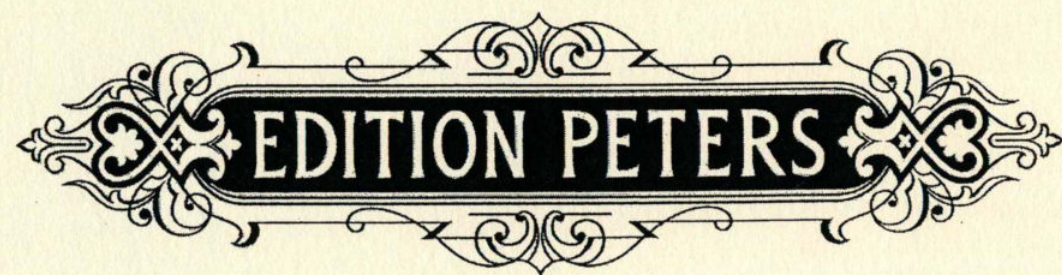


No. 6782

JOHN CAGE

ATLAS ECLIPTICALIS

Harp 1



INSTRUMENTAL PARTS TO BE PLAYED IN WHOLE OR PART IN ANY ENSEMBLE, CHAMBER OR ORCHESTRAL, WITH OR WITHOUT WINTER MUSIC

HARP 1 (CLEFS CHANGING AD LIB. - BASS-TREBLE)
SEE "GENERAL DIRECTIONS"

FOR TANIA SENFF

John Cage
MIDDLETOWN - STONY POINT, JUNE-DECEMBER 1964

General Directions

Each part has 4 pages. Each page has 5 systems. Space horizontally equals time as indicated by a conductor who performs a circle like that of a watch-hand. The four arrows of each system correspond to the 0", 15", 30", and 45" indications of the conductor. The fifth at 60" completes the system. The conductor's time will be at least twice as slow as clock time.

Space vertically equals frequency. Equal space is given each chromatic tone. Conventional points are marked $\sharp$, $\flat$ or $\natural$. The absence of such signs means that the tones are not at conventional points; the player is to use his eye with respect to the space to determine his action.

Events are single tones or aggregates-in-time (constellations). Two numbers above an event (or near it) tell: the first, how many notes are as short as possible; the second, how many have appreciable duration. The absence of numbers means all tones are as short as possible. A $\odot$ means all have some duration. This may not exceed that of a breath or of a bow.

Within an aggregate space need not refer to time. Individual tones of an aggregate may appear in any succession. In parts permitting the playing of two or more at once (string and percussion parts) the player is free to make such combinations. He may also make interpenetrations of tones (e.g. producing a pizz. during the bowing of a tone, hitting an instrument during the resonance of another, etc.).

A silence takes place between tones, even two of the same aggregate, unless they are superimposed or interpenetrate. Melodic lines are not produced by the players individually. The player is under no obligation to play tones in rapid succession.

The loudness of tones is relative to their size. Thus, most tones are played softly.

No tones are to be played intermittently, nor is tone production extraordinary. Repetitions of tones within an aggregate may be made if the stem connecting the tones crosses through a note. In such a case, the repetition (if made) should follow intervening tones, and be short (if previously long) or long (if previously short).

Where changes are made from one instrument to another (e.g. from oboe to English horn, or from trumpet in B $\flat$ to one in D), make the change following the completion of an aggregate.

A performance may be at any point between minimum activity (silence) and maximum activity (what's written).

Directions for Percussion

Each part has four pages. Each page has five systems. Space horizontally equals time as indicated by a conductor who performs a circle like that of a watch-hand. The arrows of each system correspond to the 0", 15", 30", 45" and 60" indications of the conductor. The conductor's time will be at least twice as slow as clock-time.

The percussion parts graph the physical location of available instruments. These are placed in a semi-circle around the performer, are various, as numerous as possible, and not arranged according to relative pitch or timbre. The single line of the staff corresponds to straight - forward, below - to the left, above - to the right.

Events are single sounds or aggregates-in-time (constellations). Two numbers associated with an event tell: the first, how many notes are as short as possible; the second, how many have appreciable duration. The absence of numbers means all tones are as short as possible. A $\odot$ means all have some duration. Sounds having length are rolls, fricative sounds, l.v., etc.

Within an aggregate space need not refer to time. Sounds of an aggregate may appear in any succession. Two or more may sound at once - be superimposed - or they may interpenetrate - one occurring during the resonance of another.

A silence takes place between sounds, even of the same aggregate, unless they are superimposed or interpenetrate. The player is under no obligation to play sounds in rapid succession.

The loudness of sounds is relative to their size. Most sounds are played softly.

Avoid noise-makers suggestive of specific things, beings or events. A tape machine (if tapes provided by the composer are available) or electronic instrument may be used.

Cartridges may be used. When the object inserted in the cartridge is changed, make such change following the completion of an aggregate (gain on the associated amplifier reduced to zero).

Repetitions of sounds within an aggregate may be made if the stem connecting the notes crosses through one of them. Such repetition (if made) should follow intervening sounds, and be short (if previously long) or long (if previously short).

A performance may be at any point between minimum activity (silence) and maximum activity (what's written).

Directions for Conductor and Assistant

The conductor determines the length of a performance, and how much and which part of the composition - the same for all players - is to be performed. A system equals at least 2 minutes, - preferably more. (Extend the time to the point where the presence of silence is felt.) The conductor, however, performs a single clock-cycle for each system. At 0", 30", and 60" he makes changes of arm, at 15" and 45" changes of palm. From the last 30" to the end at 60", he uses both arms, fingers touching at the conclusion.

As many instruments as possible are to be equipped with contact microphones. These are connected to individual amplification systems and thence to individual loudspeakers. An assistant to the conductor prepares his own part from "Cartridge Music" for the operation of the dials (gain and tone control). Where the amplifiers exceed 20, he makes a drawing of the same size as those of "Cartridge Music" but having that number of shapes that there are amplifiers. Notes within shapes are gain, outside, tone control.

The composing means involved I-Ching operations together with the placing of transparent templates on the pages of an astronomical atlas and inscribing the positions of stars. I am grateful to Richard K. Winslow and to Toshi Ichiyanagi for assistance in the preparation of the parts.

J.C. New London, Connecticut

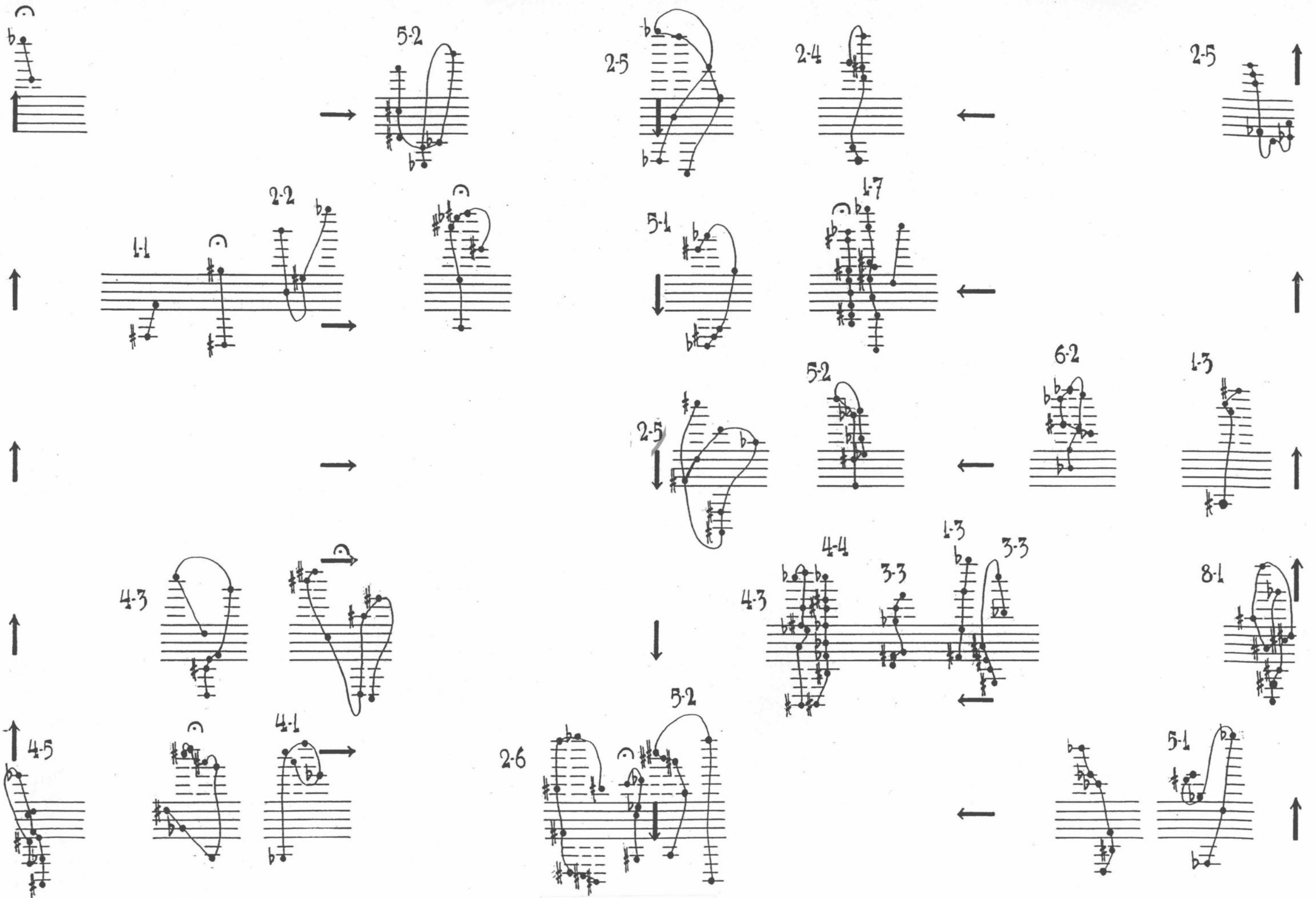
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This page contains several musical exercises on staves, primarily in treble clef. The exercises are organized into groups, often connected by arrows indicating a sequence or a specific fingering path. Fingerings are indicated by numbers 1-5 above or below notes. Rhythmic values are indicated by numbers above notes (e.g., 7-2, 3-4, 5-3, 4-3, 2-3, 1-3, 1-6, 4-5, 3-3, 5-2, 6-1, 5-3, 2-5). Some exercises include slurs and ties. The exercises are as follows:

- Exercise 1 (Top Left):** A sequence of notes with fingerings 7-2, 3-4, 2-4, and 4-3. An upward arrow is to the left.
- Exercise 2 (Top Middle):** A sequence of notes with fingerings 3-4 and 3-4. An upward arrow is to the left.
- Exercise 3 (Top Right):** A sequence of notes with fingerings 2-3 and 2-3. An upward arrow is to the left.
- Exercise 4 (Middle Left):** A sequence of notes with fingerings 3-4, 4-3, and 5-3. An upward arrow is to the left.
- Exercise 5 (Middle Middle):** A sequence of notes with fingerings 4-3, 3-4, and 3-4. An upward arrow is to the left.
- Exercise 6 (Middle Right):** A complex sequence of notes with fingerings 5-2, 2-5, 4-4, 6-1, and 3-4. An upward arrow is to the left.
- Exercise 7 (Bottom Left):** A sequence of notes with fingerings 1-3, 3-4, and 1-3. An upward arrow is to the left.
- Exercise 8 (Bottom Middle):** A sequence of notes with fingerings 2-3, 4-3, and 8-1. An upward arrow is to the left.
- Exercise 9 (Bottom Right):** A sequence of notes with fingerings 1-1, 6-1, and 5-3. An upward arrow is to the left.
- Exercise 10 (Far Right):** A sequence of notes with fingerings 1-1, 6-1, and 5-3. An upward arrow is to the left.

The image displays a complex musical score, likely for a string instrument, featuring multiple staves and various musical notations. The score is organized into several systems, with some staves containing numerical labels (e.g., 3-2, 5-4, 4-3, 2-7, 1-8, 2-5, 4-5, 7-2, 5-1, 8-1, 4-3, 1-6, 3-6, 1-6, 2-7, 5-2) and directional arrows (up, down, left, right) indicating movement or sequence. The notation includes treble and bass clefs, and various accidentals (sharps, flats, naturals).

The score is divided into four main horizontal sections, each containing multiple staves. The notation is dense, with many notes and accidentals. The numerical labels are placed above or below the staves, often indicating specific measures or intervals. The directional arrows are placed around the staves, indicating the direction of movement or sequence.



The diagram illustrates a series of musical exercises or progressions across five rows. Each row contains musical staves with notes, accidentals (sharps, flats, naturals), and fingerings (numbers 1-5). Arrows indicate the direction of the sequence or relationship between the staves.

- Row 1:** Starts with a staff labeled 6-1. An arrow points right to a staff with 8-1 and 3-3. Another arrow points down to a staff with 6-3 and 4-2. A final arrow points left to a staff with 6-1.
- Row 2:** Starts with a staff labeled 3-7. An arrow points right to a staff with 5-2. Another arrow points down to a staff with 4-5 and 1-6. A final arrow points left to a staff with 2-7.
- Row 3:** Starts with a staff labeled 5-1 and 5-3. An arrow points right to a staff with 3-2. Another arrow points down to a staff with 7-2. A final arrow points left to a staff with 1-9 and 2-5.
- Row 4:** Starts with a staff labeled 4-1. An arrow points right to a staff with 5-2. Another arrow points down to a staff with 9-1 and 5-1. A final arrow points left to a staff with 1-1.
- Row 5:** Starts with a staff labeled 4-1. An arrow points right to a staff with 3-2. Another arrow points down to a staff with 7-2. A final arrow points left to a staff with 1-9 and 2-5.