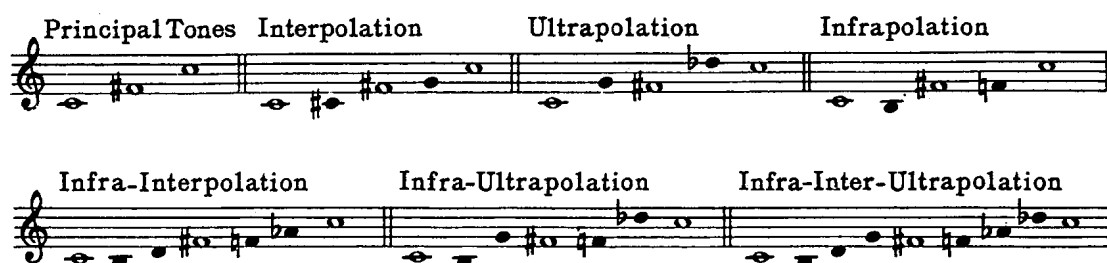
These basic intervals are regarded as fractions of one or more octaves. Thus, the Tritone Progression represents the division of the octave into 2 equal parts, and it produces sequential scales and patterns. The Ditone Progression is the division of the octave into 3 equal parts, and is intervallically identical with the augmented triad. The Sesquitone Progression is the division of the octave into 4 equal parts, and is identical with the familiar diminished-seventh chord. The Whole-Tone scale represents the equal division of the octave into 6 parts. The Semitone Progression is equivalent to the chromatic scale. By the process of permutation the chromatic scale is productive of characteristic patterns of the 12-tone technique.

By dividing 2 octaves into 3 equal parts we obtain the Quadritone Progression, which is closely related to the Ditone Progression, being in fact a spread-out augmented triad. By dividing 3 octaves into 4 equal parts we obtain the interval of the major sixth. This is the Sesquiquadritone Progression, which is an unfolded Sesquitone Progression, productive of patterns related to diminished-seventh harmonies.

In the cycle of scales the interval of a perfect fifth is one-twelfth part of 7 octaves, and it is so represented in the Diapente Progression. A perfect fourth is one-twelfth part of 5 octaves, and is classified as such in the section Diatessaron Progression.

Pursuing a similar process, we find that the Sesquiquinquetone Progression, or the progression of major sevenths, is the result of the equal division of 11 octaves into 12 parts. Finally, the Septitone Progression is the equal division of 7 octaves into 6 parts, with the basic interval of a major ninth.

Scales and melodic patterns are formed by the processes of Interpolation, Infrapolation, and Ultrapolation. The word Interpolation is in common usage; here it signifies the insertion of one or several notes between the principal tones. Infrapolation and Ultrapolation are coined words. Infrapolation indicates the addition of a note below a principal tone; Ultrapolation is the addition of a note above the next principal tone. Infrapolation and Ultrapolation result in the shift of direction, with the melodic line progressing in zigzags. Infrapolation, Interpolation and Ultrapolation may be freely combined, resulting in hyphenated forms: Infra-Interpolation, Infra-Ultrapolation, and Infra-Inter-Ultrapolation.



Progressions and patterns based on unequal division of the octave are exemplified by Heptatonic scales and Pentatonic scales. Among Heptatonic scales, or 7-tone scales, are our familiar major and minor scales as well as the church modes. In the section Heptatonic Arpeggios the scales are spread out in thirds. In the section Bitonal Arpeggios the C major arpeggio is combined with arpeggios in all other 23 major and minor keys.

Busoni, who had earnestly explored new musical resources, found 113 different scales of 7 notes. Mentioning as an example the scale: C, Db, Eb, Fb, Gb, Ab, Bb, C (it is No. 1035 in the THESAURUS), he writes in his *Entwurf einer neuen Aesthetik der Tonkunst*: "There is a significant difference between the sound of this new scale when C is taken as the tonic and when it is taken as the leading tone of the scale of Db minor. By harmonizing the tonic with the customary C major triad as a fundamental chord, a novel harmonic sensation is obtained."

In his *Chronicle of My Musical Life* Rimsky-Korsakov mentions the use he made of an 8-tone scale, formed by alternating major and minor seconds. This is Scale No. 393 in the THESAURUS. Sporadic uses of the Whole-Tone scale are found in Glinka and even in Mozart (as a jest to mock the inept *Dorfmusikanten*), but it did not become a deliberate device before Debussy. In Debussy's piano piece *Voiles* the principal melodic structure is in the Whole-Tone scale, but the middle part is written exclusively on the black keys, exemplifying the Pentatonic scale.

The Whole-Tone scale has 6 notes to the octave; the Pentatonic scale has five. The Whole-Tone scale is possible in only one form on a given note, but there can be many Pentatonic scales. There are 49 Pentatonic scales in the THESAURUS.

The 12-Tone Technique of composition promulgated by Schoenberg is based on permutations of the Semitone scale. Various 12-tone patterns are found in the THESAURUS in examples No. 1214 to No. 1318. For example, it is possible to arrange the 12 chromatic tones in 2 major and 2 minor triads without repeating a note. It is also possible to form 4 mutually exclusive augmented triads using all 12 chromatic tones. The theme of Liszt's *Faust* Symphony is composed of 4 augmented triads. It is further possible to split the chromatic scale into a diminished triad, a minor triad, a major triad, and an augmented triad. These mutually exclusive triads can be arranged in the form of Quadritonal Arpeggios.

A recent development of the 12-Tone Technique is the 11-interval technique, which prescribes the formation of progressions containing 11 different intervals. The idea was first introduced by the Austrian musician Fritz Klein in 1921 in a curious composition entitled *Die Maschine*, with the sub-title *Ex-Tonal Self-Satire*. The name of the composer was concealed behind a characteristic nom de plume *Heautontimorumenus* which means Self-Torturer. In this piece Klein introduced a Mother Chord which contains not only all 11 different intervals, but 12 different notes as well.

A further elaboration on the Mother Chord is an invertible 11-interval, 12-tone chord introduced by the author and appropriately christened Grandmother Chord. It has all the intervallic properties of the Mother Chord plus an especial order of intervals so arranged that they are alternately odd-numbered and even-numbered when counted in semitones, with the row of odd-numbered intervals forming a decreasing arithmetical progression and the row of even-numbered intervals forming an increasing arithmetical progression. The order of notes in the Grandmother Chord is identical with the 12-tone Spiral Pattern No. 1232a.

All chords composed of 11 different intervals add up to the interval of 66 semitones, which is the sum of the arithmetical progression from 1 to 11. The interval of 66 semitones equals $5\frac{1}{2}$ octaves, and so forms a Tritone between the lowest and the highest tones in the Pyramid Chord, Mother Chord, Grandmother Chord, and other 11-interval structures.

Scales and patterns listed in the main body of the THESAURUS readily lend themselves to new melodic possibilities. For instance, a descending scale may be played in the form of the melodic inversion of the ascending scale, as suggested in the section Mirror Interval Progressions. It is possible to form complementary scales in the range of 2 octaves, by using in the second octave the notes not used in the first. Other possibilities for the formation of new patterns are demonstrated in the section on Permutations.

A Diatonic counterpart of the 12-Tone Technique is the system of Pandiatonic composition. The term Pandiatonic, first introduced by this writer in 1937, denotes the free use of all 7 tones of the diatonic scale, both melodically and harmonically. In one-part Pandiatonic Progressions, the melody is made up of 7 different notes of the diatonic scale. Such a progression may then be melodically inverted, read backward, or both, resulting in 4 different forms. Pandiatonic Counterpoint in strict style uses progressions of 7 different notes in each voice, with no vertical duplication.

Pandiatonic Harmony is the twentieth century counterpart of classical harmony. Modern composers of such varied backgrounds and musical persuasions as Ravel, Stravinsky, Hindemith, Milhaud, Copland and Roy Harris make use of this technique, arriving at it by different creative processes. Jazz composers, too, have found, by sheer experimentation, effective application for the enriched chords of Pandiatonic formations. It is a common practice to end an orchestral arrangement of a popular song by the enriched major triad with an added sixth, seventh, or ninth.

The concluding sections of the THESAURUS demonstrate the various methods by which tonal materials may be used to best advantage. The section Double Notes shows the combinations derived from corresponding scales and patterns. Plural Scales and Arpeggios give examples of common major and minor progressions arranged consecutively in chromatic transposition. Polytonal Scales are simultaneous progressions in different keys. Polyrhythmic Scales are progressions in different rhythms. Polytonal Polyrhythmic Scales combine different rhythms in different tonalities.

A special word is to be said about Palindromic Canons. Palindromes are words or sentences that read the same forward or backward, as the sentence *Able Was I Ere I Saw Elba* (applied to Napoleon). Similarly, Palindromic Canons read the same backward or forward. The two Palindromic Canons based on Pattern No. 72 are particularly interesting. They result in a progression of enharmonic triads or their inversions, alternating in major and minor keys.

Fragments of the scales and patterns in the THESAURUS may be used as motives and themes. The rhythmical elaboration is left to the imagination of the composer. By using a portion of a pattern in forward and retrograde motion, in varied rhythms within a given meter, it is possible to form an unlimited number of melodic figures.

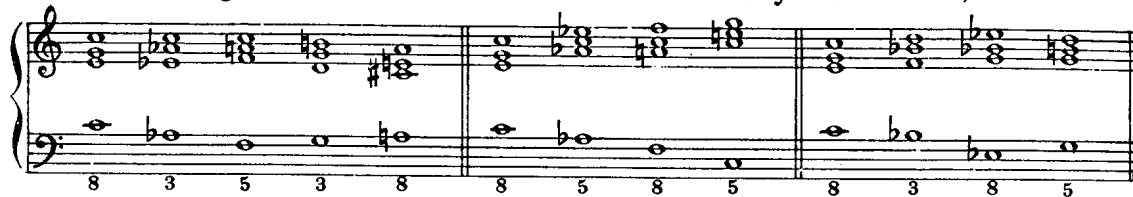
Rhythmic Development

Pattern No. 194

Two formulas are used in the harmonization of the scales and patterns: one by common triads, and one by seventh-chords. In the harmonization by common triads, only root positions of major triads in close harmony are applied. Either the root, the third, or the fifth may appear in the melody. These positions are referred to as Octave, Tertian, and Quintan, or in figures, 8, 3, and 5. When the melody ascends, diatonically or chromatically, the positions change from the Octave to the Tertian to the Quintan to the Octave. When the melody descends, the order of the positions is reversed. Furthermore, the order of positions may be reversed at the end of a cadence even in ascending motion. When the melody is stationary, the order of positions is free. The resulting harmony traverses several tonalities in an alternation of successive major chords.

Harmonization in Major Triads

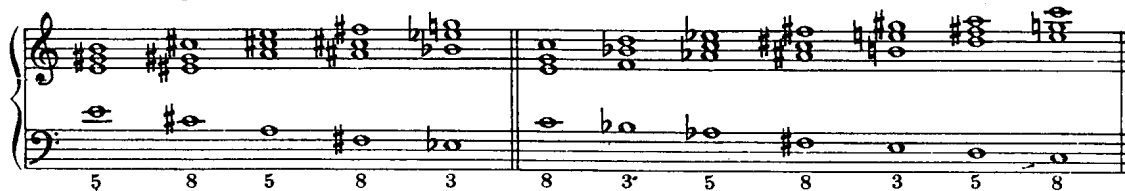
(Figures Indicate Intervals Between the Melody and the Bass)



The harmonization in major triads is found in the music of Debussy, Moussorgsky, and other composers of the French and Russian schools. A classical example is the scene in the monk's cell in Moussorgsky's opera *Boris Godunov*. In the second act of Puccini's opera *Tosca* the Whole-Tone scale in the bass is harmonized by a row of major triads with the positions following the Octave-Tertian-Quintan (8-3-5) formula.

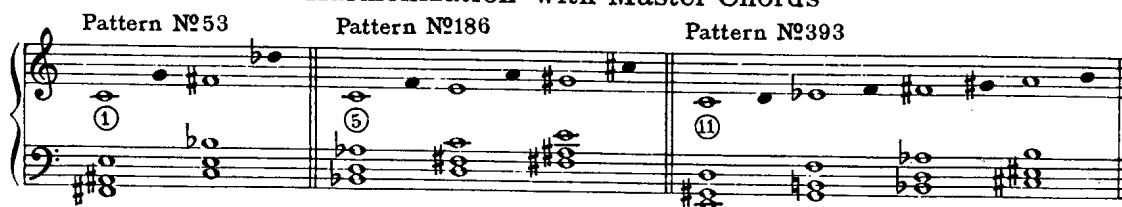
Moussorgsky: *Boris Godunov*

Puccini: *Tosca* (Whole-Tone Scale in the Bass)



The second type of harmonization is effected by means of Master Chords. These Master Chords are dominant-seventh chords with the fifth omitted. In combination with melodic elements of a given scale or pattern, these chords form harmonic structures of the type of seventh-chords, ninth-chords, or whole-tone chords. The Master Chords are indicated for ascending scales and patterns in the sections Tritone Progression, Ditone Progression and Sesquitone Progression by figures within circles, as ⑤, and are used to harmonize an entire rhythmic group in a given progression. In the Tritone and Sesquitone Progressions it is also possible to harmonize the entire octave range with a single Master Chord. Furthermore, any Master Chord suitable for harmonization of a given progression may be transposed a tritone up or down with satisfactory results.

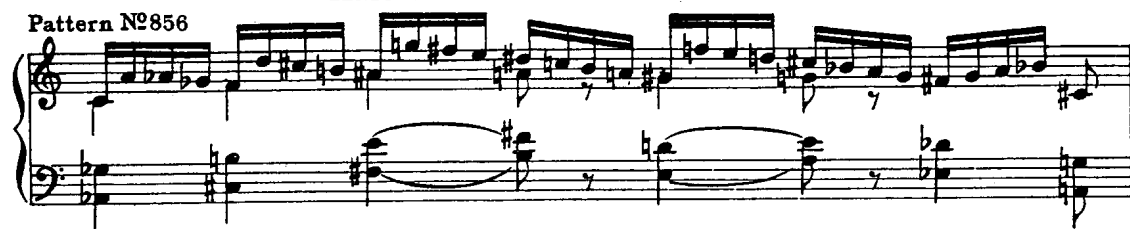
Harmonization with Master Chords



Harmonization of both types is given in the tables on pp.240-241. To harmonize in major triads, it is necessary to alternate the Octave, Tertian, and Quintan positions given in the table. In harmonizing by seventh-chords, ninth-chords, and whole-tone chords, any chord under a given melody note will furnish a workable harmony.

The patterns in the Diatessaron and Diapente Progressions lend themselves to harmonization characteristic of the Dominant-Tonic cycle. When harmonized in consecutive seventh-chords, such patterns acquire a Schumannesque quality.

Harmonization in Seventh-Chords



A harmonization of the Dominant-Tonic type will impart a feeling of tonality even to a 12-tone progression.

Tonal Harmonization of a 12-Tone Pattern



Traditional harmonization in major and minor keys uses chords formed by the diatonic scale. Similarly, new scales may be harmonized with the aid of chords formed by the notes of the scale itself. Examples of such Autochordal Harmonization are given in a special table. There are scales that admit of only 2 different triads, as Scale No. 7, which can be harmonized with C major and F# major triads. The 8-tone scale No. 393 is capable of forming 8 different triads, while other scales, such as No. 5, do not yield a single triad.

All scales and patterns in the THESAURUS are centered on C as the initial and concluding tone. It goes without saying that these progressions can be transposed to any tonal center according to a composer's requirements.

John Stuart Mill once wrote: "I was seriously tormented by the thought of the exhaustibility of musical combinations. The octave consists only of five tones and two semitones, which can be put together in only a limited number of ways of which but a small proportion are beautiful: most of these, it seemed to me, must have been already discovered, and there could not be room for a long succession of Mozarts and Webers to strike out, as these have done, entirely new surpassing rich veins of musical beauty. This sort of anxiety, may, perhaps, be thought to resemble that of the philosophers of Laputa, who feared lest the sun be burnt out."

The fears of John Stuart Mill are unjustified. There are 479,001,600 possible combinations of the 12 tones of the chromatic scale. With rhythmic variety added to the unbounded universe of melodic patterns, there is no likelihood that new music will die of internal starvation in the next 1000 years.

NICOLAS SLONIMSKY

1 January 1947 Boston, Massachusetts

EXPLANATION OF TERMS

AUTOCHORDAL HARMONIZATION. Application of chords derived from the tones of a given scale (Example, Scale No. 12: C, D $\sharp$, F, F $\sharp$, A, B, C, harmonized in 2 triads, F major and B major).

BITONAL ARPEGGIOS. [Nos. 1191-1213]. Melodic progressions formed of alternating arpeggios in 2 different keys.

BITONAL PALINDROMIC CANONS. Canons that result in the formation of 6-tone chords composed of 2 triads (Example, Scale No. 7: C, C $\sharp$, E, F $\sharp$, G, A $\sharp$, C, developed canonically, forming bitonal chords of C major and F $\sharp$ major).

CHORD OF THE MINOR 23RD. Chord consisting of 12 different notes, arranged in thirds, and forming 4 mutually exclusive triads.

COMPLEMENTARY SCALES. Melodic progressions of two octaves in range, comprising all 12 tones of the chromatic scale (Example, C major scale plus the pentatonic scale on black keys).

CONJUNCT POLYTETRACHORD. Progression of 12 tetrachords traversing all 12 keys, with the terminal tone of one tetrachord being the initial tone of the next (Examples, Phrygian Polytetrachord, No. 830; Minor Polytetrachord, No. 832; Major Polytetrachord, No. 833).

CROSSING INTERVALS. [Nos. 1243-1250]. Two overlapping 6-tone rows comprising all 12 different tones, each row forming a progression of major or minor seconds, thirds, fourths, fifths and sixths.

DIAPENTE. Interval of $3\frac{1}{2}$ tones; a perfect fifth.

DIATESSARON. Interval of $2\frac{1}{2}$ tones; a perfect fourth.

DISJUNCT POLYTETRACHORD. Progression of 12 tetrachords traversing all 12 keys, with adjacent tetrachords separated by one diatonic degree (Examples, Disjunct Phrygian Polytetrachord, No. 951; Disjunct Minor Polytetrachord, No. 956; Disjunct Major Polytetrachord, No. 958; Disjunct Lydian Polytetrachord, No. 959).

DITONE. Interval of 2 whole tones; a major third.

GRANDMOTHER CHORD. Chord, invented by Nicolas Slonimsky on February 13, 1938, containing all 12 different tones and different intervals symmetrically invertible in relation to the central interval, the tritone, which is the inversion of itself; the intervallic structure being a row of alter-

natingly odd and even intervals (counted in semitones), the odd-numbered series forming a diminishing arithmetical progression, and the even-numbered series an increasing progression.

HEPTATONIC ARPEGGIOS. [Nos. 1088-1141]. Melodic progressions by thirds derived from Heptatonic scales.

HEPTATONIC SCALES. [Nos. 1034-1087]. Diatonic progressions of 7 degrees, such as major and minor scales and church modes, and also scales containing 1 or 2 augmented seconds.

INFRA-INTER-ULTRAPOLATION. Pattern formed by the insertion of notes below, between, and above the principal tones of a progression (Example, Pattern No. 341).

INFRAPOLATION. Insertion of a note below the principal tones of a progression (Example, Pattern 231).

INTERPOLATION. Insertion of one or more notes between the principal tones of a progression (Example, Scale No. 21).

INTER-ULTRAPOLATION. Insertion of 2 notes, one between the principal tones of a given progression, the other above the principal tone (Example, Pattern No. 123).

MAJOR BITONAL CHORD. Chord of 2 major triads usually in keys whose tonics are at the interval of a tritone, as C major and F $\sharp$ major.

MAJOR POLYTETRACHORD. A series of major tetrachords, conjunct or disjunct, covering all 12 major keys (Examples, No. 833 and No. 958).

MASTER CHORDS. Dominant-seventh chords with the fifth omitted, tabulated chromatically in 12 different keys, to be used in harmonizing scales and melodic patterns, and indicated by figures, enclosed in circles, from 1 to 12.

MINOR BITONAL CHORD. Chord consisting of 2 minor chords, usually with tonics at the interval of a tritone, as C minor and F $\sharp$ minor.

MINOR POLYTETRACHORD. A series of minor tetrachords, conjunct or disjunct, covering all 12 minor keys (Examples, No. 832 and No. 956).

MIRROR INTERVAL PROGRESSIONS. Scales and patterns in which the descending figure is the melodic inversion of the ascending figure (Example, Scale No. 1 ascending is the mirror inversion of Scale No. 4 descending).

MOTHER CHORD. Chord, introduced by Fritz Klein in 1921, containing all 12 tones and 11 different intervals.

MUTUALLY EXCLUSIVE TRIADS. Four triads (major, minor, diminished or augmented) comprising all 12 different tones (Example, C major, F# major, D minor, and G# minor).

NON-SYMMETRIC INTERPOLATION. Free insertion of additional notes between the principal tones.

OCTAVE POSITION. In four-part harmony, a triad with the root both in the melody and in the bass.

PALINDROMIC CANONS. Canons that read the same backward or forward.

PANDIATONIC HARMONY. Part-writing in chords freely combined from the 7 tones of the diatonic scale.

PANDIATONIC PROGRESSIONS. Tonal rows composed of all 7 different tones of the diatonic scale.

PATTERN. Melodic figure in which the direction changes from ascending to descending, or vice versa, before arriving at the terminal point (All infrapolated and extrapolated progressions are patterns).

PENTATONIC SCALES. [Nos. 1142-1190]. Scales of 5 notes.

PERMUTATION. Distribution of notes of a given melodic pattern in different orders of succession.

PHRYGIAN POLYTETRACHORD. Polytetrachord composed of 12 conjunct or disjunct Phrygian tetrachords (1 semitone plus 2 whole tones), (Examples, No. 830 and No. 951).

PLURAL SCALES. Progressions formed by disjunct scales, as C major, D $\flat$ major, D major, and E $\flat$ major.

POLYRHYTHMIC SCALES. Simultaneous progressions in different rhythms.

POLYTETRACHORD. Progression of 12 tetrachords passing through all 12 keys conjunctly (with the last tone of one tetrachord coinciding with the first tone of the next), or disjunctly (with the terminal tone of the first tetrachord separated by a diatonic degree from the initial tone of the next).

POLYTONAL POLYRHYTHMIC SCALES. Simultaneous progressions in different keys and in different rhythms.

POLYTONAL SCALES. Scales in different tonalities played simultaneously.

PROGRESSION. General term for any scale or melodic pattern.

PROMETHEUS SCALE. [No. 50]. The 6-tone scale (C, D, E, F#, A, B $\flat$) used by Scriabin in his symphonic poem *Prometheus*.

PYRAMID CHORD. Chord, introduced by Fritz Klein in 1921, composed of a series of diminishing intervals from an octave to a semitone.

QUADRITONE. Interval of 4 whole tones; a minor sixth.

QUADRITONAL ARPEGGIOS. [Nos. 1251-1291]. Melodic progressions formed by 4 mutually exclusive triads, as C major, D minor, F# major, and G# minor.

QUARTAL CHORD. 12-tone chord arranged in perfect fourths.

QUINQUETONE. Interval of 5 whole tones; a minor seventh.

QUINTAN POSITION. In four-part harmony, a triad with the root in the bass and the fifth in the melody.

SCALE. Progression of tones changing its direction only at terminal points (All interpolated progressions are scales).

SEMITONE PROGRESSION. Scale consisting of consecutive semitones; a chromatic scale.

SEPTITONE. Interval of 7 whole tones; a major ninth.

SESQUI. Prefix signifying the addition of a semitone to a given interval (Sesquitone = 1½ tones; Sesquiquadritone = 4½ tones).

SESQUIQUADRITONE. Interval of 4½ tones; a major sixth.

SESQUIQUINQUETONE. Interval of 5½ tones; a major seventh.

SEQUITONE. Interval of 1½ tones; a minor third.

SPIRAL PATTERNS. Melodic progressions converging toward a central tone.

SYMMETRIC INTERPOLATION. Insertion of notes at equal intervals from respective pivotal points, resulting in invertible progressions (Example, Scale No. 37: C, D, F, F#, G, B $\flat$, C, in which the intervals are the same from C upward and from the upper C downward).

TERTIAN POSITION. In four-part harmony, a triad with the root in the bass and the third in the melody.

TONE-CLUSTER. Term, introduced by Henry Cowell, signifying a complex of notes filling one or more octaves, diatonically, chromatically, or pentatonically.

TRITONE. Interval of 3 whole tones; an augmented fourth, or a diminished fifth.

TWELVE-TONE PROGRESSIONS. Melodic figures of 12 different tones.

ULTRAPOLATION. Insertion of one or more notes above a principal tone of a scale (Example, Pattern No. 53, in which G is inserted above F#).

WHOLE-TONE CHORDS. Chords composed of intervals of one or several whole tones each.

Tritone Progression

Equal Division of One Octave into Two Parts



Interpolation of One Note

1

2

3

4

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ indicate Master Chords.

Interpolation of Two Notes

5

① ⑤ ⑦ ⑨ ⑪

Exercise 5, measures 1-4. The music is in 2/4 time, key of B-flat major. The melody in the treble clef consists of eighth notes: B4, C5, D5, E5, F5, G5, A5, B5, A5, G5, F5, E5, D5, C5, B4. The bass line consists of eighth notes: B3, C4, D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4, C4, B3. The key signature has two flats (B-flat and E-flat).

Exercise 5, measures 5-8. Measures 5-6 continue the eighth-note patterns. Measures 7-8 are whole-note chords: B4-C5-D5-E5-F5-G5-A5-B5 in the treble and B3-C4-D4-E4-F4-G4-A4-B4 in the bass.

6

③ ⑥ ⑧ ⑩ ⑫

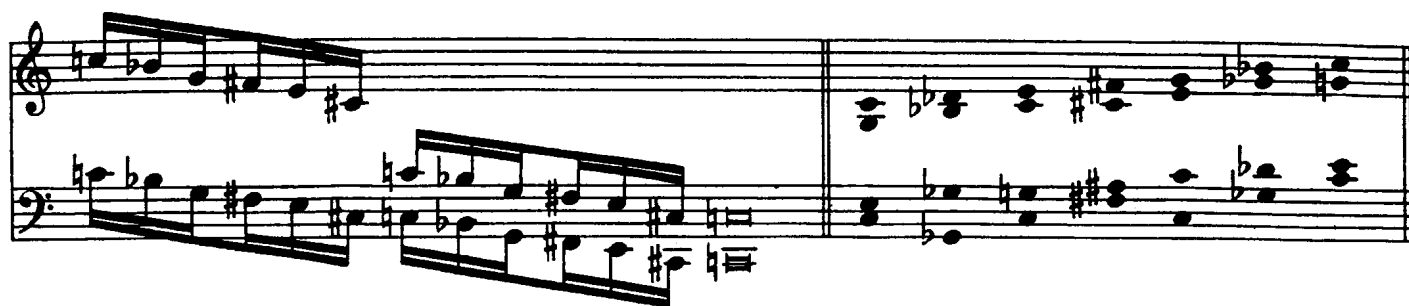
Exercise 6, measures 1-4. The melody in the treble clef consists of eighth notes: B4, C5, D5, E5, F5, G5, A5, B5, A5, G5, F5, E5, D5, C5, B4. The bass line consists of eighth notes: B3, C4, D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4, C4, B3. The key signature has two flats (B-flat and E-flat).

Exercise 6, measures 5-8. Measures 5-6 continue the eighth-note patterns. Measures 7-8 are whole-note chords: B4-C5-D5-E5-F5-G5-A5-B5 in the treble and B3-C4-D4-E4-F4-G4-A4-B4 in the bass.

7

① ④ ⑦

Exercise 7, measures 1-4. The melody in the treble clef consists of eighth notes: B4, C5, D5, E5, F5, G5, A5, B5, A5, G5, F5, E5, D5, C5, B4. The bass line consists of eighth notes: B3, C4, D4, E4, F4, G4, A4, B4, A4, G4, F4, E4, D4, C4, B3. The key signature has two flats (B-flat and E-flat).



10

⑤

The first system of the musical score for 'The Rose Tree' consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has one sharp (F#), and the time signature is 3/4. The melody in the upper staff begins with a quarter note G4, followed by eighth notes A4, B4, and C5, then a quarter note B4, and finally a half note A4. The bass line in the lower staff begins with a quarter note G2, followed by eighth notes A2, B2, and C3, then a quarter note B2, and finally a half note A2. The system concludes with a double bar line.

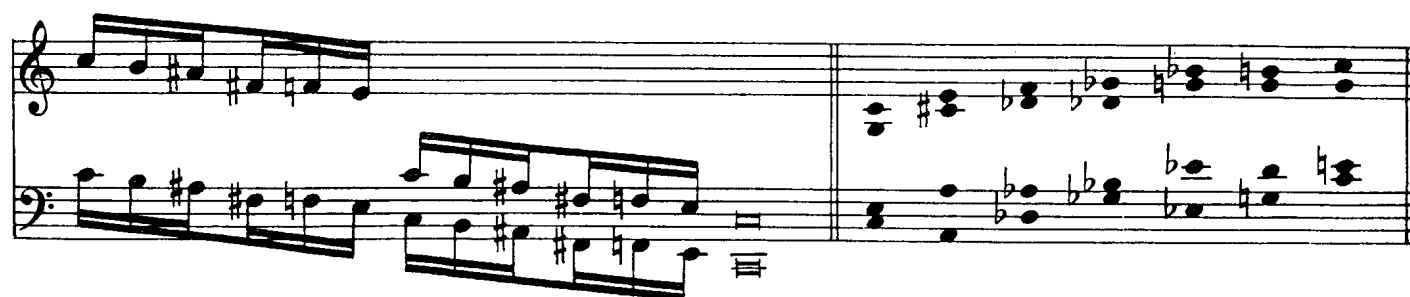
11

③

The first system of the musical score for 'The Rose Tree' consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has one flat (B-flat). The melody is written in the upper staff, and the bass line is in the lower staff. The music is in 4/4 time. The first measure of the upper staff contains a treble clef, a key signature of one flat, and a melody starting on G4. The first measure of the lower staff contains a bass clef, a key signature of one flat, and a bass line starting on G2. The system ends with a double bar line.

12

3 6



Interpolation of Three Notes



15

Measures 15-16 of a musical score. Measure 15 is a single staff with a treble clef and a key signature of one flat (B-flat). It contains a sequence of eighth and sixteenth notes. Measure 16 is a double staff system with a treble and bass clef, containing a sequence of eighth and sixteenth notes. A circled '1' and a circled '7' are placed above the first measure of the double staff system.

Measures 17-18 of a musical score. Measure 17 is a single staff with a treble clef and a key signature of one flat (B-flat). It contains a sequence of eighth and sixteenth notes. Measure 18 is a double staff system with a treble and bass clef, containing a sequence of eighth and sixteenth notes. A circled '5' and a circled '11' are placed above the first measure of the double staff system.

16

Measures 19-20 of a musical score. Measure 19 is a single staff with a treble clef and a key signature of one flat (B-flat). It contains a sequence of eighth and sixteenth notes. Measure 20 is a double staff system with a treble and bass clef, containing a sequence of eighth and sixteenth notes. A circled '6' and a circled '12' are placed above the first measure of the double staff system.

Measures 21-22 of a musical score. Measure 21 is a single staff with a treble clef and a key signature of one flat (B-flat). It contains a sequence of eighth and sixteenth notes. Measure 22 is a double staff system with a treble and bass clef, containing a sequence of eighth and sixteenth notes. A circled '6' and a circled '12' are placed above the first measure of the double staff system.

17

Measures 23-24 of a musical score. Measure 23 is a single staff with a treble clef and a key signature of one flat (B-flat). It contains a sequence of eighth and sixteenth notes. Measure 24 is a double staff system with a treble and bass clef, containing a sequence of eighth and sixteenth notes. A circled '6' and a circled '12' are placed above the first measure of the double staff system.

Measures 16 and 17 of a musical score. The notation is in treble and bass staves. Measure 16 features a melodic line in the treble staff and a bass line in the bass staff. Measure 17 shows a continuation of the melodic line in the treble staff and a bass line in the bass staff. The key signature has one flat (B-flat).

18

Measures 18 and 19 of a musical score. The notation is in treble and bass staves. Measure 18 features a melodic line in the treble staff and a bass line in the bass staff. Measure 19 shows a continuation of the melodic line in the treble staff and a bass line in the bass staff. The key signature has one flat (B-flat). A circled number 10 is present in the bass staff of measure 18.

Measures 20 and 21 of a musical score. The notation is in treble and bass staves. Measure 20 features a melodic line in the treble staff and a bass line in the bass staff. Measure 21 shows a continuation of the melodic line in the treble staff and a bass line in the bass staff. The key signature has one flat (B-flat).

19

Measures 22 and 23 of a musical score. The notation is in treble and bass staves. Measure 22 features a melodic line in the treble staff and a bass line in the bass staff. Measure 23 shows a continuation of the melodic line in the treble staff and a bass line in the bass staff. The key signature has one flat (B-flat). A circled number 3 is present in the bass staff of measure 22.

Measures 24 and 25 of a musical score. The notation is in treble and bass staves. Measure 24 features a melodic line in the treble staff and a bass line in the bass staff. Measure 25 shows a continuation of the melodic line in the treble staff and a bass line in the bass staff. The key signature has one flat (B-flat).

20

System 1 of the musical score, measures 20-21. The treble staff contains a melodic line with eighth and sixteenth notes, including a triplet of eighth notes marked with a circled '3'. The bass staff contains a corresponding bass line with similar rhythmic values. The key signature has one flat (B-flat), and the time signature is 4/4.

System 2 of the musical score, measures 20-21. The treble staff continues the melodic line, ending with a double bar line. The bass staff continues the bass line, also ending with a double bar line. The notation includes various accidentals (sharps, flats, naturals) and rests.

21

System 1 of the musical score, measures 22-23. The treble staff contains a melodic line with eighth and sixteenth notes, including a triplet of eighth notes marked with a circled '5'. The bass staff contains a corresponding bass line with similar rhythmic values. The key signature has one flat (B-flat), and the time signature is 4/4.

System 2 of the musical score, measures 22-23. The treble staff continues the melodic line, ending with a double bar line. The bass staff continues the bass line, also ending with a double bar line. The notation includes various accidentals (sharps, flats, naturals) and rests.

Interpolation of Four Notes

22

System 1 of the musical score, measures 24-25. The treble staff contains a melodic line with eighth and sixteenth notes, including a triplet of eighth notes marked with a circled '1'. The bass staff contains a corresponding bass line with similar rhythmic values. The key signature has one flat (B-flat), and the time signature is 4/4.



②

Two systems of musical notation. The first system consists of a treble staff and a bass staff, both containing eighth-note patterns with various accidentals. A circled '2' is placed above the first measure of the bass staff. The second system consists of a single treble staff with eighth-note patterns.

Two systems of musical notation. The first system consists of a single treble staff with eighth-note patterns. The second system consists of a treble staff and a bass staff, both containing eighth-note patterns with various accidentals.

Two systems of musical notation. The first system consists of a treble staff with chords and accidentals. The second system consists of a treble staff and a bass staff, both containing chords and accidentals.

⑫

Two systems of musical notation. The first system consists of a treble staff and a bass staff, both containing eighth-note patterns with various accidentals. A circled '12' is placed above the first measure of the bass staff. The second system consists of a treble staff and a bass staff, both containing eighth-note patterns with various accidentals.

Two systems of musical notation. The first system consists of a single treble staff with eighth-note patterns. The second system consists of a treble staff and a bass staff, both containing eighth-note patterns with various accidentals.



26



12

27

Symmetric Interpolation of One Note



28



29



30



31



Symmetric Interpolation of Two Notes

32 ⑪



33 ⑥



34 ⑪



35



36





Symmetric Interpolation of Three Notes



14

47



48



Non-Symmetric Interpolation

49



50 [Scriabin: Prometheus Scale]



51

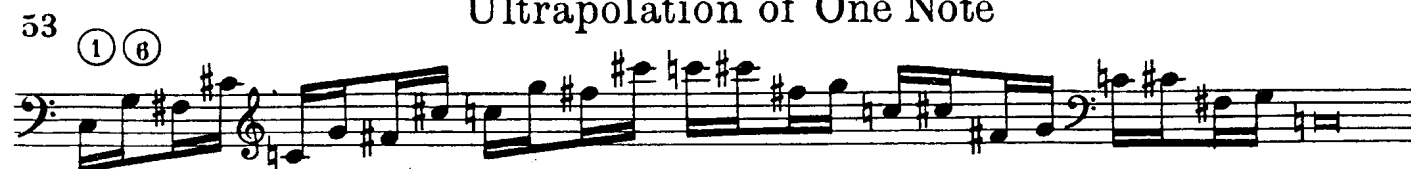


52



Ultrapolation of One Note

53



54



55



56



57 (5) (6) (11) (12)

15



16

67

(6)



68

(5)



69

(1)



70

(6)



71

(1 7)



Ultrapolation of Three Notes

72

(1 7)



73

(12)



74

(5)



75

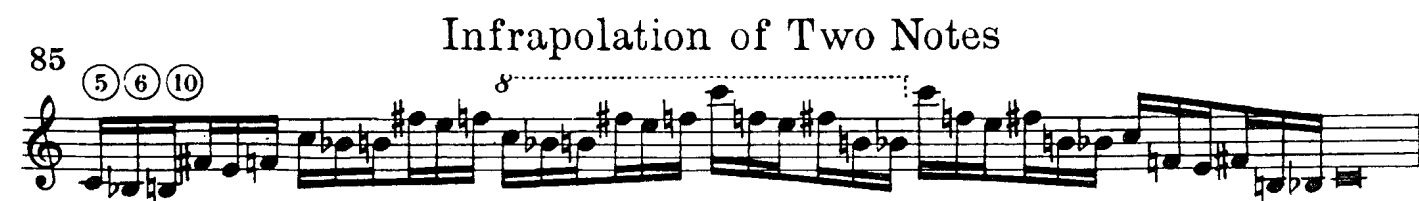
(5 11)



76

(1 7)





87 (5) (11) 8

88 (6) 8

89 (3) (9) 8

90 (1) (3) (5) (7) (9) (11) 8

91 (1) (7) 8

92 (3) (9) 8

93 (6) (12) 8

Infrapolation of Three Notes

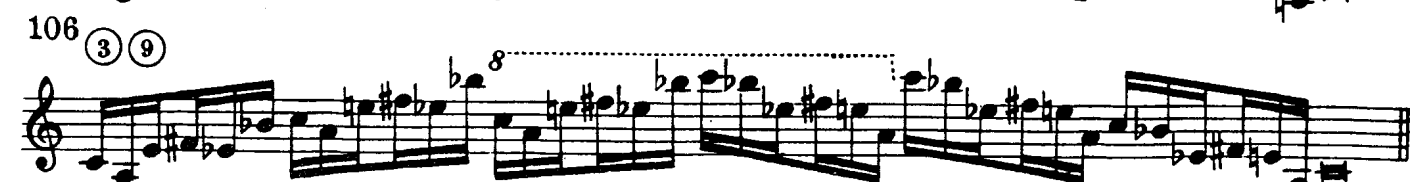
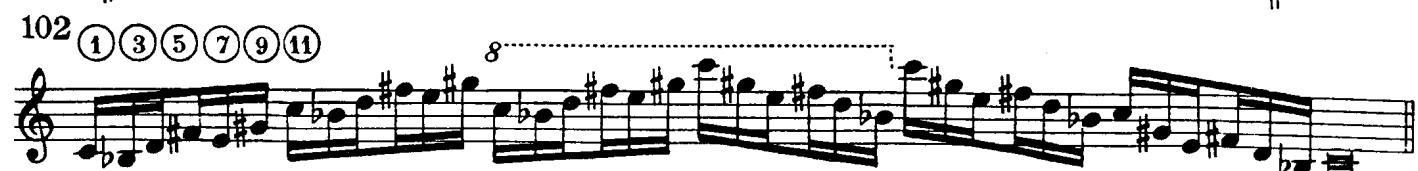
94 (6) (12)

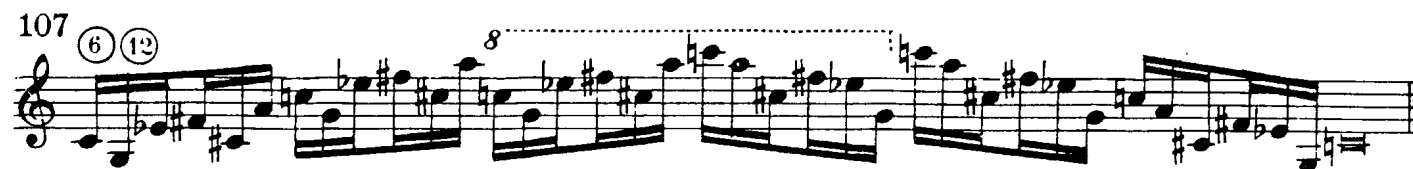
95 (1) (7)

96 (3) (9)

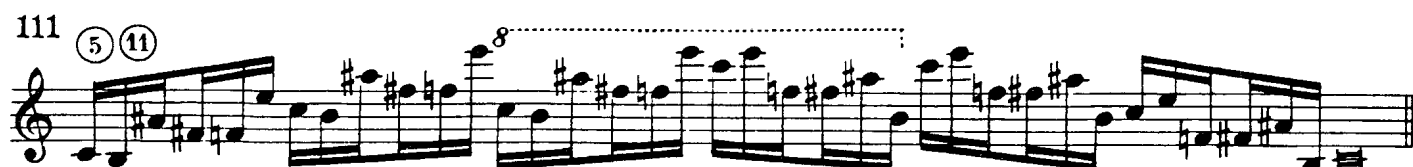
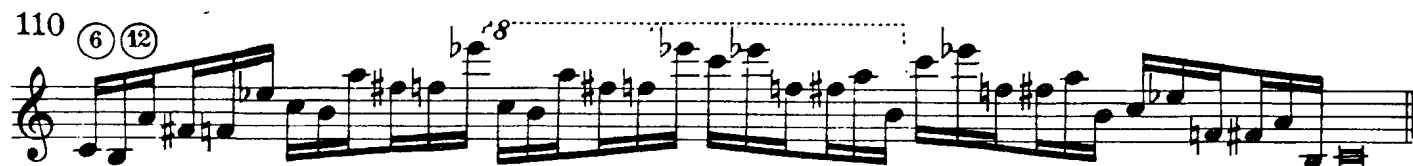


Infra-Interpolation





Infra-Ultraposition



117 ①  21

127 (6 12) 8

128 (3 9) 8

129 (3 9) 8

130 (6 12) 8

131 (1 7) 8

132 (1 3 5 7 9 11) 8

133 (3 9) 8

134 (1 3 5 7 9 11) 8

135 (5 11) 8

136 (6 12) 8

137 (5 11) 8



Infra-Inter-Ultrapolation





159 (4) (10)

160 (1) (7)

161 (1) (3) (5) (7) (9) (11)

162 (3) (9)

163 (4) (10)

164 (3) (9)

165 (3) (9)

166 (1) (7)

167 (1) (3) (5) (7) (9) (11)

168 (3) (9)

169 (5) (11)

170 (5) (11)

171 (10)

172 (6) (12)

173 (6) (12)

174 (12)

175 (3) (9)

176 (6) (12)

177 (3) (9)

178 (7)

179 (3) (9)

180 (3) (9)

This musical score consists of ten staves, each representing a measure from 170 to 180. Each staff begins with a treble clef and a key signature of one flat (B-flat). The notation is complex, featuring many beamed sixteenth and thirty-second notes, as well as various accidentals (sharps, flats, and naturals). Above each staff, there are two circled numbers: (5) (11) for measure 170, (10) for 171, (6) (12) for 172, (6) (12) for 173, (12) for 174, (3) (9) for 175, (6) (12) for 176, (3) (9) for 177, (7) for 178, (3) (9) for 179, and (3) (9) for 180. The music appears to be a single melodic line, possibly for a flute or violin.

Ditone Progression

Equal Division of One Octave into Three Parts



Interpolation of One Note

181

182

Interpolation of Two Notes

183



184 [Scale of A. Tcherepnin]



185



Ultrappolation of One Note

186 (5) (6) (11) (12)

187 (1) (3) (5) (7) (9) (11)

188 (1) (6) (7) (12)

189 (1) (3) (5) (7) (9) (11)

190 (3) (6) (9)

191 (1) (3) (5) (7) (9) (11)

192 (5) (6) (11) (12)

Ultrappolation of Two Notes

193 (5) (6) (11) (12)



204 (1) (7)



205 (6) (12)



206 (1) (7)



207 (6) (12)



208 (3) (9)



209 (1) (3) (5) (7) (9) (11)



210 (5) (11)



211 (3) (9)



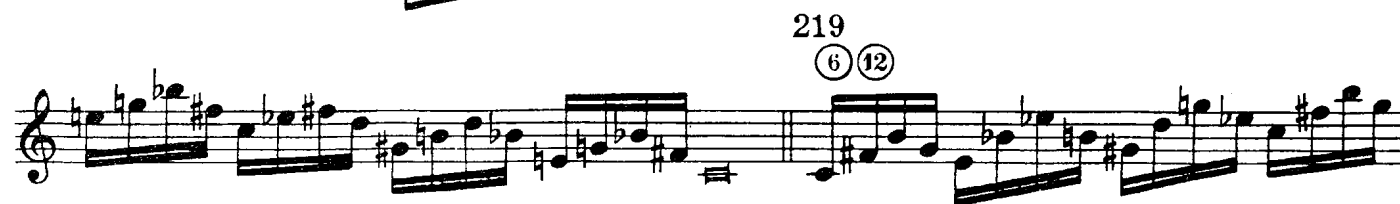
212 (6) (12)



213 (5) (11)



Ultrappolation of Three Notes



(6) (12)



222

(6) (12)



223

(1) (7)



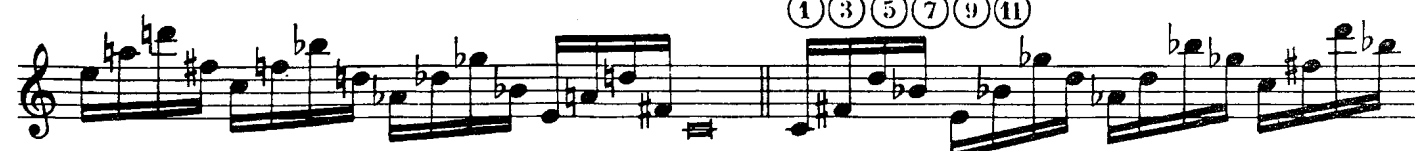
224

(3) (9)



225

(1) (3) (5) (7) (9) (11)



226

(5) (11)



227

(3) (9)



34



229



230



231 [Schoenberg: Ode to Napoleon]

Infrapolation of One Note



232 (1) (3) (5) (7) (9) (11)



233 (3) (6) (9) (12)



234 (1) (6) (7) (12)



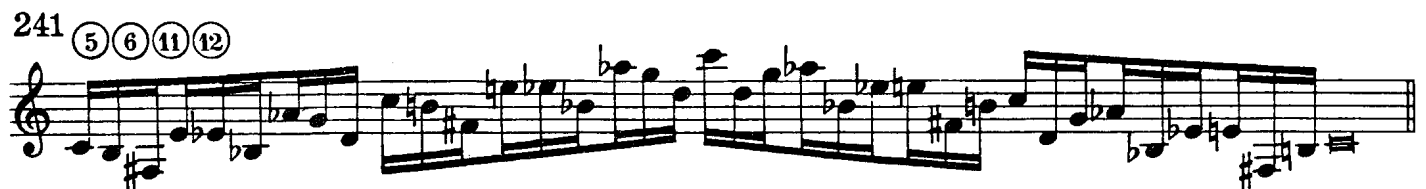
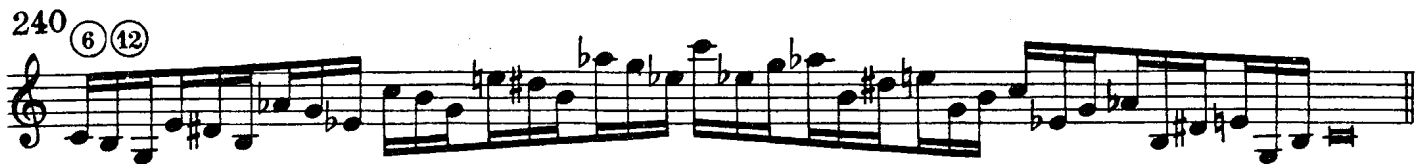
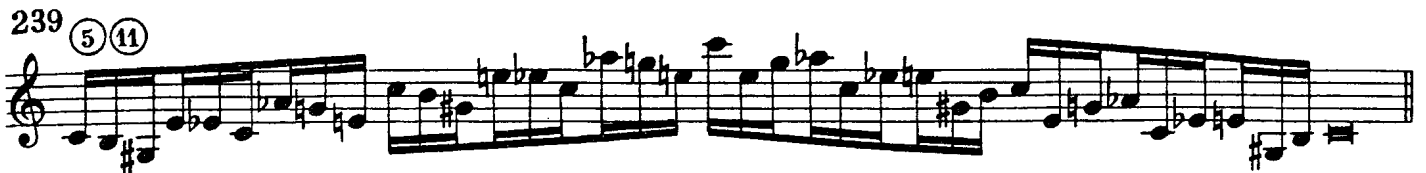
235 (1) (3) (5) (7) (9) (11)



236 (5) (6) (11) (12)



Infrapolation of Two Notes



36

247 (5) (11)



248 (3) (9)



249 (6) (12)



250 (3) (6) (9) (12)



251 (6) (12)



252 (3) (9)



253 (9)



254 (1) (7)



255 (6) (12)



256 (1) (7)



257 (1) (6) (7) (12)



Intrapolation of Three Notes

[12 Tones]

258 (3) (6) (9) (12) *simile* *simile*

259 (5) (11) *simile* *simile*

260 (1) (7) *simile* *simile*

261 (5) (11) *simile* *simile*

262 (5) (11) *simile* *simile*

263 (3) (9) *simile* *simile*

264 (6) (12) *simile* *simile*

265 (2) (8) *simile* *simile*

266 (5) (11) *simile* *simile*

267 (6) (12) *simile* *simile*

268 (6) (12) *simile* *simile*

269 (3) (9) *simile* *simile*

270 (1) (7) *simile* *simile*

271 (3) (9) *simile* *simile*

272 (6) (12) *simile* *simile*

273 (1) (7) *simile* *simile*

274 (1) (3) (5) (7) (9) (11) *simile* *simile*

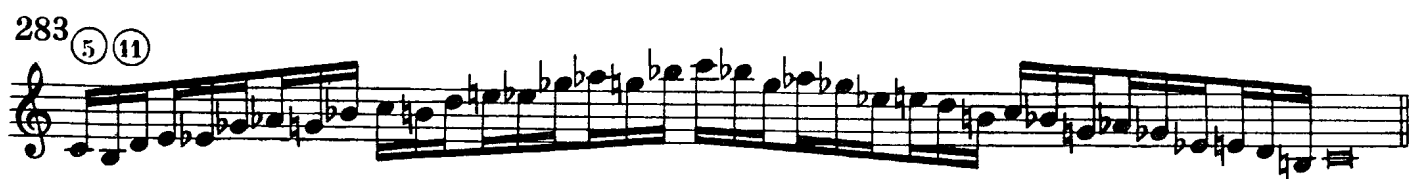
275 (5) (11) *simile* *simile*

276 (1) (7) *simile* *simile*

277 (4) (10) *simile* *simile*



Infra-Interpolation



286 (3) (9)



287 (6) (12)



288 (3) (9)



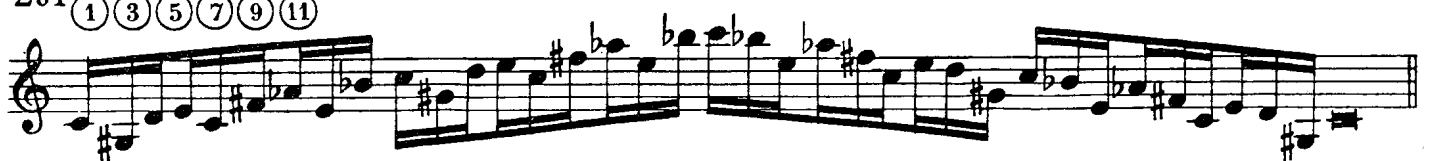
289 (3) (6) (9) (12)



290 (1) (7)



291 (1) (3) (5) (7) (9) (11)



292 (3) (9)



293 (1) (6) (12)



294 (1) (7)



Infra-Ultrapolation

295 (5) (6) (11) (12)



42

304 ① ③ ⑤ ⑦ ⑨ ⑪



305 ③ ⑨



306 ⑥ ⑫



307 ③ ⑥ ⑨ ⑫



308 ⑥ ⑫



309 ③ ⑨



310 ⑤ ⑪



311 ⑤ ⑪



312 ① ⑦



313 ⑥ ⑫



314 (1) (6) (7) (12)



315 (5) (6) (11) (12)



Inter-Ultrapolation

316 (6) (12)



317 (6) (12)



318 (1) (6) (7) (12)



319 (1)



320 (6) (12)



321 (1) (7)



322 (6) (12)



323 (5) (11)



324 (1) (3) (5) (7) (9) (11)



325 (1) (7)



326 (1) (3) (5) (7) (9) (11)



327 (3) (9)



328 (1) (3) (5) (7) (9) (11)



329 (5) (11)



330 (6) (12)



331 (3) (6) (9) (12)



332 (6) (12)



333 (3) (9)



334 (3) (6) (9) (12)



335 (3) (9)

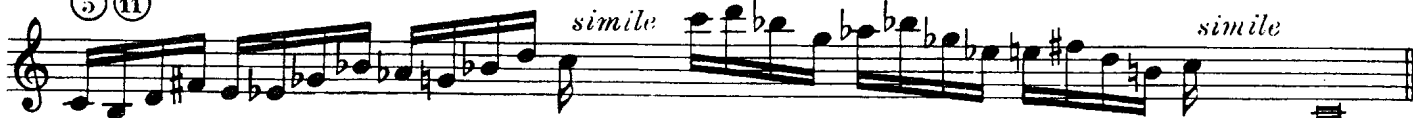


336 (6) (12)

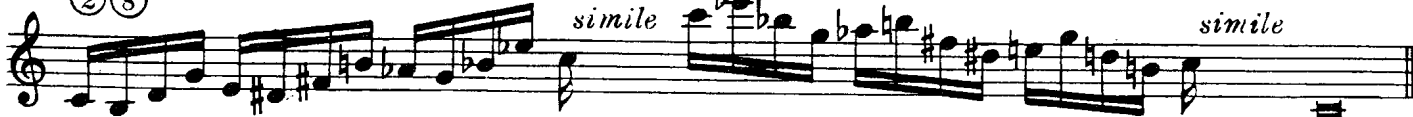


Infra-Inter-Ultraposition

337 (5) (11)



338 (2) (8)



339 (5) (11)



340 (2) (8)



341 (5) (11)

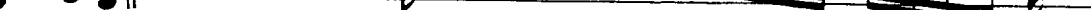




352 ① ③ ⑤ ⑦ ⑨ ⑪

353 ① ⑦

353 ① ⑦



simile *simile*

354 ① ③ ⑤ ⑦ ⑨ ⑪

355 (3) (9)

355 **(3)** **(9)**

simile *simile*

356 (3) (9)

357 (4) (10)

358 (3) (9)

359¹² Tones
 (3) (0)

359 3 9



simile

360 (6) (12)

361 (6) (12)



Miscellaneous Patterns

49

372 [Dominant Seventh Chords]



376 [Six-five chords]



380 [Six-four-three chords]





Sesquitone Progression

Equal Division of One Octave into Four Parts



Interpolation of One Note

392 Alternating Semitones and Whole Tones



393 Alternating Whole Tones and Semitones



394 (1) (3) (5) (7) (9) (11)

Ultrapolation of One Note



395 (5) (6) (11)



396 (1) (6) (12)



397 (5) (11)



398 (1) (3) (5) (7) (9) (11)



399 (5) (6) (11) (12)



400 (1) (6) (12)



401 (1) (3) (5) (7) (9) (11)



Ultrapolation of Two Notes

402 (5) (11)



403 (1) (3) (5) (7) (9) (11)



404 (1)





405



406



407



408



409



410 ①



411 (3) (9)



412 ⑥



413 (6)



414 (3) (9)



415 [12 Tones]

415 (5) (11)





416 ① ③ ⑤ ⑦ ⑨ ⑪



417 [12 Tones]

417 ⑤ ⑪



418 ⑤ ⑥



419 ⑤ ⑥



420 ⑥



Ultrapolation of Three Notes

421 (5) (11) *simile* *simile*

422 (5) *simile* *simile*

423 (1) (3) (5) (7) (9) (11) *simile* *simile*

424 (1) *simile* *simile*

425 (1) *simile* *simile*

426 (5) (11) *simile* *simile*

427 (5) *simile* *simile*

428 (5) *simile* *simile*

429 (5) *simile* *simile*

The image displays a musical score for a piece titled "Ultrapolation of Three Notes". It consists of nine staves, numbered 421 through 429. Each staff begins with a treble clef and a key signature of one flat (B-flat). The notation is complex, featuring many beamed sixteenth and thirty-second notes, often with accidentals (sharps and flats). Above the first few notes of each staff are circled numbers: (5) (11) for 421, (5) for 422, (1) (3) (5) (7) (9) (11) for 423, (1) for 424, (1) for 425, (5) (11) for 426, (5) for 427, (5) for 428, and (5) for 429. The word "simile" is written above the staff in two locations on each line, indicating that the subsequent musical phrases should be played similarly to the preceding ones. The staves end with double bar lines and repeat signs.



58

440

(1) (3) (5) (7) (9) (11)



441

(5) (11)



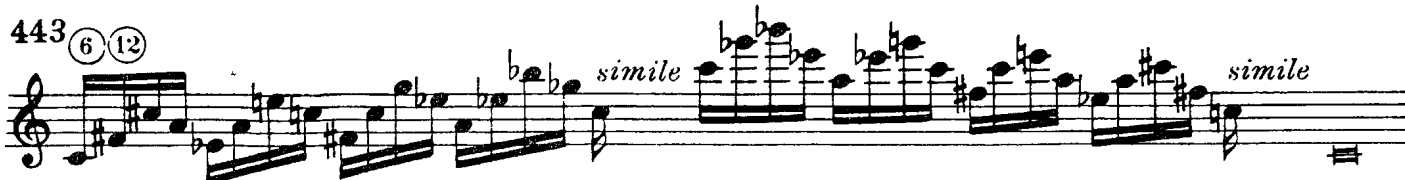
442

(6) (12)



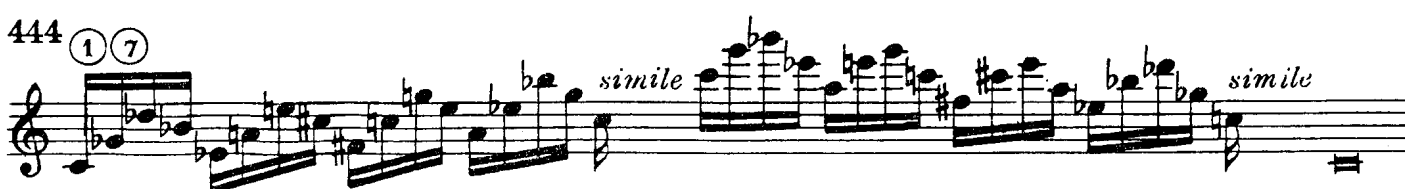
443

(6) (12)



444

(1) (7)



445

(1) (3) (5) (7) (9) (11)



446

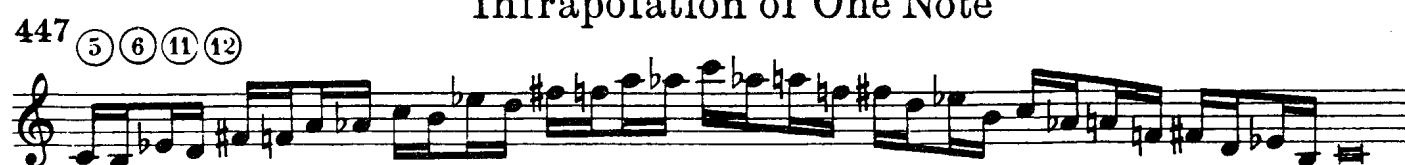
(5) (11)



Infrapolation of One Note

447

(5) (6) (11) (12)



448

(1) (3) (5) (7) (9) (11)



449 (1) (3) (5) (7) (9) (11)



450 (1) (6) (12)



451 (5) (6) (11)



452 (1) (3) (5) (7) (9) (11)



Infrapolation of Two Notes

453 (5) (11)



454 (6) (9) (12)



455 (5) (11)

456 [12 Tones]
(6) (12)

457 (5) (6) (11) (12)

458 (3) (9)

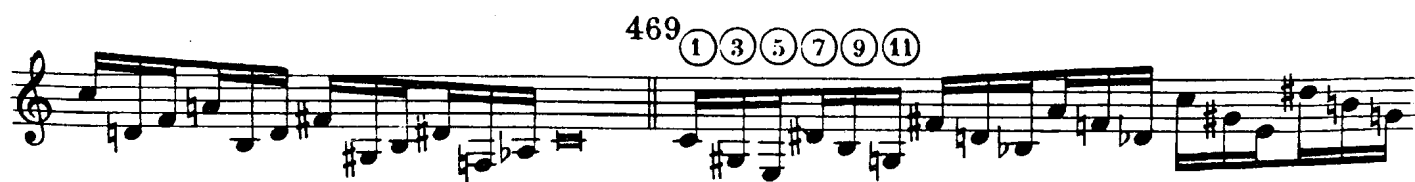
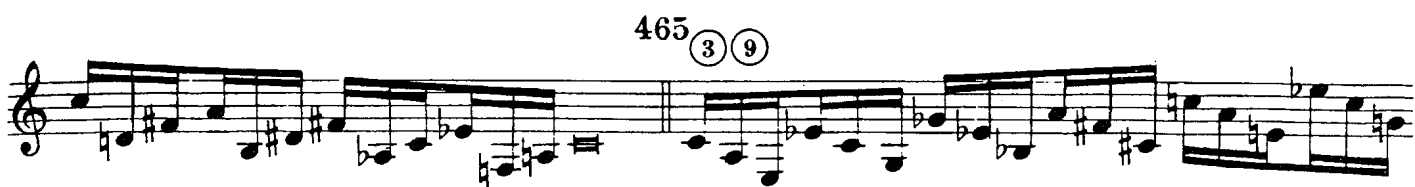
459 (1) (3) (5) (7) (9) (11)

460 (1) (7)

461 (1) (3) (5) (7) (9) (11)

462 (3) (9)

463 (6) (12)



470 ⑨

471 ①

472 ⑥ ⑫

Infraposition of Three Notes

473 ⑤ ⑪

474 ①

475 ⑨

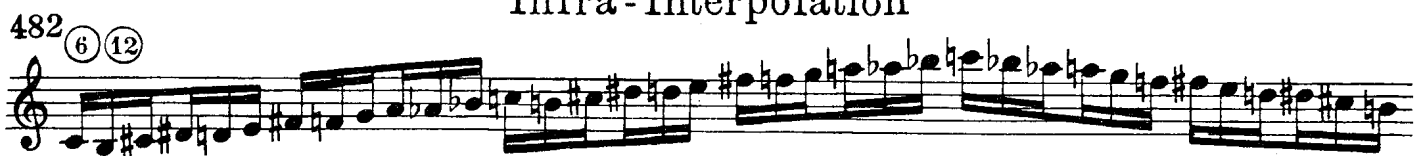
476 ⑥ ⑫

477 ② ⑧

[Rimsky-Korsakov; Battle Scene from the Opera *Kitezh*]

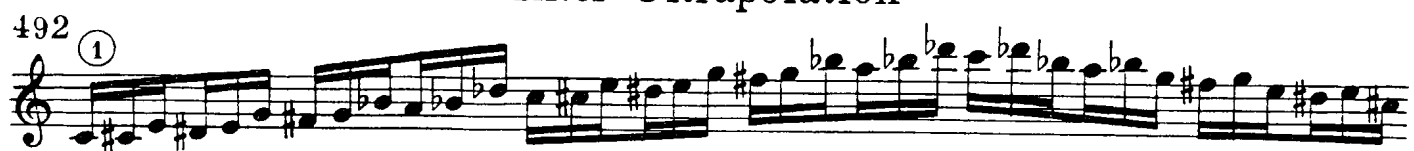


Infra - Interpolation





Inter-Ultrapolation





494 (1) (6) (12)



495 (1)



496 [Shostakovitch: Prelude №2]

(1) (3) (5) (7) (9) (11)



497 (5) (11)



498 (1) (3) (5) (7) (9) (11)



499 (1)



Infra-Ultrapolation

500 [12 Tones]
(5)

501 (5) (6) (11) (12)



502 (5) (6) (11) (12)

503 [12 Tones]
(6) (12)

504 (1) (3) (5) (7) (9) (11)

505 [12 Tones]
(5) (11)

506 (1) (3) (5) (7) (9) (11)





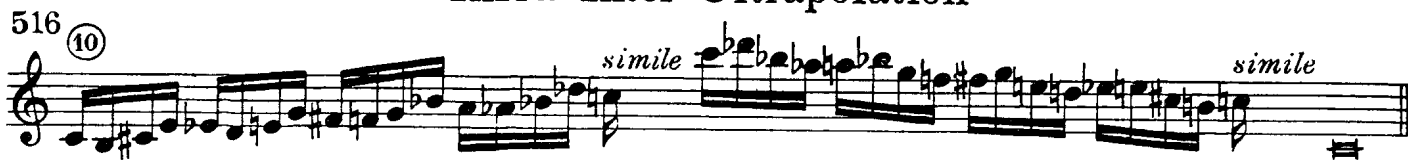
514 ① ③ ⑤ ⑦ ⑨ ⑪



515 ①



Infra-Inter-Ultrapolation







Miscellaneous Patterns

543 (10) *simile* *simile*

544 (3) *simile* *simile*

545 (2) *simile* *simile*

546 (1) (3) (5) (7) (9) (11) *simile* *simile*

547 (5) (11) *simile* *simile*

548 (1) *simile* *simile*

549 (10) *simile* *simile*

550 [Dominant seventh chords] (3) *simile* *simile*

551 (6) *simile* *simile*

552 ⁽⁹⁾ *simile* *simile*

553 ⁽¹⁾ *simile* *simile*

554 [Six-five chords] ⁽¹⁾ *simile* *simile*

555 ⁽³⁾ *simile* *simile*

556 ⁽⁶⁾ *simile* *simile*

557 ⁽⁹⁾ *simile* *simile*

558 [Six-four-three chords] ⁽⁹⁾ *simile* *simile*

559 ⁽¹⁾ *simile* *simile*

560 ⁽³⁾ *simile* *simile*

561 ⁽⁶⁾ *simile* *simile*

562 [Six-four-two chords]



565 ⑦ [Spiral]

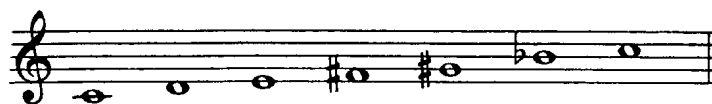


[Ravel: Jeux d'eau]



Whole-Tone Progression

Equal Division of One Octave into Six Parts



569



Harmonizations



Ultrappolation of One Note

570



571



572



573

Exercise 573 consists of two staves of music. The first staff begins with a treble clef and a key signature of one sharp (F#). It contains a series of eighth and sixteenth notes, some beamed together, with various accidentals (sharps and flats) throughout. The second staff continues the melodic line, also featuring complex rhythmic patterns and accidentals.

574

Exercise 574 is a single staff of music. It continues the style of the previous exercises, with a treble clef and a key signature of one sharp. The notation includes a variety of note values and accidentals, creating a complex melodic sequence.

575

Exercise 575 consists of two staves of music. The first staff starts with a treble clef and a key signature of one sharp. It features a series of eighth and sixteenth notes with various accidentals. The second staff continues the melodic line, maintaining the complex rhythmic and harmonic structure.

576

Exercise 576 is a single staff of music. It continues the melodic and rhythmic patterns from the previous exercises, featuring a treble clef and a key signature of one sharp with various note values and accidentals.

577

Exercise 577 consists of two staves of music. The first staff begins with a treble clef and a key signature of one sharp. It contains a series of eighth and sixteenth notes with various accidentals. The second staff continues the melodic line, maintaining the complex rhythmic and harmonic structure.

578

Exercise 578 consists of two staves of music. The first staff starts with a treble clef and a key signature of one sharp. It features a series of eighth and sixteenth notes with various accidentals. The second staff continues the melodic line, maintaining the complex rhythmic and harmonic structure.

Infrapolation of One Note

579

B - A - C - H



580



581



582



583



584



585



586



587



Infra-Interpolation

588



589



590



591



592



593



594



595

simile

simile

Musical staff 595: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

596

simile

simile

Musical staff 596: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

Infra-Ultrapolation

597

simile

simile

Musical staff 597: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

598

simile

simile

Musical staff 598: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

599

simile

simile

Musical staff 599: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

600

simile

simile

Musical staff 600: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

601

simile

simile

Musical staff 601: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

602

simile

simile

Musical staff 602: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

603

simile

simile

Musical staff 603: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.

604

simile

simile

Musical staff 604: Treble clef, key signature of one flat (B-flat). The staff contains a continuous sequence of eighth and sixteenth notes, mostly ascending. The word "simile" appears twice above the staff, indicating a continuation of the previous musical style.



Inter-Ultrapolation



Infra-Inter-Ultrapolation

81

624



631 *simile*

632 *simile*

633 *simile*

634 *simile*

635 *simile*

636 *simile*

Semitone Progression

Equal Division of One Octave into Twelve Parts



Harmonizations

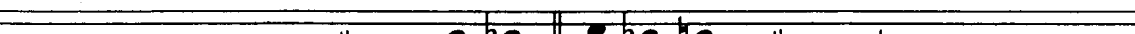


Permutations

637



Harmonization



The musical score for 'Harmonization' consists of two staves. The treble staff features a melody with notes G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4, B3, A3, G3, F#3, E3, D3, C3, B2, A2, G2, F#2, E2, D2, C2, B1, A1, G1, F#1, E1, D1, C1, B0, A0, G0, F#0, E0, D0, C0, B-1, A-1, G-1, F#-1, E-1, D-1, C-1, B-2, A-2, G-2, F#-2, E-2, D-2, C-2, B-3, A-3, G-3, F#-3, E-3, D-3, C-3, B-4, A-4, G-4, F#-4, E-4, D-4, C-4, B-5, A-5, G-5, F#-5, E-5, D-5, C-5, B-6, A-6, G-6, F#-6, E-6, D-6, C-6, B-7, A-7, G-7, F#-7, E-7, D-7, C-7, B-8, A-8, G-8, F#-8, E-8, D-8, C-8, B-9, A-9, G-9, F#-9, E-9, D-9, C-9, B-10, A-10, G-10, F#-10, E-10, D-10, C-10, B-11, A-11, G-11, F#-11, E-11, D-11, C-11, B-12, A-12, G-12, F#-12, E-12, D-12, C-12, B-13, A-13, G-13, F#-13, E-13, D-13, C-13, B-14, A-14, G-14, F#-14, E-14, D-14, C-14, B-15, A-15, G-15, F#-15, E-15, D-15, C-15, B-16, A-16, G-16, F#-16, E-16, D-16, C-16, B-17, A-17, G-17, F#-17, E-17, D-17, C-17, B-18, A-18, G-18, F#-18, E-18, D-18, C-18, B-19, A-19, G-19, F#-19, E-19, D-19, C-19, B-20, A-20, G-20, F#-20, E-20, D-20, C-20, B-21, A-21, G-21, F#-21, E-21, D-21, C-21, B-22, A-22, G-22, F#-22, E-22, D-22, C-22, B-23, A-23, G-23, F#-23, E-23, D-23, C-23, B-24, A-24, G-24, F#-24, E-24, D-24, C-24, B-25, A-25, G-25, F#-25, E-25, D-25, C-25, B-26, A-26, G-26, F#-26, E-26, D-26, C-26, B-27, A-27, G-27, F#-27, E-27, D-27, C-27, B-28, A-28, G-28, F#-28, E-28, D-28, C-28, B-29, A-29, G-29, F#-29, E-29, D-29, C-29, B-30, A-30, G-30, F#-30, E-30, D-30, C-30, B-31, A-31, G-31, F#-31, E-31, D-31, C-31, B-32, A-32, G-32, F#-32, E-32, D-32, C-32, B-33, A-33, G-33, F#-33, E-33, D-33, C-33, B-34, A-34, G-34, F#-34, E-34, D-34, C-34, B-35, A-35, G-35, F#-35, E-35, D-35, C-35, B-36, A-36, G-36, F#-36, E-36, D-36, C-36, B-37, A-37, G-37, F#-37, E-37, D-37, C-37, B-38, A-38, G-38, F#-38, E-38, D-38, C-38, B-39, A-39, G-39, F#-39, E-39, D-39, C-39, B-40, A-40, G-40, F#-40, E-40, D-40, C-40, B-41, A-41, G-41, F#-41, E-41, D-41, C-41, B-42, A-42, G-42, F#-42, E-42, D-42, C-42, B-43, A-43, G-43, F#-43, E-43, D-43, C-43, B-44, A-44, G-44, F#-44, E-44, D-44, C-44, B-45, A-45, G-45, F#-45, E-45, D-45, C-45, B-46, A-46, G-46, F#-46, E-46, D-46, C-46, B-47, A-47, G-47, F#-47, E-47, D-47, C-47, B-48, A-48, G-48, F#-48, E-48, D-48, C-48, B-49, A-49, G-49, F#-49, E-49, D-49, C-49, B-50, A-50, G-50, F#-50, E-50, D-50, C-50, B-51, A-51, G-51, F#-51, E-51, D-51, C-51, B-52, A-52, G-52, F#-52, E-52, D-52, C-52, B-53, A-53, G-53, F#-53, E-53, D-53, C-53, B-54, A-54, G-54, F#-54, E-54, D-54, C-54, B-55, A-55, G-55, F#-55, E-55, D-55, C-55, B-56, A-56, G-56, F#-56, E-56, D-56, C-56, B-57, A-57, G-57, F#-57, E-57, D-57, C-57, B-58, A-58, G-58, F#-58, E-58, D-58, C-58, B-59, A-59, G-59, F#-59, E-59, D-59, C-59, B-60, A-60, G-60, F#-60, E-60, D-60, C-60, B-61, A-61, G-61, F#-61, E-61, D-61, C-61, B-62, A-62, G-62, F#-62, E-62, D-62, C-62, B-63, A-63, G-63, F#-63, E-63, D-63, C-63, B-64, A-64, G-64, F#-64, E-64, D-64, C-64, B-65, A-65, G-65, F#-65, E-65, D-65, C-65, B-66, A-66, G-66, F#-66, E-66, D-66, C-66, B-67, A-67, G-67, F#-67, E-67, D-67, C-67, B-68, A-68, G-68, F#-68, E-68, D-68, C-68, B-69, A-69, G-69, F#-69, E-69, D-69, C-69, B-70, A-70, G-70, F#-70, E-70, D-70, C-70, B-71, A-71, G-71, F#-71, E-71, D-71, C-71, B-72, A-72, G-72, F#-72, E-72, D-72, C-72, B-73, A-73, G-73, F#-73, E-73, D-73, C-73, B-74, A-74, G-74, F#-74, E-74, D-74, C-74, B-75, A-75, G-75, F#-75, E-75, D-75, C-75, B-76, A-76, G-76, F#-76, E-76, D-76, C-76, B-77, A-77, G-77, F#-77, E-77, D-77, C-77, B-78, A-78, G-78, F#-78, E-78, D-78, C-78, B-79, A-79, G-79, F#-79, E-79, D-79, C-79, B-80, A-80, G-80, F#-80, E-80, D-80, C-80, B-81, A-81, G-81, F#-81, E-81, D-81, C-81, B-82, A-82, G-82, F#-82, E-82, D-82, C-82, B-83, A-83, G-83, F#-83, E-83, D-83, C-83, B-84, A-84, G-84, F#-84, E-84, D-84, C-84, B-85, A-85, G-85, F#-85, E-85, D-85, C-85, B-86, A-86, G-86, F#-86, E-86, D-86, C-86, B-87, A-87, G-87, F#-87, E-87, D-87, C-87, B-88, A-88, G-88, F#-88, E-88, D-88, C-88, B-89, A-89, G-89, F#-89, E-89, D-89, C-89, B-90, A-90, G-90, F#-90, E-90, D-90, C-90, B-91, A-91, G-91, F#-91, E-91, D-91, C-91, B-92, A-92, G-92, F#-92, E-92, D-92, C-92, B-93, A-93, G-93, F#-93, E-93, D-93, C-93, B-94, A-94, G-94, F#-94, E-94, D-94, C-94, B-95, A-95, G-95, F#-95, E-95, D-95, C-95, B-96, A-96, G-96, F#-96, E-96, D-96, C-96, B-97, A-97, G-97, F#-97, E-97, D-97, C-97, B-98, A-98, G-98, F#-98, E-98, D-98, C-98, B-99, A-99, G-99, F#-99, E-99, D-99, C-99, B-100, A-100, G-100, F#-100, E-100, D-100, C-100, B-101, A-101, G-101, F#-101, E-101, D-101, C-101, B-102, A-102, G-102, F#-102, E-102, D-102, C-102, B-103, A-103, G-103, F#-103, E-103, D-103, C-103, B-104, A-104, G-104, F#-104, E-104, D-104, C-104, B-105, A-105, G-105, F#-105, E-105, D-105, C-105, B-106, A-106, G-106, F#-106, E-106, D-106, C-106, B-107, A-107, G-107, F#-107, E-107, D-107, C-107, B-108, A-108, G-108, F#-108, E-108, D-108, C-108, B-109,

638

638

A musical score for a piano piece, numbered 638. The score is written on two staves, treble and bass. The key signature has one flat (B-flat), and the time signature is 2/4. The melody is primarily in the treble staff, while the bass staff provides a harmonic accompaniment. The piece concludes with a double bar line.

A musical score for the song 'The Rose Tree'. It consists of two staves, a treble staff and a bass staff, both in G major (one sharp) and 2/4 time. The melody is written in a simple, folk-like style with eighth and sixteenth notes. The lyrics 'The Rose Tree' are written below the bass staff.

Harmonization

Harmonization



The musical score for 'Harmonization' is written on two staves. The top staff is in treble clef and contains a melody of eighth and quarter notes. The bottom staff is in bass clef and contains a harmonic accompaniment consisting of chords of eighth and quarter notes. The key signature has one flat (B-flat), and the time signature is 4/4. The melody starts on a middle C and moves through various intervals, while the accompaniment provides a steady harmonic foundation.

639

639

A musical score for the song 'The Rose Tree'. It consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and the time signature is 2/4. The melody is written in a simple, folk-like style with eighth and sixteenth notes. The lyrics 'The Rose Tree' are written below the bottom staff.

A musical score for the song 'The Rose Tree'. It consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one flat (B-flat) and the time signature is 4/4. The melody is written in a simple, folk-like style with eighth and sixteenth notes. The lyrics 'The Rose Tree' are written below the bottom staff.

Harmonization



640



Harmonization



641



Harmonization

Harmonization

First system of musical notation. The top staff is a treble clef with a key signature of one flat (B-flat). The bottom staff is a bass clef with a key signature of one flat (B-flat). The notation includes various chords and melodic lines, with some notes marked with 'or' indicating alternative spellings or voicings.

Second system of musical notation. The top staff is a treble clef with a key signature of one flat (B-flat). The bottom staff is a bass clef with a key signature of one flat (B-flat). The notation includes various chords and melodic lines, with some notes marked with 'or' indicating alternative spellings or voicings.

642

Third system of musical notation. The top staff is a treble clef with a key signature of one flat (B-flat). The bottom staff is a bass clef with a key signature of one flat (B-flat). The notation includes various chords and melodic lines, with some notes marked with 'or' indicating alternative spellings or voicings.

Harmonization

First system of musical notation for exercise 643. It consists of a treble and bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and single notes, including a prominent octave 8 in the first measure.

643

Second system of musical notation for exercise 643. It continues the melodic and harmonic development from the first system, featuring complex rhythmic patterns and chromatic movement in both staves.

Harmonization

etc.

etc.

Third system of musical notation for exercise 643. It shows the continuation of the piece, with the word 'etc.' appearing above the treble staff in two places. The notation includes various chordal structures and melodic fragments.

644

First system of musical notation for exercise 644. It features a treble and bass staff with a melodic line in the treble and a more active, rhythmic accompaniment in the bass. An octave 8 is marked in the treble staff.

Second system of musical notation for exercise 644. It continues the piece with further melodic and harmonic development, including an octave 8 in the treble staff.

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first. The word "or" is written below the first system, indicating an alternative version of the accompaniment.

645

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first. The word "or" is written below the first system, indicating an alternative version of the accompaniment.

Harmonization

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first.

646

Two systems of musical notation. The first system consists of a treble staff and a bass staff. The treble staff contains a melodic line with various accidentals (sharps, flats, naturals). The bass staff contains a harmonic accompaniment with chords and eighth notes. The second system is identical to the first.

8

First system of music, measures 645-646. Treble and bass staves. Treble staff has a dotted line with an 8-measure rest over measures 645-646. The music is in a key with one flat (B-flat) and a common time signature.

647

Second system of music, measures 647-648. Treble and bass staves. Treble staff has a dotted line with an 8-measure rest over measures 647-648.

Third system of music, measures 649-650. Treble and bass staves. Treble staff has a dotted line with an 8-measure rest over measures 649-650.

Harmonization

Fourth system of music, measures 651-652. Treble and bass staves. Treble staff has a dotted line with an 8-measure rest over measures 651-652. The system includes a section labeled "or" with alternative bass line harmonizations.

90

648



649



650



651



652



653



654



655



656



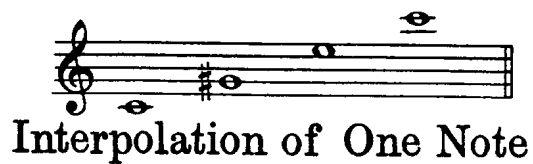
657



Quadritone Progression

91

Equal Division of Two Octaves into Three Parts



658



659



660



661



662



663



664



665



666



667



668



669



670



671



672





Interpolation of Three Notes

683

8

684

8

685

8

686

8

687

8

688

8

689

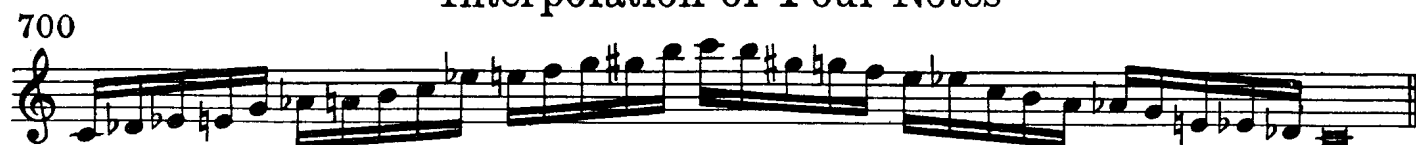
8

The image displays a musical score for a piece titled "Interpolation of Three Notes". The score is written for two staves, with the left staff in bass clef and the right staff in treble clef. The key signature is one flat (B-flat). The score is divided into measures, with measure numbers 683, 684, 685, 686, 687, 688, and 689 indicated. The notation includes various note values, including eighth and sixteenth notes, and rests. There are also dynamic markings such as "8" and "8" above the notes. The score is presented in a standard musical notation format, with a clear layout and a professional appearance.





Interpolation of Four Notes



705



706



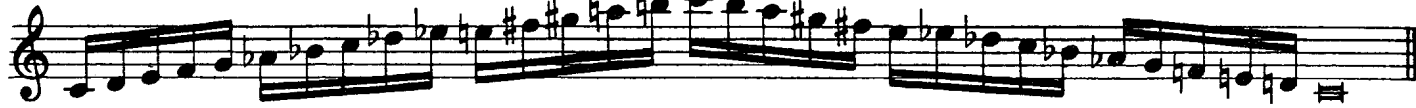
707



708



709



710



711



Ultrappolation of One Note

712



713



714



715



716



717

Infrapolation of One Note

[Rimsky-Korsakov: *Coq d'or*,
Scene II]

718 719

720 721 722 723

This section contains six measures of music, numbered 718 through 723. The notation is written in a system of two staves per measure, with the left staff in bass clef and the right staff in treble clef. The music consists of eighth and sixteenth notes, with various accidentals (sharps, flats, naturals) indicating chromatic alterations. The key signature changes from one sharp (F#) to one flat (Bb) between measures 720 and 721. The measures are grouped into three pairs, each separated by a double bar line.

Inter-Infrapolation

724 725 726 727

This section contains four measures of music, numbered 724 through 727. The notation continues the pattern of two staves per measure (bass and treble clefs). The music features complex chromatic patterns and accidentals, illustrating the concept of inter-infrapolation. The measures are grouped into two pairs, each separated by a double bar line.

Ultra-Interpolation

728

This section contains a single measure of music, numbered 728. The notation continues the pattern of two staves per measure (bass and treble clefs). The measure shows further chromatic complexity, illustrating the concept of ultra-interpolation.

729

730

731

732

Inter-Infra-Ultrapolation

733

734 [12 tones]

735 [12 tones]

736 [12 tones]

Sesquiquadritone Progression

Equal Division of Three Octaves into Four Parts



Interpolation of One Note

737

738

739

740

741

742

743

744

A sequence of musical notation across four staves, labeled 737 through 744. Each staff contains a series of notes, primarily eighth and sixteenth notes, with various accidentals (sharps, flats, naturals) indicating chromatic movement.

Interpolation of Two Notes

745

746

747

748

749 [12 tones]

A sequence of musical notation across four staves, labeled 745 through 749. The notation continues the chromatic progression from the previous section, with staff 749 labeled "[12 tones]" indicating a complete chromatic scale.



Interpolation of Three Notes



761



762



763



764



765



766



767



768



769



770



771



Interpolation of Four Notes

772



773



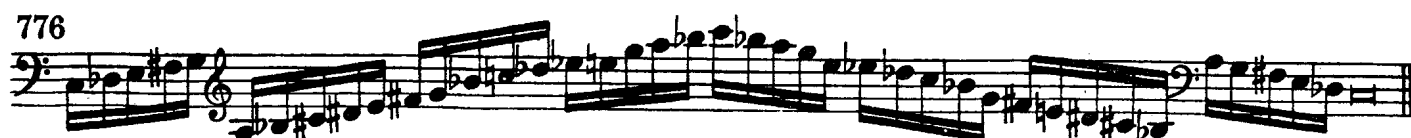
774



775



776



777



778



779



780



781

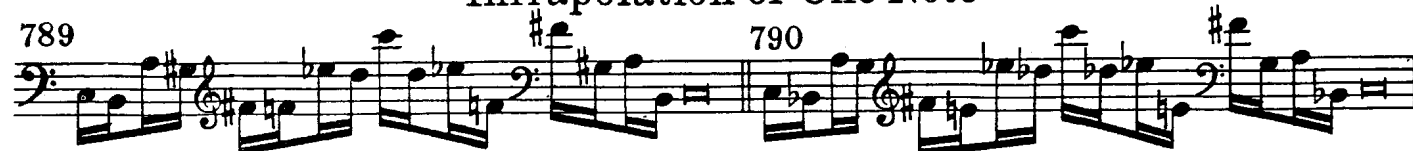




Ultrapolation of One Note



Infrapolation of One Note



Infra-Ultrapolation



Inter-Infrapolation

105



Inter-Infra-Interpolation



Ultra-Infra-Interpolation



Inter-Ultrapolation



Quinquetone Progression

Equal Division of Five Octaves into Six Parts



Interpolation of Two Notes

806

807

808

809

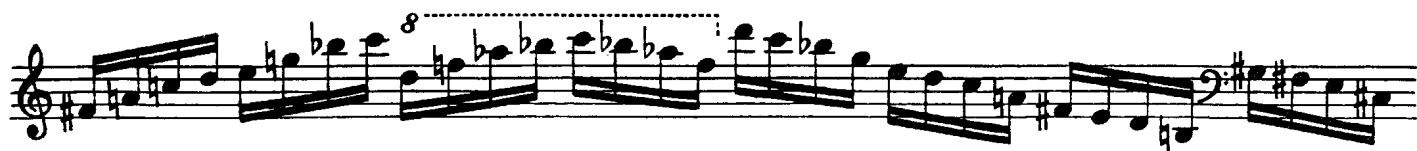
810

811

Diagram illustrating the Interpolation of Two Notes, showing a sequence of six measures (806-811) with complex, chromatic, and slurred melodic lines in both treble and bass staves. The notation includes various accidentals (sharps, flats, naturals) and slurs indicating the interpolation of two notes.



Interpolation of Three Notes



818

819

820

821

Ultrapolation of One Note

822

823

Infrapolation of One Note

824

825

Diatessaron Progression

109

Equal Division of Five Octaves into Twelve Parts



Interpolation of One Note

826



827



8



828



829



Interpolation of Two Notes

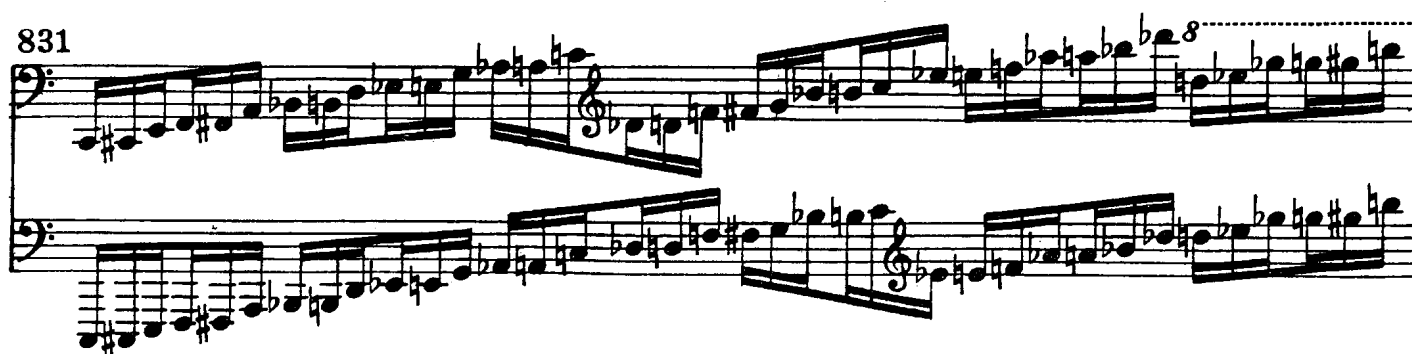
830

Phrygian Polytetrachord

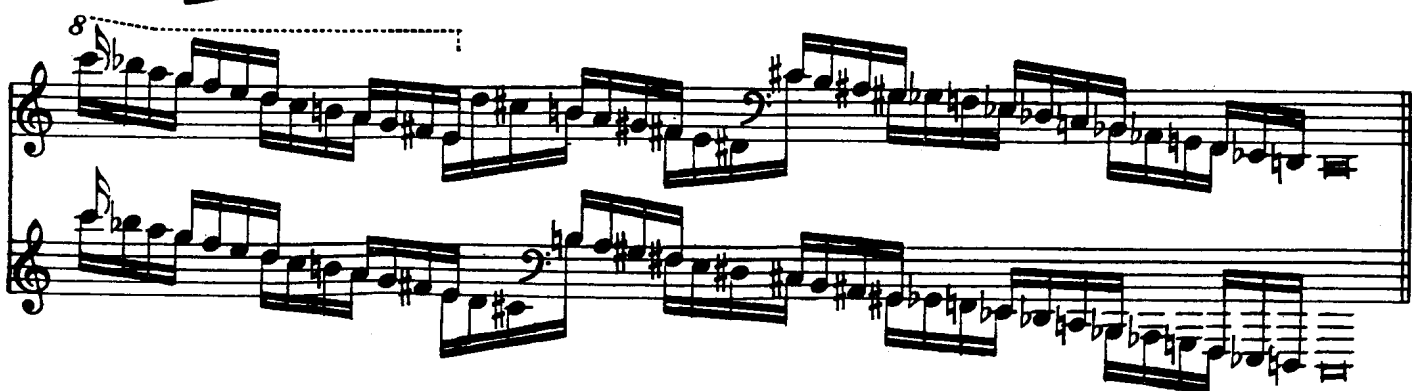




831



832 Minor Polytetrachord



833 Major Polytetrachord

Exercise 833, titled "Major Polytetrachord", is a musical exercise consisting of two systems of four staves each. The first system uses two bass staves and two treble staves. The second system uses two treble staves and two bass staves. The music is written in a key with one flat (B-flat) and a 2/4 time signature. It features a complex polytetrachord structure with various intervals and accidentals, including sharps and flats. A bracket with the number "8" is placed above the first staff of the second system, indicating an eighth-note rhythm. The exercise concludes with a double bar line on the final staff.

834

Exercise 834 is a musical exercise consisting of two systems of four staves each. The first system uses two bass staves and two treble staves. The second system uses two treble staves and two bass staves. The music is written in a key with one flat (B-flat) and a 2/4 time signature. It features a complex polytetrachord structure with various intervals and accidentals, including sharps and flats. A bracket with the number "8" is placed above the first staff of the second system, indicating an eighth-note rhythm. The exercise concludes with a double bar line on the final staff.

835

Exercise 835 consists of eight measures of music. The first four measures are written in bass clef, and the last four are in treble clef. The key signature has one sharp (F#). The melody is a continuous eighth-note scale. A dotted line with an '8' above it spans measures 5 through 8, indicating an eight-measure phrase. The notation includes various accidentals (sharps and flats) and a final double bar line.

836

Exercise 836 consists of eight measures of music. The first four measures are written in bass clef, and the last four are in treble clef. The key signature has one sharp (F#). The melody is a continuous eighth-note scale. A dotted line with an '8' above it spans measures 5 through 8, indicating an eight-measure phrase. The notation includes various accidentals (sharps and flats) and a final double bar line.

837

Exercise 837 is a musical exercise consisting of two systems, each with four staves. The notation is complex, featuring a variety of note values, rests, and accidentals (sharps, flats, and naturals). The first system includes a measure with an 8-measure rest. The second system also includes an 8-measure rest. The exercise is written in a key with one flat and a time signature of 4/4.

Ultrapolation of One Note

838

Exercise 838 is a musical exercise consisting of two staves. The notation is complex, featuring a variety of note values, rests, and accidentals (sharps, flats, and naturals). The exercise is written in a key with one flat and a time signature of 4/4.

839

Exercise 839 is a musical exercise consisting of two staves. The notation is complex, featuring a variety of note values, rests, and accidentals (sharps, flats, and naturals). The exercise is written in a key with one flat and a time signature of 4/4.

840

841

842

843

844

845

Ultrapolation of Two Notes

846

847

848

849



Ultrapolation of Three Notes



856



857



8



858



859



8



860



861



8



862



863





Infrapolation of One Note

871

872

873

874

875

Infrapolation of Two Notes

876

877

878



Infrapolation of Three Notes



120

887



888



889



Infra-Interpolation.

890



891



892



893



894



895



896



897

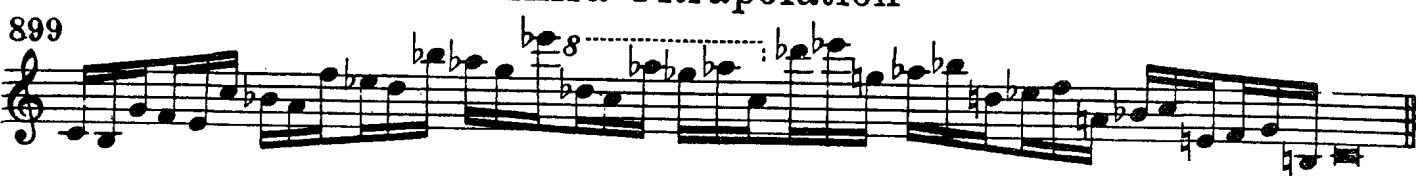


898



Infra-Ultrapolation

899



900



901



Inter-Ultrapolation

902

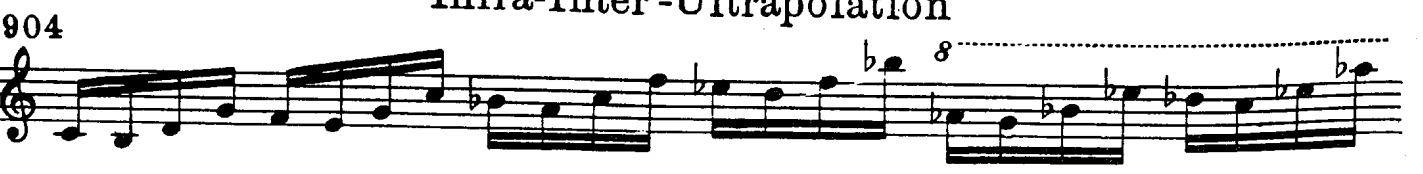


903



Infra-Inter-Ultrapolation

904



905

First staff of music for measure 905. It begins with a treble clef and a key signature of one flat (B-flat). The melody consists of eighth and sixteenth notes, with a dotted eighth note at the end. A slur with an '8' is placed over the final eighth note.

Second staff of music for measure 906. It continues the melody from the previous staff, featuring a double bar line in the middle. The key signature remains one flat.

Third staff of music for measure 907. It continues the melody, with a slur and an '8' over the final eighth note.

Fourth staff of music for measure 908. It continues the melody, with a double bar line in the middle.

Fifth staff of music for measure 909. It continues the melody, with a slur and an '8' over the final eighth note.

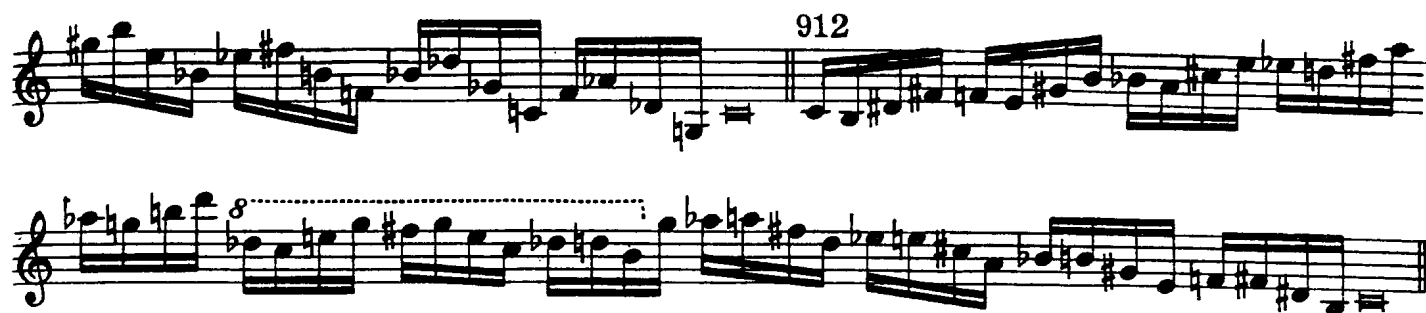
Sixth staff of music for measure 910. It continues the melody, with a double bar line in the middle.

Seventh staff of music for measure 911. It continues the melody, with a slur and an '8' over the final eighth note.

Eighth staff of music for measure 912. It continues the melody, with a double bar line in the middle.

Ninth staff of music for measure 913. It continues the melody, with a slur and an '8' over the final eighth note.

Tenth staff of music for measure 914. It continues the melody, with a double bar line in the middle.



Miscellaneous Patterns



Septitone Progression

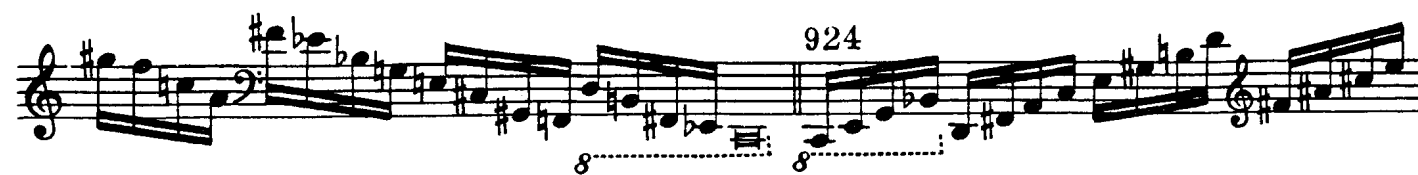
Equal Division of Seven Octaves into Six Parts



Interpolation of Two Notes



Interpolation of Three Notes



[Béla Bartók: Mikrokosmos, No. 143]



Diapente Progression

125

Equal Division of Seven Octaves into Twelve Parts



Interpolation of One Note

926

A musical score for the song 'The Rose Tree'. It consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one flat (B-flat). The melody is written in the treble staff, and the accompaniment is in the bass staff. The music is in 4/4 time. The score includes a key signature change to one sharp (F#) for the second system. The melody is a simple, catchy tune, and the accompaniment provides a steady, rhythmic foundation. The score is written in a clear, legible font, and the notes are well-placed on the staves. The overall style is that of a traditional folk song.

927

927

928

The musical score for Example 928 consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#) and one flat (Bb). The melody in the treble staff starts with a quarter note G4, followed by an eighth note A4, a quarter note Bb4, and a quarter note C5. The bass staff starts with a quarter note F#3, followed by an eighth note G3, a quarter note A3, and a quarter note Bb3. The piece concludes with a double bar line and repeat signs on both staves.

929

The musical score for exercise 929 consists of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The key signature has one sharp (F#). The melody in the top staff begins with a quarter rest, followed by eighth and sixteenth notes. The bass staff contains a continuous accompaniment of eighth and sixteenth notes. The piece concludes with a double bar line and repeat dots.

126

930



931



Interpolation of Two Notes

932



933



934



935

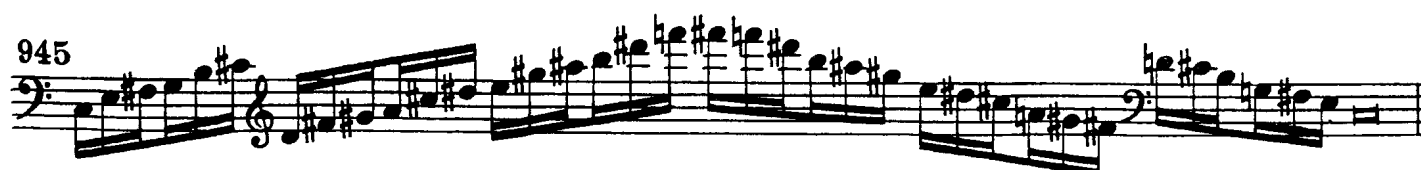
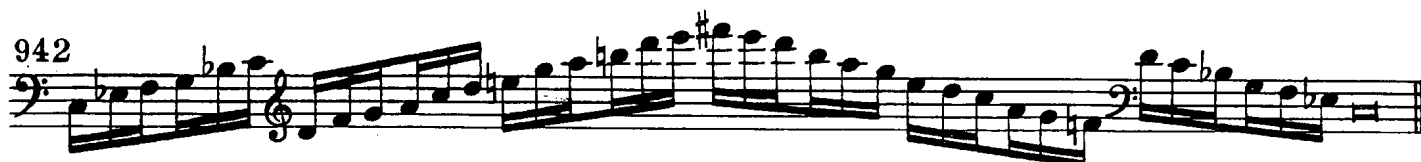
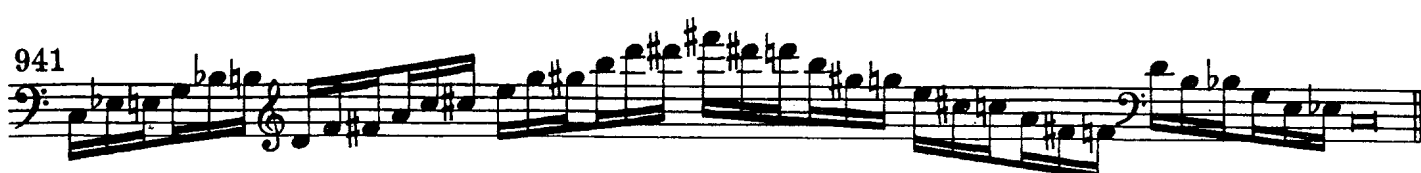
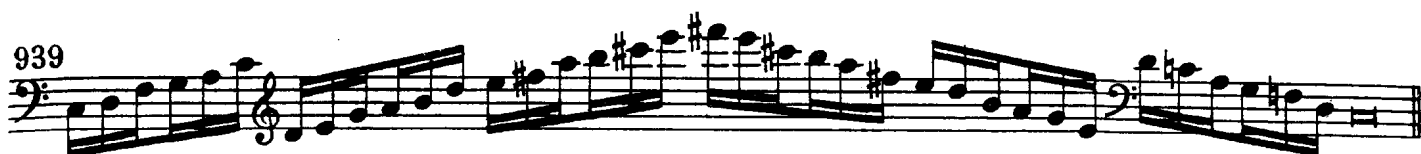


936



937





Interpolation of Three Notes



948



949



950



951 Disjunct Phrygian Polytetrachord



952



953



954



955



956 Disjunct Minor Polytetrachord



957



Disjunct Major Polytetrachord

958



Disjunct Lydian Polytetrachord

959



960



961



962



963



964



Ultrapolation of One Note

965



966



967





Ultrapolation of Two Notes

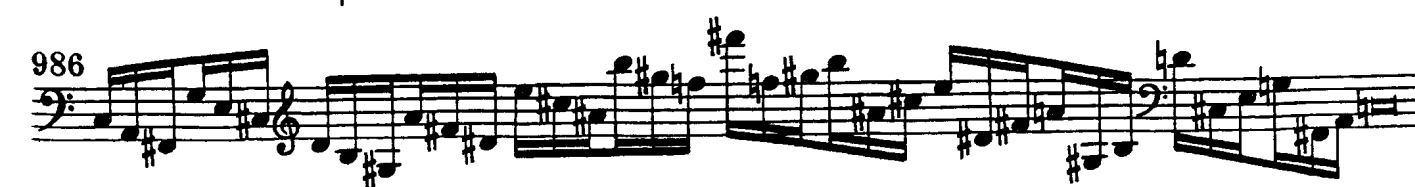
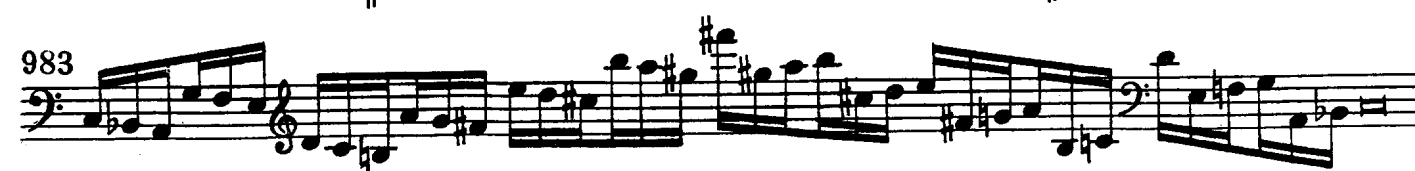


Infrapolation of One Note



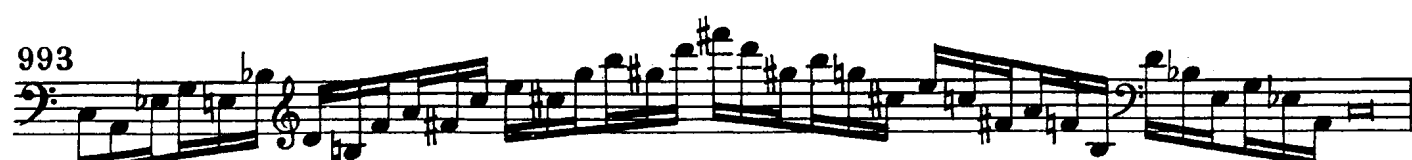
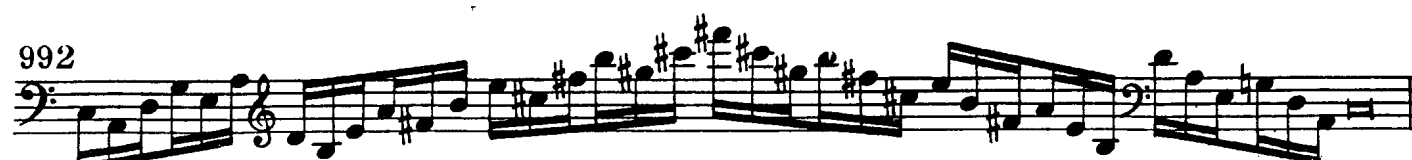
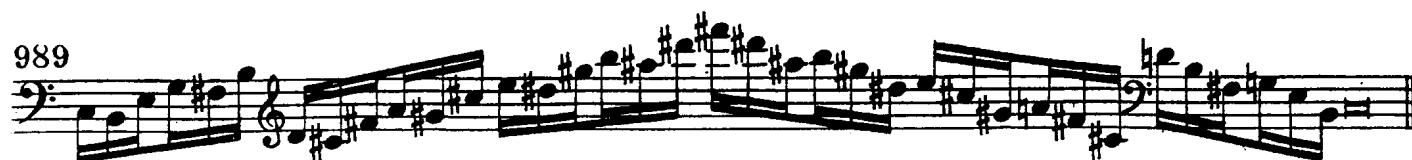


Infrapolation of Two Notes



Infra-Interpolation

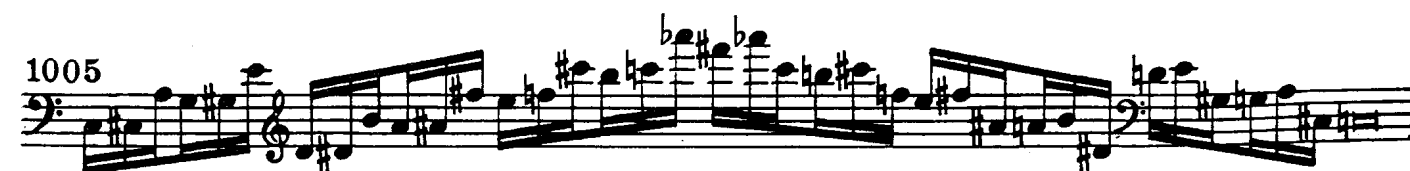




Infra-Ultrapolation



Inter-Ultrapolation



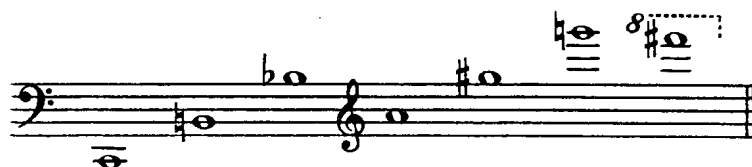


Infra-Inter-Ultrapolation



Sesquiquinquetone Progression

Equal Division of Eleven Octaves into Twelve Parts



Interpolation of One Note



Interpolation of Two Notes



Heptatonic Scales

137

1034

Scale 1034 is a natural major scale. The notation is presented in two systems. The first system shows the scale ascending and descending in a single line. The second system shows the scale ascending and descending in two lines, with the final measure of each line containing a whole note chord representing the tonic triad (C-E-G).

1035

Locrian

Scale 1035 is a Locrian scale. The notation is presented in two systems. The first system shows the scale ascending and descending in a single line. The second system shows the scale ascending and descending in two lines, with the final measure of each line containing a whole note chord representing the tonic triad (C-Eb-G).

1036

Phrygian

Scale 1036 is a Phrygian scale. The notation is presented in two systems. The first system shows the scale ascending and descending in a single line. The second system shows the scale ascending and descending in two lines, with the final measure of each line containing a whole note chord representing the tonic triad (C-Eb-G).

138
1037



1038



1039



1040

Aeolian

Two systems of musical notation for the Aeolian mode. Each system consists of a treble and bass staff. The first system shows a continuous melodic line in both staves. The second system shows a melodic line in the treble staff and a more complex, multi-measure bass line with some rests and accidentals.

1041

Dorian

Two systems of musical notation for the Dorian mode. Each system consists of a treble and bass staff. The first system shows a continuous melodic line in both staves. The second system shows a melodic line in the treble staff and a more complex, multi-measure bass line with some rests and accidentals.

1042

Minor Melodic

Two systems of musical notation for the Minor Melodic mode. Each system consists of a treble and bass staff. The first system shows a continuous melodic line in both staves. The second system shows a melodic line in the treble staff and a more complex, multi-measure bass line with some rests and accidentals.

140

1043



1044

Mixolydian



1045

Major



1046

[Howard Hanson: Symphony No 4]

141

Two systems of musical notation for measures 1046 and 1047. Each system consists of a treble and bass staff. The notation includes various notes, rests, and accidentals (sharps, flats, naturals). Measure 1047 ends with a double bar line and repeat signs.

1047

Lydian

Two systems of musical notation for measures 1047 and 1048. The first system is labeled 'Lydian'. Each system consists of a treble and bass staff. The notation includes various notes, rests, and accidentals. Measure 1048 ends with a double bar line and repeat signs.

1048

Two systems of musical notation for measures 1048 and 1049. Each system consists of a treble and bass staff. The notation includes various notes, rests, and accidentals. Measure 1049 ends with a double bar line and repeat signs.

142
1049

Exercise 142, measures 1049-1050. The notation is in treble and bass staves. The key signature has three sharps (F#, C#, G#). The melody in the treble staff starts on G#4 and ascends to A#4, then descends. The bass line starts on G#3 and ascends to A#3, then descends. The exercise concludes with a double bar line and a repeat sign.

Heptatonic Scales with an Augmented Second

1050

Exercise 1050, measures 1051-1052. The notation is in treble and bass staves. The key signature has two flats (Bb, Eb). The melody in the treble staff starts on Bb4 and ascends to Eb5, then descends. The bass line starts on Bb3 and ascends to Eb4, then descends. The exercise concludes with a double bar line and a repeat sign.

1051

Exercise 1051, measures 1053-1054. The notation is in treble and bass staves. The key signature has one flat (Bb). The melody in the treble staff starts on Bb4 and ascends to C5, then descends. The bass line starts on Bb3 and ascends to C4, then descends. The exercise concludes with a double bar line and a repeat sign.

1052

143

Exercise 1052 consists of four measures. Measures 1 and 2 are in treble and bass staves, featuring eighth-note runs in both hands. Measures 3 and 4 are in treble and bass staves, featuring quarter-note chords in both hands. The key signature has one sharp (F#).

1053

Exercise 1053 consists of four measures. Measures 1 and 2 are in treble and bass staves, featuring eighth-note runs in both hands. Measures 3 and 4 are in treble and bass staves, featuring quarter-note chords in both hands. The key signature has two flats (Bb, Eb).

1054

Exercise 1054 consists of four measures. Measures 1 and 2 are in treble and bass staves, featuring eighth-note runs in both hands. Measures 3 and 4 are in treble and bass staves, featuring quarter-note chords in both hands. The key signature has two flats (Bb, Eb).

144
1055

Two systems of musical notation. The first system contains measures 1055 and 1056. Each system consists of a treble and bass staff. The music is written in a key with one flat (B-flat) and a common time signature. The notation includes eighth and sixteenth notes, often beamed together, and rests. Measure 1056 ends with a double bar line. The second system contains measures 1057 and 1058, also in treble and bass staves, continuing the melodic and harmonic patterns.

1056

Two systems of musical notation. The first system contains measures 1057 and 1058. Each system consists of a treble and bass staff. The music continues with similar rhythmic and melodic patterns. Measure 1058 ends with a double bar line. The second system contains measures 1059 and 1060, continuing the piece.

1057

Two systems of musical notation. The first system contains measures 1059 and 1060. Each system consists of a treble and bass staff. The music concludes with sustained chords in the final measures. Measure 1060 ends with a double bar line.

1058

Exercise 1058 is a musical piece in 2/4 time, featuring a treble and bass staff. The melody in the treble staff begins with a half note G4, followed by eighth notes A4, B4, and C5, then a half note D5, and continues with a descending eighth-note scale: C5, B4, A4, G4, F4, E4, D4, C4. The bass staff provides a harmonic accompaniment with eighth-note chords and single notes, including a descending eighth-note scale: C4, D4, E4, F4, G4, A4, B4, C5. The piece concludes with a final chord of G4-B4-D5 in the treble and G3-B2-D3 in the bass.

1059

"Enigmatic Scale" of Verdi

Exercise 1059, titled "Enigmatic Scale" of Verdi, is in 2/4 time. The treble staff features a half note G4, followed by eighth notes A4, B4, and C5, then a half note D5, and continues with a descending eighth-note scale: C5, B4, A4, G4, F4, E4, D4, C4. The bass staff provides a harmonic accompaniment with eighth-note chords and single notes, including a descending eighth-note scale: C4, D4, E4, F4, G4, A4, B4, C5. The piece concludes with a final chord of G4-B4-D5 in the treble and G3-B2-D3 in the bass.

1060

Exercise 1060 is in 2/4 time. The treble staff begins with a half note G4, followed by eighth notes A4, B4, and C5, then a half note D5, and continues with a descending eighth-note scale: C5, B4, A4, G4, F4, E4, D4, C4. The bass staff provides a harmonic accompaniment with eighth-note chords and single notes, including a descending eighth-note scale: C4, D4, E4, F4, G4, A4, B4, C5. The piece concludes with a final chord of G4-B4-D5 in the treble and G3-B2-D3 in the bass.

146

1061



1062



1063



1064

Exercise 1064 is written for piano in G minor, 2/4 time. It consists of two systems. The first system has a treble staff with a melodic line and a bass staff with a supporting line. The second system continues the melody and includes a final chordal cadence in the right hand.

1065

Exercise 1065 is written for piano in G minor, 2/4 time. It consists of two systems. The first system has a treble staff with a melodic line and a bass staff with a supporting line. The second system continues the melody and includes a final chordal cadence in the right hand.

1066

Exercise 1066 is written for piano in G minor, 2/4 time. It consists of two systems. The first system has a treble staff with a melodic line and a bass staff with a supporting line. The second system continues the melody and includes a final chordal cadence in the right hand.

148
1067

Two systems of musical notation for measures 1067 and 1068. Each system consists of a treble and bass staff. The notation is in a key with three flats (B-flat, E-flat, A-flat) and a common time signature. The music features a complex, flowing melody with many beamed sixteenth and thirty-second notes. Measure 1068 concludes with a double bar line and a final chord in the treble staff.

1068

Two systems of musical notation for measures 1068 and 1069. Each system consists of a treble and bass staff. The notation is in a key with three flats (B-flat, E-flat, A-flat) and a common time signature. The music features a complex, flowing melody with many beamed sixteenth and thirty-second notes. Measure 1069 concludes with a double bar line and a final chord in the treble staff.

1069

Two systems of musical notation for measures 1069 and 1070. Each system consists of a treble and bass staff. The notation is in a key with three flats (B-flat, E-flat, A-flat) and a common time signature. The music features a complex, flowing melody with many beamed sixteenth and thirty-second notes. Measure 1070 concludes with a double bar line and a final chord in the treble staff.

1070

System 1070 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Both staves contain a series of eighth and sixteenth notes, mostly with flat accidentals. The system concludes with a double bar line, followed by a key signature change to two flats (B-flat and E-flat) and a final chord.

1071

System 1071 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Both staves contain a series of eighth and sixteenth notes, mostly with flat accidentals. The system concludes with a double bar line, followed by a key signature change to two flats (B-flat and E-flat) and a final chord.

1072

System 1072 consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. Both staves contain a series of eighth and sixteenth notes, mostly with flat accidentals. The system concludes with a double bar line, followed by a key signature change to two flats (B-flat and E-flat) and a final chord.

150
1073

Two systems of musical notation for measures 1073 and 1074. Each system consists of a treble and bass staff. The notation includes eighth and sixteenth notes, rests, and various accidentals (flats and naturals). Measure 1074 concludes with a double bar line and a key signature change to two flats.

1074

Two systems of musical notation for measures 1075 and 1076. Each system consists of a treble and bass staff. The notation includes eighth and sixteenth notes, rests, and various accidentals (flats and naturals). Measure 1076 concludes with a double bar line and a key signature change to two flats.

1075

Two systems of musical notation for measures 1077 and 1078. Each system consists of a treble and bass staff. The notation includes eighth and sixteenth notes, rests, and various accidentals (flats and naturals). Measure 1078 concludes with a double bar line and a key signature change to two flats.

1076

Two systems of musical notation for measure 1076. Each system consists of a treble and bass staff. The first system shows a melodic line in the treble and a supporting line in the bass, both featuring eighth and sixteenth notes with various accidentals. The second system continues the melodic line in the treble, while the bass staff provides harmonic support with chords and moving lines. The notation includes many flats and some naturals, indicating a complex harmonic structure.

1077

Two systems of musical notation for measure 1077. The notation is similar to the previous measure, with a treble and bass staff. The melodic line in the treble continues with eighth and sixteenth notes. The bass staff features a more active line with many accidentals, including flats and naturals, creating a rich harmonic texture.

1078

Minor Harmonic

Two systems of musical notation for measure 1078, labeled "Minor Harmonic". The notation continues the melodic and harmonic patterns from the previous measures. The treble staff shows a melodic line with eighth and sixteenth notes. The bass staff provides a complex harmonic foundation with many accidentals, including flats and naturals, characteristic of a minor harmonic style.

152

1079

Major Harmonic

Major Harmonic scale, measures 1079-1080. The notation shows the scale ascending and descending in both treble and bass staves, followed by a block chord progression in measure 1080.

Heptatonic Scales with Two Augmented Seconds

1080

Heptatonic Scales with Two Augmented Seconds, measures 1080-1081. The notation shows the scale ascending and descending in both treble and bass staves, followed by a block chord progression in measure 1081.

1081

Heptatonic Scales with Two Augmented Seconds, measures 1081-1082. The notation shows the scale ascending and descending in both treble and bass staves, followed by a block chord progression in measure 1082.

1082

Two systems of musical notation for measures 1082 and 1083. Each system consists of a treble and bass staff. The notation includes various note values, rests, and accidentals (flats and naturals). Measure 1083 ends with a double bar line, followed by a key signature change to two flats (B-flat and E-flat) indicated by a key signature symbol.

1083

Two systems of musical notation for measures 1084 and 1085. Each system consists of a treble and bass staff. The notation includes various note values, rests, and accidentals (flats and naturals). Measure 1085 ends with a double bar line, followed by a key signature change to one flat (B-flat) indicated by a key signature symbol.

1084

Two systems of musical notation for measures 1086 and 1087. Each system consists of a treble and bass staff. The notation includes various note values, rests, and accidentals (flats and naturals). Measure 1087 ends with a double bar line, followed by a key signature change to one flat (B-flat) indicated by a key signature symbol.

154

1085

Two systems of musical notation for measures 1085 and 1086. Each system consists of a treble and bass staff. The notation includes various musical symbols such as notes, rests, and accidentals (sharps, flats, and naturals). The first system (measures 1085-1086) shows a complex melodic line in the treble and a more rhythmic bass line. The second system (measures 1086-1087) continues the melodic development in the treble and features a more active bass line with many sixteenth notes.

1086

Two systems of musical notation for measures 1087 and 1088. Each system consists of a treble and bass staff. The notation includes various musical symbols such as notes, rests, and accidentals (sharps, flats, and naturals). The first system (measures 1087-1088) shows a complex melodic line in the treble and a more rhythmic bass line. The second system (measures 1088-1089) continues the melodic development in the treble and features a more active bass line with many sixteenth notes.

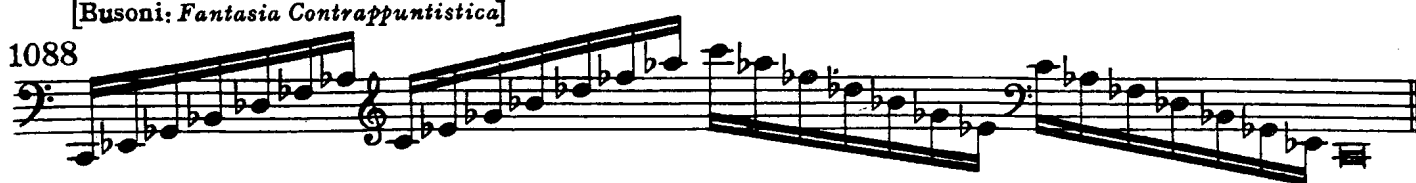
1087

Two systems of musical notation for measures 1089 and 1090. Each system consists of a treble and bass staff. The notation includes various musical symbols such as notes, rests, and accidentals (sharps, flats, and naturals). The first system (measures 1089-1090) shows a complex melodic line in the treble and a more rhythmic bass line. The second system (measures 1090-1091) continues the melodic development in the treble and features a more active bass line with many sixteenth notes.

Heptatonic Arpeggios

[Busoni: *Fantasia Contrappuntistica*]

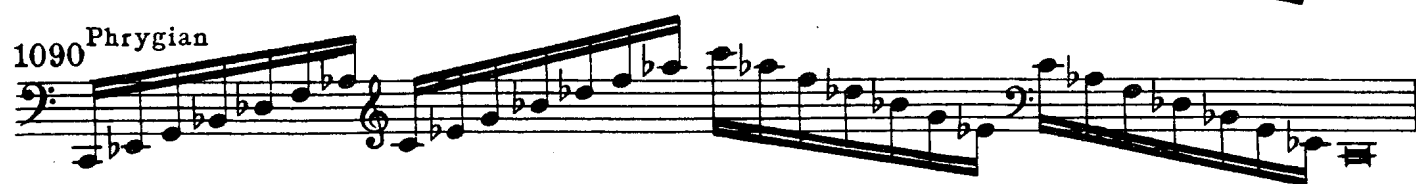
1088



1089 Locrian



1090 Phrygian



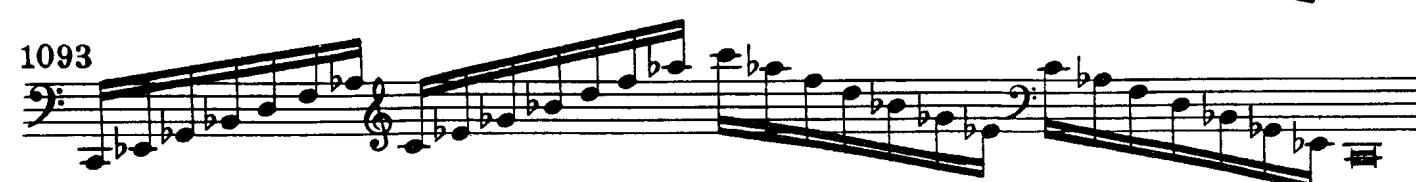
1091



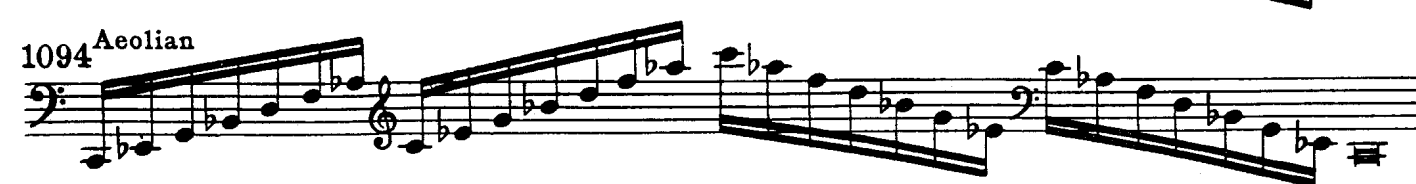
1092



1093



1094 Aeolian



1095 Dorian



1096 Minor Melodic



1097



1098

1098 Mixolydian



1099Major

1099 Major



1100

1100

A musical score for the song 'The Rose Tree'. It features a treble and bass staff. The melody is written in the treble staff, and the bass line is in the bass staff. The key signature has one sharp (F#), and the time signature is 4/4. The score includes a double bar line and a repeat sign at the end. The tempo is marked as 1100.

1101 Lydian

1101 Lydian



1102

1102

The image shows a musical score for a song titled "The Rose Tree". The score is written for two voices (Soprano and Alto) and piano accompaniment. The key signature is one sharp (F#), and the time signature is 4/4. The melody is a simple, ascending line. The piano accompaniment consists of a steady eighth-note pattern in the right hand and a simple bass line in the left hand.

1103

1103



1104

1104



1105

1105



1106

1106

1107

1108

1109

1107

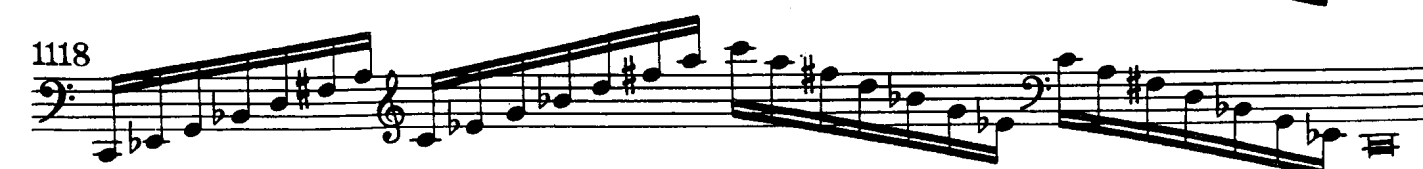
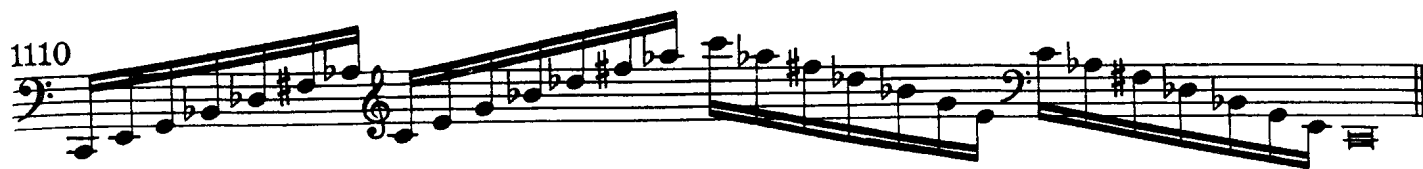
1107



1108

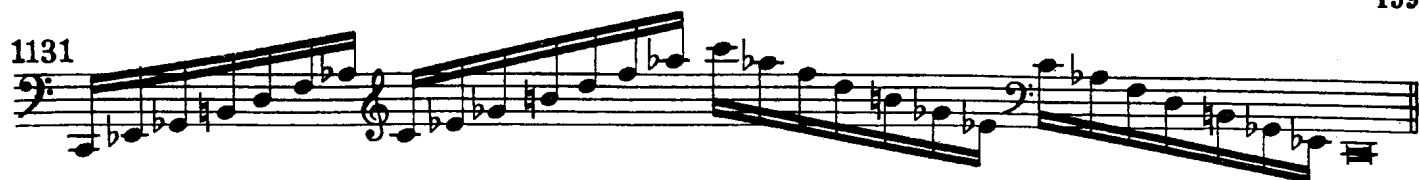
1108







1131



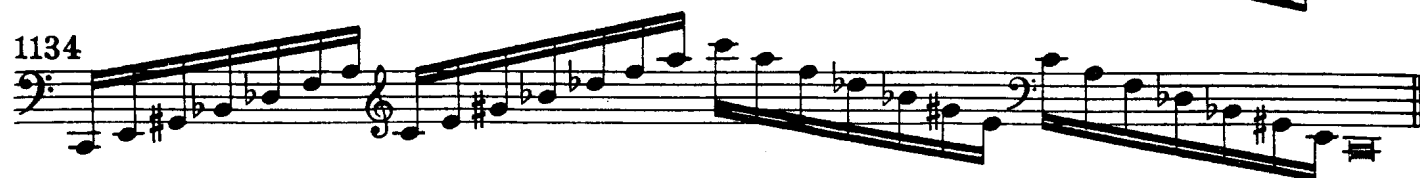
1132 Minor Harmonic



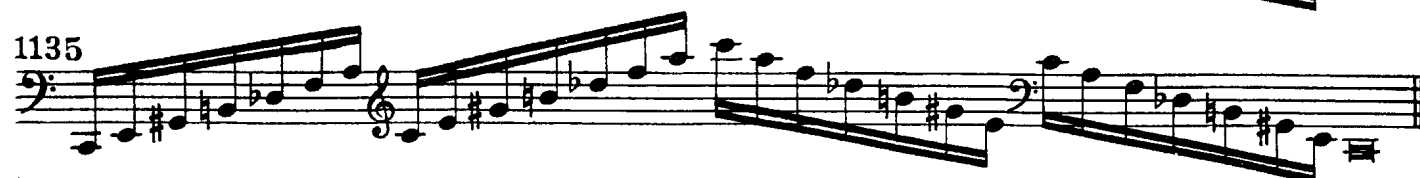
1133 Major Harmonic



1134



1135



1136



1137



1138



1139



1140



1141



Pentatonic Scales

1142



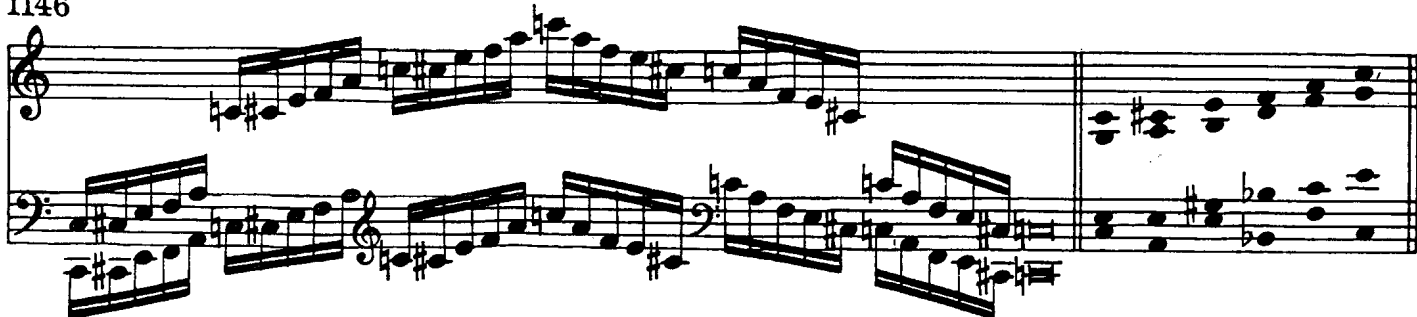
1143

1144 Javanese *Pelog* Scale

1145



1146



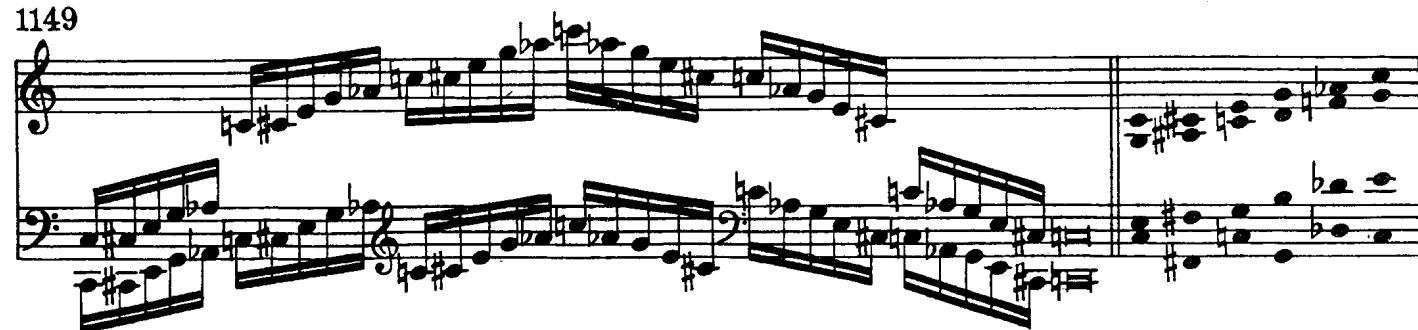
1147



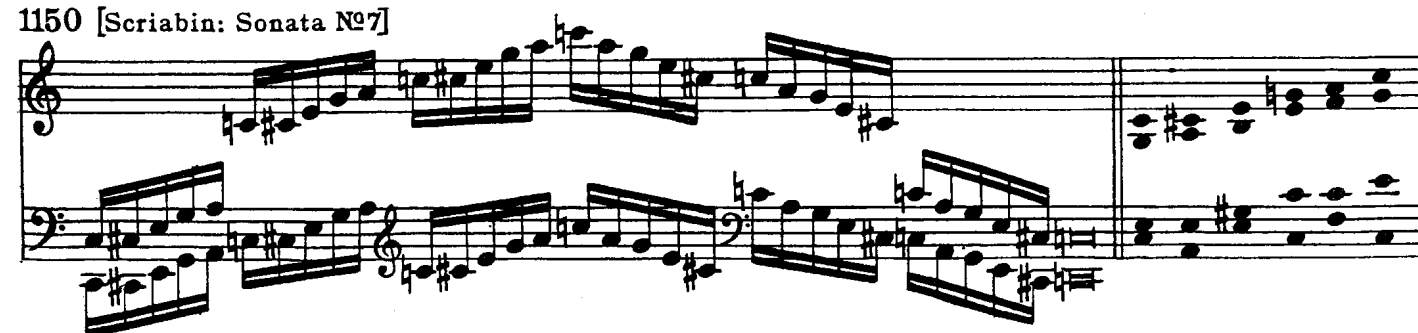
1148



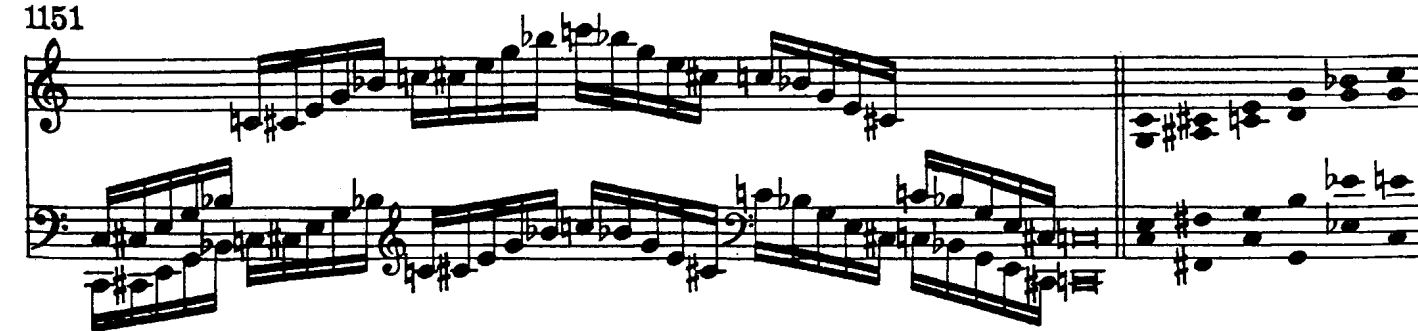
1149



1150 [Scriabin: Sonata №7]



1151



1152

1153 Japanese *Hira-Joshi* Scale

1154



1155



1156



1157

Measure 1157: Treble and bass staves. Treble staff: G4, A4, Bb4, C5, Bb4, A4, G4. Bass staff: F3, G3, A3, Bb3, C4, Bb3, A3, G3. Chords: G4-A4-Bb4, C5-Bb4-A4, G4-A4-Bb4, C5-Bb4-A4. Chord symbols: G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4.

1158

Measure 1158: Treble and bass staves. Treble staff: G4, A4, Bb4, C5, Bb4, A4, G4. Bass staff: F3, G3, A3, Bb3, C4, Bb3, A3, G3. Chords: G4-A4-Bb4, C5-Bb4-A4, G4-A4-Bb4, C5-Bb4-A4. Chord symbols: G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4.

1159

Measure 1159: Treble and bass staves. Treble staff: G4, A4, Bb4, C5, Bb4, A4, G4. Bass staff: F3, G3, A3, Bb3, C4, Bb3, A3, G3. Chords: G4-A4-Bb4, C5-Bb4-A4, G4-A4-Bb4, C5-Bb4-A4. Chord symbols: G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4.

1160

Measure 1160: Treble and bass staves. Treble staff: G4, A4, Bb4, C5, Bb4, A4, G4. Bass staff: F3, G3, A3, Bb3, C4, Bb3, A3, G3. Chords: G4-A4-Bb4, C5-Bb4-A4, G4-A4-Bb4, C5-Bb4-A4. Chord symbols: G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4.

1161

Measure 1161: Treble and bass staves. Treble staff: G4, A4, Bb4, C5, Bb4, A4, G4. Bass staff: F3, G3, A3, Bb3, C4, Bb3, A3, G3. Chords: G4-A4-Bb4, C5-Bb4-A4, G4-A4-Bb4, C5-Bb4-A4. Chord symbols: G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4, G4, A4, Bb4, C5, Bb4, A4.

164

1162

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with a key signature of one flat (B-flat). The first measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff. The second measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff.

1163

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with a key signature of one flat (B-flat). The first measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff. The second measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff.

1164

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with a key signature of one flat (B-flat). The first measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff. The second measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff.

1165

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with a key signature of one flat (B-flat). The first measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff. The second measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff.

1166

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with a key signature of one flat (B-flat). The first measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff. The second measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff.

1167

Two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. The music consists of eighth and sixteenth notes, with a key signature of one flat (B-flat). The first measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff. The second measure of the system contains a whole note chord in the bass staff and a whole note chord in the treble staff.

1168



1169



1170



1171



1172



1173



1174



1175



1176



1177



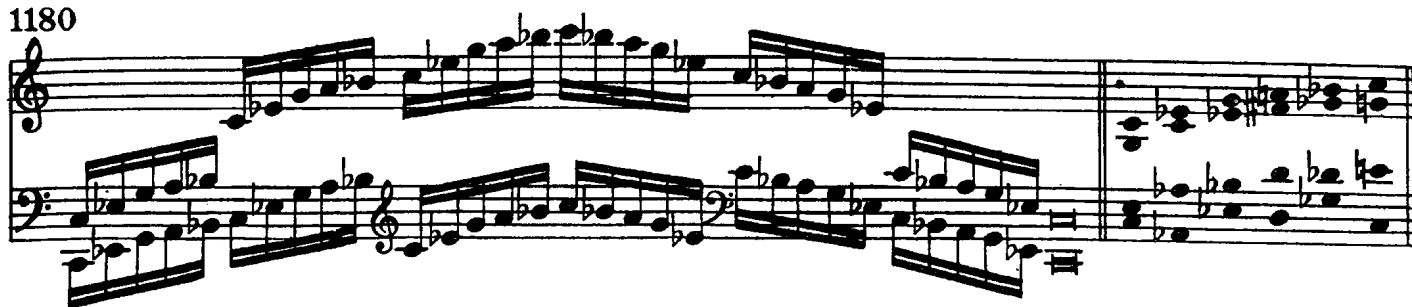
1178



1179



1180



1181



1182



1183



1184



1185



1186



1187



1188



1189

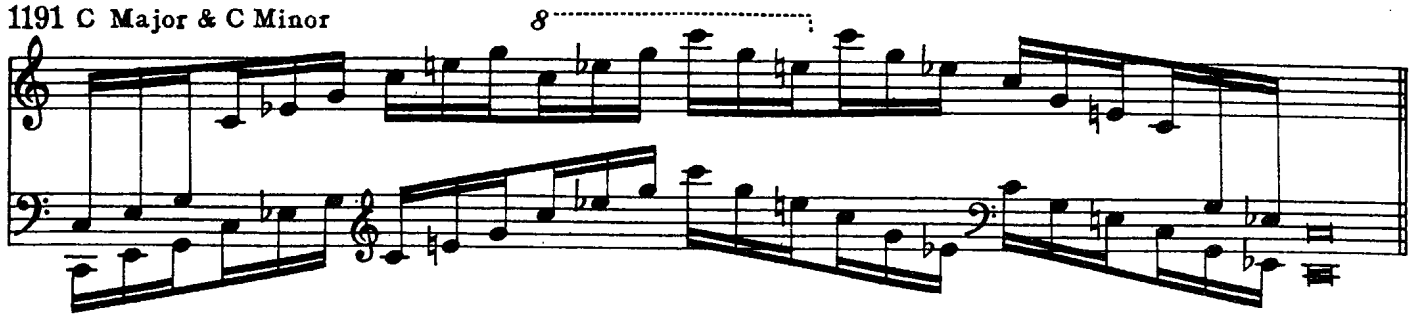


1190



Bitonal Arpeggios

1191 C Major & C Minor



1192 C Major & Db Major



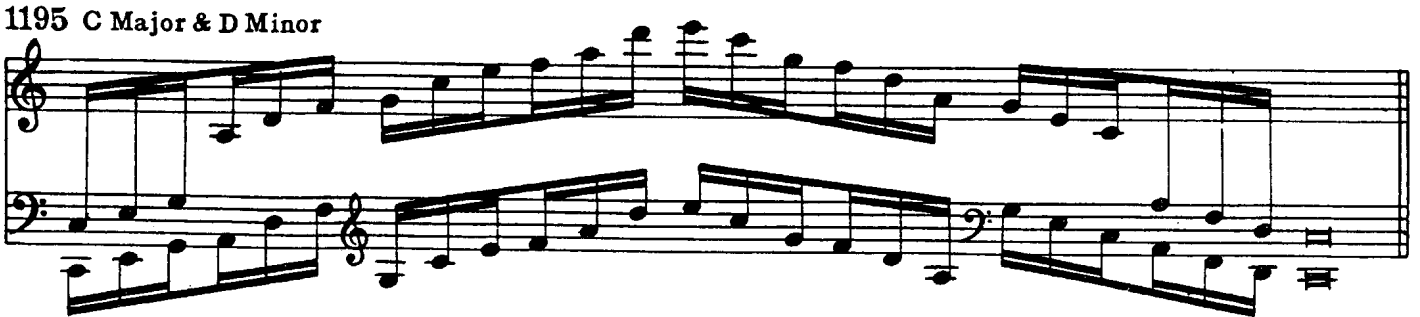
1193 C Major & C# Minor



1194 C Major & D Major



1195 C Major & D Minor



170

1196 C Major & Eb Major



1197 C Major & Eb Minor



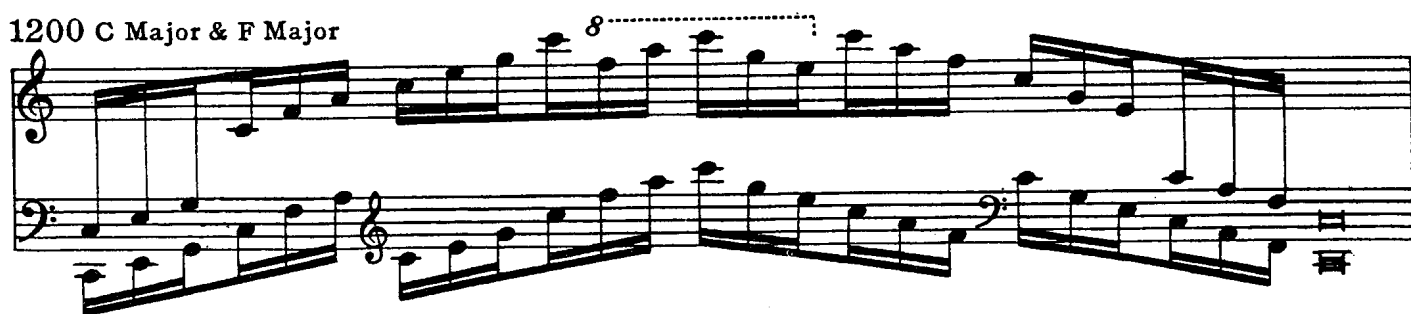
1198 C Major & E Major



1199 C Major & E Minor



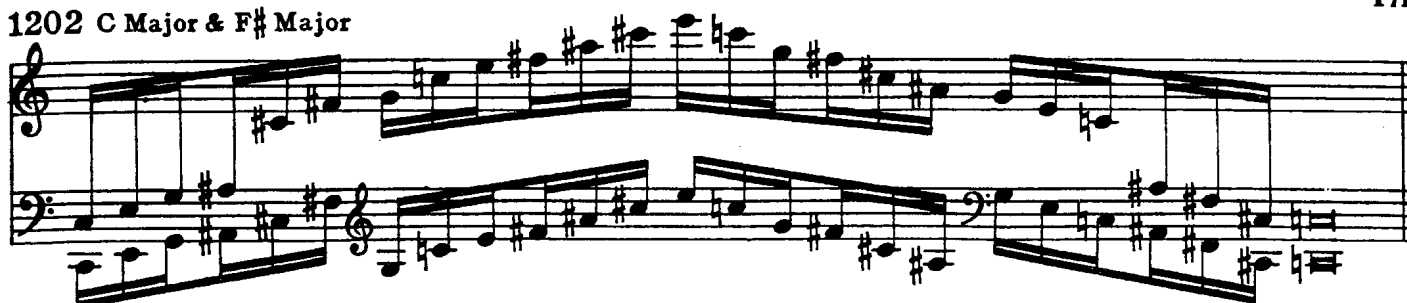
1200 C Major & F Major



1201 C Major & F Minor



1202 C Major & F# Major



1203 C Major & F# Minor



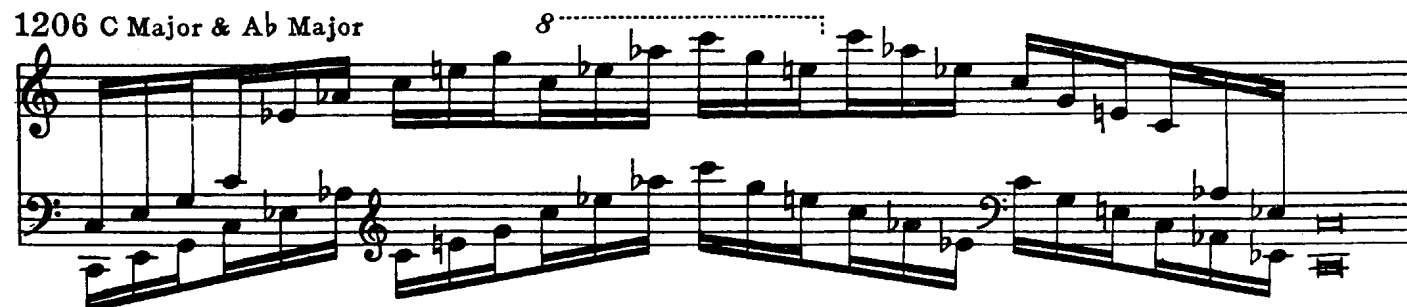
1204 C Major & G Major



1205 C Major & G Minor



1206 C Major & A♭ Major



1207 C Major & G# Minor



172

1208 C Major & A Major

Exercise 1208 is a two-staff musical piece in C Major and A Major. The treble staff begins with a treble clef and a key signature of one sharp (F#). The bass staff begins with a bass clef and a key signature of one sharp (F#). The piece consists of a series of eighth and sixteenth notes, with a final measure containing a whole note chord.

1209 C Major & A Minor

Exercise 1209 is a two-staff musical piece in C Major and A Minor. The treble staff begins with a treble clef and a key signature of one sharp (F#). The bass staff begins with a bass clef and a key signature of one sharp (F#). The piece consists of a series of eighth and sixteenth notes, with a final measure containing a whole note chord. An 8-measure repeat sign is indicated above the treble staff.

1210 C Major & Bb Major

Exercise 1210 is a two-staff musical piece in C Major and Bb Major. The treble staff begins with a treble clef and a key signature of two flats (Bb, Eb). The bass staff begins with a bass clef and a key signature of two flats (Bb, Eb). The piece consists of a series of eighth and sixteenth notes, with a final measure containing a whole note chord.

1211 C Major & Bb Minor

Exercise 1211 is a two-staff musical piece in C Major and Bb Minor. The treble staff begins with a treble clef and a key signature of two flats (Bb, Eb). The bass staff begins with a bass clef and a key signature of two flats (Bb, Eb). The piece consists of a series of eighth and sixteenth notes, with a final measure containing a whole note chord.

1212 C Major & B Major

Exercise 1212 is a two-staff musical piece in C Major and B Major. The treble staff begins with a treble clef and a key signature of two sharps (F#, C#). The bass staff begins with a bass clef and a key signature of two sharps (F#, C#). The piece consists of a series of eighth and sixteenth notes, with a final measure containing a whole note chord.

1213 C Major & B Minor

Exercise 1213 is a two-staff musical piece in C Major and B Minor. The treble staff begins with a treble clef and a key signature of two sharps (F#, C#). The bass staff begins with a bass clef and a key signature of two sharps (F#, C#). The piece consists of a series of eighth and sixteenth notes, with a final measure containing a whole note chord.

Twelve-Tone Patterns

Dodecaphonic

173

1214a Thirds

1214b[Retrograde Pattern]



1215a Fourths

1215b



1216a

1216b



1217a

1217b



1218a

1218b



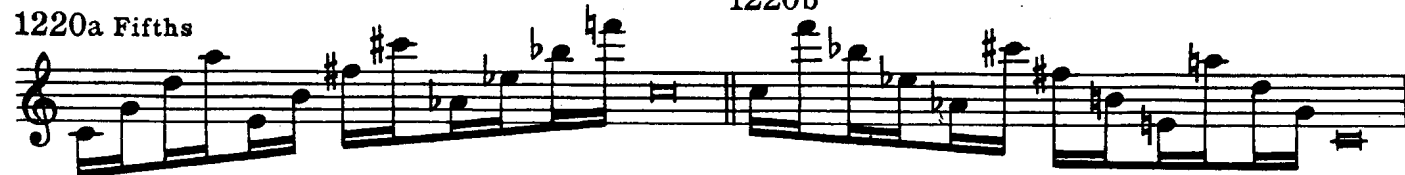
1219a

1219b



1220a Fifths

1220b



1221a

1221b



1222a

1222b



1223a Sixths

1223b

1225a  1225b 

1226a Minor Sevenths

1226b

1226a

1226b

Major Sevenths

1229a

1229b

The image shows two musical staves, 1229a and 1229b, illustrating Major Sevenths. Staff 1229a contains a sequence of notes: G4, A4, B4, C5, D5, E5, F#5, G5, A5, B5, C6, D6, E6, F#6, G6, A6, B6, C7, D7, E7, F#7, G7, A7, B7, C8, D8, E8, F#8, G8, A8, B8, C9, D9, E9, F#9, G9, A9, B9, C10, D10, E10, F#10, G10, A10, B10, C11, D11, E11, F#11, G11, A11, B11, C12, D12, E12, F#12, G12, A12, B12, C13, D13, E13, F#13, G13, A13, B13, C14, D14, E14, F#14, G14, A14, B14, C15, D15, E15, F#15, G15, A15, B15, C16, D16, E16, F#16, G16, A16, B16, C17, D17, E17, F#17, G17, A17, B17, C18, D18, E18, F#18, G18, A18, B18, C19, D19, E19, F#19, G19, A19, B19, C20, D20, E20, F#20, G20, A20, B20, C21, D21, E21, F#21, G21, A21, B21, C22, D22, E22, F#22, G22, A22, B22, C23, D23, E23, F#23, G23, A23, B23, C24, D24, E24, F#24, G24, A24, B24, C25, D25, E25, F#25, G25, A25, B25, C26, D26, E26, F#26, G26, A26, B26, C27, D27, E27, F#27, G27, A27, B27, C28, D28, E28, F#28, G28, A28, B28, C29, D29, E29, F#29, G29, A29, B29, C30, D30, E30, F#30, G30, A30, B30, C31, D31, E31, F#31, G31, A31, B31, C32, D32, E32, F#32, G32, A32, B32, C33, D33, E33, F#33, G33, A33, B33, C34, D34, E34, F#34, G34, A34, B34, C35, D35, E35, F#35, G35, A35, B35, C36, D36, E36, F#36, G36, A36, B36, C37, D37, E37, F#37, G37, A37, B37, C38, D38, E38, F#38, G38, A38, B38, C39, D39, E39, F#39, G39, A39, B39, C40, D40, E40, F#40, G40, A40, B40, C41, D41, E41, F#41, G41, A41, B41, C42, D42, E42, F#42, G42, A42, B42, C43, D43, E43, F#43, G43, A43, B43, C44, D44, E44, F#44, G44, A44, B44, C45, D45, E45, F#45, G45, A45, B45, C46, D46, E46, F#46, G46, A46, B46, C47, D47, E47, F#47, G47, A47, B47, C48, D48, E48, F#48, G48, A48, B48, C49, D49, E49, F#49, G49, A49, B49, C50, D50, E50, F#50, G50, A50, B50, C51, D51, E51, F#51, G51, A51, B51, C52, D52, E52, F#52, G52, A52, B52, C53, D53, E53, F#53, G53, A53, B53, C54, D54, E54, F#54, G54, A54, B54, C55, D55, E55, F#55, G55, A55, B55, C56, D56, E56, F#56, G56, A56, B56, C57, D57, E57, F#57, G57, A57, B57, C58, D58, E58, F#58, G58, A58, B58, C59, D59, E59, F#59, G59, A59, B59, C60, D60, E60, F#60, G60, A60, B60, C61, D61, E61, F#61, G61, A61, B61, C62, D62, E62, F#62, G62, A62, B62, C63, D63, E63, F#63, G63, A63, B63, C64, D64, E64, F#64, G64, A64, B64, C65, D65, E65, F#65, G65, A65, B65, C66, D66, E66, F#66, G66, A66, B66, C67, D67, E67, F#67, G67, A67, B67, C68, D68, E68, F#68, G68, A68, B68, C69, D69, E69, F#69, G69, A69, B69, C70, D70, E70, F#70, G70, A70, B70, C71, D71, E71, F#71, G71, A71, B71, C72, D72, E72, F#72, G72, A72, B72, C73, D73, E73, F#73, G73, A73, B73, C74, D74, E74, F#74, G74, A74, B74, C75, D75, E75, F#75, G75, A75, B75, C76, D76, E76, F#76, G76, A76, B76, C77, D77, E77, F#77, G77, A77, B77, C78, D78, E78, F#78, G78, A78, B78, C79, D79, E79, F#79, G79, A79, B79, C80, D80, E80, F#80, G80, A80, B80, C81, D81, E81, F#81, G81, A81, B81, C82, D82, E82, F#82, G82, A82, B82, C83, D83, E83, F#83, G83, A83, B83, C84, D84, E84, F#84, G84, A84, B84, C85, D85, E85, F#85, G85, A85, B85, C86, D86, E86, F#86, G86, A86, B86, C87, D87, E87, F#87, G87, A87, B87, C88, D88, E88, F#88, G88, A88, B88, C89, D89, E89, F#89, G89, A89, B89, C90, D90, E90, F#90, G90, A90, B90, C91, D91, E91, F#91, G91, A91, B91, C92, D92, E92, F#92, G92, A92, B92, C93, D93, E93, F#93, G93, A93, B93, C94, D94, E94, F#94, G94, A94, B94, C95, D95, E95, F#95, G95, A95, B95, C96, D96, E96, F#96, G96, A96, B96, C97, D97, E97, F#97, G97, A97, B97, C98, D98, E98, F#98, G98, A98, B98, C99, D99, E99, F#99, G99, A99, B99, C100, D100, E100, F#100, G100, A100, B100, C101, D101, E101, F#101, G101, A101, B101, C102, D102, E102, F#102, G102, A102, B102, C103, D103, E103, F#103, G103, A103, B103, C104, D104, E104, F#104, G104, A104, B104, C105, D105, E105, F#105, G105, A105, B105, C106, D106, E106, F#106, G106, A106, B106, C107, D107, E107, F#107, G107, A107, B107, C108, D108, E108, F#108, G108, A108, B108, C109, D109, E109, F#109, G109, A109, B109, C110, D110, E110, F#110, G110, A110, B110, C111, D111, E111, F#111, G111, A111, B111, C112, D112, E112, F#112, G112, A112, B112, C113, D113, E113, F#113, G113, A113, B113, C114, D114, E114, F#114, G114, A114, B114, C115, D115, E115, F#115, G115, A115, B115, C116, D116, E116, F#116, G116, A116, B116, C117, D117, E117, F#117, G117, A117, B117, C118, D118, E118, F#118, G118, A118, B118, C119, D119, E119, F#119, G119, A119, B119, C120, D120, E120, F#120, G120, A120, B120, C121, D121, E121, F#121, G121, A121, B121, C122, D122, E122, F#122, G122, A122, B122, C123, D123, E123, F#123, G123, A123, B123, C124, D124, E124, F#124, G124, A124, B124, C125, D125, E125, F#125, G125, A125, B125, C126, D126, E126, F#126, G126, A126, B126, C127, D127, E127, F#127, G127, A127, B127, C128, D128, E128, F#128, G128, A128, B128, C129, D129, E129, F#129, G129, A129, B129, C130, D130, E130, F#130, G130, A130, B130, C131, D131, E131, F#131, G131, A131, B131, C132, D132, E132, F#132, G132, A132, B132, C133, D133, E133, F#133, G133, A133, B133, C134, D134, E134, F#134, G134, A134, B134, C135, D135, E13

Twelve-Tone Spirals

175

1232a

1232b



1233a

1233b



1234a

1234b



1235a

1235b



1236a Converging and Diverging Whole-Tone Scales

1236b



1237a

1237b



1238a

1238b



1239a

1239b



1240a

1240b



Mutually Exclusive Diminished-Seventh Chords

1241a 1241b

Exercise 1241a shows a sequence of notes on a single staff: F#4, G#4, A4, Bb4, C5, D5, Eb5, F#5. Exercise 1241b shows a sequence of notes on a single staff: G#4, A4, Bb4, C5, D5, Eb5, F#5, G#5. Both exercises are in treble clef with a key signature of one sharp (F#).

Mutually Exclusive Augmented Triads

1242a 1242b

Exercise 1242a shows a sequence of notes on a single staff: F#4, G#4, A4, Bb4, C5, D5, Eb5, F#5. Exercise 1242b shows a sequence of notes on a single staff: G#4, A4, Bb4, C5, D5, Eb5, F#5, G#5. Both exercises are in treble clef with a key signature of one sharp (F#).

Crossing Intervals

Crossing Sixths

1243a 1243b

Exercise 1243a shows a sequence of notes on a single staff: F#4, G#4, A4, Bb4, C5, D5, Eb5, F#5. Exercise 1243b shows a sequence of notes on a single staff: G#4, A4, Bb4, C5, D5, Eb5, F#5, G#5. Both exercises are in treble clef with a key signature of one sharp (F#).

1244a 1244b

Exercise 1244a shows a sequence of notes on a single staff: F#4, G#4, A4, Bb4, C5, D5, Eb5, F#5. Exercise 1244b shows a sequence of notes on a single staff: G#4, A4, Bb4, C5, D5, Eb5, F#5, G#5. Both exercises are in treble clef with a key signature of one sharp (F#).

Crossing Fifths

1245a 1245b

Exercise 1245a shows a sequence of notes on a single staff: F#4, G#4, A4, Bb4, C5, D5, Eb5, F#5. Exercise 1245b shows a sequence of notes on a single staff: G#4, A4, Bb4, C5, D5, Eb5, F#5, G#5. Both exercises are in treble clef with a key signature of one sharp (F#).

Crossing Fourths

1246a 1246b

Exercise 1246a shows a sequence of notes on a single staff: F#4, G#4, A4, Bb4, C5, D5, Eb5, F#5. Exercise 1246b shows a sequence of notes on a single staff: G#4, A4, Bb4, C5, D5, Eb5, F#5, G#5. Both exercises are in treble clef with a key signature of one sharp (F#).

1247a Crossing Thirds

1247b



1248a

1248b



1249a

1249b



1250a Crossing Seconds

1250b



Division of Twelve Tones into Four Mutually Exclusive Triads

Two Major and Two Minor Triads



Two Augmented, One Major, One Minor Triads



Augmented, Major, Minor, Diminished Triads



Two Diminished, One Major, One Minor Triads



Four Augmented Triads



Quadritonal Arpeggios

1251



1252



1253



1254

1255 [Slonimsky: *Moto Perpetuo*]

1256



1257



1258



1259



1260



1261



1262



1263



1264



1265



1266



1267



1268



1269



1270



1271



Inversions

1272



1273



1274



1275



1276



1277



1278



1279



1280



1281



1282



1283



1284



1285



182

1286



1287



1288



1289



1290



1291



1292



Miscellaneous Dodecaphonic Patterns

1293 Two Major Hexachords



1294



1295



1296



1297



1298



1299



1300



Invertible Dodecaphonic Progressions

With All Different Intervals

(Figures indicate number of semitones)

1301

1302

Inversion

1303

1304

On a Minor Triad

Inversion

On a Major Sixth-Chord

1305

1306

On a Major Triad

Inversion

On a Minor Sixth-Chord

1307

1308

On a Minor Six-Four Chord

Inversion

Detailed description: The image displays eight musical exercises, numbered 1301 through 1308, arranged in four pairs. Each exercise is written for piano on a grand staff (treble and bass clefs). The exercises are based on different harmonic structures: 1301 and 1302 are general dodecaphonic progressions; 1303 and 1304 are based on a minor triad; 1305 and 1306 are based on a major sixth-chord and a major triad respectively; 1307 and 1308 are based on a minor sixth-chord and a minor six-four chord respectively. Each exercise consists of two measures, with the second measure being an inversion of the first. Interval numbers (1-11) are written above or below the notes to specify the semitone distance between consecutive notes. The key signatures vary: 1301 and 1302 are in C major; 1303 and 1304 are in A minor; 1305 and 1306 are in F major; 1307 and 1308 are in D minor.

On a Major Six-Four Chord

1309

Inversion

1310

Inversion

1311

Inversion

1312

Inversion

White-Key Row of Six Notes

1313

Inversion

1314

Inversion

White-Key Row of Six Notes

White-Key Row of Six Notes

1315

Inversion

1316

Inversion

Mother Chord

Grandmother Chord

1317

Inversion

1318

Inversion

Intervallic Series

Increasing and Diminishing Intervals



1322



1324



1328



1330

Mirror Interval Progressions

187

Scales №1 and №4



Scales №10 and №7



№21 and №15



№53 and №80



№80 and №53



№117 and №111



№156 and its Melodic Inversion



№306 and №297



№543 and its Melodic Inversion



Complementary Scales

C Major and Pentatonic



Mutually Exclusive Whole-Tone Scales



№7



№9



№10



№11



№12



Permutations

Scale №12



Permutations



A musical score for the song "The Rose Tree". The score is written on two staves, both using treble clefs. The key signature has one flat (B-flat), and the time signature is 3/4. The melody is written on the upper staff, and the accompaniment is on the lower staff. The melody consists of eighth and quarter notes, with some measures containing beamed eighth notes. The accompaniment features a steady eighth-note pattern in the left hand and a more complex right-hand pattern with eighth and quarter notes. The score ends with a double bar line and repeat dots.

Harmonization

The musical score is written for two staves. The upper staff is in treble clef and the lower staff is in bass clef. The key signature has one sharp (F#). The time signature is 4/4. The score begins with a piano (p) dynamic. The first measure of the upper staff contains a quarter note G4, a quarter note A4, a quarter note B4, and a quarter note C5. The lower staff has a whole note chord of G4 and B4. The second measure of the upper staff contains a quarter note D5, a quarter note E5, a quarter note F#5, and a quarter note G5. The lower staff has a whole note chord of D5 and F#5. The third measure of the upper staff contains a quarter note A5, a quarter note B5, a quarter note C6, and a quarter note D6. The lower staff has a whole note chord of A5 and C6. The fourth measure of the upper staff contains a quarter note E5, a quarter note D5, a quarter note C5, and a quarter note B4. The lower staff has a whole note chord of E5 and G4. The fifth measure of the upper staff contains a quarter note A4, a quarter note G4, a quarter note F#4, and a quarter note E4. The lower staff has a whole note chord of A4 and F#4. The sixth measure of the upper staff contains a quarter note D4, a quarter note C4, a quarter note B3, and a quarter note A3. The lower staff has a whole note chord of D4 and B3. The seventh measure of the upper staff contains a quarter note G3, a quarter note F#3, a quarter note E3, and a quarter note D3. The lower staff has a whole note chord of G3 and E3. The eighth measure of the upper staff contains a quarter note C4, a quarter note B3, a quarter note A3, and a quarter note G3. The lower staff has a whole note chord of C4 and A3. The score ends with a ritardando (rit.) marking over the final measure of the upper staff.

Scale №21

Permutations





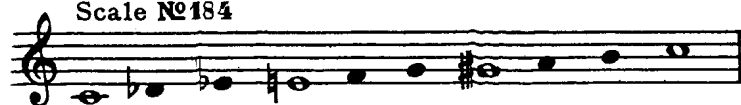
Scale №183



Permutation



Scale №184



Permutation



Scale №185



Permutation



Pattern №343



Permutations



Pattern №525



Permutations



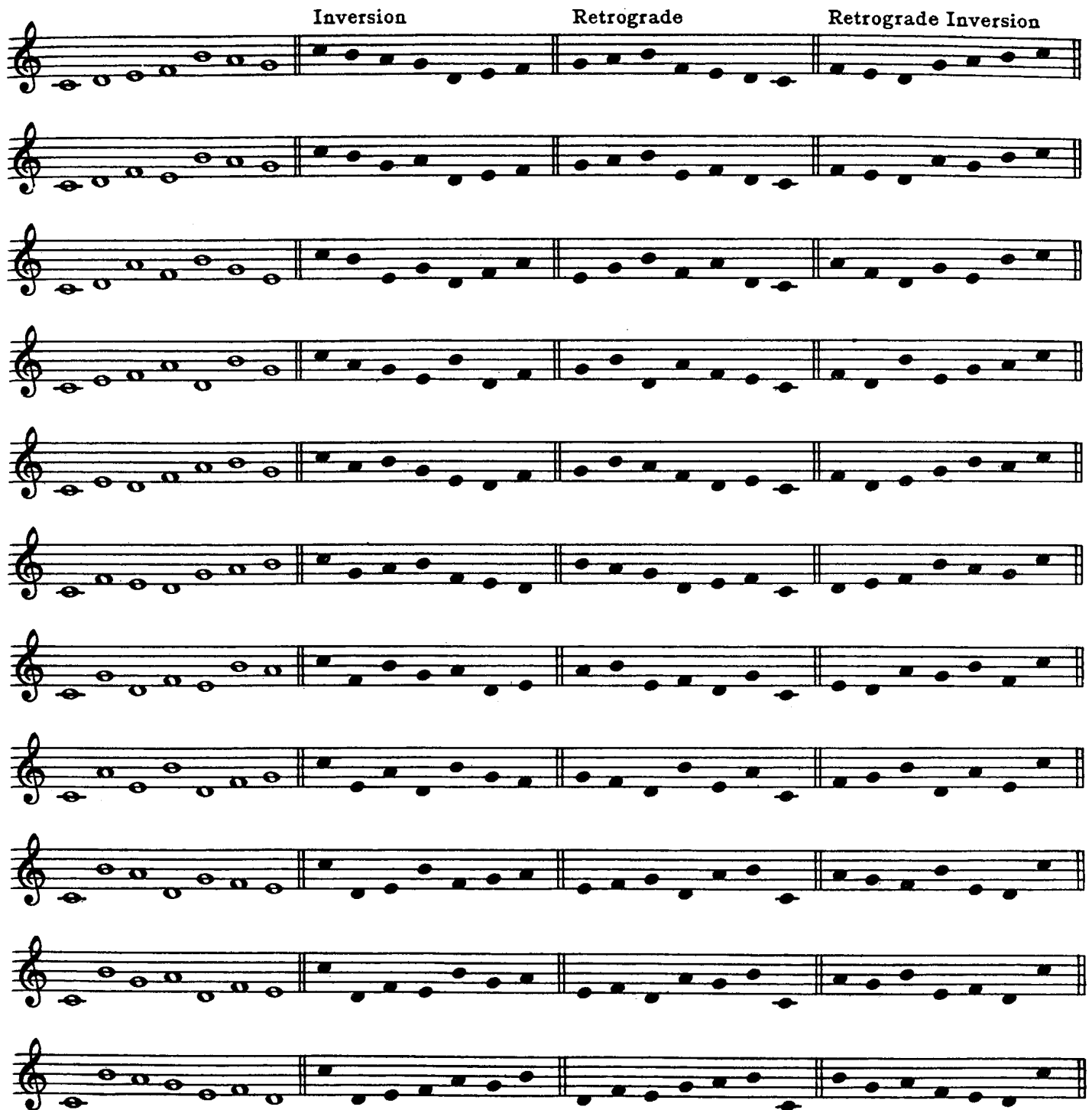
Pandiatonic Progressions

This page contains 12 staves of musical notation, each representing a different pandiatonic progression. The notation is written on a single-line staff with a treble clef. The music consists of a sequence of notes, often grouped in pairs or triplets, and is divided into measures by vertical bar lines. The progressions are characterized by their use of natural notes (C, D, E, F, G, A) without sharps or flats, creating a unique harmonic palette. The first staff shows a progression starting with a C4 octave, followed by a series of ascending and descending intervals. The subsequent staves show various other combinations of these notes, some with repeated notes and others with more complex intervallic relationships. The notation is clear and legible, with a focus on the melodic and harmonic structure of the progressions.

Conjugate Pandiatonic Progressions

193

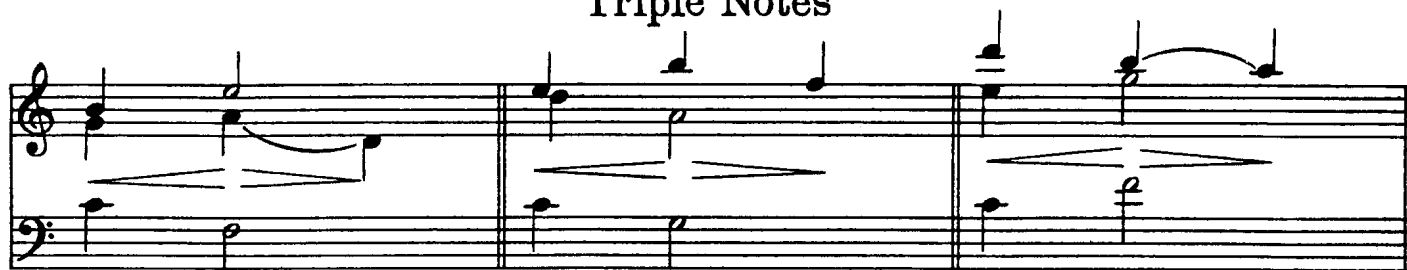
Inversion Retrograde Retrograde Inversion



Double Notes



Triple Notes



Pandiatonic Counterpoint



Pandiatonic Cadences



Pandiatonic Harmony in Four Parts

Lento *Andante*

pp *rit.* *p* *espr.*

Andantino *Allegretto* *Allegro*

mp *sf* *mf* *sf*

Pandiatonic Harmony in Five Parts

Pandiatonic Harmony in Six Parts

Pandiatonic Harmony in Seven Parts

[Roy Harris:
Slumber]

Double Notes

Tritone Progression

The musical score consists of 33 numbered patterns, each shown in a pair of staves (treble and bass). The patterns are arranged in rows: (5) and (6) on the first row; (7), (8), and (9) on the second row; (10), (11), and (12) on the third row; (13), (14), and (15) on the fourth row; (16), (17), and (18) on the fifth row; (19), (20), and (21) on the sixth row; (32) on the seventh row; and (33) on the eighth row. Each pattern is a sequence of notes, often including double notes, with various accidentals (sharps, flats, naturals) and stems. The patterns are numbered in parentheses above the first staff of each pair.

Numbers in parentheses refer to patterns from which the double notes are derived.



(41 to 58) *simile*



65a) 65b) 66a) 66b) 67a)

67b) 68a) 68b) 69a) 69b)

70a) 70b) 71a) 71b) 72a)

72b) 72c) 73a) 73b) 73c)

74a) 74b) 74c) 75a) 75b)

75c) 76a) 76b) 76c) 77a)

77b) 77c) 78a) 78b) 78c)

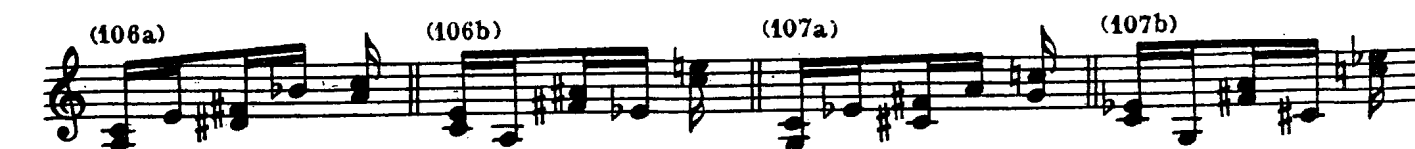
(80 to 84) *simile*

79a) 79b) 79c) 85a) 85b)

86a) 86b) 87a) 87b) 88a)

88b) 89a) 89b) 90a) 90b)

This musical score is written for a single melodic line on a grand staff (treble and bass clefs). It consists of 26 measures, each divided into two parts (a and b) or three parts (a, b, and c). The key signature is one sharp (F#), and the time signature is 4/4. The notation includes various rhythmic values such as eighth, sixteenth, and thirty-second notes, as well as rests and accidentals. The measures are labeled sequentially from 65a to 90b, with a 'simile' instruction spanning measures 80 to 84.



This musical score is for guitar, spanning measures 108a to 130b. It is written on a single staff in treble clef. The key signature is one flat (B-flat), and the time signature is 4/4. The score is divided into measures by double bar lines. Measures 108a and 108b are the first two measures. Measures 109a and 109b are the next two. Measures 110a and 110b are the next two. Measures 111a and 111b are the next two. Measures 112a and 112b are the next two. Measures 113a and 113b are the next two. Measures 114a and 114b are the next two. Measures 115a and 115b are the next two. Measures 116a and 116b are the next two. Measures 117a and 117b are the next two. Measures 118a and 118b are the next two. Measures 119a and 119b are the next two. Measures 120a and 120b are the next two. Measures 121a and 121b are the next two. Measures 122a and 122b are the next two. Measures 123a and 123b are the next two. Measures 124a and 124b are the next two. Measures 125a and 125b are the next two. Measures 126a and 126b are the next two. Measures 127a and 127b are the next two. Measures 128a and 128b are the next two. Measures 129a and 129b are the next two. Measures 130a and 130b are the final two measures. The notation includes various musical symbols such as eighth notes, sixteenth notes, and rests. The score is presented in a clear, legible format with a consistent layout.

(108a) (108b) (109a) (109b) (110a)

(110b) (111a) (111b) (112a) (112b)

(113a) (113b) (114a) (114b) (115a)

(115b) (116a) (116b) (117a) (117b)

(118a) (118b)

(119a) (119b) (120a) (120b) (121a)

(121b) (122a) (122b) (123a) (123b)

(124a) (124b) (125a) (125b) (126a)

(126b) (127a) (127b) (128a) (128b)

(129a) (129b) (130a) (130b)

(131a) (131b) (132a) (132b)

(133a) (133b) (134a) (134b)

(135a) (135b) (136a) (136b)

(137a) (137b) (138a) (138b)

(139a) (139b) (140a) (140b)

(141a) (141b) (141c)

(142a) (142b) (142c) (143a) (143b)

(143c) (144a) (144b) (144c) (145a)

(145b) (145c) (146a) (146b) (146c)

(147a) (147b) (147c) (148a) (148b)

(148c) (149a) (149b) (149c) (150a)

(150b) (150c) (151a) (151b) (151c)

(152a) (152b) (152c) (153a) (153b)

(153c) (154a) (154b) (154c) (155a)

(155b) (155c) (156a) (156b) (156c)

(157a) (157b) (157c) (158a) (158b)

(158c) (159a) (159b) (159c) (160a)

(160b) (160c) (161a) (161b) (161c)

(162a) (162b) (162c) (163a) (163b)

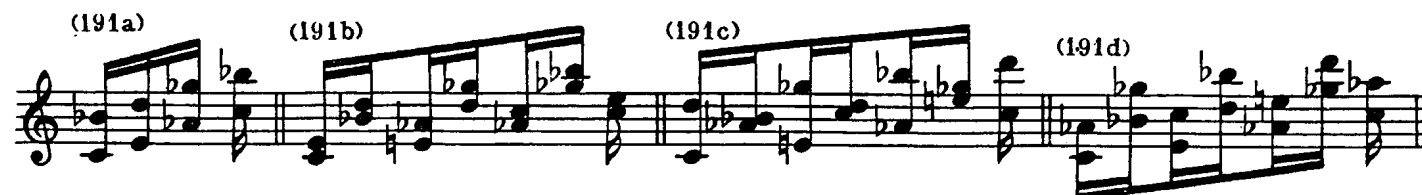
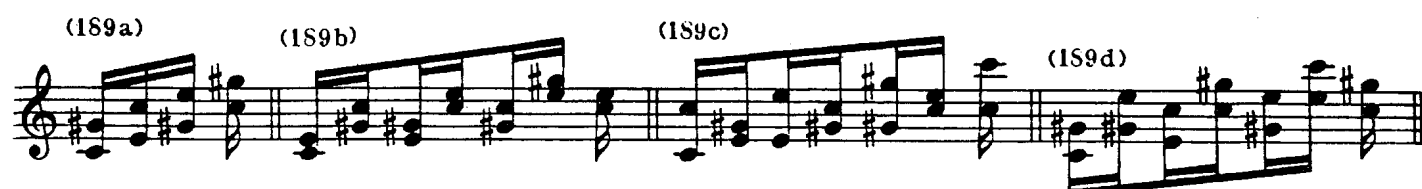
(163c) (164a) (164b) (164c) (165a)

This musical score is for a piano piece, spanning measures 165b to 180c. It is written on a single staff in treble clef. The key signature is B-flat major (two flats: B-flat and E-flat). The time signature is 4/4. The music consists of a continuous sequence of eighth and sixteenth notes, often beamed together in groups. The notation includes various accidentals (sharps, flats, naturals) and repeat signs. The measures are labeled as follows:

- Row 1: (165b), (165c), (166a), (166b), (166c)
- Row 2: (167a), (167b), (167c), (168a), (168b)
- Row 3: (168c), (169a), (169b), (169c), (170a)
- Row 4: (170b), (170c), (171a), (171b), (171c)
- Row 5: (172a), (172b), (172c), (173a), (173b)
- Row 6: (173c), (174a), (174b), (174c), (175a)
- Row 7: (175b), (175c), (176a), (176b), (176c)
- Row 8: (177a), (177b), (177c), (178a)
- Row 9: (178b), (178c), (179a), (179b)
- Row 10: (179c), (180a), (180b), (180c)

Ditone Progression





(196a) (196b) (197a) (197b)

(198a) (198b) (199a) (199b)

(200a) (200b) (201a) (201b)

(202a) (202b) (203a) (203b)

(204a) (204b) (205a) (205b)

(206a) (206b) (207a) (207b)

(208a) (208b) (209a) (209b)

(210a) (210b) (211a) (211b)

(212a) (212b) (213a) (213b)

(214a) (214b) (214c)

This page contains musical notation for 24 exercises, labeled (196a) through (214c). The exercises are arranged in a grid-like fashion, with four exercises per row. Each exercise is written on a single staff in treble clef. The notation includes various musical symbols such as notes, rests, accidentals (sharps, flats, naturals), and bar lines. The exercises are organized into groups: (196a, 196b), (197a, 197b), (198a, 198b), (199a, 199b), (200a, 200b), (201a, 201b), (202a, 202b), (203a, 203b), (204a, 204b), (205a, 205b), (206a, 206b), (207a, 207b), (208a, 208b), (209a, 209b), (210a, 210b), (211a, 211b), (212a, 212b), (213a, 213b), and (214a, 214b, 214c). The notation is complex, featuring many accidentals and a variety of note values.





(231 to 236) *simile*



(242b) (243a) (243b)

(244a) (244b) (245a)

(245b) (246a) (246b)

(247a) (247b) (248a)

(248b) (249a) (249b)

(250a) (250b) (251a)

(251b) (252a) (252b)

(253a) (253b) (254a)

(254b) (255a) (255b)

(256a) (256b) (257a) (257b)

Sesquitone Progression



(393d) (393e) (393f)

(394a)

(394b)

(394c) (394d) (394e)

(394f) (395a) (395b)

(396a) (396b) (397a)

(397b) (398a) (398b)

(399a) (399b) (400a)

(400b) (401a) (401b)

(402a)



(402b)

(403-428) *simile*

(429a)



(429b)

(430-446) *simile*

(447a)



(447b)

(448-458) *simile*



(460-484) *simile*



(486-491) *simile*

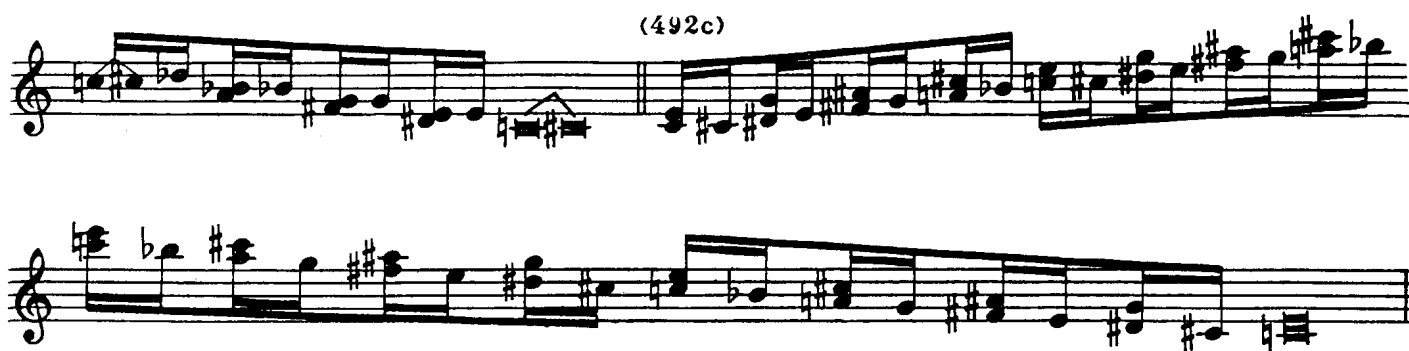
(492a)



(492b)



(492c)

(493-508) *simile*

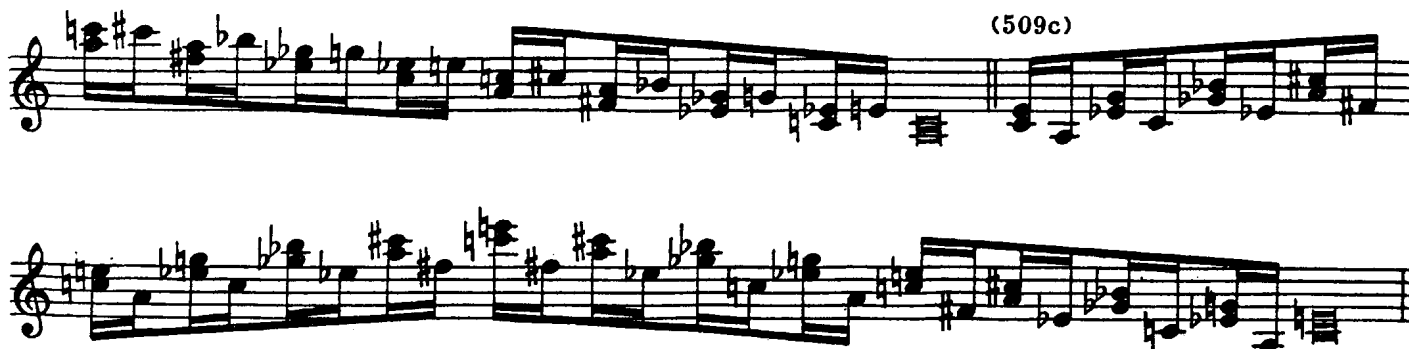
(509a)



(509b)



(509c)



Double Notes in Contrary Motion

215

(№7)

Exercise (№7) is a piano exercise featuring double notes in contrary motion. It consists of two systems of staves. The first system has a bass staff and a treble staff. The second system has a treble staff and a bass staff. The exercise is written in a key with three sharps (F#, C#, G#) and a common time signature. The notation includes eighth notes and beamed eighth notes, with a '3' indicating a triplet. The exercise is marked with a '3' at the beginning of the first system and a '3' at the beginning of the second system.

Whole-Tone Scale
(№36)

Exercise (№36) is a piano exercise featuring the Whole-Tone Scale. It consists of two systems of staves. The first system has a bass staff and a treble staff. The second system has a treble staff and a bass staff. The exercise is written in a key with three flats (Bb, Eb, Ab) and a common time signature. The notation includes eighth notes and beamed eighth notes, with a '3' indicating a triplet. The exercise is marked with a '3' at the beginning of the first system and a '3' at the beginning of the second system.

(№182)

Exercise (№182) is a piano exercise featuring double notes in contrary motion. It consists of two systems of staves. The first system has a bass staff and a treble staff. The second system has a treble staff and a bass staff. The exercise is written in a key with three sharps (F#, C#, G#) and a common time signature. The notation includes eighth notes and beamed eighth notes, with a '3' indicating a triplet. The exercise is marked with a '3' at the beginning of the first system and a '3' at the beginning of the second system.

(№394)

This musical exercise, numbered 394, is written for piano and voice. It consists of two systems. The first system has two staves for piano accompaniment (treble and bass clef) and a vocal line in the treble clef. The second system also has two piano staves and a vocal line. The music is in a key with one flat (B-flat major or D minor) and a 4/4 time signature. The piano part features a steady eighth-note accompaniment in the right hand and a more active bass line. The vocal line consists of a series of eighth notes, mostly within a one-octave range.

(№393)

This musical exercise, numbered 393, is written for piano and voice. It consists of two systems. The first system has two staves for piano accompaniment (treble and bass clef) and a vocal line in the treble clef. The second system also has two piano staves and a vocal line. The music is in a key with one flat (B-flat major or D minor) and a 4/4 time signature. The piano part features a steady eighth-note accompaniment in the right hand and a more active bass line. The vocal line consists of a series of eighth notes, mostly within a one-octave range.

(Nº 397)

Two systems of piano accompaniment for piece Nº 397. Each system consists of a grand staff (treble and bass clefs). The music is written in a key with one flat (B-flat) and a 3/4 time signature. The first system includes a first ending bracket marked with an '8' and a repeat sign. The second system also includes a first ending bracket marked with an '8' and a repeat sign. The notation includes various chords, arpeggios, and melodic lines.

(Nº 343)

Two systems of piano accompaniment for piece Nº 343. Each system consists of a grand staff (treble and bass clefs). The music is written in a key with one flat (B-flat) and a 3/4 time signature. The first system includes a first ending bracket marked with an '8' and a repeat sign. The second system also includes a first ending bracket marked with an '8' and a repeat sign. The notation includes various chords, arpeggios, and melodic lines.

Plural Scales and Arpeggios

Major

8

8

8

Minor

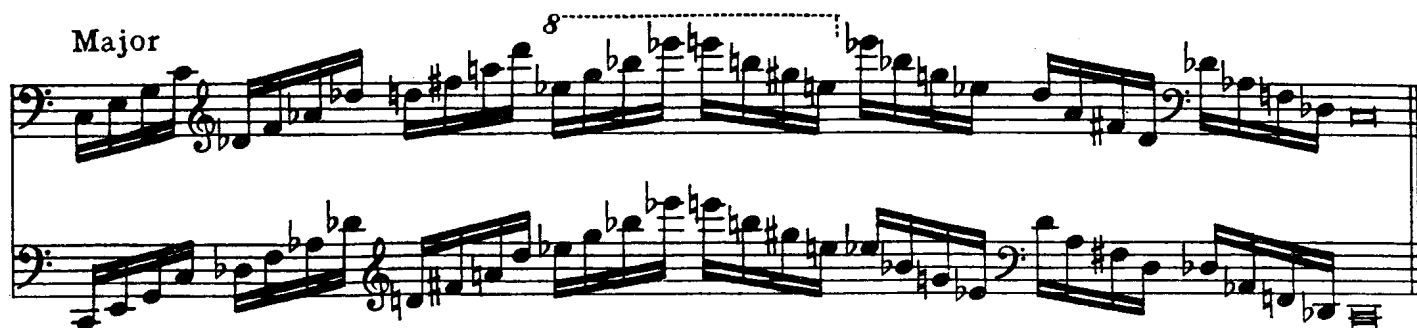
8

8

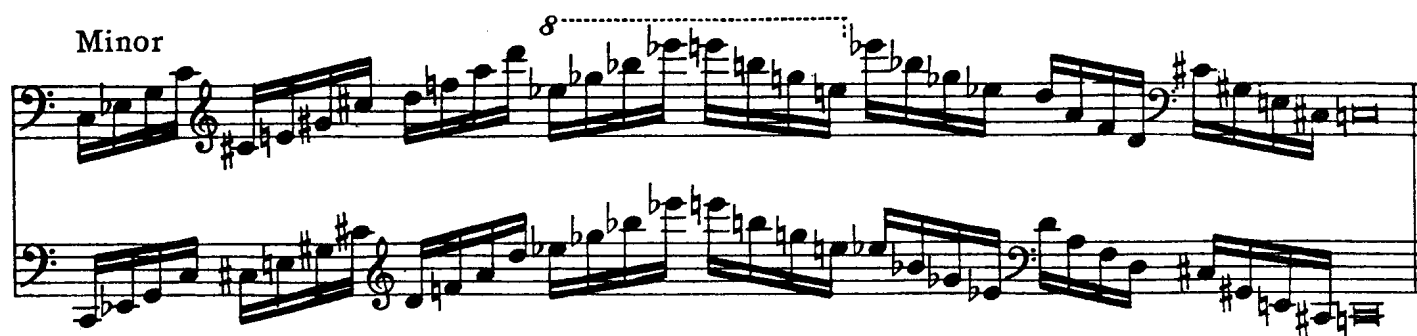
8

This page contains musical notation for plural scales and arpeggios. It is organized into three main sections, each with a label and a set of staves. The first section is labeled 'Major' and contains two staves of music. The second section is labeled 'Minor' and contains two staves of music. The third section is labeled 'Minor' and contains two staves of music. Each section includes a set of scales and arpeggios, with some staves marked with an '8' and a dashed line. The notation is in standard musical notation, using treble and bass clefs, and includes various accidentals (sharps, flats, naturals) and note values (quarter, eighth, sixteenth notes).

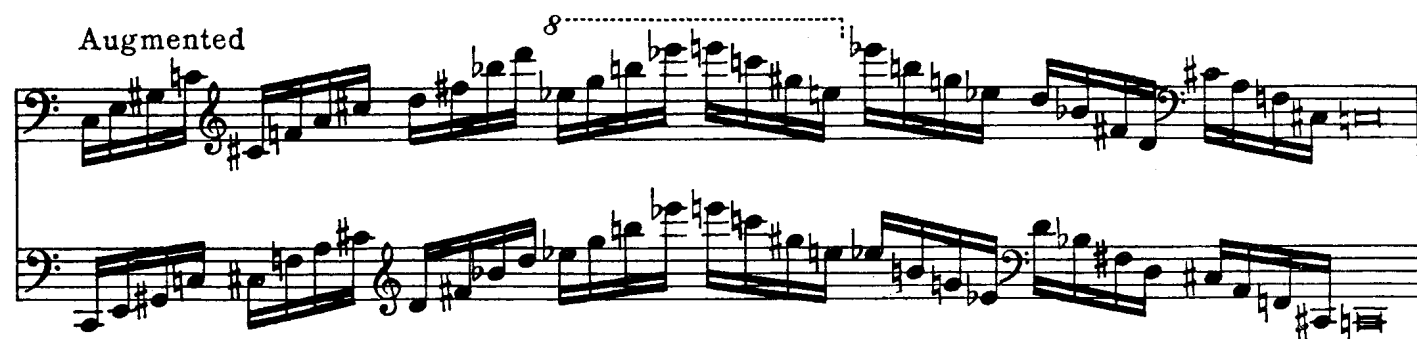
Major



Minor



Augmented



Diminished-Seventh



Polytonal Scales

E $\flat$ Major and C Major

Two systems of musical notation for the E $\flat$ Major and C Major scales. Each system consists of two staves. The top staff of each system is in E $\flat$ Major (three flats) and the bottom staff is in C Major (no sharps or flats). The scales are written in a polytonal style, with the two staves of each system playing different parts of the scale simultaneously. The first system shows the ascending and descending scales. The second system shows the ascending and descending scales, with the top staff in E $\flat$ Major and the bottom staff in C Major.

C Major and E $\flat$ Major

Two systems of musical notation for the C Major and E $\flat$ Major scales. Each system consists of two staves. The top staff of each system is in C Major (no sharps or flats) and the bottom staff is in E $\flat$ Major (three flats). The scales are written in a polytonal style, with the two staves of each system playing different parts of the scale simultaneously. The first system shows the ascending and descending scales. The second system shows the ascending and descending scales, with the top staff in C Major and the bottom staff in E $\flat$ Major. Both systems include an 8-measure rest indicated by a dashed line and the number 8.

E Major and C Major



C Major and E Major



A Major and C Major



C Major and A Major



A $\flat$ Major and C MajorC Major and A $\flat$ Major

Polyrhythmic Scales

3: 2



4: 3



5:3



5:4



Polytonal Polyrhythmic Scales

E Major and C Major; 3:2



E Major and C Major; 4:3



E Major and C Major; 5: 3

Two systems of musical notation for E Major and C Major, 5: 3. Each system consists of two staves. The first system's top staff is in bass clef and the bottom staff is in bass clef. The second system's top staff is in treble clef and the bottom staff is in bass clef. The music features a sequence of eighth notes and sixteenth notes, with a repeat sign and a fermata over the final measure of the first system. The key signature is one sharp (F#) for E Major and one flat (Bb) for C Major.

E Major and C Major; 5: 4

Two systems of musical notation for E Major and C Major, 5: 4. Each system consists of two staves. The first system's top staff is in bass clef and the bottom staff is in bass clef. The second system's top staff is in treble clef and the bottom staff is in bass clef. The music features a sequence of eighth notes and sixteenth notes, with a repeat sign and a fermata over the final measure of the first system. The key signature is one sharp (F#) for E Major and one flat (Bb) for C Major.

C Major and E Major; 3: 2

The first system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' indicating an octave extension. The lower staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

The second system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' indicating an octave extension. The lower staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

C Major and E Major; 4: 3

The third system of musical notation consists of two staves. The upper staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' indicating an octave extension. The lower staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

The fourth system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of eighth and sixteenth notes, with a dotted line and an '8' indicating an octave extension. The lower staff is in bass clef and contains a sequence of eighth and sixteenth notes, with a key signature change to one sharp (F#) indicated by a sharp sign on the first line.

C Major and E Major; 5:3

This musical score is for the 5:3 ratio in C Major and E Major. It consists of two systems of staves. The first system has a bass staff on the left and a treble staff on the right. The second system has a treble staff on the left and a bass staff on the right. The music is written in 5/8 time, featuring eighth-note patterns. The key signature has one sharp (F#) for C Major and two sharps (F# and C#) for E Major. A dashed line with an '8' above it indicates an eighth-note pattern. The score ends with a double bar line and repeat signs.

C Major and E Major; 5:4

This musical score is for the 5:4 ratio in C Major and E Major. It consists of two systems of staves. The first system has a bass staff on the left and a treble staff on the right. The second system has a treble staff on the left and a bass staff on the right. The music is written in 5/4 time, featuring eighth-note patterns. The key signature has one sharp (F#) for C Major and two sharps (F# and C#) for E Major. A dashed line with an '8' above it indicates an eighth-note pattern. The score ends with a double bar line and repeat signs.

Eb Major and C Major; 3: 2



Eb Major and C Major; 4: 3

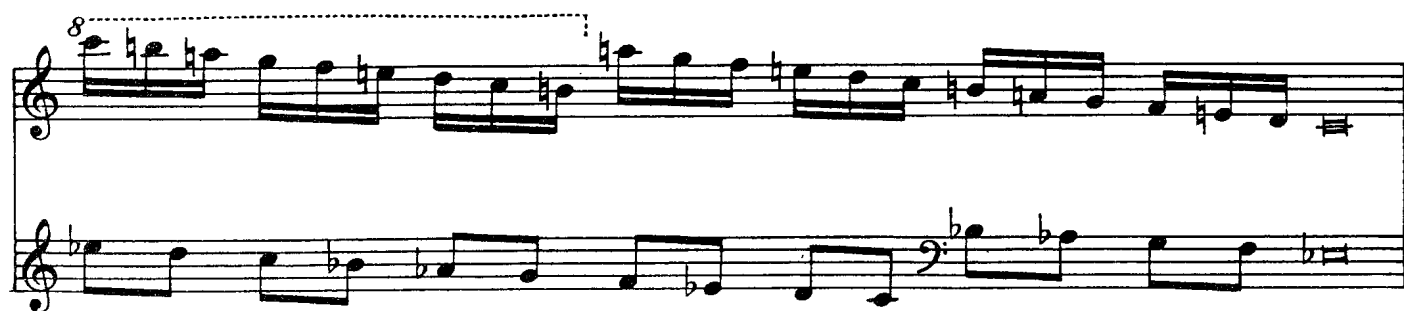


Eb Major and C Major; 5: 3



Eb Major and C Major; 5: 4



C Major and E $\flat$ Major; 3:2C Major and E $\flat$ Major; 4:3

C Major and E $\flat$ Major; 5:3

Two systems of musical notation for the 5:3 ratio. Each system consists of two staves. The top staff of each system is a grand staff (treble and bass clefs) with a 5:3 ratio indicated by a bracket and the number 8. The bottom staff is a single bass clef staff. The music is written in C Major and E $\flat$ Major. The first system shows a complex melodic line in the grand staff and a simpler bass line. The second system continues the melodic line with a repeat sign and a final cadence in the bass line.

C Major and E $\flat$ Major; 5:4

Two systems of musical notation for the 5:4 ratio. Each system consists of two staves. The top staff of each system is a grand staff (treble and bass clefs) with a 5:4 ratio indicated by a bracket and the number 8. The bottom staff is a single bass clef staff. The music is written in C Major and E $\flat$ Major. The first system shows a complex melodic line in the grand staff and a simpler bass line. The second system continues the melodic line with a repeat sign and a final cadence in the bass line.

Palindromic Canons

Bitonal Palindromic Canon: C Major and F# Major

Scale No 7 (In Six Parts)

This musical score for Scale No 7 is a bitonal palindromic canon in C Major and F# Major, presented in six parts. The notation is arranged in two systems of three staves each. The first system consists of three staves of music, and the second system consists of three staves of music. The music is written in treble clef and features a complex, interlocking melodic structure that is palindromic. The key signature is C Major and F# Major, indicated by the presence of natural notes for C and F#.

Bitonal Palindromic Canon: F Major and B Major

Scale No 12 (In Six Parts)

This musical score for Scale No 12 is a bitonal palindromic canon in F Major and B Major, presented in six parts. The notation is arranged in two systems of three staves each. The music is written in treble clef and features a complex, interlocking melodic structure that is palindromic. The key signature is F Major and B Major, indicated by the presence of natural notes for F and B.

Two Palindromic Canons on Pattern 72

In Three Parts

(Alternating Minor and Major Triads)

This musical score is written on a single staff with a treble clef. It consists of two systems of music. The first system contains two measures of music, each featuring a triad of notes. The second system also contains two measures of music, each featuring a triad of notes. The notes are arranged in a way that creates a palindromic effect when read forwards and backwards.

In Three Parts

(Alternating Major and Minor Triads)

This musical score is written on a single staff with a treble clef. It consists of two systems of music. The first system contains two measures of music, each featuring a triad of notes. The second system also contains two measures of music, each featuring a triad of notes. The notes are arranged in a way that creates a palindromic effect when read forwards and backwards.

Palindromic Canon on Pattern 141

In Four Parts

This musical score is written on a single staff with a treble clef. It consists of two systems of music. The first system contains four measures of music, each featuring a triad of notes. The second system also contains four measures of music, each featuring a triad of notes. The notes are arranged in a way that creates a palindromic effect when read forwards and backwards.

Palindromic Canon on Pattern 186

In Four Parts

Palindromic Canon on Pattern 231

(Theme from Schoenberg: *Ode to Napoleon*)

In Four Parts

Palindromic Canon on Pattern 394

In Eight Parts

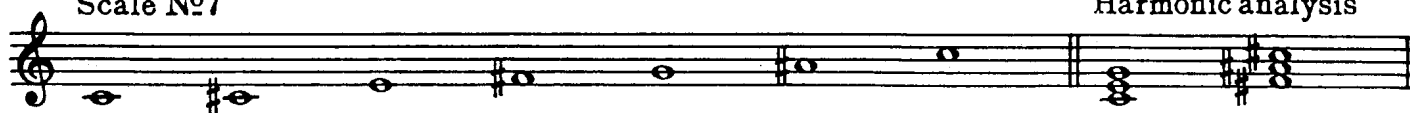
Palindromic Canon on Pattern 447

In Eight Parts

Autochordal Harmonization

Scale №7

Harmonic analysis

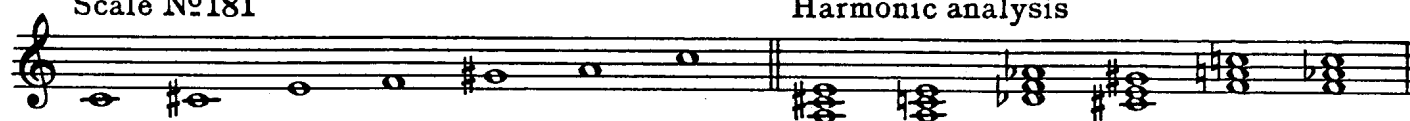


Bitonal



Scale №181

Harmonic analysis



Bitonal



Pedal points

Combinatory



Scale №393

Harmonic analysis



Bitonal Major



Bitonal Minor



Bitonal Major and Minor



Pedal Points



Combinatory



Harmonization in Major Triads

by Alternation of Octave, Tertian
and Quintan Positions

Melody Line



Octave Position



Tertian Position



Quintan Position



Harmonization in Seventh-Chords, Ninth-Chords and Whole-Tone Chords

Melody Line



Whole-Tone Chords



Major Ninth-Chords



Minor Ninth-Chords



Whole-Tone Chords



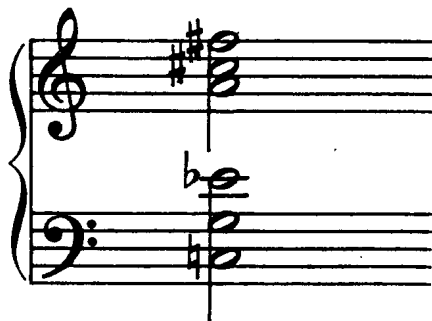
Dominant Seventh-Chords



Synopsis of Chords



Major
Bitonal Chord



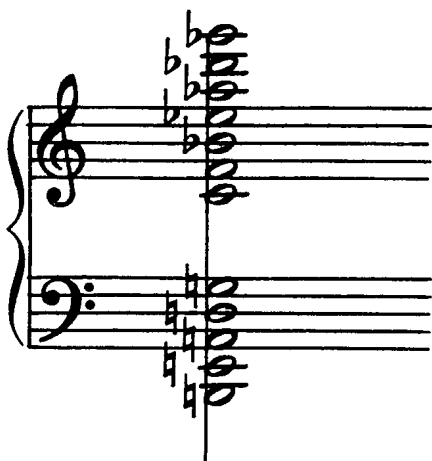
Minor
Bitonal Chord



Whole-Tone
Chord



Prometheus
Chord
(Scriabin)



Quartal
Chord

Containing All Twelve
Chromatic Tones Ar -
ranged in Fourths



Chord
of the Minor 23rd

Containing All Twelve
Chromatic Tones and
Four Mutually Exclusive
Triads



Pandiatonic Chord

Containing All Seven
Diatonic Tones



Pandiatonic Tone-Cluster



Pentatonic Tone-Cluster



Pyramid Chord

Containing All Twelve
Intervals From an Octave
to a Semitone



Mother Chord

Containing All Twelve
Chromatic Tones and
Eleven Different Inter-
vals



Grandmother Chord

Containing All Twelve
Chromatic Tones and
Eleven Symmetrically
Invertible Intervals

Master Chords

Tritone Progression

Scales and Patterns 1-180

12 staves of musical notation, numbered 1 to 12. Each staff shows a sequence of chords in bass and treble clefs, illustrating the Tritone Progression. The chords are represented by letter names (e.g., C, F, C#) and accidentals (sharps, flats) on a five-line staff.

Master Chords

Ditone Progression

Scales and Patterns 181-391

12 staves of musical notation, numbered 1 to 12. Each staff shows a sequence of chords in bass and treble clefs, illustrating the Ditone Progression. The chords are represented by letter names (e.g., C, F, C#) and accidentals (sharps, flats) on a five-line staff.

Master Chords

Sesquitone Progression

Scales and Patterns 392-568

12 staves of musical notation, numbered 1 to 12. Each staff shows a sequence of chords in bass and treble clefs, illustrating the Sesquitone Progression. The chords are represented by letter names (e.g., C, F, C#) and accidentals (sharps, flats) on a five-line staff.