

46
MC 13.601

IANNIS XENAKIS

HERMA

Musique symbolique
pour piano

2202320

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Les petites notes barrées, ex. , sont jouées avant le temps. Elles ont mêmes intensités que les notes principales voisines qui elles ne sont pas accentuées. Elles leur sont reliées par une ligature  ou par une ligne brisée  (qui ne signifie pas *glissando*).

Toute la pièce doit être jouée sans accents, les barres de mesure servant uniquement de repères temporels.

Les indications rythmiques $\frac{3}{8}$, $\frac{4}{4}$ etc. n'impliquent aucune subdivision du 1er temps ou des temps suivants.

De même, les  ou  etc. ne sont pas subdivisés et le passage d'un groupe rythmique à un autre se fait sans accentuer le 1er temps des groupes rythmiques.

Cette pièce est basée sur des opérations logiques imposées à des classes de sons; c'est pourquoi j'appelle cette musique: *Musique symbolique*.

Les lettres enfermées dans des rectangles désignent les classes des sons. Il existe dans cette pièce quatre classes: **[A]**, **[B]**, **[C]**, **[R]**. La classe **[R]** est référentielle et elle comprend la totalité des sons du piano.

A partir de ces quatre classes de base on peut former *hors-temps*, grâce à la relation de complémentarité (négation), ex.: classe A, la négation de la classe A s'écrit **[Ā]**; grâce aussi aux opérations, de réunion (disjonction) et d'intersection (conjunction). La réunion s'écrit symboliquement avec le signe + et l'intersection par la juxtaposition des lettres. La réunion correspond à *ou* et l'intersection à *et*. Ainsi, **A + B** signifie la classe dont les éléments appartiennent soit à la classe A soit à la classe B; **AB** signifie la classe dont les éléments appartiennent à la fois à la classe A et à la classe B.

Les relations et opérations *hors-temps* (abstraites) définies précédemment, sont matérialisées dans le temps linéaire (lexicographique) à l'aide des opérations *en temps*: (a) simultanéité; (b) succession.

Les intensités de **ppp** à **fff** servent à clarifier la perception des classes lors de leur gravure temporelle

Les densités linéaires des nuages de sons des diverses classes servent elles aussi à la meilleure perception des articulations relationnelles et opérationnelles.

The *acciaccature* are played before the beat. They have the same dynamic intensity as the adjacent principal notes which are themselves not accented. The former are connected to the latter with either a ligature  or a wavy line  (which does not here indicate *glissando*).

The whole piece is to be played without accents, the bar-lines serving merely as divisions in time.

The time-signatures $\frac{3}{8}$, $\frac{4}{4}$ etc. do not imply any subdivision or accentuation of the initial or succeeding beats.

In the same way, the groups of ,  etc. should not be subdivided, and movement from one rhythmic group to another is made without accenting the initial beats of the groups.

This piece is based on logical operations imposed upon classes of pitches; hence I have described it as *Musique symbolique*.

The letters in boxes **[A]**, **[B]**, **[C]**, **[R]** denote these classes. **[R]** is referential and incorporates all the notes on the piano.

Starting from these four classes, others can be formed *outside of time*, as a result of complementary relationship (negation) e.g.: group A, the negation of A is written **[Ā]**; also as a result of the operations of union (disjunction) and of intersection (conjunction). Union is shown symbolically by the sign + and intersection by the juxtaposition of letters. Union corresponds to *or* and intersection to *and*. Thus **A + B** signifies that class in which the elements belong either to A or B; **AB** indicating the class in which the elements belong to classes A and B at the same time.

The relationships and operations *outside of time* (these are abstract operations) defined above are materialised in linear time (lexicographically) with the aid of the operations *in time* (a) simultaneously and (b) successively.

The dynamics from **ppp** to **fff** serve to render more clearly the perception of the classes at the moment of their temporal inscription.

In the same way, the linear densities of the 'clouds' of sounds of the various classes are used to make for better perception of articulation of relationships and of logical operations.

Les classes de cette pièce sont uniquement définies dans la domaine hauteur.

L'exposition des éléments de chacune des classes se fait stochastiquement, c'est à dire sans contraintes restrictives, afin de demeurer sur un plan fondamental d'opérations et de relations logiques entre classes.

Le mot *Herma* signifie *lien*, mais aussi *fondation*, *embryon* etc.

(Cf. mon livre: *Musiques formelles*, édit. Richard-Masse, 7 Place St. Sulpice, Paris VI).

I.X.

Création mondiale: 2 fevrier 1962 à Tokyo avec Yuji Takahashi. Cette oeuvre lui est dédiée.

The classes in this piece are defined solely within the realm of pitch.

The elements of each class are presented stochastically, that is unrestrictedly, in order not to disturb the basic plan of operations and of logical relationship between classes.

The name *Herma* means "bond", but also "foundation", "embryo" etc.

(Cf. Iannis Xenakis: *Musiques formelles*, publ. Richard-Masse, 7 Place St. Sulpice, Paris, VI.)

I.X.

First performance: Tokyo, 2nd February 1962, by Yuji Takahashi, to whom the work is dedicated.

HERMA

JANNIS XENAKIS

PIANO

R $\text{♩} = 104$

ppp et crescendo

continu jusqu'au signe [S]

accelerando

$\text{♩} = 120$

3
4

8
3
5
8
3
2/8

2/8
3
2/8

2/8
4/8
2/16
3/8
8
5
8
3
8
3
2/8

5
8
7
3
2/8
3/16

3/16
4/16
5/16
4/16

S

8 8 8 8 5 8 8

fff 4 16 *fff* 3 3 8 18

linéaire 0,8 s/s

A $\text{d} = 180$ 12 8 *ff* + A *pp* nuage 3,3 s/s

pp *pp* *pp* *pp* *pp*

ff *pp* *pp* *pp* *pp*

pp 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5

ff *pp* *pp* *pp* *pp*

pp 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5

seulement linéaire A

pp *pp* *pp* *pp* *pp* *pp*

ff 5 *ff* 5 *ff* 5 *ff* 5 *ff* 5 *ff* 5

pp 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5

ff *pp* *pp* *pp* *pp* *pp*

pp 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5

seulement linéaire A

pp *pp* *pp* *pp* *pp* *pp*

pp 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5 *pp* 5

pp *pp* *pp* *pp* *pp* *pp*

Verzoeken geen vingerzettingen of
andere tekens aan te brengen.

The musical score consists of five staves of piano music. The first staff starts with a treble clef and a bass clef below it. The second staff starts with a bass clef. The third staff starts with a treble clef. The fourth staff starts with a bass clef. The fifth staff starts with a treble clef. There are several dynamic markings such as *ff*, *pp*, and *8*. Fingerings are indicated by numbers above or below the notes. A performance instruction "A nuage 5 s/s" is written above the third staff. A tempo marking "R. 120" is at the bottom. Measure numbers 1 through 5 are placed above the first four staves respectively. The music includes various note heads, stems, and rests typical of piano sheet music.

The musical score consists of five staves of piano music. The first staff uses treble and bass clefs, with dynamic markings *ff*, *pp*, and *8*. It includes performance instructions like **R&d.* and *5* under brackets. The second staff continues with *(pp)*, *ff*, *pp*, and *8*, also with **R&d.* and *5* markings. The third staff features *ff*, *pp*, *ff*, *pp*, and *5*. The fourth staff includes *10 8/s A*, *2*, *ff*, *8*, and *5 8*. The fifth staff concludes with *8*, *6*, *8*, and *5*.

5 (Mi)

5 8

5 8

8 5

5 8

5 8

8 5

8 5

5 8

5 8

8 5

8 5

5 8

5 8

8 5

8 5

5 8

5 8

8 5

8 5

5 8

5 8

8 5

5 8

5 8

8 5

B 1,8 s/s linéaire

+ B nuage 3,3 s/s

Red. →

f

pp

5 8

5 8

pp

5

f

pp

f

Musical score page 7, measures 1-4. The score consists of two staves. The top staff is in treble clef and the bottom is in bass clef. Measure 1 starts with a dynamic of *pp*, followed by *f*, *ff*, and *ff*. Measures 2-4 show various dynamics including *pp*, *f*, *ff*, and *ff*. Measure 4 ends with a dynamic of *pp*.

B 5 s/s linéaire

B 5 s/s nuage

Musical score page 7, measures 5-6. The score continues with two staves. The top staff shows a dynamic of *pp* followed by *5*. The bottom staff shows a dynamic of *pp* followed by *5*. A bracket labeled "2" spans both staves.

+ B 5 s/s linéaire

Musical score page 7, measures 7-8. The score continues with two staves. The top staff shows a dynamic of *pp* followed by *5*. The bottom staff shows a dynamic of *pp* followed by *5*.

Musical score for piano, showing five systems of music. The score consists of two staves: treble and bass.

System 1: Measures 1-5. Dynamics: *f*, *pp*, *f*, *pp*, *f*, *pp*, *f*, *pp*. Articulations: 5, 8, 5, 8, 5, 8, 5, 8. Measure 5 includes dynamic markings *(f)*, *(f)*, *pp*, *f*, *pp*, *f*.

System 2: Measures 6-10. Dynamics: *f*, *pp*, *pp*, *f*, *pp*, *f*, *pp*, *f*, *pp*, *f*, *pp*. Articulations: 5, 8, 5, 8, 5, 8, 5, 8, 5, 8.

System 3: Measures 11-15. Dynamics: *pp*, *pp*, *f*, *pp*, *f*, *pp*, *pp*, *f*, *pp*, *pp*, *f*, *pp*, *pp*, *f*, *pp*, *pp*. Articulations: 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8. Measure 15 includes dynamic marking *(pp)*.

System 4: Measures 16-20. Dynamics: *f*, *pp*, *f*, *pp*. Articulations: 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8. Measure 20 includes dynamic marking *nuage* and articulation *B5 s/s seul*.

System 5: Measures 21-25. Dynamics: *pp*, *pp*. Articulations: 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8.

System 6: Measures 26-30. Dynamics: *f*, *pp*, *f*, *pp*. Articulations: 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8.

System 7: Measures 31-35. Dynamics: *ff*, *ff*. Articulations: 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8, 5, 8.

Text: *B 10 s/s nuage*

Text: *Red. →*

Musical score for piano, featuring five staves of music. The score includes dynamic markings such as f , ff , p , pp , and ppp . Articulation marks like dots, dashes, and vertical strokes are also present. Performance instructions include "nuage 2,5 s/s" and "Red. →". Measure numbers 1 through 10 are indicated above the staves.

1 2 3 4 5 6 7 8 9 10

C nuage 2,5 s/s

Red. →

+ C linéaire 5 s/s

The musical score consists of five systems of music for two staves (treble and bass). The key signature changes frequently, indicated by sharp and double sharp symbols. The time signature is mostly common time (C). The score includes dynamic markings such as *ff*, *ff#*, *pp*, *ppp*, and *ppp#*. Measure numbers 5 and 8 are visible at the beginning of several measures. The score ends with a final dynamic marking of *ff*.

The musical score consists of five staves of music for two voices: Soprano (top) and Bass (bottom). The notation uses standard musical symbols like quarter notes, eighth notes, sixteenth notes, and rests. Several measures are bracketed together and labeled with the number '5' above the bracket. Measures 8 and 13 are also specifically labeled. The music is in common time. Some measure lengths are explicitly marked with a '5' below the staff. The bass line features many eighth-note patterns, while the soprano line has more varied rhythms and note values.

[AB] 0,8 s/s

3e Réd.

+ [AB] 10 s/s rappel

[BC] 0,85 s/s

[AB+ĀB] (ppp) 20 s/s

Réd. →

$\bar{A}\bar{B} + A\bar{B}$ 20 s/s rappel 8

$\bar{A}\bar{B}C$ (fff) 6 s/s 5 8

$\bar{A}\bar{B} + \bar{A}\bar{B}C$ (ff) 12 s/s 8 5 8 12 8 6 8 12 8 rappel + BC f 6 s/s 8

toujours $(AB + \bar{A}\bar{B}) C(fff)$

+ **B̄C̄** (f') 10 s/s

B̄C̄ (f') 10 s/s seul

8..... 5

8..... 5

8..... 5

+ **AB+ĀB** (ppp) 1 s/s

AB+ĀB 1 s/s seul

8..... 5

8..... 5

8..... 5

Reed. →

+ **AĀC̄** (fff) 3 s/s

(AB+ĀB)ĀC̄ (ppp) 3 s/s

8..... 5

8..... 5

8..... 5

+ **(AB+ĀB)ĀC** (ff) 6 s/s rappel

8..... 5

8..... 5

8..... 5

Reed. →

← *

toujours (AB+ĀB) Ā (ppp) 3 s/s(seul) puis (AB+ĀB) Ā (ppp) 5 s/s

ĀĀĀ 3 s/s rappel

+ ĀĀĀ (f) 10 s/s

(AB+ĀB) Ā (ppp) 5 s/s rappel

(ĀBĀ) 1 s/s rappel

Ré. → ← *

(AB+ĀB) Ā (ppp) 1 s/s rappel

+ (AB+ĀB) C (ff) 10 s/s rappel

Ré. → ← *

toujours (A_n+ĀB) Ā seul (1 s/s)

Ré. → ← *

[A-C] (f) 5 s/s rappel

+ [A-B-C] (fff) 3 s/s rappel

[ABC] toujours (A-C) (f) 5 s/s

[A-C] (f) + [A-B-C] (fff) 20 s/s

Red. →

6 8 3

Verzoek geen vingerzettingen of
andere tekens aan te brengen.

+ **(AB+ĀB)C (ff) 3 s/s rappel**

(AB+ĀB) Č (ppp) 1 s/s rappel

12 8

(AB+ĀB) Č 1 s/s toujours

+ **ĀBČ (fff) 1 s/s rappel**

+ **ĀBČ (fff) 3 s/s rappel**

(ĀB+AB) Č muté sur ff 6 s/s rappel

★ [F] 20 s/s

8 5 8

(fff)

Red. →

5 8

8 5

16

5 8

8 8 16 5

← *

* $F = ABC + A\bar{B}\bar{C} + \bar{A}B\bar{C} + \bar{A}\bar{B}C = (AB + \bar{A}\bar{B})C + (\bar{A}B + \bar{A}\bar{B})\bar{C}$