

wave/particle
for Annick Odom
2017

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Programme Notes

Wave/particle came about as a response to the challenge of writing for Annick Odom, a dual instrumentalist on double bass and clarinet. In working to create a unified work with such drastically different instruments, played by the same performer, images of mathematical representations of light as both wave and particle came to mind. Given the resonances between waves and particles in texture-based music, the idea for the work became a re-construction of a starting phrase. The coda of this work is an improvised phrase originally used in another composition. That phrase is deconstructed, rearranged and stretched within each section, sometimes presented as ‘particles’, sometimes as ‘waves’. However, the deconstruction is presented in reverse, from the most remote articulation of the phrase, ending in the final reveal of the line unaltered.

Acknowledgements

This work was completed during a brief residency at the Institute of Sonology, Koninklijk Conservatorium in The Hague. My work would not have been possible without the support of the Kees Tazelaar, Lex van den Broek and Marko Uzunovski at the Institute of Sonology. Additionally, I would like to thank Paul Jeukendrup, Daan van Aalst, and Doris Veldman of the Art of Sound programme for making the recording possible. Finally, I wish to acknowledge the support from Professors Tiziana Margaria and Edmond Magner at the University of Limerick.

Performance Notes

Instrumentalist

Trills and tremolos

Trills and tremolos should be performed differently. Trills are unmeasured and may be interpreted freely by the performer. The primary note is intended as the ‘significant’ pitch, while the parenthetical note is the pitch to which the trills alternate. The performer may take this into consideration in his or her interpretation. Trills should be extended for the duration of the note. In some cases, a line is drawn to indicate that the trill continues throughout the entire duration or across a tie. There should be no performative difference between a trill indicated by *tr* with or without the extension.



Tremolos are measured and should be performed evenly. Additionally, when a tremolo alternates between two pitches, both pitches are significant, and interpretation should not favour one pitch over another. The duration of the first note of the tremolo indicates the duration of the entire tremolo.



In the case where a trill and a tremolo are combined, there should be no synchronisation between the trill and tremolo. In these cases, the trill indicates the pitch material, whilst the tremolo is more of a timbral device.



Pizzicato and Bartok Pizzicato

Pizzicato should be performed conventionally. Bartok pizzicato is indicated by the symbol as follows:



Computer performer

Instructions for the installation of Pd and starting the patch are provided in the _ReadMe.txt file included with the distribution of the computer part. Instructions for running the patch are provided in the patch itself. In the score, the numbers below the computer staff indicate the section number. For easy navigation, the performer may type the number in the 'jump_to_section_number' box in the patch to jump to a specific part of the piece. During performance, the performer may use the ']' key to step forward in each section or '[' to step backward.

6) Section controls here.

jump_to_section_number: Type section number here to jump.
step_forward: ☐ Click to step forward or type ']'
step_backward: ☐ Click to step backward or type '['

Parts are indicated by the Roman numeral above and below the staves. In Part IV (section 46), the computer part relies on input from the instrumentalist. Upon triggering section 46, the computer automatically listens to the bass part to begin processing. In subsequent gestures, the performer must use the 'c' key to trigger computer processing of the clarinet part and 's' key to trigger processing of the bass part. These are indicated in the score as "S" and "C". Although materials in the rest of the work are fairly forgiving of rhythmic errors in triggering sections, this part requires very precise synchronisation with the performer. The bass part is time-stretched by 800% and altered. The clarinet part is sampled and chopped, then 'collaged' until re-triggered. The patch automatically records for a brief time when triggered, thus requiring precise triggering or the timing of the processed bass and clarinet parts do not work.

The musical score for Part IV (section 46) consists of three staves: A Cl. (Alto Clarinet), D.B. (Double Bass), and Comp. (Computer). The A Cl. staff begins with a tempo marking of 162 and a note value of 50. It features a melodic line with a sixteenth-note run marked with an accent and a dynamic of *mp*, followed by a rest and then a final note marked with an accent and a dynamic of *n*. The D.B. staff starts with a dynamic of *ff* and plays a rhythmic pattern of eighth notes, followed by a rest and then a final pattern marked with an accent and a dynamic of *ff*. The Comp. staff has a treble and bass clef. The treble clef part shows a melodic line with a sixteenth-note run marked with an accent and a dynamic of *ff*, followed by a rest and then a final pattern marked with an accent and a dynamic of *ff*. The bass clef part shows a rhythmic pattern of eighth notes, followed by a rest and then a final pattern marked with an accent and a dynamic of *ff*. The score is labeled with "IV" in a box above the A Cl. staff and "IV (46)" in a box below the Comp. staff. The word "C" is written above the A Cl. staff and "S" is written above the Comp. staff, indicating triggering points.

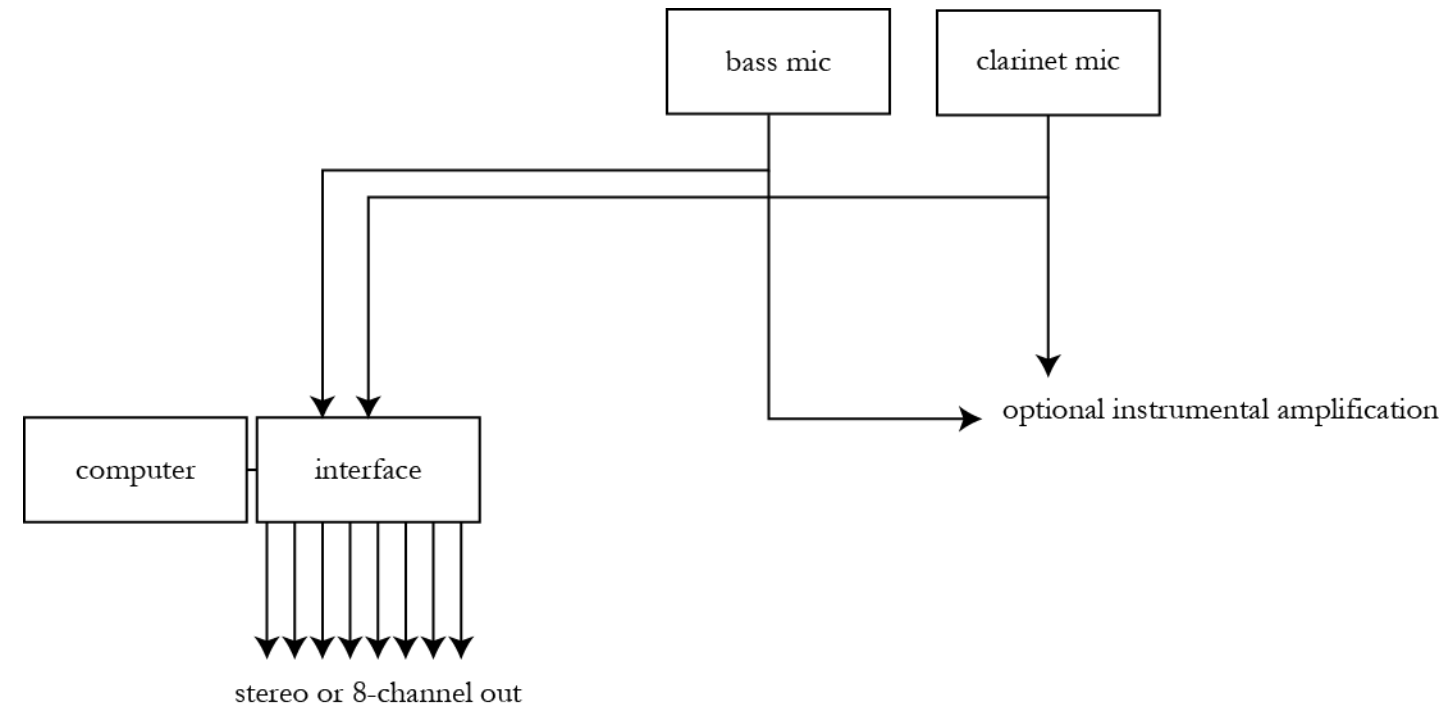
Pitches

The computer part relies on various synthesis and processing techniques. These techniques range from noise to pitched tone. The pitches indicated in the score are the centre frequencies of filters or the fundamentals of various synthesis parts. The notation is not intended to indicate sustained, clear chords.

Technical Notes

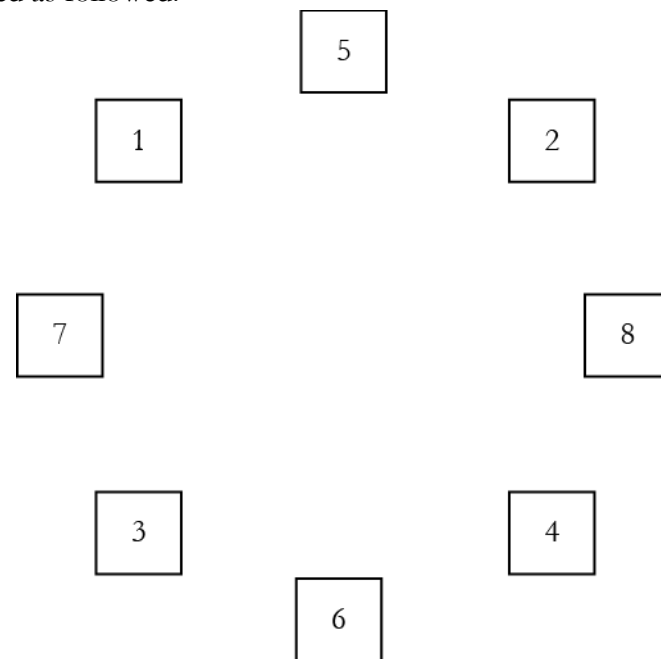
This piece can be performed in 8 channels or stereo. Depending on the performance space, the instruments may be amplified, but all amplification should be as subtle and natural as possible.

Stage Setup

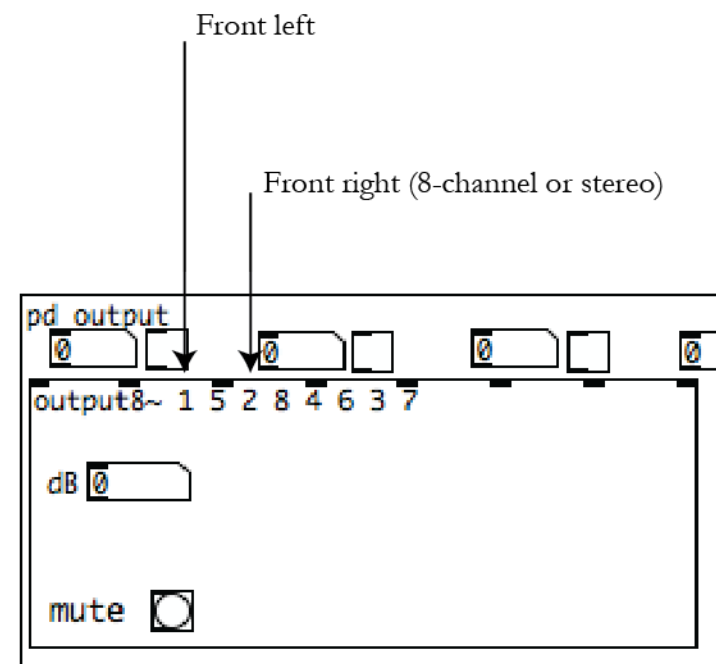


Speaker Configuration

The patch defaults to the speaker configuration at the Institute of Sonology, numbered as followed:



For other configurations, the output sub-patch can be altered to re-number the channels. The first argument is the front-left speaker, and the remaining arguments indicate the speakers in clockwise order from the front left. In stereo, the left and right channels must be in the first and third arguments.



I **1**

④

7


10

13

II

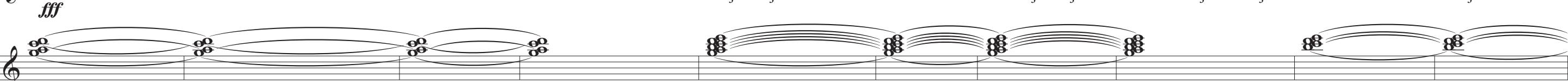
61

A Cl.



fff

Comp.



16


17

18

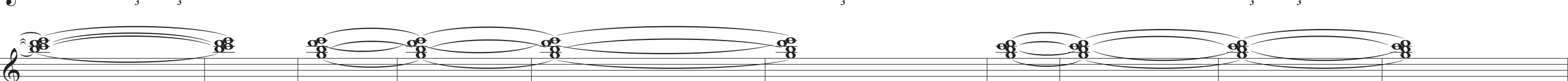
II

71

A Cl.



Comp.




19

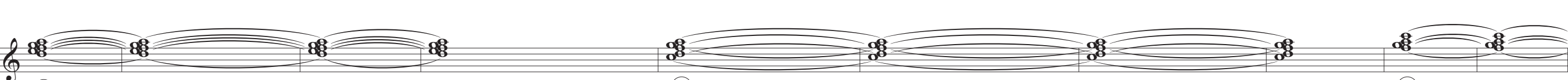
20

81

A Cl.



Comp.




21

22

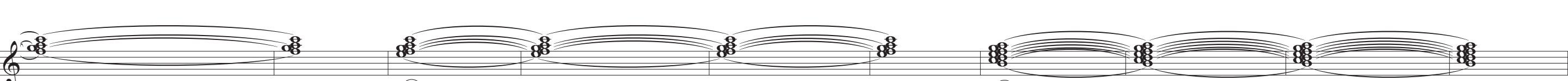
23

91

A Cl.



Comp.




24

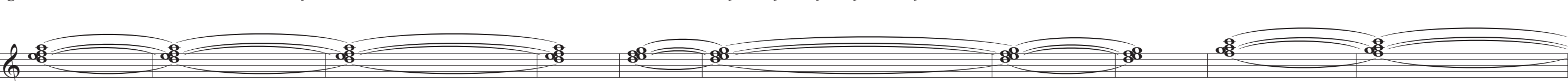
25

101

A Cl.



Comp.




26

27

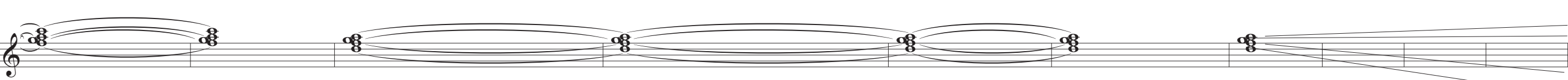
28

111

A Cl.



Comp.



29

30

149

A Cl.

D.B.

Comp.

p *mp* *p* *p* *mp* *p* *p* *mp* *p*

III II I

8va

3 3 3 3 3 3 3 3

42 43 44 45

4

IV

162

♩ = 50

wave/particle

A Cl.

D.B.

Comp.

ff

mp

mp

mp

sim.

ff

ff

"C"

"S"

"C"

"S"

"C"

"S"

"C"

"S"

"C"

"S"

IV

46

175

A Cl.

D.B.

Comp.

"C"

"S"

"C"

"S"

"C"

"S"

"C"

"S"

"C"

"S"

"C"

"S"

186

A Cl.

D.B.

Comp.

"C"

"S"

"C"

"S"

"C"

"S"

"C"

"S"

"C"

"S"

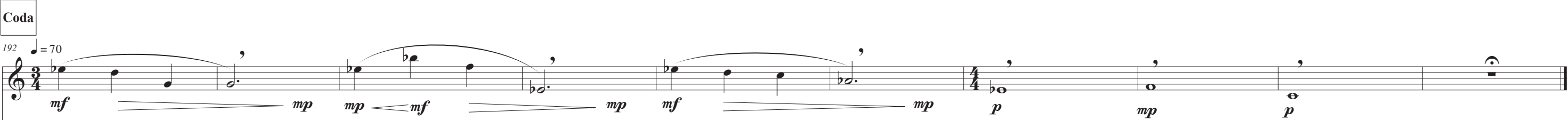
"C"

"S"

Coda

192 ♩ = 70

A Cl.



Coda

47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

Comp.



Den Haag, 2017