

Michael Jarrell
Congruences
1989

Congruences_Geneve_2015
2015



The setup and the execution of the electroacoustic part
of this work requires a Computer Music Designer (Max expert).

Table of Contents

Table of Contents	2
Work related information	3
Performance details	3
Detailed staff	3
Realisation	3
Useful links on Brahms	3
Version related information	4
Documentalist	4
Realisation	4
Upgrade Motivation	4
Other version(s)	4
Electronic equipment list	5
Computer Music Equipment	5
Audio Equipment	5
Files	6
Instructions	7
Audio setup	7
Loudspeakers setup	7
Midi setup	8
Software installation	9
System calibration and tests	9
Initialization routine	9
Patch & system overview	9
Performance notes	9
Program note	11

Work related information

Performance details

- Nov. 22, 1989, Paris, Centre Georges-Pompidou

Publisher : Lemoine

Detailed staff

- soloists: MIDI flute, oboe
- clarinet, bass clarinet, bassoon (also contrabassoon), horn, trumpet, trombone, 2 percussionists, 2 electronic/MIDI keyboards/synthesizers [claviers de contrôle TX802 (type KX88)] (also electronic/MIDI keyboard/synthesizer [DX7 II] , piano), viola, cello, double bass

Realisation

- Jan Vandenheede
- Nicolas Vérin

Useful links on Brahms

- [Congruences](#) for midi flute, oboe, ensemble and electronics (1988-1989), 18mn
- [Michael Jarrell](#)

Version related information

Performance date: March 27, 2015

Documentation date: March 31, 2015

Version state: valid, validation date : May 2, 2018, update : May 6, 2021, 3:09 p.m.

Documentalist

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You noticed a mistake in this documentation or you were really happy to use it? Send us feedback!

Realisation

- Michael Jarrell (Composer)
- David Poissonnier (Sound engineer)
- Serge Lemouton (Computer Music Designer)
- Augustin Muller (Computer Music Designer)

Version length: 18 mn

Default work length: 18 mn

Upgrade Motivation

New version of the electronics :

new patch, new DSP, new sounds, new scores.

Kontakt replaced by samplor~

Now runs at 48 kHz

Other version(s)

- [Michael Jarrell - Congruences - portage2020 \(May 1, 2020\)](#)
- [Michael Jarrell - Congruences - Congruences_Manifeste_2015 \(Aug. 10, 2015\)](#)
- [Michael Jarrell - Congruences - Helsinki 2000 \(Jan. 18, 2015\)](#)
- [Michael Jarrell - Congruences - Congruences_2013 \(Dec. 4, 2013\)](#)
- [Michael Jarrell - Congruences - Portage 1997 \(Dec. 1, 1997\)](#)
- [Michael Jarrell - Congruences - Version 1994 \(Jan. 1, 1994\)](#)
- [Michael Jarrell - Congruences - CD version \(Ades 94\) \(June 1, 1993\)](#)
- [Michael Jarrell - Congruences - creation \(Nov. 22, 1989\)](#)

Electronic equipment list

Computer Music Equipment

- 1 Retina - *Apple Laptops* (Apple)
10.9.5, I7, 8Go, flash
- 1 Max 7 - *Max* (Cycling74)
- 1 Fireface 800 - *Sound Board* (RME)
- 2 KX 88 - *MIDI Keyboard* (Yamaha)
- 1 BCF 2000 - *MIDI Mixer* (Behringer)
optional
- 4 Footswitch / Sustain Pedal - *Footswitch / Sustain Pedal*
- 1 Unitor 8 - *MIDI Interfaces* (Emagic)

Audio Equipment

- 6 Loudspeaker - *Loudspeakers*

Files

File	Type	Author(s)	Comment
concert recording	Audio file(s)		recorded by the swiss radio (RTS-Espace2)
max patches and sounds	Performance patch	Serge Lemouton	max patches, libraries and sounds. Everything required to play the piece.
live session for simulation	Simulation files		flute, oboe, midi keyboard 2 and midi pedals in a live project.
technical rider	Technical rider	David Poissonnier	

Instructions

Audio setup

2 audio inputs :

- Solo Flute
- Solo Oboe

10 audio outputs from max patches :

- Real Time FX
- Fake RT samples in dac 1&2
- Sequences Samples in dac 3&4
- samplor~ based sampler for Keyboard 1
- samplor~ based sampler for Keyboard 2

Loudspeakers setup

The electronic part is sent to a crossed stereo (L R Ls Rs) setup for Real Time effects & sounds, and a stereo + monitors system for the (virtual) “synthesizers” part.

Setup

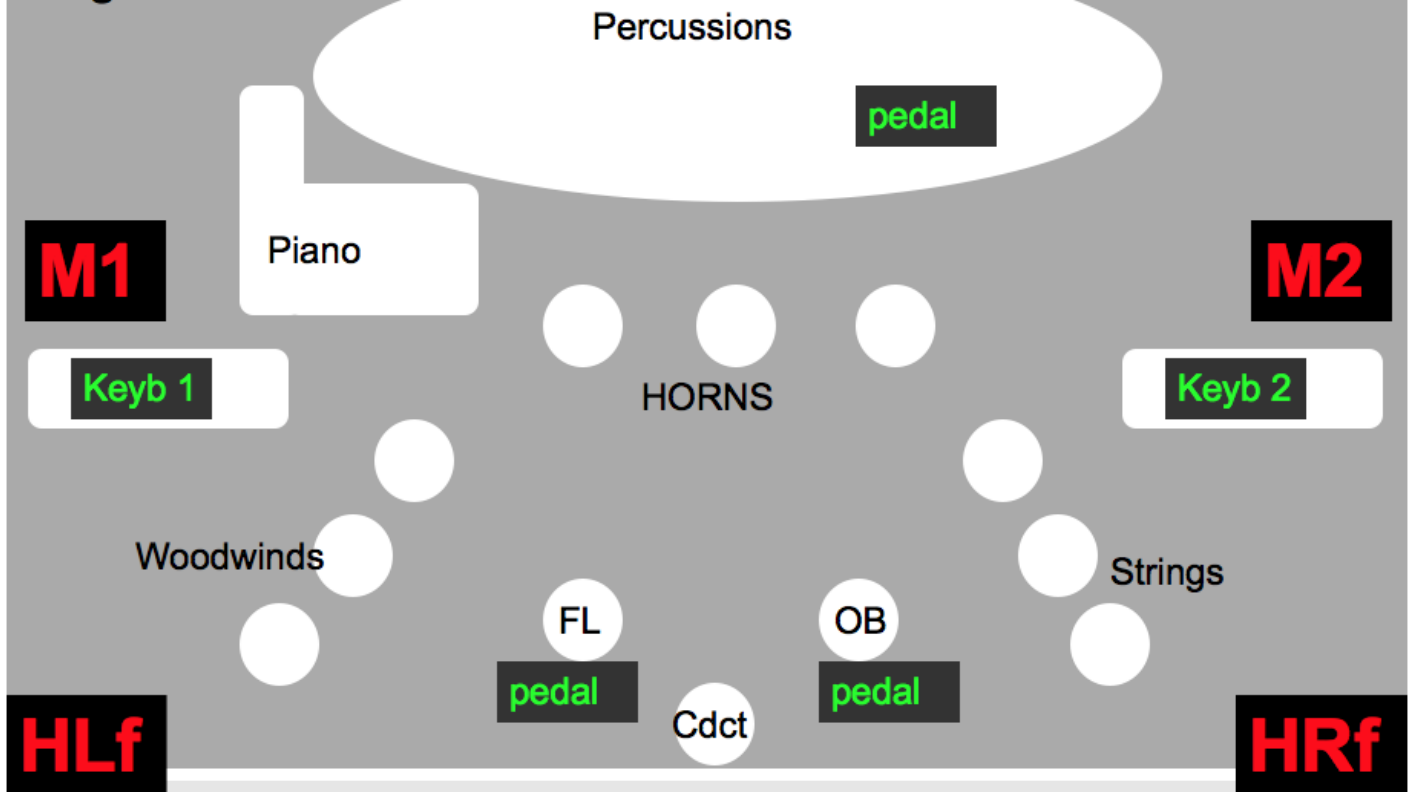


player

speaker

midi device

Stage&Audio



Crossed stereo setup

FX diffusion (dac 1&2) is a crossed stereo with HLf HRf, HLs, HRs. Front system is used for amplification as well.

Kontakt outs (Keyboards 1 & 2) should be mixed in the front PA and in the monitors. Sequences outputs (dac 3&4) are to be mixed in the front PA.

Opt° speakers can be used for Electronics and reverb enhancement

dac 1&2 => HLf, HRf, HLs, HRs (resp.)

dac 3&4 => HL & HR

Kontakt out => M1 & M2 (resp), HL & HR (front only)

HRs

Opt°

HLs

Midi setup

The following midi devices are required :

- 2 pedals with different ctl number for flute and oboe
- 2 keyboards (88 notes + sustain pedal, with pgm change buttons) for playing the synthesizers parts.

Software installation

You need Max 7

Ircam forumnet account is required for supervp.play external (<http://forumnet.ircam.fr/fr/product/supervp-pour-max/>)

Add the following folders to your Max file preferences path:

- Congruences_max/
- Congruences_samplor/

System calibration and tests

- Play the sounds
- Test the RT (with the provided simulation files)
- Test the synths
- Test the pedals

Initialization routine

- Open the following patches :
 - Congruences_2015-15.maxpat
 - Congruences_samplor/CongruencesClavier1DXSamplor-v7.maxpat
 - Congruences_samplor/CongruencesClavier2SYSamplor-v7.maxpat
- Check all midi IOs (in app, patch and samplor patches)
- Check DSP status (SR = 48khz, 256/128)
- Init
- Load sounds (check max window)
- choose your section !

Patch & system overview

The electronic part of Congruences consists in live real time effects on solo flute and oboe, sequences (former synth sequence, now soundfiles), and 2 keyboards playing samples (formerly DX7II & SY99/TX802).

Some fake RT soundfiles have been added for some events and should be mixed with the real time treatments.

Congruences uses score following based on the detonate max object. Flute pitches are followed along with pedal switches and keyboard 2. Some events (like the first for example) may be triggered manually ... Score following can be engaged and disengaged with the 'x' key.

Most of the treatments are done with complex routing and feedbacks. Effects type of A, B, 1 & 2 are variable along the piece ; have a look in effects section in DSP subpatcher. Effects routing can be monitored within the rtctl subpatcher. Global levels can be adjusted but routing can not be modified.

All events (RT, sequences, pgmchanges, follower gates) are given in the score subpatch (qlists), except Fake RT sounds that are triggered from the sload&ctl section : some of them are triggered along with events, other are played by pitches from the keyboard 2.

Performance notes

The ensemble should be amplified and reverberated.


Sequences outputs must be well mixed with the synth.

RT outputs may be reverberated, according to the hall. They already include lots of reverbs !

The flute is the main trigger for the treatments, and is the main source too. A balance must be found between flute + treatments and oboe + ensemble. Flute & oboe are the soloists, but must not be too much amplified. For example, in section VII (oboe cadenza), the oboe may be cut off the PA to mix with electronics. Transpositions should be heard clearly as written in the score, with good presence.

Extra long reverbs are used on direct sound of flute as well as on transpositions, and should be really present in the mix as they are used as a duration modifier more than an acoustical enhancement. Treatments of the ensemble and percussions don't need to be loud and can maybe be omitted. Important cues have been doubled with soundfiles. Direct treatments are used for the mix, but should be mixed at a low level in order to clarify the global image.

Using fake RT soundfiles is strongly advised. It should not replace the live RT, but be mixed with it.

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Program note

Congruence, du latin *congruere*, convenir, est un terme de géométrie : « lorsque tous les points de deux figures superposées coïncident, elles sont dites congruentes », rapporte le compositeur. Le pluriel du titre implique alors un attachement au principe de « degrés de congruence », réactivant ainsi la notion de tuilage, de recouvrement, de stratification, à l'œuvre dans *Trace-Ecart*, une partition de laquelle *Congruences* tire sa quintessence.

Créée dans une *seconde version* pour flûte, hautbois et orchestre, où, à la manière du [György Ligeti](#) des années 1960, l'orchestre avait à charge de transposer les sons électroniques dans l'instrumentarium classique, l'œuvre découvre, dans sa première version, les expériences du compositeur avec un nouveau médium instrumental où réverbération, retardement, spatialisation, transformation du son et modulation de fréquence engendrent une polyphonie complexe. Emblématiquement, la première note posée par la flûte et le hautbois, dont la complémentarité acoustique et spatiale se donne à voir et à entendre, s'abîme ici dans la réverbération du dispositif électronique, là dans la résonance des flûtes de l'orchestre.

Les notes tenues structurent la partition dans une esthétique du gel, dans une polarité qui oriente la perception ; la flexibilité du vocabulaire rythmique est créée à la fois par l'omniprésence de rythmes non rétrogradables qui contrôlent l'enveloppe du son – et donc l'attaque différée et l'extinction disloquée des harmonies –, et par la superposition de différentes subdivisions engendrant des « cycles réguliers de vitesses différentes ». Enfin, le surgissement d'un bref palindrome dans l'antépénultième section de l'œuvre, mémoire de *Trace-Ecart*, et la recherche d'une continuité brisée et d'un discontinu interne, résurgence d'une problématique latente depuis *Instantanés*, apparaissent comme les principes majeurs de *Congruences*.

Laurent Feneyrou, programme ManiFeste 2015.

Version documentation creation date: March 31, 2015, 10:24 a.m., update date: May 6, 2021, 3:09 p.m.