

# **GEORGE CRUMB**

## **CELESTIAL MECHANICS**

### **(MAKROKOSMOS IV)**

**Cosmic Dances for Amplified Piano, Four Hands**

*Commissioned by the Chamber Music Society of Lincoln Center*

*recording: Smithsonian Collection NO27  
(Re-released by Pro Arte Records)*

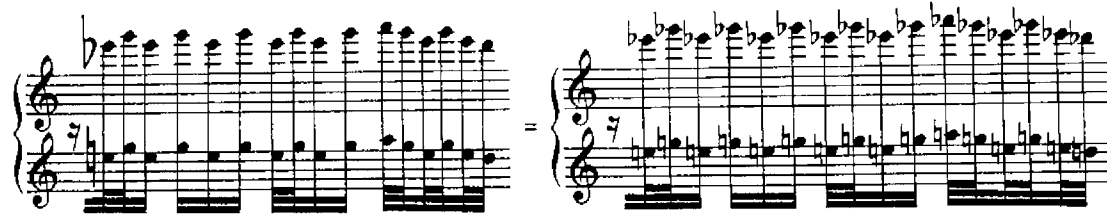
*duration: ca. 25 minutes*

Facsimile printing from the manuscript by the composer.

**C. F. PETERS CORPORATION**  
**NEW YORK      LONDON      FRANKFURT**

## PERFORMANCE NOTES

1. Accidentals apply only to the notes they precede except in case(s) of immediate repetition of pitch or pattern of pitches. Larger accidentals apply to all the tones indicated, in both the horizontal and vertical sense. Therefore note in the *primo* part at [25]:



Note also in the *secondo* part at [42]:



2. All metronomic indications are approximate and may vary slightly, depending on the acoustical properties of the hall, etc.
3. *Celestial Mechanics* requires several special techniques such as *pizzicato* playing, muted tones, production of harmonics, etc. In order that the execution of these effects be accurate, it is important that the strings be clearly marked by bits of drafting tape. Some pianists prefer to mark only those strings which correspond to the black keys; in this way the sense of "keyboard" is replicated and the player's orientation is more immediate.
4. Since the construction of pianos varies considerably among the various manufacturers, and even among different models produced by the same firm, the performers should choose an instrument which facilitates the execution of all the special effects. It is critically important, too, that the piano be equipped with a correctly functioning *sostenuto* pedal.
5. When *pizzicato* playing is indicated, the string should be plucked with the fingertip (f.t.), unless specifically marked "at end of string" (for a more nasal, metallic timbre). Normal playing on the keyboard is indicated by the instruction "on keys."
6. Glissandos over the strings are to be played with the fingertip (f.t.), the fingernail (f.n.), the thumbnail or the end of a metal ruler (see the conclusion of *Gamma Draconis*), as indicated in the score. The strings may be strummed in front of the dampers (i.e., between the front structural beam and the pins) or behind the dampers; the choice, depending on considerations of timbre and ease of performance, is left to the discretion of the pianists. The precise duration and approximate range of the glissando is always given in the score.
7. *Celestial Mechanics* utilizes harmonics of the 2nd, 4th, and 5th partials. The precise nodal points can be indicated by affixing tiny slivers of tape to the strings. The finger(s) touching the nodes should come off the string(s) immediately after single harmonics or groups of harmonics are struck so that the harmonics ring more luminously.

8. Muted tones (indicated by the symbol "+") are used extensively in *Celestial Mechanics*. The string(s) should be muted (with firm pressure) at the very end (next to the bridge) in order to produce the maximum resonance and beauty of tone. Passages involving rapid alternations of muted and non-muted tones (as in *Alpha Centauri*) are precisely marked in the score and should be carefully studied. (Non-muted tones in such passages are marked "n," i.e. "normal.")

9. All boxed notes are to be silently depressed (see *Delta Orionis*).

10. Three metal rulers (with cork stripping glued to one side) are required for *Gamma Draconis*. One of the rulers should be 15 inches in length; the other two, 12 inches in length.

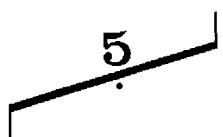
11. The pedal instructions are precise and should be followed exactly. The damper pedal is controlled by the *primo* player, the *sostenuto* and *una corda* pedals by the *secondo* player. The following special symbols are used to indicate the pedals:


PI = right (damper) pedal  
 PII = middle (*sostenuto*) pedal  
 PIH = left (*una corda*) pedal

N.B. PI sempre = keep damper pedal depressed throughout (let sound vibrate through pauses).

12. A conventional microphone (suspended over the bass strings) should be used for the amplification of the piano. The level of amplification should be set rather high so that the loudest passages are very powerful in effect, but without distortion. The level of amplification should not be adjusted during the performance.

13. SB = strike the soundboard (through the circular opening in the metal frame) with the fingertips. CBI, CBII, CBIII = the metal crossbeams of the piano. CBI is the leftmost beam; CBII and CBIII are the next beams to the right.

14.  = five seconds (approximately)

 = three seconds (approximately)

 =  = 

15. The composer would suggest that the movement titles be included in the program listing. The following form is recommended:

CELESTIAL MECHANICS [MAKROKOSMOS IV] (1979)

(Cosmic Dances for Amplified Piano, Four Hands)

- I. Alpha Centauri
- II. Beta Cygni
- III. Gamma Draconis
- IV. Delta Orionis

I. Alpha Centauri  
II. Beta Cygni  
III. Gamma Draconis  
IV. Delta Orionis

**PROGRAM NOTE**

*Celestial Mechanics*, completed in April, 1979, is the fourth in a series of works entitled (or subtitled) *Makrokosmos*. The first two works were scored for solo piano and the third (*Music for a Summer Evening*) for two pianos and percussion.

I had long been tempted to try my hand at the four-hand medium, perhaps because I myself have been a passionate four-hand player over the years. The best of the original four-hand music—which includes, of course, those many superb works by Mozart, Schubert, and Brahms—occupies a very special niche in the literature of music. The idiom, a strange hybrid of the pianistic and the orchestral, lends itself readily to a very free and spontaneous kind of music—one thinks of the many collections of dances of various types and of the predilection for the “fantasy” genre. The present work, therefore, comprising a suite of “cosmic” dances composed in a rather “fantastic” style, falls squarely within the tradition.

My sole departure from tradition occurs at two points in the score where I have enlarged the medium to six-hands; and so, in the whimsical manner of Ives, the page turner must contribute more substantively to the performance than is his wont.

The title *Celestial Mechanics* was borrowed from the French mathematician Laplace. The titles for the four movements (added after the music was completed!) are the beautiful names of stars of the first through the fourth magnitude. The majestic movement of the stars does indeed suggest the image of a “cosmic choreography” and, in fact, I briefly considered opting for an alternate title (proposed by my brother, punster that he is)—*The Celestial Ballroom*.

GEORGE CRUMB

Premiere: Gilbert Kalish, Paul Jacobs, pianists; November 18, 1979; Alice Tully Hall, New York City.

Premiere of complete *Makrokosmos* Cycle: Ivar Mikhashoff, Aki Takahashi, Stephen and Frieda Manes, pianists;  
Jan Williams and Lynn Harbold, percussionists; June 12, 1980; Buffalo, New York.

# Celestial Mechanics

[MAKROKOSMOS IV]

Cosmic Dances for Amplified Piano, Four Hands

## I. Alpha Centauri

GEORGE CRUMB

*Molto ritmico* [♩ = 60, ♪ = 180]

**Primo**

*f deciso*

(senza Ped. I!)

**Secondo**

(silently depress and secure with Ped. II)

Ped. I - - - - -

*f deciso*

(mute strings, f.t.)

**I**

*f sempre*

(Ped. I) - - - - -

(senza Ped. I)

**II**

strike strings with palm (mart.)

*f*

(Ped. II sempre)

1

**2**

**I**

**II**

*Ped. I* (on keys)

*(mute strings, f.t.)*

*(grace notes always together)*

*scrape metal winding of strings (a cluster, f.m.); a single rapid stroke*

*(Ped. II sempre)*

**3**

**I**

**II**

*(loc.)*

*(on keys)*

*scrape strings, sim.*

*(scrape strings, sim.)*

*(Ped. II sempre)*

*psub. (on keys)*

*mute string (f.t.)*

*(f.m. on str.) (gliss.)*

*If the indicated effect does not sufficiently project, a rapid fingernail glissando across several strings may be substituted:*



**5** molto agitato [F = F sempre]

**f** feroce

**f** sempre sim.

I

II

on keys \*\*\*)

Dampen strings at center with palm (in precise rhythm!)

(mart.)

Ped. I sempre ---

strike strings with palm (mart.)

**f** feroce

on keys \*\*\*)

Dampen strings at end with palm (in precise rhythm!)

(mart.)

sempre sim.

sempre sim.

**6**

**mf**

**f** sub.

(sempre sim.)

**mf** foub.

**f** mf sub.

**f** sub.

**mf** foub.

**f** mf sub.

**f** foub.

**f** sub.

**mf** foub.

**f** sub.

I

II

(Ped. I sempre)

mute strings with 3 fingers (in precise rhythm) at end

(on keys) (act. sound)

**f** f

scape strings (f. n.)

(touch 5th partial modes)

(Ped. II sempre)

\*) n = normal, i.e. not muted. \*\*) always cover 3 white keys with the thumb.

Handwritten musical score for two systems, each with two staves (I and II). The score includes various musical notations such as triplets, sixteenth notes, and dynamic markings like *ff*, *mf*, and *fz*. It also contains performance instructions in Italian, such as *Ped. I sempre*, *dampen strings (come sopra)*, and *mute strings (come sopra)*. The score is divided into measures by bar lines, with some measures containing repeat signs. The notation is dense and detailed, typical of a composer's manuscript.



Handwritten musical score for two staves, I and II, featuring complex rhythmic patterns, triplets, and dynamic markings.

**Staff I:**

- First system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.
- Second system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.
- Third system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.
- Fourth system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.

**Staff II:**

- First system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.
- Second system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.
- Third system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.
- Fourth system: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff sempre*.

**Section 9 (marked with a circled 9):**

- Staff I: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff feroce*. Below the staff: *(mart.)* and *Dampen stringe (come sopra)*.
- Staff II: Triplet of eighth notes, followed by a quarter note. Dynamic: *ff feroce*. Below the staff: *(mart.)* and *Dampen stringe (come sopra)*.

**Dynamic and Performance Markings:**

- ff sempre*: Fortissimo, sempre.
- ff feroce*: Fortissimo, feroce.
- (mart.)*: Martellato (hammered).
- Dampen stringe (come sopra)*: Dampen stringe (come sopra).
- (Ped. I sempre)*: Pedal I sempre.
- (Ped. II sempre)*: Pedal II sempre.

**System 1:**

- Piano I:** *ff* (Ped. I sempre) (7) *mf sub.* (5)
- Piano II:** *ff* (7) *scraper strings (f.n.)* (5) (touch 5th partial modes)
- Orchestra:** (on keys) 8 (act. sound) (5)

**System 2:**

- Piano I:** *molto* *ff* (Ped. I - - \* (senza Ped. I)) (7)
- Piano II:** *ff* (scraper arm of I<sup>o</sup> player) (5) *mf sub.* (7) *mute string (come sopra)* (5)
- Orchestra:** *ff* (scraper arm of I<sup>o</sup> player) (7)

Handwritten musical score for a string quartet, featuring four staves (I, II, I, II) with complex notation, including triplets, sixteenth notes, and various performance instructions like "ffz", "molto", "ped I", "mute strings (come sopra)", "on Keys", "scrape strings (f.n.)", and "sempre". The score includes a rehearsal mark "11" and a final measure with a "5" in a circle.

Handwritten musical score for two staves, I and II, featuring complex rhythmic patterns and fingerings. The score is divided into two systems, each starting with a measure number in a box (12 and 13).

**System 1 (Measures 12-13):**

- Staff I:** Features a series of eighth notes with various fingerings (5, 3, 5, 4, 3, 5). Above the staff, there are markings for "8" and "fff" (fortissimo) with accents.
- Staff II:** Features a series of eighth notes with various fingerings (5, 3, 5, 4, 3, 5). Above the staff, there are markings for "fff" (fortissimo) with accents. A note in measure 12 is marked "(Pia II sempre)".

**System 2 (Measures 14-15):**

- Staff I:** Features a series of eighth notes with various fingerings (5, 4, 3, 1, 2, 2). Above the staff, there are markings for "8" and "fff" (fortissimo) with accents. A note in measure 14 is marked "(Pia II sempre)".
- Staff II:** Features a series of eighth notes with various fingerings (5, 4, 3, 1, 2, 2). Above the staff, there are markings for "fff" (fortissimo) with accents. A note in measure 14 is marked "(Pia II sempre)". A note in measure 15 is marked "(grace notes together)".

**Additional markings:**

- Below Staff II, measure 14: "strike string with palm (mart.)"
- Below Staff II, measure 15: "(Pia II sempre)"

## II. Beta Cygni

Slowly; fantastico, quasi improvvisando

**Primo**

↑ **ff** strike soundboard with fingertips

↓ Depress Ped. I violently, so that all strings vibrate! (Ped. I sempre--)

5 (actual sound) (gliss.)

(1.h.) (2/4) touch modes for 2nd partial harmonic

(2/3) sim.

(act. sound = Bra!) (on keys)

5 (strike with knuckles) **ff** **pp** sub.

**Secondo**

(on keys)

(nit. - - -) 7 = 12

CBII (strike with knuckles) **ff** **pp** sub.

strike strings gently with palm

touch modes for 2nd partial harmonic

touch 5th partial nodes for the first note; then gradually slide fingers along strings (towards center of strings), thus producing a falling of pitch over the figure.

[illegible][illegible]



I

II

(Ped. I sempre)

pp sub.

pp

F

act. sound

pppp

ff con forza

19 a tempo

inciso

ffz

(Ped. I sempre)

pp sub.

molto ff

a tempo

tr.

mp

gliss.

gliss. along string (come sopra)

lift fingers off notes on grace notes (come sopra)

piu p

(sim.)

mute strings at end (come sopra)

strike strings with palm

with palm (sim.)



Handwritten musical score for two staves, I and II. The score is written in treble and bass clefs with a key signature of one sharp (F#). The music features complex rhythmic patterns, including sixteenth and thirty-second notes, and various dynamic markings such as *poco f*, *pppp*, *mp*, and *pppp*. The score includes several measures of rests and dynamic changes, with some measures marked with a '5' indicating a five-measure rest. The notation is dense and includes many accidentals and slurs. The score is divided into two systems, I and II, with a large bracket on the left side. The first system (I) includes a measure with a '5' and a 'poco f' marking. The second system (II) includes a measure with a '5' and a 'pppp' marking. The score ends with a measure marked 'mute strings at end (come sopra)'.

[illegible]

### III. Gamma Draconis

### III. Gamma Draconis

Molto ritmico, meccanicamente [♩ = 100]

**Primo**

(Ped. I sempre)

Drop a 12-inch metal ruler onto strings (cork stripping down)!

gliss. over strings (f.t.)

Drop a 15-inch metal ruler onto strings (cork stripping down)!

gliss. over strings (thumb nail)

**Secondo**

Drop a 12-inch metal ruler onto strings (cork stripping down)!

gliss. over strings (f.t.)

on keys

pp

molto

f

mp

ffz

cres.

poco pressando

**I**

(ped. I sempre)

on keys { f con brio

**II**

**21**

**22**

a tempo

f con brio

cres.

ffz

Ped. I sempre

on keys { con brio

cres.

ffz

poco cresc.

*Ped. I sempre*

**23** a tempo (subito) (legatissimo)

*pp sempre*

(mp sempre)

I

II

(pp sempre)  
(Ped. I sempre)

24

25

*mute strings near end (f.t.) in precise rhythm*

Handwritten musical score for two staves, I and II.

Staff I (Treble Clef, Key of D major):

- Measures 1-8: Chords and single notes, some marked with  $(n) +$ .
- Measure 9:  $(n) +$  chord.
- Measure 10:  $(n) +$  chord.
- Measure 11:  $(n) +$  chord.
- Measure 12:  $(n) +$  chord.
- Measure 13:  $(n) +$  chord.
- Measure 14:  $(n) +$  chord.
- Measure 15:  $(n) +$  chord.
- Measure 16:  $(n) +$  chord.
- Measure 17:  $(n) +$  chord.
- Measure 18:  $(n) +$  chord.
- Measure 19:  $(n) +$  chord.
- Measure 20:  $(n) +$  chord.
- Measure 21:  $(n) +$  chord.
- Measure 22:  $(n) +$  chord.
- Measure 23:  $(n) +$  chord.
- Measure 24:  $(n) +$  chord.
- Measure 25:  $(n) +$  chord.
- Measure 26:  $(n) +$  chord.
- Measure 27:  $(n) +$  chord.
- Measure 28:  $(n) +$  chord.
- Measure 29:  $(n) +$  chord.
- Measure 30:  $(n) +$  chord.
- Measure 31:  $(n) +$  chord.
- Measure 32:  $(n) +$  chord.
- Measure 33:  $(n) +$  chord.
- Measure 34:  $(n) +$  chord.
- Measure 35:  $(n) +$  chord.
- Measure 36:  $(n) +$  chord.
- Measure 37:  $(n) +$  chord.
- Measure 38:  $(n) +$  chord.
- Measure 39:  $(n) +$  chord.
- Measure 40:  $(n) +$  chord.
- Measure 41:  $(n) +$  chord.
- Measure 42:  $(n) +$  chord.
- Measure 43:  $(n) +$  chord.
- Measure 44:  $(n) +$  chord.
- Measure 45:  $(n) +$  chord.
- Measure 46:  $(n) +$  chord.
- Measure 47:  $(n) +$  chord.
- Measure 48:  $(n) +$  chord.
- Measure 49:  $(n) +$  chord.
- Measure 50:  $(n) +$  chord.
- Measure 51:  $(n) +$  chord.
- Measure 52:  $(n) +$  chord.
- Measure 53:  $(n) +$  chord.
- Measure 54:  $(n) +$  chord.
- Measure 55:  $(n) +$  chord.
- Measure 56:  $(n) +$  chord.
- Measure 57:  $(n) +$  chord.
- Measure 58:  $(n) +$  chord.
- Measure 59:  $(n) +$  chord.
- Measure 60:  $(n) +$  chord.
- Measure 61:  $(n) +$  chord.
- Measure 62:  $(n) +$  chord.
- Measure 63:  $(n) +$  chord.
- Measure 64:  $(n) +$  chord.
- Measure 65:  $(n) +$  chord.
- Measure 66:  $(n) +$  chord.
- Measure 67:  $(n) +$  chord.
- Measure 68:  $(n) +$  chord.
- Measure 69:  $(n) +$  chord.
- Measure 70:  $(n) +$  chord.
- Measure 71:  $(n) +$  chord.
- Measure 72:  $(n) +$  chord.
- Measure 73:  $(n) +$  chord.
- Measure 74:  $(n) +$  chord.
- Measure 75:  $(n) +$  chord.
- Measure 76:  $(n) +$  chord.
- Measure 77:  $(n) +$  chord.
- Measure 78:  $(n) +$  chord.
- Measure 79:  $(n) +$  chord.
- Measure 80:  $(n) +$  chord.
- Measure 81:  $(n) +$  chord.
- Measure 82:  $(n) +$  chord.
- Measure 83:  $(n) +$  chord.
- Measure 84:  $(n) +$  chord.
- Measure 85:  $(n) +$  chord.
- Measure 86:  $(n) +$  chord.
- Measure 87:  $(n) +$  chord.
- Measure 88:  $(n) +$  chord.
- Measure 89:  $(n) +$  chord.
- Measure 90:  $(n) +$  chord.
- Measure 91:  $(n) +$  chord.
- Measure 92:  $(n) +$  chord.
- Measure 93:  $(n) +$  chord.
- Measure 94:  $(n) +$  chord.
- Measure 95:  $(n) +$  chord.
- Measure 96:  $(n) +$  chord.
- Measure 97:  $(n) +$  chord.
- Measure 98:  $(n) +$  chord.
- Measure 99:  $(n) +$  chord.
- Measure 100:  $(n) +$  chord.

Staff II (Bass Clef, Key of Bb major):

- Measures 1-8: Continuous melodic line.
- Measure 9: Continuous melodic line.
- Measure 10: Continuous melodic line.
- Measure 11: Continuous melodic line.
- Measure 12: Continuous melodic line.
- Measure 13: Continuous melodic line.
- Measure 14: Continuous melodic line.
- Measure 15: Continuous melodic line.
- Measure 16: Continuous melodic line.
- Measure 17: Continuous melodic line.
- Measure 18: Continuous melodic line.
- Measure 19: Continuous melodic line.
- Measure 20: Continuous melodic line.
- Measure 21: Continuous melodic line.
- Measure 22: Continuous melodic line.
- Measure 23: Continuous melodic line.
- Measure 24: Continuous melodic line.
- Measure 25: Continuous melodic line.
- Measure 26: Continuous melodic line.
- Measure 27: Continuous melodic line.
- Measure 28: Continuous melodic line.
- Measure 29: Continuous melodic line.
- Measure 30: Continuous melodic line.
- Measure 31: Continuous melodic line.
- Measure 32: Continuous melodic line.
- Measure 33: Continuous melodic line.
- Measure 34: Continuous melodic line.
- Measure 35: Continuous melodic line.
- Measure 36: Continuous melodic line.
- Measure 37: Continuous melodic line.
- Measure 38: Continuous melodic line.
- Measure 39: Continuous melodic line.
- Measure 40: Continuous melodic line.
- Measure 41: Continuous melodic line.
- Measure 42: Continuous melodic line.
- Measure 43: Continuous melodic line.
- Measure 44: Continuous melodic line.
- Measure 45: Continuous melodic line.
- Measure 46: Continuous melodic line.
- Measure 47: Continuous melodic line.
- Measure 48: Continuous melodic line.
- Measure 49: Continuous melodic line.
- Measure 50: Continuous melodic line.
- Measure 51: Continuous melodic line.
- Measure 52: Continuous melodic line.
- Measure 53: Continuous melodic line.
- Measure 54: Continuous melodic line.
- Measure 55: Continuous melodic line.
- Measure 56: Continuous melodic line.
- Measure 57: Continuous melodic line.
- Measure 58: Continuous melodic line.
- Measure 59: Continuous melodic line.
- Measure 60: Continuous melodic line.
- Measure 61: Continuous melodic line.
- Measure 62: Continuous melodic line.
- Measure 63: Continuous melodic line.
- Measure 64: Continuous melodic line.
- Measure 65: Continuous melodic line.
- Measure 66: Continuous melodic line.
- Measure 67: Continuous melodic line.
- Measure 68: Continuous melodic line.
- Measure 69: Continuous melodic line.
- Measure 70: Continuous melodic line.
- Measure 71: Continuous melodic line.
- Measure 72: Continuous melodic line.
- Measure 73: Continuous melodic line.
- Measure 74: Continuous melodic line.
- Measure 75: Continuous melodic line.
- Measure 76: Continuous melodic line.
- Measure 77: Continuous melodic line.
- Measure 78: Continuous melodic line.
- Measure 79: Continuous melodic line.
- Measure 80: Continuous melodic line.
- Measure 81: Continuous melodic line.
- Measure 82: Continuous melodic line.
- Measure 83: Continuous melodic line.
- Measure 84: Continuous melodic line.
- Measure 85: Continuous melodic line.
- Measure 86: Continuous melodic line.
- Measure 87: Continuous melodic line.
- Measure 88: Continuous melodic line.
- Measure 89: Continuous melodic line.
- Measure 90: Continuous melodic line.
- Measure 91: Continuous melodic line.
- Measure 92: Continuous melodic line.
- Measure 93: Continuous melodic line.
- Measure 94: Continuous melodic line.
- Measure 95: Continuous melodic line.
- Measure 96: Continuous melodic line.
- Measure 97: Continuous melodic line.
- Measure 98: Continuous melodic line.
- Measure 99: Continuous melodic line.
- Measure 100: Continuous melodic line.

Handwritten notes and markings:

- $(Ped. I \text{ sempre})$  (Pedal I always)
- $(pp \text{ sempre})$  (pianissimo always)
- $\text{mute strings near end (f.t.) in precise rhythm}$  (mute strings near end (f.t.) in precise rhythm)
- $\text{mute strings near end (f.t.) in precise rhythm}$  (mute strings near end (f.t.) in precise rhythm)
- $\text{F\#zoul.}$  (F#zoul.)
- $\text{F\#z sub.}$  (F#z sub.)
- $\text{F\#z}$  (F#z)

Boxed number 25.

Handwritten musical score for two staves, I and II. Staff I contains complex melodic lines with various dynamics like "ff sempre" and "f". Staff II contains a rhythmic accompaniment with the instruction "(Pad. I sempre)". The score includes many musical notations such as notes, rests, and dynamic markings.

Handwritten musical score for two staves, I and II, showing a sequence of chords and dynamics. Staff I includes a "pp sub." marking and a "Ped. I sample." instruction. Staff II includes a "(ff)" marking and a "pp sub." marking. Both staves feature dynamic markings (pp, mp, mf, f, ff) and a "mute strings near end (f.t.) in precise rhythm" instruction. The score is numbered 26 and 27.

musical score for the first system of "The Rite of Spring" by Igor Stravinsky. The score is for two parts, I and II. Part I is for the Violin I and Part II is for the Violoncello. The key signature is one sharp (F#) and the time signature is 3/4. The tempo is marked "Prestissimo" with a metronome marking of 136. The score includes various musical notations such as notes, rests, and dynamic markings like "ff" and "mp". There are also performance instructions like "(Ped. I sempre)" and "sempre sim.".

Musical score for two staves, I and II. The score is written in a key with three sharps (F#, C#, G#) and a 4/4 time signature. The tempo is marked (8). The score includes various dynamics and articulations: *mp* (mezzo-piano), *sub.* (sustained), *pp* (pianissimo), *pp sempre*, *legatiss.* (legatissimo), and *2* (second ending). The notation is complex, featuring many beamed notes, slurs, and ties. The score is divided into two systems, with the first system ending at measure 12 and the second system starting at measure 13. The page number 28 is visible at the bottom right.

Musical score for "L'Espresso" by Franz Schubert, Op. 10, No. 3. The score is for piano (p) and includes parts for I (Right Hand) and II (Left Hand). The key signature is one flat (B-flat major/D minor). The tempo is marked "Allegretto" and the meter is 3/4. The score features various musical notations including dynamics (p, pp, f, sfz), articulation (accents), and phrasing slurs. The piece concludes with a double bar line and repeat signs.

Handwritten musical score for two staves, I and II. Staff I has a treble clef and a key signature of one sharp (F#). It contains a melodic line with slurs and a section of whole rests marked with a percentage sign (%). Staff II has a bass clef and a key signature of one flat (Bb). It contains a melodic line with slurs and a section of whole notes marked with a percentage sign (%). Handwritten annotations include '(Ped. I sempre)' under Staff I, '(n.h. always on keys) (leggiero, legatissimo.)' above Staff II, and '(p) strike strings (mart.) with palm' and '(p) strike strings (mart.) with palm' below Staff II. There are also handwritten 'ffz' markings and a 'ffz acuto' marking.

**System 1:**

- Staff I: *ffz*, *(Ped. I sempre)*, *5*, *ffz*, *29*
- Staff II: *(p sempre)*, *on keys*

**System 2:**

- Staff I: *(Ped. I sempre)*, *acuto*, *5*, *(Solo)*
- Staff II: *mp sempre*, *(mart. palm, come sopra)*, *31*

**System 3:**

- Staff I: *30*, *(Ped. I sempre)*, *mp*, *fz*, *ffz*, *(Solo)*
- Staff II: *on keys*, *mp*, *fz*, *ffz*

[illegible]

Handwritten musical score for two staves, I and II, in G major. The score is divided into two systems. The first system has 10 measures, and the second system has 10 measures. The key signature is one sharp (F#). The time signature is 4/4. The first system starts with a forte (f) dynamic and a piano (p) dynamic. The second system starts with a forte (f) dynamic and a piano (p) dynamic. The score includes various musical notations such as notes, rests, and dynamic markings.

Handwritten musical score for two staves, I and II, in 3/4 time. The score includes various musical notations such as notes, rests, and dynamic markings. Above the staves are handwritten instructions: "33" in a box, "strike strings with palm" with a diagram, and "ritardando - poco - a -". Below the staves are more instructions: "Ped. I sempre", "pp sempre (sopra)", "pp sempre (sotto)", and another "strike strings with palm" instruction with a diagram. The score is marked with "I" and "II" for the two staves.



# **34** Poco languido [ $\text{♩} = 50$ ]

*poco*

**I**

*ppp* *2* *2* *2* *4* *5* *poco fz* *(dim.)* *on Keys (legatissimo)*

**II**

*ppp* *2* *2* *4* *5* *poco fz* *(with knuckles)* *poco fz* *(sim.)* *on Keys* *ad. sound* *(4)*

*Ped. I sempre*

*Ped. III (sempre)*

*strike strings (mart., f.t.)*

*scrape metal winding of strings (f.t.)*

*touch notes for 5th part. harm.*

**I**

*(Knuckles)* *pizz. mto* *pp* *on Keys* *CB III* *poco fz* *CB II* *(Knuckles)* *poco* *(pp sempre)* *fz* *scrape str. (f.t.)* *on Keys* *pp* *3* *3* *3* *3* *CB III* *(Knuckles)* *poco fz* *35*

**II**

*(Ped. I sempre)* *CB II* *(Knuckles)* *poco* *(pp sempre)* *fz* *scrape str. (f.t.)* *on Keys* *pp* *3* *3* *3* *3* *CB II* *(Knuckles)* *poco fz* *scrape str. on Keys* *(f.t.)* *(4)*

*(Ped. III sempre)* *pp* *pizz (f.t.)* *on Keys* *mute strings (near end) with palm* *CB III* *(Knuckles)* *poco* *(pp sempre)* *fz* *scrape str. on Keys* *(f.t.)* *(4)*

**I**

*(Ped. I sempre)* *CB III* *(Knuckles)* *poco fz* *mp* *3* *3* *3* *3* *CB III* *(Knuckles)* *poco fz* *poco ritardando*

**II**

*(Ped. III sempre)* *CB II* *(Knuckles)* *poco fz* *scrape str. (f.t.)* *on Keys* *pp* *3* *3* *3* *3* *CB II* *(Knuckles)* *poco fz*

*mute strings (near end) with palm*



**36** Tempo primo (quasi alla marcia)  
[♩. = 100]

[illegible]

39

First system of musical notation, measures 39-40. It features two staves, I and II, with piano accompaniment and vocal lines. The piano part includes a pedal instruction: *(Ped. I sempre)*. The vocal part includes a soprano line with a *p* dynamic and a *cresc.* marking. The piano accompaniment has a *p* dynamic and a *cresc.* marking. The system ends with a double bar line.

40

Second system of musical notation, measures 40-41. It features two staves, I and II, with piano accompaniment and vocal lines. The piano part includes a pedal instruction: *(Ped. I sempre)*. The vocal part includes a soprano line with a *p* dynamic and a *cresc.* marking. The piano accompaniment has a *p* dynamic and a *cresc.* marking. The system ends with a double bar line.

41

Third system of musical notation, measures 41-42. It features two staves, I and II, with piano accompaniment and vocal lines. The piano part includes a pedal instruction: *(Ped. I sempre)*. The vocal part includes a soprano line with a *p* dynamic and a *cresc.* marking. The piano accompaniment has a *p* dynamic and a *cresc.* marking. The system ends with a double bar line.

42 (♩ = 4)

*metallic, quasi Glockenspiel*

*mf sub.* *molto* *fff*

I (Ped. I sempre)

II (F)

(8)

(Page turner =) III

III

pull ruler off strings, letting the end drag over strings to produce a glissando.

(attacca after a pause of a few seconds)

## IV. Delta Orionis

**Deciso** [♩=136]

*a very rapid glissando over the strings with thumbnail*

**Primo**

*(r.h.)* *5* *(Ped. I --\*)* *(senza Ped. I)*

*on keys* *+++++* *ff* *mute string near end* *Ped. I subito*

*on keys* *+++++* *sub. ppp* *molto ffz* *(on keys)* *+++++* *ff* *(mute)*

**Secondo**

*(silently depress)* *release keys in precise rhythm!* *on keys* *+++++* *ff* *(sim.)* *ff*

*mute string near end*

**I**

*(sim.) p* *on keys* *+++++* *ppp* *sub. molto* *pppp* *43 (a tempo)* *gliss. come sopra (thumbnail)* *ffz* *(r.h.)* *5* *(Ped. I sempre)* *(senza Ped. I)*

*on keys* *+++++* *ff* *mp* *sub.* *molto ffz*

*(mute)* *Ped. I subito*

**II**

*(sim.) p* *(silently depress)* *release keys in precise rhythm! (come sopra)* *on keys* *+++++* *ff* *mp* *sub.* *molto ffz*

*(#) 8 ---- (mute)*

**44** più lento [♩=64]

**I**

pp (mute) (Ped. I sempre)

ffz

sub. ppp

7

ma molto ritmico

(mute)

**II**

pp

ppp sub.

rt. - - -

C.B.II (knuckles) poco ff tempo

C.B.I l.h.

pp

strike strings gently with l.h. palm

(mute)

**45** tempo primo

**I**

p

Foulr.

poulr.

pp

on keys

ffz

pp

ffz

(Ped. I sempre)

(mute)

loco

(mute)

**II**

(mute strings)

pp

on keys

pp

poulr. (n)

(mute in precise rhythm)

(l.v.)

# 46 più lento

[♩ = 60]

**I**

**II**

(Ped. I sempre)

(on keys)

pp sub.

touch modes for 2nd part. harmonics

slide 2nd and 4th fingers along strings to produce a glissando over the various partials

(act. sound)

Knuckles on the beams (come sopra)

CBII poch. fz

on keys

touch modes for 5 partial harmonics

pp strike strings with palm (come sopra)

# 47

**I**

**II**

(Ped. I sempre)

forearm cluster (black keys)

molto pesante

forearm cluster (white keys)

glissando over strings (fingernail)

glissando over strings (thumb nail)

silently depress (with palms)

silently depress

a very rapid glissando over strings (thumb nail)

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

100





**50**

*Piano, 6 hands*

**I**

SB

(pppp sempre)

(pppp sempre)

(Ped. I sempre)

**II**

pizz. (f.t.)  
sempre

(pppp sempre)

pizz. f.t. sempre (#)

(pppp sempre)

(4♭)  
5th part. (sempre sim.)

(7=d)

CB III

CB II

(pppp sempre)

(Ped. III sempre)

**III**

(on keys)

fz molto

(with palm)

ppp

gliss.

8

5=d

(pppp sempre)

sempre sim.

fz molto

ppp

gliss.

8

5=d

CB I





[illegible]

Handwritten musical score for "Piano, 6 hands" by John Cage, dated Spring, 1979. The score is divided into three main sections: I, II, and III. Section I features a complex texture with many notes and dynamic markings like "pppp sempre" and "(fine)". Section II includes a "Pizz. (f.t.) sempre" section and a "CB III" section with "pppp sempre" and "7=d" markings. Section III contains "CB II" and "CB I" sections with various dynamics and performance instructions like "Fz molto", "gliss.", and "mp molto". The score is heavily annotated with performance directions and includes a date "Spring, 1979" at the bottom right.

Spring, 1979