

Tessellations

for piano solo

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Tessellations

Toccata [012]
Fugue [01357]
Lament #1 [0148]
Toccata-Fugue [0268]
Lament #2 [0167]

A Note on the Piece

Tessellations is a collection of short piano studies each of which explores specific technical ideas including using a distinct pitch class set as the basis for each (given by the movements' subtitles). They are arranged in a suitable combination / order for performance as a set, though they may equally be played individually or in other configurations with each other and/or other short works.

Toccata [012] is furiously fast, and full of notes acrobatically scattered across the instrument, yet at its core it is based on the simple, chromatic scale. The melody is entirely composed of chromatic meanderings, grouped in three-note cells [012] and every harmony is also formed of this cell (indeed the division between melody and harmony is blurred). The piece is also grouped in 3s at every structural level. This is not remarkable at the formal level, but at the metrical level it is in stark contrast to the default practice of Western music in which grouping by 2s is the norm (it is rare to see even three levels of 3-grouping). The subtitle, *Sierpiński's Triangle*, refers to a fractal tessellation pattern of triangles (similarly based on threes at every level). It is named after the Polish Mathematician Waław Sierpiński who described it in 1915, though in fact it was well known to ancient civilisations too.

Fugue [01357] uses its pitch-class set as a mode – one which self-replicates at the perfect fifth rather than the octave. This means that a change in tessitura gives an impression of modulation in the same direction. The arch-like shape of the movement plays on this impression, and the harmony derives much of its interest from the abundant possibilities for false relations.

Lament [0148] cycles through nine simple presentations of the same chord: the pitch-set, usually in open position with two complementary trajectories for the outer voices which cross at the end. This is the most plaintive miniature in the set. An optional linking passage joins this movement to [0268].

Toccata-Fugue [0268] and **Lament [0167]** lend themselves to performance as a unit, particularly as a conclusion. [0268] sets two distinct forms of that set in opposition: the first section uses one form, the fugato middle section alternates the two, and the reprise of the first section sees this alternation continue and its rate accelerate into [0167].

The two forms of [0268] used involve just 8 of the 12 chromatic notes, leaving exactly one form of [0167] to saturate the full chromatic. The final movement employs only that chord, in one position and register. This is an exercise in articulation and dynamics only. The tension unwinds as hard accents become softened and a loud dynamics die away to silence.

TESSELLATIONS

[012]

Sierpinski's Triangle

Mark Gotham

Prestissimo, ♩ = 66

ben marcato

poco legato

3 sim.

p

2

sim.

mp *f*

3

mf *f*

4

mp

5

mf

6

f

Musical notation for measures 6-7. Measure 6 features a treble clef with a melodic line of eighth notes and a bass clef with a rhythmic accompaniment of eighth notes. Measure 7 continues the melodic line, which rises and then descends. Dynamics include *f* at the start and end of the system.

7

mf *f*

8va

Musical notation for measures 7-8. Measure 7 continues the melodic line from measure 6. Measure 8 features a treble clef with a melodic line that rises and then descends, and a bass clef with a rhythmic accompaniment. Dynamics include *mf* at the start and *f* at the end. An *8va* marking is present above the treble clef in measure 8.

8

f *ff*

8va

Musical notation for measures 8-9. Measure 8 continues the melodic line from measure 7. Measure 9 features a treble clef with a melodic line that rises and then descends, and a bass clef with a rhythmic accompaniment. Dynamics include *f* at the start and *ff* at the end. An *8va* marking is present above the treble clef in measure 9.

9

ff *ped.* *ff* *p* *rall.*

8va

Musical notation for measures 9-10. Measure 9 continues the melodic line from measure 8. Measure 10 features a treble clef with a melodic line that rises and then descends, and a bass clef with a rhythmic accompaniment. Dynamics include *ff* at the start, *ff* and *p* in the middle, and *rall.* at the end. An *8va* marking is present above the treble clef in measure 10. A *ped.* marking is present below the bass clef in measure 10.

11 Poco meno (♩ = 55)

p

Musical notation for measures 11-15. Measure 11 features a treble clef with a melodic line of eighth notes and a bass clef with a rhythmic accompaniment of eighth notes. Measure 12 continues the melodic line. Measure 13 features a treble clef with a melodic line of eighth notes and a bass clef with a rhythmic accompaniment. Measure 14 continues the melodic line. Measure 15 features a treble clef with a melodic line of eighth notes and a bass clef with a rhythmic accompaniment. Dynamics include *p* at the start and end of the system.

16 (short) **Poco più mosso** 3

p > *ff subito* *p* >

21

p > *p* > *p* > *p* > *p* > *p* >

27 **Meno mosso**

p > *p* > *mf* *f*

31 **Ancora meno mosso** **Tempo primo, ♩ = 66**

ff *ff*

Ped. 8^{va} 8^{vb}

33

p *fff*

8^{va} 8^{vb}

34 (time)

p *fff*

8^{vb}

With the fist (ad lib.)

[0135]

♩ = 54, Pensive

p

6

mp

12

p *mp* *p subito* *pp cresc. molto*

17

mf *p dolce*

22

mf *p leggiero, poco a poco cresc.*

28

f *p*

35

rall. . . Poco meno

rall.

pp

Detailed description: This is a piano score for a piece titled "[0135]". The tempo is marked "Pensive" with a quarter note equal to 54 beats per minute. The score is written for piano and consists of seven systems of two staves each. The first system (measures 1-5) is in 2/4 time, starting with a piano (*p*) dynamic. The second system (measures 6-11) continues in 2/4 time, with a mezzo-piano (*mp*) dynamic. The third system (measures 12-16) features a variety of time signatures (5/8, 3/4, 6/8, 2/4, 5/8, 3/8) and dynamics (*p*, *mp*, *p subito*, *pp cresc. molto*). The fourth system (measures 17-21) is in 3/8 time, with dynamics *mf* and *p dolce*. The fifth system (measures 22-27) includes time signatures 7/16, 2/8, 3/16, 2/4, and 3/16, with dynamics *mf* and *p leggiero, poco a poco cresc.*. The sixth system (measures 28-34) has time signatures 3/16, 2/8, 6/16, 2/8, 2/4, 3/16, 2/8, and 4/4, with dynamics *f* and *p*. The final system (measures 35-40) is in 4/4 time, marked "rall." and "Poco meno", ending with a pianissimo (*pp*) dynamic.

[0148]

♩ = 52; Grave

Musical notation for measures 1-4. The piece is in 4/4 time. Measure 1 starts with a piano (*p*) dynamic. Measure 2 has a mezzo-piano (*mp*) dynamic. Measure 3 has a mezzo-forte (*mf*) dynamic. The bass line is mostly silent, with some low notes in measure 4.

Musical notation for measures 5-8. Measure 5 starts with a forte (*f*) dynamic. Measure 6 has a mezzo-piano (*mp*) dynamic. Measure 7 has a forte (*f*) dynamic. Measure 8 has a fortissimo (*ff*) dynamic. The piece changes to 3/4 time at the end of measure 8.

Musical notation for measures 9-12. Measure 9 starts with a pianissimo (*pp*) dynamic. Measure 10 has a forte (*f*) dynamic. The piece changes to 3/4 time at the end of measure 12.

Musical notation for measures 13-17. Measure 13 starts with a piano (*p*) dynamic. Measure 14 has a mezzo-forte (*mf*) dynamic. Measure 15 has a piano (*p*) dynamic. The piece changes to 2/4 time at the end of measure 17.

Musical notation for measures 18-24. Measure 18 starts with a mezzo-piano (*mp*) dynamic. Measure 19 has a piano (*p*) dynamic. Measure 20 has a piano (*p*) dynamic. Measure 21 has a piano (*p*) dynamic. Measure 22 has a piano (*p*) dynamic. Measure 23 has a piano (*p*) dynamic. Measure 24 has a pianissimo (*pp*) dynamic. The tempo marking "Meno mosso" is placed above measure 22.

Optional for continuing to [0268]

attacca

molto accel.

Musical notation for measures 25-30. Measure 25 starts with a piano (*p*) dynamic. Measure 26 has a piano (*p*) dynamic. Measure 27 has a piano (*p*) dynamic. Measure 28 has a piano (*p*) dynamic. Measure 29 has a piano (*p*) dynamic. Measure 30 has a piano (*p*) dynamic. The tempo marking "molto cresc." is placed above measure 25.

[0268], and optionally [0167]

$\text{♩} = 112$, furioso

Measures 1-4. Dynamics: *ff*, *sfz*, *p*. Time signatures: 4/4, 5/16, 2/8, 5/16, 2/4.

Measures 5-7. Dynamics: *p subito*. Fingerings: 5, 5, 6, 7.

Measures 8-11. Dynamics: *sfz*, *p*, *f*, *p*, *mf*, *p cresc.*. Fingerings: 6.

Measures 12-15. Tempo: *Meno mosso* ($\text{♩} = \text{c.}48$). Dynamics: *fp*, *p sub.*

Measures 16-19. Dynamics: *mf*, *p*.

Measures 20-23. Tempo: *accel.*, *Tempo Primo* ($\text{♩} = 112$). Dynamics: *ff*.

Measures 24-27. Dynamics: *ff sempre*. Includes *attacca [0167]* marking.

Measures 28-31. Dynamics: *ff*, *mf*, *mp*, *p*. Includes *Red.* and *ff sub.* markings.