

Transpiration

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$\text{♩} = 60$

Flute

Oboe

Alto Saxophone

Baritone Saxophone

Piano

6

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

11

Fl. *mf* *mp*

Ob. *mf* *mp* *p*

A. Sx. *mf* *mp* *p*

B. Sx. *mf* *mp*

Pno. *mf* *mp* *p*

16

Fl. *p* *ppp* *p*

Ob. *ppp* *p*

A. Sx. *ppp* *p*

B. Sx. *p* *ppp* *p*

Pno. *ppp* *p*

21

Fl. *mp* *mf*

Ob. *mp* *mf*

A. Sx. *mp* *mf*

B. Sx. *mp* *mf*

Pno. *mp* *mf*

25

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

f

f

f

f

f

29

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

ppp

ppp

ppp

ppp

ppp

33

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

p

p

p

p

p

37

Fl. *mp* *mf*

Ob. *mp*

A. Sx. *mp*

B. Sx. *mp* *mf*

Pno. *mp* *mf*

41

Fl. *f* *pp*

Ob. *mf* *pp*

A. Sx. *mf* *pp*

B. Sx. *f* *pp*

Pno. *f* *pp*

45

Fl. *mf*

Ob. *mf* *mp*

A. Sx. *mf* *mp*

B. Sx. *mf*

Pno. *mf*

49

Fl. *mp* *f*

Ob. *mf*

A. Sx.

B. Sx. *mp* *mf*

Pno. *mp* *mf*

53

Fl. *mf*

Ob. *f*

A. Sx. *f*

B. Sx. *f*

Pno. *f* *mf*

58

Fl. *mf*

Ob. *mf*

A. Sx. *mf* *mf*

B. Sx. *mf*

Pno. *mf*

62

Fl.

Ob.

A. Sx.

B. Sx.

mf

Pno.

66

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

70

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

74

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

78

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

82

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

86

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

f

f

f

f

mf

f

mf

90

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

mp

mf

mp

p

mp

mp

mp

94

Fl.

Ob.

A. Sx.

B. Sx.

Pno.

p

p

pp

pp

p

pp

98

Fl. *mf*

Ob. *mf*

A. Sx. *mf*

B. Sx. *pp* *mf*

Pno. *mf*

102

Fl. *mp*

Ob. *mp* *p*

A. Sx. *mp* *p*

B. Sx. *mp*

Pno. *mp*

106

Fl. *p*

Ob. *ppp*

A. Sx. *ppp*

B. Sx. *p*

Pno. *p* *ppp*

110

Fl.

Ob.

A. Sx.

B. Sx.

ppp

Pno.

114

Fl.

Ob.

A. Sx.

B. Sx.

f

mf

f

mf

f

mf

Pno.

118

Fl.

Ob.

A. Sx.

B. Sx.

mp

mp

mp

mp

mf

mp

p

Pno.

122

Fl. *p* *ppp* *p*

Ob. *p* *ppp* *p*

A. Sx. *p* *ppp*

B. Sx. *p* *ppp* *p*

Pno. *ppp*

Detailed description: This system covers measures 122 to 125. The Flute part begins in measure 122 with a *p* dynamic, playing a series of eighth notes. In measure 123, it has a *ppp* dynamic. In measure 124, it returns to *p*. The Oboe part enters in measure 123 with a *p* dynamic, playing a similar eighth-note pattern. The Alto Saxophone and Bass Saxophone parts enter in measure 123 with a *p* dynamic, playing a sustained eighth-note accompaniment. The Piano part enters in measure 123 with a *ppp* dynamic, playing a sustained eighth-note accompaniment.

126

Fl. *mp* *mf*

Ob. *mp* *mf*

A. Sx. *p* *mp* *mf*

B. Sx. *mp*

Pno. *p* *mp*

Detailed description: This system covers measures 126 to 129. The Flute part continues with a *mp* dynamic in measure 126 and increases to *mf* in measure 127. The Oboe part continues with a *mp* dynamic in measure 126 and increases to *mf* in measure 127. The Alto Saxophone part continues with a *p* dynamic in measure 126 and increases to *mp* in measure 127 and *mf* in measure 128. The Bass Saxophone part continues with a *mp* dynamic in measure 126 and increases to *mf* in measure 127. The Piano part continues with a *p* dynamic in measure 126 and increases to *mp* in measure 127.

130

Fl. *mf* *mp*

Ob. *mp*

A. Sx. *mp*

B. Sx. *mf* *mp*

Pno. *mf* *mp*

Detailed description: This system covers measures 130 to 133. The Flute part continues with a *mf* dynamic in measure 130 and increases to *mp* in measure 131. The Oboe part continues with a *mp* dynamic in measure 130 and increases to *mf* in measure 131. The Alto Saxophone part continues with a *mp* dynamic in measure 130 and increases to *mf* in measure 131. The Bass Saxophone part continues with a *mf* dynamic in measure 130 and increases to *mp* in measure 131. The Piano part continues with a *mf* dynamic in measure 130 and increases to *mp* in measure 131.

134

Fl. *p* *ppp*

Ob. *p* *ppp*

A. Sx. *p*

B. Sx. *p* *ppp*

Pno. *p* *ppp*

Detailed description: This system contains measures 134 through 137. The Flute (Fl.) and Oboe (Ob.) parts feature a melodic line with eighth-note patterns and accents. The Flute starts at measure 134 with a *p* dynamic, while the Oboe enters at measure 135. Both reach *ppp* by measure 137. The Alto Saxophone (A. Sx.) and Bass Saxophone (B. Sx.) play a rhythmic accompaniment of eighth notes, starting at measure 135 with a *p* dynamic. The Piano (Pno.) part consists of a continuous eighth-note pattern in both hands, also starting at measure 135 with a *p* dynamic. The system concludes at measure 137.

138

Fl.

Ob.

A. Sx. *ppp* *pppp*

B. Sx.

Pno.

Detailed description: This system contains measures 138 through 141. The Flute (Fl.) and Oboe (Ob.) parts are silent throughout. The Alto Saxophone (A. Sx.) and Bass Saxophone (B. Sx.) continue their rhythmic accompaniment. The Alto Saxophone starts at measure 138 with a *ppp* dynamic and reaches *pppp* by measure 140. The Bass Saxophone remains silent. The Piano (Pno.) part continues with the same eighth-note pattern in both hands. The system concludes at measure 141.

TRANSPIRATION ANALYSIS

This piece for flute, oboe, alto and baritone saxophones, and pianoforte is written in a minimalistic style. The title *Transpiration* was chosen because the changes in minimalistic music can be likened to the process of transpiration in plants. That is, one of gradualism, where one knows that changes are occurring but cannot always see (or in this case hear) the material of these small changes or where they occur. Since the environment in this piece is so repetitive, however, one can most likely hear these changes individually even if it is not quite clear exactly where or what has been altered.

There are only four notes used in the entire piece: A, G, C# and D. These pitches were taken from Louis Andriessens' work *De Staat*. These pitches are progressively introduced, in the aforementioned order, with all being present by the third section (Section C). As there are five sections (A-E all approximately equal in duration) and five instruments, it was decided that each instrument would have a section in which it alone introduced the initial cell. The alto saxophone introduces the initial rhythmic cell at the opening of the piece, on the starting pitch of A:



Alto saxophone bars 1-2, *Transpiration*

The instrument designated for a certain section states the initial cell in its new form. Staggered entries by the other instruments follow, where the cell is repeated. Every instrument continues to repeat this cell (usually with one bar rest between the repetitions), but each repeat brings about a small change. In section A at each repetition alternative pitches are changed to G, until every second A has been changed to a G. When this process is complete section B begins (at bar 29) with the statement of the new cell with modified articulation (now the pitches consist of equal numbers of A and G but as yet the rhythm remains unchanged) by the baritone saxophone.



Baritone saxophone bars 29-30, *Transpiration*

The process begins as before, but this time each repetition brings simultaneous changes in pitch and rhythm. Every second A (working from right to left of the cell) is gradually changed to a C#, thus adding a new pitch to the amalgamation of sound, while the rhythm is changed from the left to the right. When all the alternate As have been changed (see example below), the process begins from left to right in changing every second A of those remaining to a C# (this time beginning with the first A and then alternating rather than beginning with the second pitch as previously done).



Baritone saxophone bars 40-41, *Transpiration*

Section C commences at bar 55 with the statement of the newly produced cell, with altered articulation and a shift of register, by the flute.



Flute bars 55-56, *Transpiration*

Every second G is gradually changed to a D (working left to right), adding the final pitch used in this piece, while continuing to vary the rhythm (right to left).



Flute bars 68-69, *Transpiration*

At the middle of this section (middle bar 71), which is also the middle of the entire piece, all previous material is retrograded, in effect creating an axis of symmetry (rhythmically and melodically) at this point. Section D is, therefore, section B played backwards, just as section E is the retrograde of section A. This means that the piece gradually develops only to degenerate back to what it originally was.