

CONCERT SCORE

OPEN INSTRUMENTATION

gravity no. 1

KRIS TINER

January - June 2007

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For J

COMPOSITION NOTES: GRAVITY NO. 1

GRAVITY POINTS

Gravity No. 1 is the first in a series of compositions that examine my concept of *gravity points*. This system provides a method of selecting pitch and harmonic material via a conception of intervallic relationships in which prescribed intervals above a given frequency are duplicated as a “mirror image” below that frequency. The notation is borrowed in part from musical *set theory*, where semitones away from a central pitch ‘0’ are numbered 1, 2, 3, etc. to 11 (the major seventh interval) and then the series starts over again.

So for instance, a gravity point that appears thus:

B : 1 : 3 : 5 : 6

...indicates that by taking **B** as the central (or “zero”) pitch, the intervals of a minor second (1), minor third (3), perfect fourth (5) and augmented fourth (6) are allowed both above and below. The resultant pitch sequence would be as follows:

F – F# – G# – A # – **B** – C – D – E – F

...which in traditional tonal thinking looks like an octatonic scale with F as the root. However, for the improviser this “gravity point” really identifies a set of frequency relationships that can extend in either direction (ascending or descending) from a central pitch (or gravity center) without losing their vibrational properties. Melodic and harmonic shapes may be transposed to other parts of this “two-dimensional” scale with very interesting results. And from any of the pitches in this set, secondary gravity points may be constructed that utilize the intervallic properties implied by the primary center. For example, by extracting the relationships surrounding the pitch **D**:

D : 2 : 3 : 4 : 6

...this new point may then be altered and/or expanded:

D : 1 : 2 : 5 : 6

...and juxtaposed against the original **B** set so that now two or more points may be explored simultaneously. The resulting frequency relationships engage a *multi-centric* system (a “solar system” if you will), as opposed to scale systems that ascend from and descend back to a single tonal center.

Gravity No. 1 makes use of *transposing gravity points*, which means that in the above example the pitch **B** in any octave would be acceptable as the gravity center. Simultaneous performance of these pitches in different octaves is also acceptable, so an individual performer might transpose the given pitches at will. The intervallic relationships will remain (1=11, 2=10, 3=9, 4=8, 5=7, 6=6).

Future compositions in this series will make use of *non-transposing gravity points*, which will indicate intervals wider than 6 (the tritone) in order to orchestrate gravitational pitch centers that stretch across multiple registers, retaining their frequency relationships from top to bottom without octave duplication (and hence, providing a much more challenging context for the improviser).

FORMAL ASPECTS

A single, continuous melody runs through the center of each page. This melody is broken up into eleven numbered sections. Above and below the melody are expansions, augmentations, and diminutions of the melodic material as well as improvisational transposing gravity points that are derived from pitch relationships within the melody. This additional material is designed to further orchestrate the composition so that material on the top half of the page is expanded melodic or figural components, while material on the lower half of the page should be thought of as harmonic zones for accompaniment, bass lines, pedal points and/or percussion ostinati. All of this secondary and improvisational material is modular in function, and it need not be performed in numerical order. In fact, the entire composition is designed integrally so that a performance may start or finish at any point; starting at the beginning and finishing at the end would be only one possible realization.

The organization of melodic material is based on an 11-part arch form (ABCDE-F-EDCBA) that derives partly from the transpositional properties unique to the 1-11 numerology of set theory in equal temperament (with the tritone at the central/sixth position), and partly from the “mirror image” quality of the gravity point concept. The tonal centers of each section proceed based on a *web form* (my term, ABCDB-E-FDCFA) superimposed over the arch. Section 6, being the midpoint of both schemes, derives its melodic identity from the dominant properties of each of the other ten sections in sequence. The two halves (sections 1-5 and 7-11) are related by way of the tritone relationships of B to F and D to G#, with the pitch E serving as something of a foil to disrupt the regularity of the tritone occurrences. These five generating pitches, with E at the center, are also the initial five melodic pitches at section 1 (an awkward nod to Beethoven, perhaps). The construction of material within each section derives also from inversions and “gravitational transpositions” of this pitch set, with sections 1 and 11 the exposition of primary melodic material, sections 2 and 10 exploring the (: 1) identity, sections 3 and 9 exploring the (: 2 : 4) identity, sections 4 and 8 being freer episodes based on transpositions of (: 2), and sections 5 and 7 each being based on complimentary hexachords. Further, the “mirror” idea appears in many of the percussion figures as rhythmic palindromes or retrogrades of previous material.

PERFORMANCE INSTRUCTIONS

Repeat zones are a device I use to expand upon notated material while keeping a performance focused on a fixed set of options. There are two types: *simple repeat zones* (single-barred) and *nested repeat zones* (double-barred). Material that is placed within nested repeat zones may be routed at the will of the performers, according to the exigency of the music. Generally any backward repeat may jump any number of times to any forward repeat within a set of nested repeat zones, but cannot jump past either double-barred repeat sign until the performer has decided to or is cued to move on to the next section.

Vertical dotted lines indicate points where a performer may choose to move to the modular expansion material. Once the expansion material has been played, if the performer wishes to return to the primary melodic line(s)he would do so by returning to that initial point of departure. In some cases the vertical dotted line represents a unison entrance of bass and percussion within the accompaniment material; during such unison moments one of the performers may be required to give a cue when the music is to go on.

Rhythms are relative to each other and may or may not follow a uniform pulse. Non-stemmed note heads are to be interpreted simply as either short (black) or long (white) values. All fermatas (and their durations) are optional and may or may not be observed on each pass within a repeat zone. Tempo, timbre, dynamics, and articulations are very minimally notated so performers should feel free to contribute their own interpretation with regards to these elements.

Typically performers should begin with the primary melodic material in a section and then gradually incorporate repeat zones and expansion material, eventually moving toward the improvisational gravity points. When a gravity point is attached by a dotted line to a note in the score, this indicates a point in the music where the performer may digress from the notated material and begin to improvise in the pitch-space determined by that gravity point. When a gravity point follows notated material on the same staff (usually connected by a slur), the performer is to continue on in the manner of the preceding material, but now improvising using the pitches indicated. If a gravity point is connected to another gravity point by an arrow, the performer is expected to make that transition in pitch selection during the course of their improvisation. Sometimes more than one of these options may be available; in that case the decision is left up to the performer.

IMPROVISATION AND EMERGENT ZONES

Different than many of my other compositions for improvisers, in this piece there are no specific points indicated where the performer(s) may launch into non-controlled improvisation. Performers should feel that improvisation is a possibility for them at any time, should the music warrant them doing so. This kind of allowance requires that the performers become aware of *emergent zones* in the music, that is, confluences of sound-events that bring the *total music* into a manifest domain of meta-possibilities that are beyond the reality of the written music. This kind of ensemble interaction is certainly the goal of this music, after all, and its implication lies behind every written note.

Kris Tiner

Los Angeles, CA, January 6, 2007

Bakersfield, CA, June 15, 2007

gravity no. 1

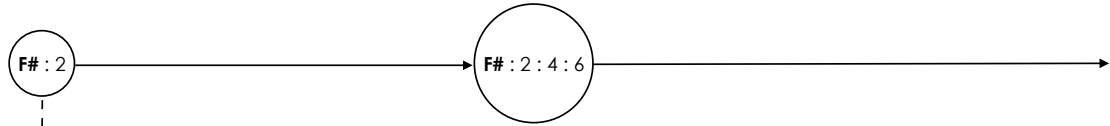
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The musical score consists of six staves of music, primarily in treble clef, with one staff in bass clef. The staves are labeled 1.1 through 1.5. Staff 1.1 is in bass clef and begins with a key signature of one sharp (F#). Staff 1.2 through 1.5 are in treble clef. Staff 1.4 is in bass clef. The score includes various musical notations such as slurs, ties, and fingerings. A circled annotation 'B : 3 : 5 : 6' with an arrow points to a sequence of notes in staff 1.3. Another circled annotation 'B : 1 : 3 : 5 : 6' with an arrow points to a sequence of notes in staff 1.4. A box containing the number '1' is located at the beginning of staff 1.2. Fingerings are indicated by numbers 1, 2, 3, 4, and 5. The score is presented in a clean, black-and-white format.

This musical score consists of four staves, labeled 2.1 through 2.4, and includes two circled annotations with arrows.

- Staff 2.1:** Treble clef, starting with a repeat sign. It contains a sequence of notes: a quarter note, a half note, a quarter note, a half note, a quarter note, a half note, a quarter note, a half note, and a quarter note. The final measure features a sixteenth-note tremolo pattern. A circled annotation "F:1" with an arrow points to the first measure.
- Staff 2.2:** Treble clef, starting with a repeat sign and a *tr* marking. It contains a sequence of notes: a quarter note, a half note with a sharp sign, a quarter note, and a half note. A circled annotation "F:1:2:3" with an arrow points to the first measure. A dashed line connects the first measure to the first measure of staff 2.1.
- Staff 2.3:** Bass clef, starting with a repeat sign. It contains a sequence of notes: a quarter note, a half note, a quarter note, and a half note. A dashed line connects the first measure to the first measure of staff 2.1.
- Staff 2.4:** Treble clef, starting with a repeat sign. It contains a sequence of notes: a quarter note, a half note, a quarter note, a half note, a quarter note, a half note, a quarter note, a half note, and a quarter note. A circled annotation "F:1:2:3" with an arrow points to the first measure. A dashed line connects the first measure to the first measure of staff 2.1. A bracket labeled "6" is placed under the last six notes.

This musical score is for guitar and consists of several systems of notation. The first system at the top features a treble clef staff with a key signature of one sharp (F#) and a 2/4 time signature. It contains a sequence of notes: F#4, G4, A4, B4, C5, B4, A4, G4, F#4. A circled annotation "G#: 2: 4" with an arrow points to the G4 note. A second circled annotation "F#: 2: 6" with an arrow points to the right, and a dashed line connects it to the F#4 note. The second system is a single treble clef staff with a key signature of one sharp and a 2/6 time signature, containing a sequence of notes: F#4, G4, A4, B4, C5, B4, A4, G4, F#4. A circled annotation "3.4" is placed above the first note. The third system is a single treble clef staff with a key signature of one sharp and a 2/4 time signature, containing a sequence of notes: F#4, G4, A4, B4, C5, B4, A4, G4, F#4. A circled annotation "3" is placed above the first note. The fourth system is a bass clef staff with a key signature of one sharp and a 2/4 time signature, containing a sequence of notes: F#3, G3, A3, B3, C4, B3, A3, G3, F#3. A circled annotation "3.3" is placed above the first note. The fifth system is a bass clef staff with a key signature of one sharp and a 2/4 time signature, containing a sequence of notes: F#3, G3, A3, B3, C4, B3, A3, G3, F#3. A circled annotation "3.1" is placed above the first note. The sixth system is a guitar-specific notation staff with a double bar line and a key signature of one sharp, containing a sequence of notes: F#3, G3, A3, B3, C4, B3, A3, G3, F#3. A circled annotation "3" is placed above the first note. A circled annotation "3.2" is placed above the first note of the first system. A circled annotation "3.4" is placed above the first note of the second system. A circled annotation "3.3" is placed above the first note of the fourth system. A circled annotation "3.1" is placed above the first note of the fifth system. A circled annotation "3" is placed above the first note of the sixth system. A circled annotation "G#: 2: 4" is placed above the G4 note of the first system. A circled annotation "F#: 2: 6" is placed above the right side of the first system. A dashed line connects the "F#: 2: 6" annotation to the F#4 note of the first system. An arrow points from the "F#: 2: 6" annotation to the right. A dashed line connects the "G#: 2: 4" annotation to the G4 note of the first system. A dashed line connects the "3.4" annotation to the F#4 note of the second system. A dashed line connects the "3.3" annotation to the F#3 note of the fourth system. A dashed line connects the "3.1" annotation to the F#3 note of the fifth system. A dashed line connects the "3" annotation to the F#4 note of the sixth system. A circled annotation "3" is placed in a box at the beginning of the third system.



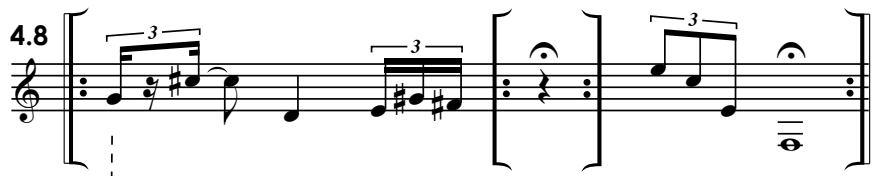
4

The main musical score is written for guitar in treble clef. It consists of six measures, each enclosed in a bracket and labeled with a measure number:

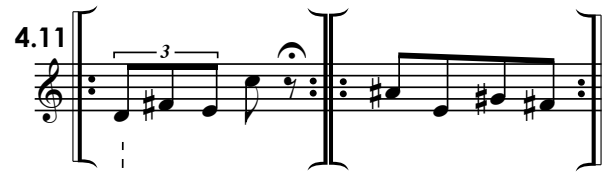
- 4.1:** Treble clef, key signature of one sharp (F#). The first measure contains three diamond-shaped symbols on the staff. The second measure contains a quarter note G4, a quarter note A4, and a quarter note B4. The third measure contains a quarter note C5, a quarter note B4, and a quarter note A4. The fourth measure contains a quarter note G4, a quarter note F#4, and a quarter note E4. The fifth measure contains a quarter note D4, a quarter note C4, and a quarter note B3. The sixth measure contains a quarter note A3, a quarter note G3, and a quarter note F#3. A five-finger barre is indicated over the first five frets in the fourth measure.
- 4.2:** Treble clef, key signature of one sharp. The first measure contains a quarter note G4, a quarter note A4, and a quarter note B4. The second measure contains a quarter note C5, a quarter note B4, and a quarter note A4. The third measure contains a quarter note G4, a quarter note F#4, and a quarter note E4. The fourth measure contains a quarter note D4, a quarter note C4, and a quarter note B3. The fifth measure contains a quarter note A3, a quarter note G3, and a quarter note F#3. A five-finger barre is indicated over the first five frets in the fourth measure.
- 4.3:** Bass clef, key signature of one sharp. The first measure contains a quarter note G2, a quarter note F#2, and a quarter note E2. The second measure contains a quarter note D2, a quarter note C2, and a quarter note B1. The third measure contains a quarter note A1, a quarter note G1, and a quarter note F#1. The fourth measure contains a quarter note E1, a quarter note D1, and a quarter note C1. The fifth measure contains a quarter note B0, a quarter note A0, and a quarter note G0. The sixth measure contains a quarter note F#0, a quarter note E0, and a quarter note D0. A five-finger barre is indicated over the first five frets in the fourth measure.
- 4.4:** Treble clef, key signature of one sharp. The first measure contains a quarter note G4, a quarter note A4, and a quarter note B4. The second measure contains a quarter note C5, a quarter note B4, and a quarter note A4. The third measure contains a quarter note G4, a quarter note F#4, and a quarter note E4. The fourth measure contains a quarter note D4, a quarter note C4, and a quarter note B3. The fifth measure contains a quarter note A3, a quarter note G3, and a quarter note F#3. The sixth measure contains a quarter note G3, a quarter note F#3, and a quarter note E3. A five-finger barre is indicated over the first five frets in the fourth measure.
- 4.5:** Treble clef, key signature of one sharp. The first measure contains a quarter note G4, a quarter note A4, and a quarter note B4. The second measure contains a quarter note C5, a quarter note B4, and a quarter note A4. The third measure contains a quarter note G4, a quarter note F#4, and a quarter note E4. The fourth measure contains a quarter note D4, a quarter note C4, and a quarter note B3. The fifth measure contains a quarter note A3, a quarter note G3, and a quarter note F#3. The sixth measure contains a quarter note G3, a quarter note F#3, and a quarter note E3. A five-finger barre is indicated over the first five frets in the fourth measure.
- 4.6:** Bass clef, key signature of one sharp. The first measure contains a quarter note G2, a quarter note F#2, and a quarter note E2. The second measure contains a quarter note D2, a quarter note C2, and a quarter note B1. The third measure contains a quarter note A1, a quarter note G1, and a quarter note F#1. The fourth measure contains a quarter note E1, a quarter note D1, and a quarter note C1. The fifth measure contains a quarter note B0, a quarter note A0, and a quarter note G0. The sixth measure contains a quarter note F#0, a quarter note E0, and a quarter note D0. A five-finger barre is indicated over the first five frets in the fourth measure.

A: 1:2 →

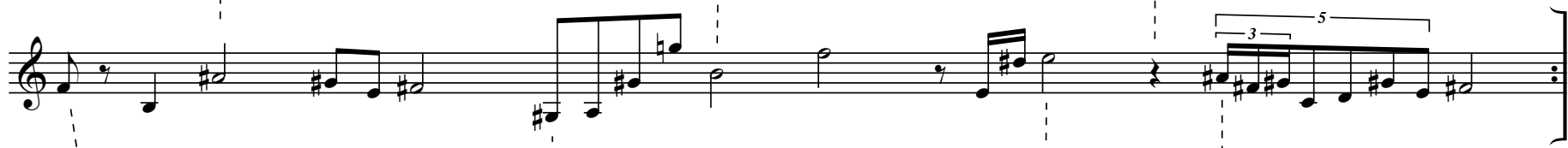
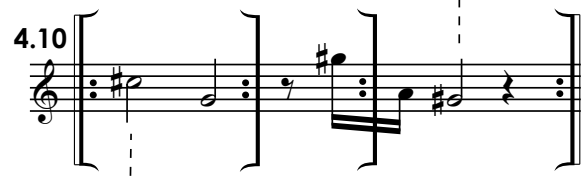
4.8



4.11



4.10



E: 1 →

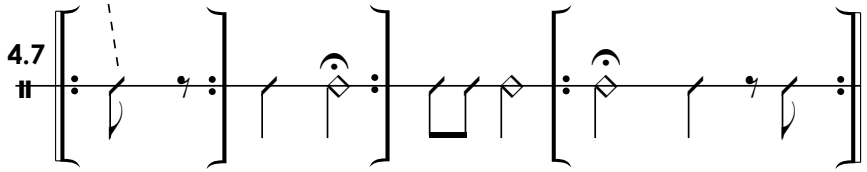
4.9



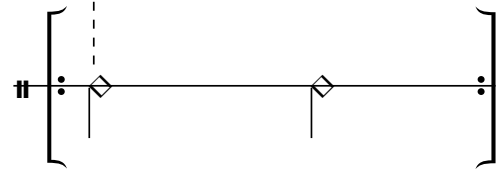
4.12



4.7



4.12



5.1

5.4

5.3

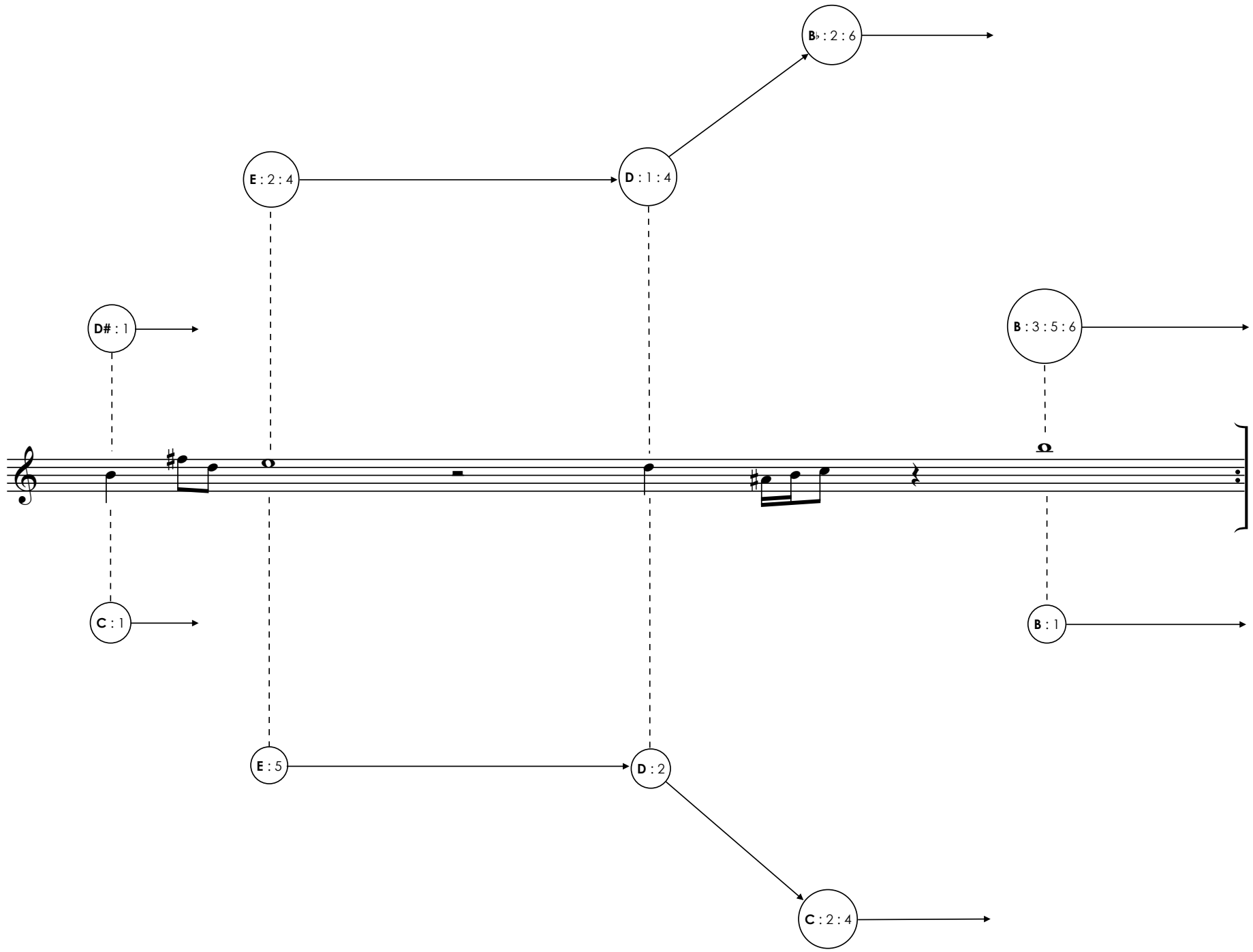
5.2

5

A : 1

F# : 1

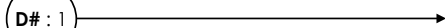
This musical score illustrates a sequence of guitar chords and fret numbers. The main staff is in treble clef and contains a sequence of notes: G#1, A1, B1, C#1, D1, E1, F#1, G#1. Above this staff are three chord diagrams labeled 5.5, 5.6, and 5.8. Diagram 5.5 shows a G#1 chord with a flat on the second string (b2). Diagram 5.6 shows a G#2 chord with a flat on the second string (b2). Diagram 5.8 shows a G#1 chord with a flat on the second string (b2). Below the main staff is a bass clef staff with a chord diagram labeled 5.7, showing a G#1 chord with a flat on the second string (b2). At the top of the page, a circle labeled G# : 2 is connected by a horizontal line to the right edge of the page. At the bottom, a circle labeled G : 1 is connected by a horizontal line to a second circle labeled G# : 1, which is then connected to the right edge of the page. Vertical dashed lines connect the notes in the main staff to the corresponding fret numbers in the chord diagrams.



7

A single musical staff in treble clef containing a sequence of notes and rests. The notes are: D#4 (quarter), E4 (quarter), F#4 (quarter), G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter), B4 (quarter), A4 (quarter), G4 (quarter), F#4 (quarter), E4 (quarter), D#4 (quarter). There are repeat signs at the beginning and end of the staff, and several bracketed sections.

D#: 1



7.1

A musical staff in treble clef with a repeat sign. It contains a quarter note D#4, a quarter rest, a quarter note E4, a quarter rest, a quarter note F#4, and a quarter rest.

7.4

A musical staff in treble clef with a repeat sign. It contains a quarter note D#4, a quarter rest, a quarter note E4, a quarter rest, a quarter note F#4, and a quarter rest.

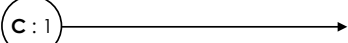
7.3

A musical staff in treble clef with a repeat sign. It contains a quarter note D#4, a quarter rest, a quarter note E4, and a quarter rest.

7.2

A musical staff in bass clef with a repeat sign. It contains a quarter note D#3, a quarter rest, a quarter note E3, and a quarter rest.

C: 1



This musical score consists of a main staff and four callout boxes labeled 7.5, 7.6, 7.7, and 7.8. The main staff is a single treble clef line with a repeat sign at the beginning and end. It contains a sequence of notes: a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, and a quarter rest. Vertical dashed lines connect the notes in the main staff to the callout boxes. Callout 7.5 shows a treble clef staff with a quarter note G4 and a quarter note A4. Callout 7.6 shows a treble clef staff with a quarter note B4 and a quarter note C5. Callout 7.7 shows a bass clef staff with a quarter note G3 and a quarter note A3, with an '8vb' marking below the G3. Callout 7.8 shows a treble clef staff with a quarter note B4 and a quarter note C5. Above the main staff, a circle labeled 'D:2' is connected by a dashed line to the C5 note in callout 7.6. Below the main staff, a circle labeled 'C#:1' is connected by a dashed line to the G4 note, and another circle labeled 'D:1' is connected by a dashed line to the C5 note. Horizontal arrows extend from the 'D:2' circle to the right and from the 'C#:1' and 'D:1' circles to the right.

8.2

E: 2

E: 2 : 4

8.4

8.5

8

8.3

8.6

8.1

Detailed description: This musical score is for guitar, spanning measures 8.1 to 8.6. Measure 8.1 is on a bass clef staff with a double bar line (II) and contains a sequence of chords: E2, E3, E4, E5, E6, E7, E8, E9, E10, E11, E12, E13, E14, E15, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27, E28, E29, E30, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78, E79, E80, E81, E82, E83, E84, E85, E86, E87, E88, E89, E90, E91, E92, E93, E94, E95, E96, E97, E98, E99, E100. Measures 8.2-8.6 are on a treble clef staff. Measure 8.2 shows a barre on the second fret (E: 2) and a diagram of a barre with a circle labeled 'E: 2 : 4' and an arrow pointing to the right. Measure 8.3 has a 5-finger barre. Measure 8.4 has a 5-finger barre and a 3-finger barre. Measure 8.5 has two 3-finger barres. Measure 8.6 has a 5-finger barre. A box with the number '8' is located to the left of measure 8.1. Vertical dashed lines connect the notes in measures 8.2-8.6 to the corresponding notes in measure 8.1.

8.7

Musical notation for measure 8.7 on a piano staff. It begins with a repeat sign and a fermata over a quarter note. This is followed by a triplet of eighth notes, a quarter note, a diamond-shaped symbol, and another triplet of eighth notes. The measure ends with a repeat sign.

8.9

Musical notation for measure 8.9 on a bass staff. It starts with a fermata over a quarter note, followed by a triplet of eighth notes, a quarter note, and a repeat sign.

Musical notation for measure 8.8 on a treble staff. It features a triplet of eighth notes, a quarter note, and a fermata over a quarter note. The measure concludes with a repeat sign.

8.10

Musical notation for measure 8.10 on a treble staff. It contains two triplet markings over eighth notes, followed by a fermata over a quarter note and a repeat sign.

8.11

Musical notation for measure 8.11 on a treble staff. It shows a fermata over a quarter note, followed by a diamond-shaped symbol and a repeat sign. An arrow points from a circle containing "E: 2" to the right.

8.12

Musical notation for measure 8.12 on a piano staff. It features two triplet markings over eighth notes, followed by a diamond-shaped symbol and a repeat sign.

F#: 1: 2

A circle containing the text "F#: 1: 2" with an arrow pointing to the right.

C: 2:6 →

9.3

D: 2:4 →

9.4

C: 2:6

9

3

9.2

9.1

This musical score consists of five measures, labeled 10, 10.1, 10.2, 10.3, and 10.4. Measure 10 is the first measure of a system, enclosed in a box labeled '10'. Measure 10.1 is the first measure of a second system, marked with a circled 'B:1' and an arrow pointing right. Measure 10.2 is the first measure of a third system, marked with a circled 'B:1:2:3' and an arrow pointing right. Measure 10.3 is the first measure of a fourth system. Measure 10.4 is the first measure of a fifth system. The score is written in treble clef with a key signature of one sharp (F#). Measure 10.2 features a sixteenth-note tremolo on the first string. Measure 10.4 features a sixteenth-note sextuplet on the first string. The score includes various musical notations such as slurs, ties, and repeat signs.

B : 3 : 5 : 6

11.3

11.2

11.5

11

11.4

B : 1 : 3 : 5 : 6

11.1