

The Lessing Is Miracle

for three retuned, computer-driven pianos

by Kyle Gann

2015-16

Technical Specifications

The 33-pitch tuning of the three pianos (the same in every octave) is as follows, given first in the number of cents above E-flat, and then as ratios to the E-flat 1/1:

Piano	1		2		3	
D	1088	15/8	977	225/128	1044	117/64
Db	969	7/4	938	55/32	906	27/16
C	857	105/64	773	25/16	840	13/8
B	738	49/32	755	99/64	729	195/128
Bb	702	3/2	590	45/32	609	91/64
A	551	11/8	551	11/8	481	169/128
Ab	471	21/16	440	165/128	408	81/64
G	386	5/4	320	77/64	342	39/32
Gb	204	9/8	275	75/64	275	75/64
F	155	35/32	192	143/128	192	143/128
E	92	135/128	53	33/32	27	65/64
Eb	0	1/1	1103	121/64	1173	63/32

Note that no string needs to be raised higher than its natural tuning except for the B-flat on piano 1, which is 2¢ sharp (or if one prefers, 2¢ could be subtracted from all quantities).

For electronic realization of the piece, it can prove helpful to reconfigure the tuning as a reference pitch in cycles per second for each piano, and ratios derived from that standard:

Tuning pitch:	38.891 cps	36.7641 cps	38.2833 cps
D	15/8	225/121	13/7
Db	7/4	20/11	12/7
C	105/64	200/121	104/63
B	49/32	18/11	65/42
Bb	3/2	180/121	13/9
A	11/8	16/11	169/126
Ab	21/16	15/11	9/7
G	5/4	14/11	26/21
F#	9/8	150/121	25/21
F	35/32	13/11	143/126
E	135/128	12/11	65/63
Eb	1/1	1/1	1/1

In the configuration of certain tuning softwares, the following sequences might facilitate getting the required tuning:

Piano 1:

38.891 = Eb0

1/1, 135/128, 35/32, 9/8, 5/4, 21/16, 11/8, 3/2, 49/32, 105/64, 7/4, 15/8

Piano 2:

36.7641485 = Eb0

1/1, 12/11, 13/11, 150/121, 14/11, 15/11, 16/11, 180/121, 18/11, 200/121, 20/11, 225/121

Piano 3:

38.283333 = Eb0

1/1, 65/63, 143/126, 25/21, 26/21, 9/7, 169/126, 13/9, 65/42, 104/63, 12/7, 13/7

For purposes of analysis, the entire scale (which I refer to as my 8x8 scale) is given below, grouping its pitches into eight harmonic series' on the 1st, 3rd, 5th, 7th, 9th, 11th, 13th, and 15th harmonics of E-flat, and naming each pitch in a typographical equivalent of Ben Johnston's just-intonation notation:

Pitch name	Ratio	Cents	1/1	3/2	5/4	7/4	9/8	11/8	13/8	15/8
Db^^-	121/64	1103						11		
D	15/8	1088	15	5	3					1
Db13	117/64	1044					13		9	
C#+	225/128	977								15
Db7	7/4	969	7			1				
C^	55/32	938			11			5		
C+	27/16	906		9			3			
C7+	105/64	857				15				7
Cb13	13/8	840	13						1	
B	25/16	773			5					
Bb^	99/64	755					11	9		
Cb77+	49/32	738				7				
Bb13	195/128	729							15	13
Bb	3/2	702	3	1						
Bbb713	91/64	609				13			7	
A+	45/32	590		15	9		5			3
Ab^	11/8	551	11					1		
Abb1313	169/128	481							13	
Ab7+	21/16	471		7		3				
G^	165/128	440						15		11
G+	81/64	408					9			
G	5/4	386	5		1					
Gb13	39/32	342		13					3	
Gb7^	77/64	320				11		7		
F#+	75/64	275			15					5
F+	9/8	204	9	3			1			
Fb13^	143/128	192						13	11	
F7+	35/32	155			7	5				
E+	135/128	92					15			9
Eb^	33/32	53		11				3		
Eb13	65/64	27			13				5	
Eb	1/1	0	1							
Eb7+	63/32	1173				9	7			

In Johnston's notation, + raises a pitch by 81/80, # raises it by 25/24, b lowers it by 24/25, 7 lowers it by 35/36, ^ raises it by 33/32, 13 raises it by 65/64, and F-A-C, C-E-G, and G-B-D are all perfectly tuned 4:5:6 major triads.

A couple of notes on listening to *Hyperchromatica*:

Some people think the piano sounds seem “funny” or “unreal.” It is essential to the timbre of a normal piano that the intervals are slightly out of tune, and surrounded by the fuzziness of the resulting beats. Remove that out-of-tuneness and the piano can sound different than you’re used to. It has always been common for me to play La Monte Young’s *The Well-Tuned Piano* for people and have them respond, “Isn’t that electronic?” “It sounds more like bells than a piano.” Often one’s unfamiliarity with pure tuning is misperceived as a deficiency in the piano sound. Relatedly, when I issued a disc of Disklavier music in 2005, people sometimes commented, “Too bad you couldn’t use a real piano, because the electronic sounds are off-putting.” In fact, the Disklavier *was* a real, acoustic piano, with pluckable strings. It was tuned to 18th-century well temperament, the notes went by *very* fast, and so the divergences from normalcy made people’s brains convince them that it was an electronic piano, which was a false perception. Give yourself some time to listen to the pieces over and over, and you’ll probably get used to them. I can guarantee, after hundreds of listenings myself, that the harmonies make their own purely-tuned sense, and that their logic sinks in once you can anticipate what’s going to happen. One of the purposes of these pieces is to expand your musical perception.

The Disklavier (computer-driven piano, the digital manifestation of the player piano) is a different medium than the human-played piano. One can, and must, write for it differently. With a couple of deliberate exceptions, these pieces are not playable by humans. The composer forbids performance by humans (which can’t happen anyway), and will not cooperate with any such attempt. The computer-driven version is the final manifestation, and the only one contemplated or permitted. These pieces were written, after years of profound thought and experimentation, specifically for the Disklavier medium, without any compromise in what the music was intended to achieve. If it bothers you that the music you are listening to isn’t being played by humans, there are millions of piano recordings made by humans; go listen to them. There is too much music in the world for anyone to waste time listening to any music wishing it were something other than what it is. This music is produced mechanically, for a mechanical quality of rhythm that I savor. I make this music public on the chance that there might be a handful of other people on the planet for whom the possibilities opened up here in terms of rhythmic and harmonic language might more than compensate for the loss of a few habitual comforts. If you are not one of those rare people, you can do the composer a favor by moving on without comment. I guarantee you will not alter his mind on the matter.

- Kyle Gann

to Julius Eastman in memoriam

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2015-16

Piano 2

Piano 3

pp 13

pp 19

pp 17

Pno2

Pno3

3

13

13

19

19

17

17

pp 11

Pno1

Pno2

Pno3

5

pp 13

17 pp

13

19

19

17

17

11

11

Musical score for measures 7-8. The score is for three pianos (Pno1, Pno2, Pno3). Measure 7 starts with a treble clef, a key signature of one flat (B-flat), and a dynamic marking of *pp*. Pno1 has a 19-measure melodic line in the upper register and a 13-measure accompaniment in the lower register. Pno2 has a 17-measure accompaniment in the upper register. Pno3 has an 11-measure accompaniment in the lower register. Measure 8 continues the patterns, with a 7:6 interval marked in Pno2.



Musical score for measures 9-10. The score is for three pianos (Pno1, Pno2, Pno3). Measure 9 starts with a treble clef, a key signature of one flat (B-flat), and a dynamic marking of *pp*. Pno1 has a 19-measure melodic line in the upper register and a 17-measure accompaniment in the lower register. Pno2 has a 17-measure accompaniment in the upper register. Pno3 has an 11-measure accompaniment in the lower register. Measure 10 continues the patterns, with a key signature change to one sharp (F#) and a dynamic marking of *pp* in Pno2.

11

Pno1

Pno2

Pno3

5

17

13

19

11

17

13

17

19

11

17

pp



13

Pno1

Pno2

Pno3

13

19

11

17

13

19

11

17

17



15

Pno1

Pno2

Pno3

13

19

11

17

13

19

11

17

13

pp

4

Musical score for Pno2 and Pno3, measures 17-19. The score is divided into two systems. The first system covers measures 17 and 18, and the second system covers measures 19 and 20. Pno2 consists of four staves: Treble, Middle 1, Middle 2, and Bass. Pno3 consists of one Treble staff. Fingerings are indicated by numbers 7, 19, 17, 11, and 5. Dynamics include *p*. Measure numbers 17, 19, 17, 11, 5, and 13 are placed above or below the notes.



Musical score for Pno2 and Pno3, measures 19-20. The score is divided into two systems. The first system covers measures 19 and 20, and the second system covers measures 21 and 22. Pno2 consists of four staves: Treble, Middle 1, Middle 2, and Bass. Pno3 consists of one Treble staff. Fingerings are indicated by numbers 7, 19, 17, 11, and 5. Measure numbers 19, 7, 19, 17, 11, 5, and 13 are placed above or below the notes.

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20

Pno1

7 *p*

pp 13 11

pp 19 13 11

5 *p*

5

Pno2

7

19

17 11

5

Pno3

13

7 *p*

5

p

The image displays a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is organized into three systems, each with two measures. Pno1 (top system) features a treble clef with a key signature of one flat and a common time signature. It includes a right-hand part with a melodic line and a left-hand part with a dense, rhythmic accompaniment of eighth notes. Fingerings of 7, 13, 11, and 5 are indicated. Pno2 (middle system) also has a treble clef and one flat key signature. Its right hand plays a melodic line with a dynamic marking of *p*, while the left hand provides a rhythmic accompaniment with a dynamic marking of *p*. Fingerings of 7 and 17 are shown. Pno3 (bottom system) uses a treble clef and one flat key signature. The right hand has a melodic line with a dynamic marking of *pp*, and the left hand plays a rhythmic accompaniment. Fingerings of 7 and 17 are indicated. The score includes various musical notations such as notes, rests, slurs, and dynamic markings.

Musical score for Pno1 and Pno3, measures 24-31. The score is written for two pianos, Pno1 and Pno3. Pno1 is in G major (one sharp) and Pno3 is in B-flat major (two flats). The score consists of five staves for Pno1 and one staff for Pno3. Measure numbers 24, 19, 13, 11, 5, and 17 are indicated. Fingerings are shown with numbers 1-5. A slur covers measures 24-25 in Pno1. A slur covers measures 26-27 in Pno1. A slur covers measures 28-29 in Pno1. A slur covers measures 30-31 in Pno1. A slur covers measures 24-25 in Pno3. A slur covers measures 26-27 in Pno3. A slur covers measures 28-29 in Pno3. A slur covers measures 30-31 in Pno3.

Musical score for two pianos, Pno1 and Pno3, measures 25 through 38. The score is written in treble and bass clefs. Pno1 (measures 25-38) features a melodic line in the right hand and a bass line in the left hand. Pno3 (measures 25-38) features a bass line in the left hand and a melodic line in the right hand. Fingerings are indicated by numbers 1-5. The key signature has one flat (B-flat).

Pno1

- Measure 25: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 26: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 27: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 28: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 29: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 30: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 31: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 32: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 33: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 34: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 35: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 36: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 37: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 38: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.

Pno3

- Measure 25: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 26: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 27: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 28: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 29: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 30: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 31: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 32: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 33: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 34: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 35: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 36: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 37: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.
- Measure 38: Treble clef, notes G4, A4, B4, C5, B4, A4, G4. Bass clef, notes G3, F3, E3, D3, C3, B2, A2, G2.

The musical score is divided into three systems, each for a different piano (Pno1, Pno2, Pno3). Each system contains two measures of music. Pno1 features complex rhythmic patterns with fingerings of 7, 19, 17, 13, 11, and 5. Pno2 has simpler rhythmic patterns with fingerings of 7 and 5. Pno3 includes fingerings of 7, 17, and 13, with a *pp* dynamic marking. The score includes various musical notations such as notes, rests, and slurs.

The image shows a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is divided into two systems. The first system covers measures 28 to 31, and the second system covers measures 32 to 35. Pno1 has four staves: a grand staff (treble and bass clefs) and two inner staves. Pno2 has three staves: a grand staff and one inner staff. Pno3 has one staff. The score includes various musical notations such as notes, rests, and fingerings. Pno1 has fingerings of 7, 11, and 5. Pno2 has fingerings of 7 and 5, and a dynamic marking of *pp*. Pno3 has a fingering of 13. The key signature is one sharp (F#) and the time signature is common time (C).

30

Pno1

Pno2

Pno3

Musical score for two piano parts, Pno1 and Pno3, measures 32-39. Pno1 consists of five staves: Treble clef, two Middle clefs (labeled 17 and 13), and Bass clef (labeled 11 and 5). Pno3 consists of one Treble clef staff (labeled 19). Measure 32 starts with a treble clef and a fermata over a half note. Pno1 has a melodic line in the first treble staff, while the other staves have chords. Pno3 has a steady eighth-note accompaniment.

The image shows a musical score for two piano parts, Pno1 and Pno3, spanning measures 33 to 39. Pno1 consists of five staves (treble and bass clefs) with various musical notations including notes, rests, and fingerings (7, 17, 13, 11, 5). Pno3 consists of three staves (treble and bass clefs) with notes, rests, and fingerings (7, 19, 5). The score includes a variety of note values, rests, and articulation marks.

The image shows a musical score for two piano parts, Pno1 and Pno3, across two measures (34 and 35). Pno1 consists of five staves: a grand staff (treble and bass clefs) and three single staves. The grand staff has a treble clef and a bass clef. The first staff has a treble clef and a key signature of one flat (B-flat). The second staff has a treble clef and a key signature of one sharp (F-sharp). The third staff has a bass clef and a key signature of one flat (B-flat). The fourth and fifth staves have treble clefs and a key signature of one flat (B-flat). Pno3 consists of three staves, all with treble clefs and a key signature of one flat (B-flat). The score includes various musical notations such as slurs, ties, and dynamic markings. Measure 34 starts with a treble clef and a key signature of one flat (B-flat). Measure 35 starts with a treble clef and a key signature of one sharp (F-sharp). The score is divided into two measures, 34 and 35. Pno1 has five staves. The top two staves are a grand staff. The bottom three staves are single staves. Pno3 has three staves. The score includes various musical notations such as slurs, ties, and dynamic markings. Measure 34 starts with a treble clef and a key signature of one flat (B-flat). Measure 35 starts with a treble clef and a key signature of one sharp (F-sharp).

36 \sharp

Pno1

Pno2

pp

7

5

17

Pno3

7

19

13

11

5

37

Pno2

17

Pno3

7

19

13

11

5

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38

Pno2

7

17

19

17

13

11

pp

13

11

5

Pno3

7

19

13

11

5

5

Musical score for two pianos, Pno2 and Pno3, measures 40 and 41. The score is written in treble and bass clefs with a key signature of one sharp (F#). Measure 40 features a complex texture with multiple voices. Pno2 has a melodic line in the upper voice and a rhythmic accompaniment in the lower voice. Pno3 has a melodic line in the upper voice and a rhythmic accompaniment in the lower voice. Measure 41 continues the texture, with Pno2 and Pno3 playing in parallel motion. The score includes various musical notations such as slurs, ties, and dynamic markings like *pp*.

40

Pno2

7

19

17

13

11

5

Pno3

13

11

pp

pp

Pno1

42

7

7

17

5

17

5

pp

Pno2

7

19

5

19

Pno3

7

13

11

5

7

13

11

5

44

Pno1

Pno2

Pno3

7

7

pp

19

17

11

17

11

pp

5

5

7

19

5

7

13

13

11

5

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Detailed description: This is a page of a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The page number 19 is in the top right corner. The score is divided into three systems, each corresponding to one piano. The first system (Pno1) starts at measure 44. It features a complex arrangement of notes and rests across four staves. The top two staves have notes with accidentals (flats and naturals) and a fermata. The bottom two staves have a series of notes with fingerings 17 and 11, and a dynamic marking of pp. The second system (Pno2) continues the musical ideas with notes and rests, including a dynamic marking of pp and fingerings 19 and 5. The third system (Pno3) also continues the musical ideas with notes and rests, including a dynamic marking of pp and fingerings 13, 11, and 5. The score is written in a standard musical notation with treble and bass clefs, and various musical symbols like notes, rests, and fingerings.

The musical score is divided into three systems, each for a different piano (Pno1, Pno2, Pno3).
Pno1: The first system starts at measure 46. It features a complex texture with multiple staves. The top staff has a melodic line with a slur and a fermata. The middle staves contain dense rhythmic patterns, with fingerings of 19 and 17 indicated. The bottom staff has a bass line with a slur and a fermata, and a fingering of 5. The second system continues with similar textures, including a *pp* dynamic marking and fingerings of 13 and 11.
Pno2: The second system shows Pno2 with a more sparse texture, primarily consisting of rests and occasional notes in the upper and lower staves, with fingerings of 7 and 5.
Pno3: The third system features Pno3 with a melodic line in the upper staff and a bass line in the lower staff. Fingerings of 7, 13, and 5 are indicated. The score concludes with a final chord in the upper staff.

The image shows a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is divided into three systems, each containing two measures. Measure numbers 48, 49, and 50 are indicated at the beginning of each system. Pno1 consists of five staves (treble and bass clefs). Pno2 consists of two staves (treble and bass clefs). Pno3 consists of three staves (treble and bass clefs). The music features complex rhythmic patterns, including sixteenth-note runs and chords, with various fingerings and articulations indicated by numbers and symbols. The key signature is one sharp (F#).

Pno1

Musical score for Pno1, measures 50-51. The score consists of five staves. The top staff is a grand staff with treble and bass clefs, containing a melodic line with a fermata and a dynamic marking of *pp*. The second staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. The third staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. The fourth staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. The fifth staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. Fingerings are indicated by numbers 1-5. Measure numbers 7, 17, 13, 11, and 5 are shown below the staves.

Pno2

Musical score for Pno2, measures 50-51. The score consists of five staves. The top staff is a grand staff with treble and bass clefs, containing a melodic line with a fermata and a dynamic marking of *pp*. The second staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. The third staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. The fourth staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. The fifth staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. Fingerings are indicated by numbers 1-5. Measure numbers 7, 17, 11, and 5 are shown below the staves.

Pno3

Musical score for Pno3, measures 50-51. The score consists of three staves. The top staff is a grand staff with treble and bass clefs, containing a melodic line with a fermata and a dynamic marking of *pp*. The middle staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. The bottom staff is a grand staff with treble and bass clefs, containing a rhythmic accompaniment with a dynamic marking of *pp*. Fingerings are indicated by numbers 1-5. Measure numbers 7 and 5 are shown below the staves.

52

Pno1

Pno2

19

13

7

13

5

7

7

17

17

11

13

11

5

5

pp

54

Pno2

7

7

19

19

17

17

13

13

11

11

5

5

56

Pno1

pp

13
11

7

5

Pno2

7

19

17

13

5

The musical score is divided into three systems, each for a different piano (Pno1, Pno2, Pno3). Each system contains three staves (treble, middle, and bass clefs).
- **Pno1:** The first system starts at measure 58. It features complex melodic lines in the upper staves and rhythmic accompaniment in the lower staves. Dynamic markings include *pp* and *ppp*.
- **Pno2:** The second system features a prominent melodic line in the upper staves with a steady accompaniment in the lower staves.
- **Pno3:** The third system has a more sparse texture with melodic fragments in the upper staves and accompaniment in the lower staves.
The score includes various musical notations such as notes, rests, slurs, and dynamic markings like *pp* and *ppp*.

The image displays a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is organized into three systems, each with two measures. Pno1 (top system) starts at measure 60 and features a treble clef with a key signature of one flat. It includes a melodic line with slurs and a bass line with a dense eighth-note accompaniment. Fingerings of 7, 19, 11, and 5 are indicated. Pno2 (middle system) has a treble clef with a key signature of one sharp and a bass line with a similar eighth-note accompaniment. Fingerings of 7, 17, and 5 are shown. Pno3 (bottom system) uses a treble clef with a key signature of one flat and a bass line with an eighth-note accompaniment. Fingerings of 7, 13, and 5 are noted. The score includes various musical notations such as slurs, ties, and dynamic markings.

62

Pno1

Pno2

Pno3

7

7

19

19

17

17

13

13

pp

11

11

5

5

17

13

5

5

64

Pno1

Pno2

Pno3

Pno1

66

7

17

11

5

Pno2

7

19

5

Pno3

7

13

5

Pno1

Musical score for Pno1, measures 67-76. The score consists of three staves: Treble, Middle, and Bass. The Treble staff contains a melodic line with a fermata over the first measure and a slur over measures 7-17. The Middle staff contains a steady eighth-note accompaniment with a slur over measures 11-17. The Bass staff contains a melodic line with a slur over measures 5-17. Measure numbers 7, 11, and 17 are indicated above the staves.

Pno2

Musical score for Pno2, measures 67-76. The score consists of three staves: Treble, Middle, and Bass. The Treble staff contains a melodic line with a fermata over the first measure and a slur over measures 7-19. The Middle staff contains a steady eighth-note accompaniment with a slur over measures 19-5. The Bass staff contains a melodic line with a slur over measures 5-19. Measure numbers 7, 19, and 5 are indicated above the staves.

Pno3

Musical score for Pno3, measures 67-76. The score consists of three staves: Treble, Middle, and Bass. The Treble staff contains a melodic line with a fermata over the first measure and a slur over measures 7-13. The Middle staff contains a steady eighth-note accompaniment with a slur over measures 13-5. The Bass staff contains a melodic line with a slur over measures 5-13. Measure numbers 7, 13, and 5 are indicated above the staves.

32 68

Pno1

Pno2

Pno3

7

17

11

7

19

17

pp

13

pp

5

13

11

pp

69

Pno2

Pno3

7

19

17

13

5

11

70 \flat $\sharp\phi$ $\flat\phi$ 33

Pno2

7

19

17

13

5

Pno3

11

71

Pno1

pp

11

11

Pno2

7

19

17

13

5

13

Pno3

pp

19

19

17

17

11

Detailed description: This page of a musical score is for three pianos, labeled Pno1, Pno2, and Pno3. Pno1 is in the top system, Pno2 in the middle, and Pno3 in the bottom. Pno1 starts at measure 71 with a *pp* dynamic and features two measures of music with fingerings of 11. Pno2 has five staves with various rhythmic patterns and fingerings: 7, 19, 17, 13, and 5. Pno3 has three staves with complex rhythmic patterns and fingerings: 19, 17, and 11. The score includes various musical notations such as slurs, accents, and dynamic markings.

The image shows a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is divided into three systems. The first system (measures 73-84) features Pno1 with a treble clef and a whole rest, and Pno2 with a treble clef and a series of dotted quarter notes. The second system (measures 85-96) shows Pno2 continuing with dotted quarter notes and Pno3 with a treble clef and a series of dotted quarter notes. The third system (measures 97-108) includes Pno3 with a treble clef and a series of dotted quarter notes, and a bass clef part with a piano (p) dynamic marking and a complex chordal texture. Fingerings are indicated by numbers 1-5 above notes, and slurs are used to group notes across measures.

74

Pno1

Pno2

Pno3

The musical score is divided into three systems, each for a different piano (Pno1, Pno2, Pno3).
- **Pno1:** The first system starts at measure 75. It features a treble clef with a key signature of one flat (B-flat). The right hand has a melodic line with slurs and accents, while the left hand plays a steady eighth-note accompaniment. Measure numbers 19, 15, and 21 are indicated.
- **Pno2:** The second system features a treble clef with a key signature of one flat. The right hand has a melodic line with slurs, and the left hand plays a steady eighth-note accompaniment. Measure number 13 is indicated.
- **Pno3:** The third system features a treble clef with a key signature of one sharp (F-sharp). The right hand has a melodic line with slurs and accents, while the left hand plays a steady eighth-note accompaniment. Measure numbers 21, 17, 15, and 11 are indicated.

The image shows a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is written in treble and bass clefs with various musical notations including notes, rests, and dynamic markings. Fingerings are indicated by numbers 1-5. Pno1 starts at measure 76. Pno2 has a *pp* marking. Pno3 has a *pp* marking. The score is divided into three systems, each with five staves. The first system (Pno1) has measures 76-85. The second system (Pno2) has measures 86-95. The third system (Pno3) has measures 96-105. Fingerings are indicated by numbers 1-5. Dynamic markings include *pp* (pianissimo) and *f* (forte). The score is written in treble and bass clefs. The first system (Pno1) has measures 76-85. The second system (Pno2) has measures 86-95. The third system (Pno3) has measures 96-105. Fingerings are indicated by numbers 1-5. Dynamic markings include *pp* (pianissimo) and *f* (forte). The score is written in treble and bass clefs.

77 39

Pno1

Pno2

Pno3

The musical score is divided into three systems, each for a different piano (Pno1, Pno2, Pno3). Each system contains five staves (treble and bass clefs). The score is divided into two measures per system. Pno1 has measures 19, 11, 15, and 21. Pno2 has measures 17, 13, 11, 15, and 21. Pno3 has measures 19 and 13, with a dynamic marking of *pp*. The score includes various musical notations such as treble and bass clefs, notes, rests, and dynamic markings.

40

79

Pno1

21

11

15

Pno2

21

17

15

Pno3

21

19

13

15

The image shows a musical score for three piano parts, labeled Pno1, Pno2, and Pno3. The score is written on multiple staves. Pno1 consists of five staves, Pno2 consists of three staves, and Pno3 consists of four staves. The music includes various notes, rests, and dynamics such as *pp*. There are also numerical markings (21, 17, 13, 11, 15, 19) and a measure number 80 at the beginning. The score is arranged in three systems, with Pno1 at the top, Pno2 in the middle, and Pno3 at the bottom. The notation includes treble and bass clefs, and various musical symbols like beams, slurs, and dynamic markings.

81

Pno1

21

17

13

11

15

Pno2

19

Pno3

21

15

The musical score is arranged in three systems. The first system, labeled 'Pno1', consists of six staves. The top staff is a treble clef with a key signature of one sharp (F#) and a common time signature. It contains a melodic line with a fermata over the final measure. The second staff is a treble clef with a common time signature, containing a sequence of eighth notes. The third staff is a treble clef with a common time signature, containing a sequence of eighth notes. The fourth staff is a treble clef with a common time signature, containing a sequence of eighth notes. The fifth staff is a treble clef with a common time signature, containing a sequence of eighth notes. The sixth staff is a bass clef with a common time signature, containing a sequence of eighth notes. The second system, labeled 'Pno2', consists of two staves. The top staff is a treble clef with a common time signature, containing a sequence of eighth notes. The bottom staff is a bass clef with a common time signature, containing a sequence of eighth notes. The third system, labeled 'Pno3', consists of two staves. The top staff is a treble clef with a common time signature, containing a sequence of eighth notes. The bottom staff is a bass clef with a common time signature, containing a sequence of eighth notes. Fingerings are indicated by numbers 1-5. A fermata is present over the final measure of the first system's top staff.

82

Pno1

21

17

13

11

15

Pno2

19

11

pp

Pno3

15

21

44 83

Pno1

Pno2

Pno3

21

17

13

15

19

11

21

13

15

11

The image shows a musical score for three piano parts, labeled Pno1, Pno2, and Pno3. The score is divided into three systems. The first system, labeled Pno1, contains measures 84 through 95. The second system, labeled Pno2, contains measures 96 through 107. The third system, labeled Pno3, contains measures 108 through 119. Each system consists of multiple staves with musical notation, including notes, rests, and dynamic markings. Measure numbers 21, 17, 15, 19, 13, and 11 are placed above the staves to indicate specific measures within the system. The notation includes treble and bass clefs, key signatures, and various note values and rests.

The musical score is divided into three systems, each for a different piano (Pno1, Pno2, Pno3). Each system consists of four staves (two treble and two bass clefs).
- **Pno1:** Starts at measure 85. Features a melodic line in the upper treble staff and a bass line in the lower bass staff. Dynamics include *pp*. Measure numbers 11, 13, 15, 17, and 21 are indicated.
- **Pno2:** Features a melodic line in the upper treble staff and a bass line in the lower bass staff. Dynamics include *pp*. Measure numbers 17 and 19 are indicated.
- **Pno3:** Features a melodic line in the upper treble staff and a bass line in the lower bass staff. Dynamics include *pp*. Measure numbers 11, 13, 15, and 21 are indicated.

The image displays a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is organized into three systems, each containing five staves (treble and bass clefs). Measure numbers 86, 11, 13, 15, 17, 19, and 21 are indicated below the staves. Pno1 features a melodic line in the upper staves and a bass line with sustained chords. Pno2 has a melodic line in the upper staves and a bass line with sustained chords. Pno3 has a melodic line in the upper staves and a bass line with sustained chords. The score includes various musical notations such as notes, rests, and slurs.

87

Pno1

13

11

8

Pno2

21

19

17

15

8

Pno3

21

15

88

Pno1

21

19

13

11

15

Pno2

21

19

17

15

Pno3

21

17

15

15

Musical score for Pno1, measures 89-100. The score consists of five staves. The first two staves are treble clef, and the last three are bass clef. A large brace spans measures 89-100 across all staves. Measure numbers 7, 19, 13, and 11 are indicated below the staves. A dynamic marking of *pp* is present in measure 91. A fermata is placed over a note in measure 99.

Musical score for Pno2, measures 89-100. The score consists of five staves. The first two staves are treble clef, and the last three are bass clef. A large brace spans measures 89-100 across all staves. Measure numbers 21, 19, 17, and 11 are indicated below the staves. A dynamic marking of *pp* is present in measure 91. A fermata is placed over a note in measure 99.

Musical score for Pno3, measures 89-100. The score consists of five staves. The first two staves are treble clef, and the last three are bass clef. A large brace spans measures 89-100 across all staves. Measure numbers 7, 17, and 11 are indicated below the staves. A dynamic marking of *pp* is present in measure 91. A fermata is placed over a note in measure 99.

The image shows a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is divided into three systems. The first system, labeled 'Pno1', contains measures 90 through 95. The second system, labeled 'Pno2', contains measures 96 through 111. The third system, labeled 'Pno3', contains measures 112 through 113. The notation includes treble and bass clefs, various note values, rests, and dynamic markings. Fingerings are indicated by numbers 1-5. A large slur covers measures 96-111 in Pno2. Measure numbers 7, 19, 13, 17, 5, 7, 21, 19, 17, 13, 11, 5, and 21 are placed below the staves to indicate specific measures or groups of notes.

The Lessing Is Miracle

The musical score is divided into three systems, each for a different piano part:

- Pno1:** Starts at measure 91. It features a treble clef with a key signature of one flat (B-flat). The right hand has a melodic line with a slur over measures 91-92 and a fermata. The left hand has a rhythmic accompaniment of eighth notes. Fingerings 7, 19, 13, and 17 are indicated.
- Pno2:** Features a treble clef. The right hand has a melodic line with a slur over measures 17-18 and a fermata. The left hand has a rhythmic accompaniment of eighth notes. Fingerings 17 and 11 are indicated.
- Pno3:** Features a treble clef with a key signature of one flat (B-flat). The right hand has a melodic line with a slur over measures 21-22 and a fermata. The left hand has a rhythmic accompaniment of eighth notes. Fingerings 7, 21, 19, 13, and 11 are indicated.

Each system also includes a bass clef staff with a few notes and rests, and a common time signature 'C' at the beginning of the first system.

92

Pno1

Pno2

Pno3

17

17

11

7

21

19

13

11

5

The musical score is arranged in three systems. The first system, labeled 'Pno1', contains a single treble clef staff with a rest for 17 measures followed by a sequence of eighth notes starting on a sharp. The second system, labeled 'Pno2', contains two treble clef staves. The upper staff has a sequence of eighth notes for 17 measures, and the lower staff has a sequence of eighth notes for 11 measures, including a sharp and a flat. The third system, labeled 'Pno3', contains six staves. The top two are treble clef staves with chords and eighth notes, with fingerings 7, 21, and 19. The middle two are treble clef staves with eighth notes, with fingerings 13 and 11. The bottom staff is a bass clef staff with a sequence of notes and fingerings 5.

93

Pno1

Pno2

Pno3

p *p:*

7 19 13 17 5 21 19 17 13 11 7 21 19 13 5

The image shows a musical score for three pianos, labeled Pno1, Pno2, and Pno3. The score is divided into three systems. The first system (measures 94-100) features Pno1 with a treble clef and a bass clef. It includes a fermata over a whole note chord in the treble (measure 94), a 7-fingered scale in the bass (measures 95-100), and a 21-fingered scale in the treble (measures 95-100). Pno2 has a treble clef and a bass clef, with a 7-fingered scale in the treble (measures 95-100) and a 21-fingered scale in the bass (measures 95-100). Pno3 has a treble clef and a bass clef, with a 13-fingered scale in the treble (measures 95-100) and an 11-fingered scale in the bass (measures 95-100). The second system (measures 101-107) features Pno1 with a treble clef and a bass clef, with a 7-fingered scale in the treble (measures 101-107) and a 21-fingered scale in the bass (measures 101-107). Pno2 has a treble clef and a bass clef, with a 19-fingered scale in the treble (measures 101-107) and a 17-fingered scale in the bass (measures 101-107). Pno3 has a treble clef and a bass clef, with a 13-fingered scale in the treble (measures 101-107) and an 11-fingered scale in the bass (measures 101-107). The third system (measures 108-114) features Pno1 with a treble clef and a bass clef, with a 5-fingered scale in the bass (measures 108-114). Pno2 has a treble clef and a bass clef, with a 5-fingered scale in the bass (measures 108-114). Pno3 has a treble clef and a bass clef, with a 21-fingered scale in the bass (measures 108-114). The score includes various musical notations such as fermatas, slurs, and dynamic markings.

95 $\text{b} \text{p}$

Pno1

7

13

17

11

5

Pno2

7

21

19

17

13

5

Pno3

21

19

13

11

The image displays a musical score for three piano parts, labeled Pno1, Pno2, and Pno3. The score is organized into three systems, each corresponding to one of the piano parts. Each system contains five staves: two for the right hand and three for the left hand. The first system, labeled 'Pno1', begins at measure 96. The second system, labeled 'Pno2', and the third system, labeled 'Pno3', follow. The notation includes treble and bass clefs, various note values, rests, and dynamic markings. Fingerings are indicated by numbers 1-5. Slurs and accents are used to group notes and emphasize specific sounds. The score is presented in a clean, black-and-white format.

97

58

Pno1

Pno2

Pno3

21

17

13

11

7

21

19

17

13

11

5

7

21

19

17

13

11

5

98 *p.* 59

Pno3

21

19

17

13

11

p

99

Pno3

21

19

17

13

11

p

100

Pno3

21

19

13

13

11

102

Pno1

Pno2

Pno3

105

Pno1

Pno2

Pno3

The score consists of three systems, each for a different piano part. Each system contains three staves (treble, middle, and bass clefs). The first system (Pno1) starts at measure 105. The second system (Pno2) begins at measure 108. The third system (Pno3) begins at measure 111. The music features complex textures with triplets, slurs, and various accidentals (flats, naturals, sharps) across the different parts.

108

Pno1

Musical score for Pno1, measures 108-110. The score is in 3/4 time and features a key signature of one flat (B-flat). Measure 108 begins with a treble clef and a bass clef. The treble staff contains a half note B-flat, followed by a quarter rest, and then a triplet of eighth notes: B-flat, A, and G. The bass staff contains a quarter rest, followed by a quarter note B-flat, and then a triplet of eighth notes: B-flat, A, and G. Measure 109 continues with a half note B-flat in the treble and a quarter note B-flat in the bass, both followed by quarter rests. The bass staff also features a triplet of eighth notes: B-flat, A, and G. Measure 110 consists of a whole rest in both staves.

Pno2

Musical score for Pno2, measures 108-110. The score is in 3/4 time and features a key signature of one flat (B-flat). Measure 108 consists of a whole rest in both staves. Measure 109 features a treble staff with a quarter note B-flat, followed by quarter notes A, G, F, E, D, C, and B-flat. The bass staff contains a quarter rest, followed by a quarter note B-flat, and then a triplet of eighth notes: B-flat, A, and G. Measure 110 consists of a whole rest in both staves.

Pno3

Musical score for Pno3, measures 108-110. The score is in 3/4 time and features a key signature of one flat (B-flat). Measure 108 features a treble staff with a half note B-flat, followed by a quarter rest, and then a triplet of eighth notes: B-flat, A, and G. The bass staff contains a quarter rest, followed by a quarter note B-flat, and then a triplet of eighth notes: B-flat, A, and G. Measure 109 features a treble staff with a quarter rest, followed by a quarter note B-flat, and then a triplet of eighth notes: B-flat, A, and G. The bass staff contains a quarter rest, followed by a quarter note B-flat, and then a triplet of eighth notes: B-flat, A, and G. Measure 110 features a treble staff with a quarter note B-flat, followed by quarter notes A, G, F, E, D, C, and B-flat. The bass staff contains a quarter note B-flat, followed by quarter notes A, G, F, E, D, C, and B-flat.

111

Pno1

Pno2

Pno3

The score consists of three systems, each for a piano. Pno1 (top system) has a treble clef and a bass clef. The treble staff contains a melodic line with notes like Bb, F, and G, and a final measure with a Bb. The bass staff contains a line of notes including Bb, F, and G. Pno2 (middle system) has a treble clef and a bass clef. The treble staff has a melodic line with notes like E# and F#, and a final measure with a Bb. The bass staff contains a line of notes including E# and F#. Pno3 (bottom system) has a treble clef and a bass clef. The treble staff contains a line of notes including E# and F#, and a final measure with a Bb. The bass staff contains a line of notes including E# and F#.

66 114

Pno1

Pno2

Pno3

114

115

116

117

118

119

120

121

116

Pno1

Pno2

Pno3

The musical score for three pianos (Pno1, Pno2, Pno3) begins at measure 116. Pno1 consists of three staves. The top staff has a slur over a sequence of notes with a fingering of 7. The middle staff has a slur over a sequence of notes with a fingering of 15. The bottom staff has a slur over a sequence of notes with a fingering of 11. Pno2 consists of six staves. The top staff has a slur over a sequence of notes with a fingering of 7. The second staff has a slur over a sequence of notes with a fingering of 9. The third staff has a slur over a sequence of notes with a fingering of 15. The fourth staff has a slur over a sequence of notes with a fingering of 11. The fifth staff has a slur over a sequence of notes with a fingering of 13. Pno3 consists of one staff with a slur over a sequence of notes with a fingering of 13. The score includes various rhythmic patterns, slurs, and dynamic markings.

118

Pno1

Pno2

Pno3

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