

Time's Arrow

Michael Alcorn

Commissioned by the Belfast Music Society for the Fine Arts Brass Ensemble

PROGRAMME NOTE

Time's Arrow

As with many of my recent pieces, this work draws its inspiration from a concept in science. 'Time's Arrow' is a phrase coined by the British astronomer Arthur Eddington in 1928 to describe the effect of time, forwards and backwards, on physical processes. He noted that the one-way property of time, which has no analogy in space, is found in physics only when observing changes in degrees of randomness in a given system (otherwise known as 'entropy'). All other physical processes are, in theory, 'time symmetric' - in other words, they are the same both forwards and backwards.

Our consciousness, on the other hand, has an acute awareness of the direction of time, as Eddington knew. In terms of human experience (such as the performance of a piece of music) time is irreversible. The arrow of time points from past to future, and the experience of events (or music) unfolding makes no sense at all if it is reversed. To some extent, the process of writing a piece allows the composer to step outside this notion of time and to define relationships that refer both forwards and backwards within the timeline of the music.

The 'arrow of time' has been applied to thermodynamics, particle physics, cosmology, acoustics, and many other disciplines. Just as these fields of scientific research look at disparate states and the processes that affect them over time (order versus randomness, heat versus cold, energy versus inertia), my piece explores contrasting musical states where strictly notated rhythms are juxtaposed with more freely improvised sections of music, where order and randomness of pitch co-exist.

The piece was commissioned by the Belfast Music Society for the Fine Arts Brass Ensemble with support from the Arts Council of Northern Ireland.

PERFORMANCE INSTRUCTIONS

The piece uses both conventional and non-conventional methods of delineating time (using time signatures and using passes of relatively free rhythmic notation). The passages of free rhythmic notation are all indicated with a double bar (marking the beginning and ending of each time block). In addition, a circle and a line at the start of each free time passage indicates the approximate duration of the section or segment. In all cases, a member of the quintet should be responsible for indicating these cues.



Dotted lines indicate segments of approx 1 sec. Players should interpret the location of the notes relative to these one-second frames and interact with the other players in the ensemble. A sense of improvisation is important in these passages.



In the latter stages of the piece, cells of pitches are indicated within repeat signs. Players should improvise rhythmically using these pitches in a style that integrates with the soundworld of the piece.

The wiggly line after the repeat indicates that the player should continue with this material until the next cue. At that point they should complete the phrase, fragment of gesture before moving on.

The end of the work employs mouthpiece pops and some air sounds. Again these should be performed in a way which is in keeping with the soundworld of the piece.

An additional background soundscape is to be included in the performance of the piece. These sounds are triggered via a footpedal at key points in the piece by a member of the quintet.

Additional comment for the quintet:

The piece is supposed to represent a flow of energy from the strictly notated fanfare-like passages at the start to a more improvised and freely organised music at the end of the work. The incorporation of the freer style of music is meant to reflect the degrees of randomness indicated in the programme note.

The score is transposed for B \flat trumpets and horn

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Score

♩ = 60

1

Musical score for the first system, measures 1-4. The score is for five instruments: Trumpet in B♭ 1, Trumpet in B♭ 2, Horn in F, Trombone, and Tuba. The time signature is 4/4. The key signature has one sharp (F#). The tempo is marked as ♩ = 60. The score begins with a circled '1' and a downward arrow. Dynamics include *f*, *mp*, and *sfz*. The music features complex rhythmic patterns with many accents and slurs.

2

Musical score for the second system, measures 5-8. The score is for five instruments: B♭ Tpt. 1, B♭ Tpt. 2, Hn., Tbn., and Tuba. The time signature is 4/4. The key signature has one sharp (F#). Dynamics include *f*, *fp*, and *sfz*. The music continues with complex rhythmic patterns and accents.

2''

A

B♭ Tpt. 1

B♭ Tpt. 2

Hn.

Tbn.

Tuba

3''

3

B

B♭ Tpt. 1

B♭ Tpt. 2

Hn.

Tbn.

Tuba

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

This musical score block contains the notation for measures 6, 7, and 8 for five brass instruments: B \flat Trumpet 1, B \flat Trumpet 2, Horn, Trombone, and Tuba. The notation includes various dynamics such as *f*, *sfz*, *mp*, and *mf*, along with accents and slurs. The instruments play complex rhythmic patterns, often with multiple notes per measure.

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

This musical score block contains the notation for measures 9, 10, 11, and 12 for the same five brass instruments. The notation features dynamic markings like *mf*, *sfz*, and *mf*, and includes slurs and accents. The rhythmic patterns continue with complex, multi-note figures.

2'' 7

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

sfz

sfz

sfz

sfz

sfz

sfz

sfz

sfz

sfz

sfz

4

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

pp

pp

pp

pp

pp

mf

mf

mf

mf

sfzp

sfzp

sfzp

sfzp

sfzp

sfzp

sfzp

Musical score for five brass instruments: B♭ Tpt. 1, B♭ Tpt. 2, Hn., Tbn., and Tuba. The score consists of eight measures. The time signatures are 2/4, 3/16, 3/8, and 2/4. Dynamic markings include *f*, *mp*, and *sfz*. The instruments play various rhythmic patterns and melodic lines.

Continuation of the musical score for five brass instruments. The score starts with a circled '5' and a circled '6'' above the first staff. The instruments are B♭ Tpt. 1, B♭ Tpt. 2, Hn., Tbn., and Tuba. The score includes dynamic markings such as *mp*, *f*, *sfz*, and *p*. Performance instructions include 'flutter' and 'gliss'. The score is divided into measures by vertical dashed lines.

6

7"

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

7

C

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

B \flat Tpt. 1
B \flat Tpt. 2
Hn.
Tbn.
Tuba

8

B \flat Tpt. 1
B \flat Tpt. 2
Hn.
Tbn.
Tuba

B \flat Tpt. 1 *sfz sfz sfz*

B \flat Tpt. 2 *sfz sfz*

Hn. *sfz sfz sfz*

Tbn. *sfz sfz*

Tuba *sfz*

D **9**
10"

B \flat Tpt. 1 *ff*

B \flat Tpt. 2 *ff*

Hn. *ff* as fast as possible - these scales in any order

Tbn. very slow gliss (breathe quickly where necessary)

Tuba *ff* as fast as possible - these scales in any order

12

8" 10

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

as fast as possible - these scales in any order

8"

ff

f

(randomly mix *ff* and *p*)

(randomly mix *ff* and *p*)

ff

(randomly mix *ff* and *p*)

8" 11

B \flat Tpt. 1

B \flat Tpt. 2

Hn.

Tbn.

Tuba

f

f

f

(randomly mix *ff* and *p*)

(randomly mix *ff* and *p*)

(randomly mix *ff* and *p*)

(randomly mix *ff* and *p*)

(randomly mix *ff* and *p*)

(randomly mix *ff* and *p*)

8"

6'' 12 6''

B \flat Tpt. 1 *f* *ff*

B \flat Tpt. 2 *f* *ff*

Hn. *f* *ff*

Tbn. *f* *ff*

Tuba *f* *ff*

6'' 13 6'' 14

B \flat Tpt. 1 *ff* *ff*

B \flat Tpt. 2 *ff* *ff*

Hn. *ff* *ff*

Tbn. *ff* *ff*

Tuba *ff* *ff*

E

15

8"

B \flat Tpt. 1 *sfzpp* *ff* *ff* (dim of successive repeats to *f*)

B \flat Tpt. 2 *sfzpp* *ff* *ff* (dim of successive repeats to *f*)

Hn. *sfzpp* *ff* *ff* (dim of successive repeats to *f*)

Tbn. *sfzpp* *ff* *ff* (dim of successive repeats to *f*)

Tuba *sfzpp* *ff* Play once only (breathe quickly where necessary)

f

16

6"

8"

B \flat Tpt. 1 *f* (dim of successive repeats to *mf*) *mf*

B \flat Tpt. 2 *f* (dim of successive repeats to *mf*) *mp*

Hn. *f* (dim of successive repeats to *mf*) *mp*

Tbn. *f* Play once only *gliss* *mf* *f*

Tuba *f* (dim of successive repeats to *mf*) Play once only *mf*

8" 8" 17

B \flat Tpt. 1 *mf* *quasi gliss* *f* *mf* *quasi gliss* *f*

B \flat Tpt. 2 *mp* *quasi gliss* *mf* *f*

Hn. *mp* *gliss* *mp* *gliss*

Tbn. *mf* *f* *mf* *f*

Tuba *f* *f*

Play once only

8" 6" 18

B \flat Tpt. 1 *quasi gliss* *mf* *f* *cup mute* *pp* *pp* *pp*

B \flat Tpt. 2 *quasi gliss* *mf* *f* *cup mute* *pp* *pp* *pp*

Hn. *mp* *mp*

Tbn. *mf* *f* *cup mute* *pp* *pp* *pp* *pp*

Tuba

Musical score for measures 16-20, featuring five staves: B♭ Tpt. 1, B♭ Tpt. 2, Hn., Tbn., and Tuba. The score includes dynamic markings such as *pp* and *mp*, and performance instructions like "exhale through instrument" and "mouthpiece pop".

Measure 16: B♭ Tpt. 2 has a whole note with *mp* and "exhale through instrument". Tuba has a half note with *pp*.

Measure 17: Hn. has a quarter note with *pp*. Tbn. has a half note with *pp*.

Measure 18: B♭ Tpt. 1 has a half note with *pp* and "mouthpiece pop". B♭ Tpt. 2 has a half note with *mp* and "exhale through instrument". Hn. has a half note with *pp* and "mouthpiece pop". Tbn. has a half note with *mp* and "exhale through instrument". Tuba has a half note with *pp*.

Measure 19: B♭ Tpt. 1 has a half note with *mp* and "exhale through instrument". B♭ Tpt. 2 has a half note with *pp* and "mouthpiece pop". Hn. has a half note with *pp* and "mouthpiece pop". Tbn. has a half note with *pp*. Tuba has a half note with *pp*.

Measure 20: B♭ Tpt. 1 has a half note with *pp* and "mouthpiece pop". B♭ Tpt. 2 has a half note with *pp* and "mouthpiece pop". Hn. has a half note with *pp* and "mouthpiece pop". Tbn. has a half note with *pp*. Tuba has a half note with *pp*.

Musical score for measures 21-23, featuring five staves: B♭ Tpt. 1, B♭ Tpt. 2, Hn., Tbn., and Tuba. A circled number "21" with an arrow points to the start of measure 21. The score includes dynamic markings such as *pp* and performance instructions like "Mute".

Measure 21: B♭ Tpt. 1 has a half note with *pp*. B♭ Tpt. 2 has a half note with *pp*. Hn. has a half note with *pp*. Tbn. has a half note with *pp*. Tuba has a half note with *pp* and "Mute".

Measure 22: B♭ Tpt. 1 has a half note with *pp*. B♭ Tpt. 2 has a half note with *pp*. Hn. has a half note with *pp*. Tbn. has a half note with *pp*. Tuba has a half note with *pp* and "Mute".

Measure 23: B♭ Tpt. 1 has a half note with *pp*. B♭ Tpt. 2 has a half note with *pp*. Hn. has a half note with *pp*. Tbn. has a half note with *pp*. Tuba has a half note with *pp* and "Mute".