Konstantinos Vlachos

Sahara

for Orchestra and Fixed Media

Performance Instructions

Instrumentation

Live Orchestra (on stage):

Woodwinds:
2 Flutes
2 Oboes
2 Clarinets in B ♭
2 Bassoons

Brass:
2 Horns in F
2 Trumpets in B ♭
2 Trombones
1 Tuba

Percussion (4 performers):
Timpani
Bass Drum
Temple Blocks
Tubular Bells

Strings:
1st Violins
2nd Violins
Violas
Cellos
Double Basses

Fixed Media (pre-recorded, projected via 3 loudspeakers):

Three spatially distributed virtual ensembles (SP1, SP2, SP3), rendered using VST instruments and digital spatialisation techniques. Each ensemble includes independently performed woodwinds, brass, percussion, and strings, and is routed to a separate loudspeaker positioned around the audience. These ensembles are represented in the score using reduced-size cue staves to aid synchronisation and spatial orientation.

Duration: approx. 14 minutes

Spatial Playback Setup

Sahara uses three fixed-media audio files, each routed to a separate loudspeaker positioned around the audience:

SP1 (Right) – Sahara SP1.wav
SP2 (Rear, behind audience) – Sahara SP2.wav
SP3 (Left) – Sahara SP3.wav

Each file is stereo (48kHz/24-bit) and should be routed to a single full-range speaker. In larger venues, a matched speaker pair may be used per channel, but both must be fed identical signal.

Click Track and Synchronisation

The piece is performed to a fixed tempo of **quarter note = 90 BPM**, using a click track heard **only by the conductor** via in-ear monitoring.
The click is not shown in the score.

Two stereo click track files are provided:
Sahara Click Track 2 Bars.wav – Contains a 2-bar count-in and then silence.
Sahara Click Track Full.wav – Contains a 2-bar count-in followed by continuous click.

The score begins immediately after the 2-bar count-in.

A reference version, **Sahara with Click.wav**, is also provided for score-following or evaluation use. It combines the stereo flat mix with the continuous click track. It is **not intended for concert performance**.

Cue Staves for Speaker Materials

The fixed-media stems (SP1–SP3) are visually represented in the score using cue staves for conductor reference. Each speaker group includes:

One reduced-size piano staff summarising winds and brass.

One reduced-size piano staff summarising strings.

One reduced-size five-line percussion staff.
Perc. Map: Top to bottom — Timpani / Bass Drum / Temple Blocks / Tub. Bells
All instruments use standard noteheads.

The content in these staves is selective. It is intended to support rehearsal, orientation, and spatial awareness, not full transcription. The cue staves are in concert pitch.

Rhythmic Alignment

In passages where the live orchestra aligns rhythmically with the fixed-media parts, performers are encouraged to prioritise **confident entries** and overall **directional energy**. Precision in every subdivision is not required. Minor asynchrony is both musically appropriate and expected. The effect should favour texture and momentum over mechanical synchrony.

Audio Files

For Performance

Sahara SP1.wav – routed to SP1 (Right speaker)
Sahara SP2.wav – routed to SP2 (Rear speaker)
Sahara SP3.wav – routed to SP3 (Left speaker)

Note: All fixed-media stems (*Sahara SP1–3.wav*) include 2 bars of silence at the beginning to align with the conductor's 2-bar click track count-in.

Click Tracks (Conductor Only)

Sahara Click Track 2 Bars.wav – 2-bar count-in only (used in concert)
Sahara Click Track Full.wav – 2-bar count-in + continuous click (used in rehearsal)

Reference / Documentation Only

Sahara with Click.wav – Stereo flat mix plus click (for study only)
Sahara Flat Stereo.wav – Stereo mixdown of the speaker stems (not for performance)

Only the SP1–SP3 files are to be used for live performance.

Note on "Live" Audio Stem

An optional audio stem titled **Sahara Live.wav** is included. It contains a virtual rendering of the live orchestral part and begins with the same 2-bar silence as the speaker stems, allowing for alignment with the click track. This file is **not intended for performance**, but may be used for balance checking, rehearsal mockups, or synchronisation testing.

Programme Note

Sahara explores immersive sonic space through a dialogue between a live orchestra and three spatialised digital ensembles. These fixed-media speaker groups (positioned to the left, right, and rear of the audience) act as ghost orchestras: simultaneously autonomous and responsive, distant yet intertwined. The piece traverses waves of dense texture, echo counterpoint, fragmented unisons, and warped symmetry. Spatial energy is not only a structural element but a compositional driver, sculpting movement, tension, and resolution over time. Rather than seeking perfect synchronisation, *Sahara* embraces layered simultaneity, spatial ambiguity, and friction between human and mechanical time.

Sahara

for Orchestra

Konstantinos Vlachos
2025

Con moto ♩ = 90

Flutes 1, 2
Oboes 1, 2
Clarinets 1, 2 in B♭
Bassoons 1, 2

Con moto ♩ = 90

Horns 1, 2 in F
Trumpets 1, 2 in B♭
Trombones 1, 2
Tuba

Con moto ♩ = 90

Timpani
Bass Drum
Temple Blocks
Tubular Bells

Con moto ♩ = 90

Violin I
Violin II
Viola
Violoncello
Double Bass

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

Speaker 1

Winds/Brass
Strings
Percussion — Perc. Map: Top to bottom — Timpani / Bass Drum / Temple Blocks / Tub. Bells

Speaker 2

Winds/Brass
Strings
Percussion — Perc. Map: Top to bottom — Timpani / Bass Drum / Temple Blocks / Tub. Bells

Speaker 3

Winds/Brass
Strings
Percussion — Perc. Map: Top to bottom — Timpani / Bass Drum / Temple Blocks / Tub. Bells

15

20

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Vln. I

Vln. II

Vla.

Vc.

Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

25 30 35

Fl. 1, 2 — nat. — flz. — mp

Ob. 1, 2 — f

Cl. 1, 2 — 7:4 — f — p

Bsn. 1, 2 — 1. — f — 3 — mp

Hn. 1, 2 — 1. — f — p

Tpt. 1, 2 — 1. — mp — f

Timp. — f

B. D. — mp

Vln. I — p < f — p — ff — p — mp — f

Vln. II — p < f — p — ff — p — mp — f

Vla. — mp

Vc.

Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

Winds/Br. — mp — pp — ppp — mp — p

Str. — mp — pp — ff — p

2

Winds/Br. — f — p — mf — ppp — mp — p

Str. — pp — f

3

Winds/Br. — f — pp — f — ppp — mp — pp

Str. — ppp < f > ppp — ff — p

40

45

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

B. D.

Vln. I

Vln. II

Vla.

Vc.

Db.

– – – – – – – Pre-recorded Material (Speaker 1–3) – – – – – – –

1

Winds/Br.

Str.

2

Winds/Br.

3

Winds/Br.

50

Hn. 1, 2

Tbn. 1, 2

Timp.

B. D.

Vln. I

Vln. II

Vla.

Vc.

Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

Str.

2

Winds/Br.

3

Str.

55

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.

Pre-recorded Material (Speaker 1–3)

1
Str.

2
Winds/Br.
Str.

3
Str.

60

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.

1.
a2
tutti

— — — — — — — Pre-recorded Material (Speaker 1–3) — — — — — — —

1
Winds/Br.
Str.

2
Winds/Br.
Str.

3
Winds/Br.
Str.

65

70

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

B. D.

Vln. I

Vln. II

Vla.

Vc.

Db.

a2

divisi

Pre-recorded Material (Speaker 1–3)

1

2

3

Str.

75

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.

tutti

– – – – – – Pre-recorded Material (Speaker 1–3) – – – – – –

1
Winds/Br.
Str.

2
Winds/Br.
Str.

3
Winds/Br.
Str.

80

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tbn. 1, 2
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1
Winds/Br.
Str.

2
Winds/Br.
Str.

3
Winds/Br.
Str.

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1
Winds/Br.
Str.
2
Winds/Br.
Str.
3
Winds/Br.
Str.

90

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
Tub. B.
Vln. I
Vln. II
Vla.
Vc.
Db.

tutti
pizz.
pizz.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

Str.
Perc.
Str.
Str.

1
2
3

95

100

Cl. 1, 2

1.

7:4

p *mp*

Bsn. 1, 2

1.

3 3

mf *pp*

Hn. 1, 2

1.
mute

f

B. D.

T. Bl.

mp

Tub. B.

p *pp* *p*

Vln. I

Vln. II

p *mf* *p* *p* *f* *p* *f* *p* *pp*

Vla.

divisi

tutti

mf *p* *mf* *p* *mp* *mf* *p* *mf*

Vc.

pp *mp* *pp* *mp*

Db.

pp *mp* *pp* *mp*

– – – – – – Pre-recorded Material (Speaker 1–3) – – – – – –

1

Winds/Br.

7:4

p *mp*

Str.

f

3 3

p *pp*

Perc.

2

Str.

pizz.

pp *mp* *pp*

p *f*

Perc.

p

Winds/Br.

3 3

mf *pp*

3

Str.

f

7:4

pp *p*

Perc.

p

105

110

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

B. D.

T. Bl.

Tub. B.

Vln. I

Vln. II

Vla.

Vc.

Db.

1.
mute

a2

a2
mute

senza sord.

divisi

tutti

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

Winds/Br.

Str.

Perc.

2

Winds/Br.

Str.

Perc.

3

Winds/Br.

Str.

Perc.

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Tub. B.
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1
Winds/Br.
Str.

2
Winds/Br.
Str.
Perc.

3
Winds/Br.
Str.

125

130

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

B. D.

T. Bl.

Tub. B.

Vln. I

Vln. II

Vla.

Vc.

Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

135

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Tub. B.
Vln. I
Vln. II
Vla.
Vc.
Db.

1.
a2
pizz.
arco

Pre-recorded Material (Speaker 1–3)

1
Winds/Br.
Str.

2
Winds/Br.
Str.

3
Winds/Br.
Str.

140

145

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

B. D.

T. Bl.

Tub. B.

Vln. I

Vln. II

Vla.

Vc.

Db.

pizz.

arco

tutti

div.

a2

1.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

Winds/Br.

Str.

1

2

3

150

155

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Tub. B.
Vln. I
Vln. II
Vla.
Vc.
Db.

a2

1°

pizz.

arco

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

2

3

Winds/Br.

Str.

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

160 165

1. a2 pizz. espress. subito

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1
Winds/Br.
Str.

2
Winds/Br.
Str.

3
Winds/Br.
Str.

170

175

Fl. 1, 2

Cl. 1, 2

Bsn. 1, 2

Timp.

B. D.

T. Bl.

Vln. I

Vln. II

Vla.

Vc.

Db.

arco

arco

– – – – – – Pre-recorded Material (Speaker 1–3) – – – – – –

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

180

Fl. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tbn. 1, 2

Tba.

Timp.

Vln. I

Vln. II

Vla.

Vc.

Db.

Str.

1

2

3

– – – – – – – Pre-recorded Material (Speaker 1–3) – – – – – – –

185

190

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

Vln. I

Vln. II

Vla.

Vc.

Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

195

200

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

Vln. I

Vln. II

Vla.

Vc.

Db.

– – – – – – Pre-recorded Material (Speaker 1–3) – – – – – –

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

205

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1
Winds/Br.
Str.
2
Winds/Br.
Str.
3
Winds/Br.
Str.

210

215

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

Vln. I

Vln. II

Vla.

Vc.

Db.

espress.

div.

tutti

fff subito

– – – – – – – Pre-recorded Material (Speaker 1–3) – – – – – – –

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

220

225

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

T. Bl.

Vln. I

Vln. II

Vla.

Vc.

Db.

espress.

pizz.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1 Str.

2 Winds/Br.

3 Str.

230

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

a2

pizz.

– – – – – – – Pre-recorded Material (Speaker 1–3) – – – – – – –

1
Winds/Br.
Str.

2
Winds/Br.
Str.

3
Winds/Br.
Str.

pizz.

235

240

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

1.

a2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

B. D.

T. Bl.

Vln. I

Vln. II

Vla.

Vc.

Db.

arco

Pre-recorded Material (Speaker 1–3)

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

245

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

pizz.
arco

250

255

1.

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Hn. 1, 2

Tpt. 1, 2

Tbn. 1, 2

Tba.

Timp.

B. D.

T. Bl.

Vln. I

Vln. II

Vla.

Vc.

Db.

mp *p* *f*

mp < *f* *f espress.*

mp

gliss. *ppp*

ff *pp*

pp

pp

divisi

tutti

mp *p* *f* *pp*

divisi

tutti

mp *p* *mp* *pp* *mp*

fff

gliss. *mp*

pizz.

mp

fff

pizz.

mp

fff

260

265

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Timp.

B. D.

T. Bl.

Vln. I

Vln. II

Vc.

Db.

– – – – – – Pre-recorded Material (Speaker 1–3) – – – – – –

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

270

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vc.
Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1
Str.
2
Str.
3
Str.

275

280

Fl. 1, 2

Ob. 1, 2

Cl. 1, 2

Bsn. 1, 2

Timp.

B. D.

T. Bl.

Vln. I

Vln. II

Vc.

Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1

Winds/Br.

Str.

2

Winds/Br.

Str.

3

Winds/Br.

Str.

285

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

Winds/Br.
Str.

1
2
3

290

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

Pre-recorded Material (Speaker 1–3)

1

Winds/Br.
Str.

2

Winds/Br.
Str.

3

Winds/Br.
Str.

295

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Vln. I
Vln. II
Vla.
Vc.
Db.

Pre-recorded Material (Speaker 1–3)

1
Winds/Br.
Str.
Perc.

2
Winds/Br.
Str.
Perc.

3
Winds/Br.
Str.
Perc.

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

– – – – – – – Pre-recorded Material (Speaker 1–3) – – – – – – –

1
Winds/Br.
Str.
Perc.

2
Winds/Br.
Str.
Perc.

3
Winds/Br.
Str.

300

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — — Pre-recorded Material (Speaker 1–3) — — — — — — —

1
Winds/Br.
Str.
Perc.

2
Winds/Br.
Str.

3
Winds/Br.
Str.
Perc.

305

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — — Pre-recorded Material (Speaker 1–3) — — — — — — —

1
Winds/Br.
Str.
Perc.

2
Winds/Br.
Str.
Perc.

3
Winds/Br.
Str.

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Tub. B.
Vln. I
Vln. II
Vla.
Vc.
Db.

— — — — — — Pre-recorded Material (Speaker 1–3) — — — — — —

1
Winds/Br.
Str.
Perc.

2
Winds/Br.
Str.
Perc.

3
Winds/Br.
Str.
Perc.

310

Fl. 1, 2
Ob. 1, 2
Cl. 1, 2
Bsn. 1, 2
Hn. 1, 2
Tpt. 1, 2
Tbn. 1, 2
Tba.
Timp.
B. D.
T. Bl.
Tub. B.
Vln. I
Vln. II
Vla.
Vc.
Db.

– – – – – – Pre-recorded Material (Speaker 1–3) – – – – – –

1
Winds/Br.
Str.
Perc.

2
Winds/Br.
Str.
Perc.

3
Winds/Br.
Str.
Perc.