

Music for Flute & ISPW

(IRCAM Signal Processing Workstation)

by Cort Lippe

1994

Commissioned by François Bru and the French Section of the
International Society of Music Educators

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Program Notes

Music for Flute and ISPW (*IRCAM Signal Processing Workstation*) (1994) was commissioned by the French flutist François Bru and the French Section of the International Society of Music Educators, realized at IRCAM in Paris, and premiered in Tampa, Florida at the 1994 International Symposium of Music Educators. The electronic part was created using the IRCAM Signal Processing Workstation, (a real-time digital signal processor), and the program *Max* which was developed by Miller Puckette, whose technical support, along with Zack Settel's musical advice, helped make this piece possible.

Technically, the flute pitches are tracked by the computer as the performer plays. This pitch information is sent to a "score follower", which allows the computer to follow the player's performance by comparing it to a copy of the score which is stored in the computer. At specific points designated in the score, electronic events are triggered by the score follower. The computer also tracks other parameters of the flute, such as amplitude, continuous pitch change, rests, articulation, timbre, tempi, etc., and uses this information to trigger specific electronic events, and to continuously control all the sounds (that is to say, the digital synthesis algorithms running in the computer). In this way, the player triggers and controls the computer output of this piece during performance.

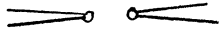
Some of the sounds in the electronic part come directly from the composed flute part, and are transformed by the computer in real time during the piece. Thus, in certain cases, the musical and sound material for the instrumental and electronic parts are one and the same. Sound material other than the flute is often manipulated via time-stretching and granular sampling. Cross synthesis, and other more standard signal processing such as harmonizing, frequency shifting, phasing, spatialization, etc. are also employed. The instrument/machine relationship moves constantly on a continuum between the poles of an "extended" solo and a duo. Thus, musically, the computer part is sometimes not separate from the flute part, but serves rather to "amplify" the flute in many dimensions and directions; while at the other extreme of the continuum, the computer part has its own independent musical function.

This piece is influenced by and dedicated to the people and the extraordinary musical cultures of Burundi and Rwanda, which I hope will survive present conflicts.

Duration: 14 minutes.

Performance Notes

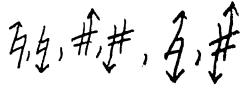
accidentals hold for the entire beat (unless otherwise changed)



al niente, dal niente



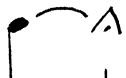
trill or tremolo with the note(s) in parenthesis (if the notes inside and outside of the parenthesis are identical then trill with the same note using two different fingerings)



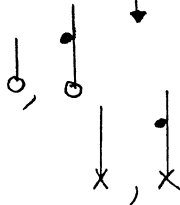
quarter-tone above or below, oscillate between 1/4 tone higher and lower (approximate), following the graphic description of widening or narrowing range



accelerando note-group, *ritardando* note-group, play note-group without precise respect for the notated rhythm

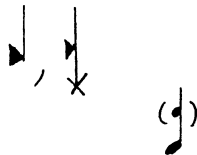


strongest *sfz* note-release possible



tongue-ram

air-current noise only slightly pitched, pitched air-current noise



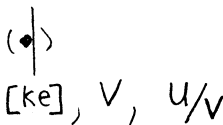
percussive key slap on indicated pitch, percussive key slap and *normale* played note simultaneously

tongue *pizzicato*, tongue *pizzicato* plus percussive key slap



overblow the octave (or even more depending on context)

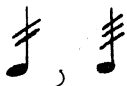
multiphonic sound based on the notated pitch. Multiphonics should be chosen by the player based on the notated pitch under the multiphonic sign. The strength of a multiphonic's spectral content is specified by the darkness of the rectangle above the note, thus: a clear rectangle indicates no multiphonic, half-filled is medium strength, and a completely filled-in rectangle indicates a multiphonic with maximum strength. The arrows indicate moving smoothly to and from a multiphonic while holding the notated pitch.



whisper (unvoiced) the notated syllables into the flute while fingering the notated pitch, voiced whisper into the flute while fingering the notated pitch, combine unvoiced and voiced whispering freely



sing indicated pitch while playing



double tongue, flutter-tongue



electronic event number

♩ ≈ 84-92 ① EVENT

Flute in C

(SECTION 1)

pp sub. ff p pp sub. ff p

pp sub. ff p pp sub. ff pp ff

pp < p ff pp mp pp

sfz mf mp sfz mf (mf) sfz pp mp (sfz) mp (subito)

pp mp (sfz) mp sfz mp pp f mp < f (poco stacc)

(SECTION 2)

sfz pp pp ff pp ff mp < f ff

④

pp ff p ff mp sfz mf (rall.)

⑥

accel. poco ⑦ (a tempo)

f ff mf pp ff

pp ff pp ff mp ff mf f mp

⑧

(rall.) (rall.) mf p

[ke-pe]

⑩

mf f (poco) ① (a tempo)

(SECTION 3)

pp (sfz) p (sfz) p (sfz)

②

pp sfz sfz sfz sfz mf sfz ff mp f sub. sfz

③ accel. (poco)

(a tempo)

mp sfz mp [ke-pe-te] (poco)

④

p ffp sfz sfz

⑤ (rit. poco) ⑥ accel. ⑦ (a tempo)

p sfz sfz ff mp ff mf

⑧ (poco)

mf f mp [ke-pe-te] (poco)

① molto lento (SECTION 4)

p (mf) p (sim.) p

subito (a tempo) ② accel. un poco →

sfz sfz sfz mf f

(a tempo) ③

(f) mp [ke-pe-te-pa]

④

f p sfz p sfz sfz sfz sfz sfz

⑤ accel. ⑥ (molto)

sfz sfz sfz mf fff

⑦

Electronic Interlude A (SECTION 5)

① *tr molto lento* p <mp> p <mp> ffp

(wait for silence)

② *tr* <mp> p <mp> p ③ *subito (a tempo)* sfz sfz

④ (a tempo)

sfz sfz sfz f > mp (rall. molto) p mp [ke-pe-te-pa-du]

⑤ *sfz sfz sfz* *mp* *mp* *f* *accel.*

⑦ *accel.* *ff* *mf* *f* *ff* *sfz* *fff* ⑧ (a tempo) ⑨ *accel.* ⑩

⑪ (rall. molto) (molto) *Electronic Interlude B* (SECTION 6) (wait for silence) ① (a tempo) [ke-pe-te] [S] *mf* (*sfz*)

mf *mf* *p* *p* ②

③ *f* *ff* *p* *mf* *f* ④ (a tempo) ⑤

⑥ *accel. poco* *ff* *p* *mf* ⑦ (a tempo) ⑧ *accel. molto*

acc. molto → ⑨ *ff* → *mf* → (poco) *(al niente)* ⑩

① *Lento* → *acc. poco a poco* → *a tempo* ②

SECTION 7

mf [S] [ke-pe-te] [ke-pe-te pa-du] *sffz*

③

mf *sffz* *sffz* *sffz* *ff* *p*

④ *acc. molto* → ⑤ (*a tempo*)

mf *ff* *p*

⑥ *acc. molto* → ⑦ (*a tempo*)

mf *fff* *p*

⑧ *acc. molto*

mf

Handwritten musical score for violin, consisting of 24 numbered measures. The score includes various dynamics, articulations, and performance instructions.

Measure 9: (a tempo) *fff* *mp* *mf* *acc. molto*

Measure 10: *8va* *acc. molto*

Measure 11: *sempre accel. molto* *fff* *sempre accel.*

Measure 12: *8va* *fff* *3* *sfz* *mf* *Loco non (non a tempo)*

Measure 13: *acc. molto* *Non Loco* *8va*

Measure 14: *8va* *non loco* *sempre accel. molto* *fff* *sempre accel.* *3*

Measure 15: *8va* *sempre accel.* *ff* *3* *3* *3* *fff* *ff* *cresc...*

Measure 16: *3* *fff*

Measure 17: *8va* *3* *fff* *ff* *fff*

Measure 18: *8va* *ff* *3* *fff*

Measure 19: *3* *fff*

Measure 20: *7* *deves. poco a poco...*

Measure 21: *8va* *21* *rall. poco a poco...* *6* *4* *5* *3* *3* *mf*

Measure 22: *molto rall...*

Measure 23: *23* *mf*

Measure 24: *24* *ELECTRONIC INTERLUDE C* *(fitz.)* *(attacca at end of interlude)*

♩ 58-62 *accel poco a poco* →

①

(SECTION 8)

(a tempo) *poco stacc.* →

②

(ff) *mf* [ti-pe-da-ba-du-ba-da] [tu-pe-du-pe-da-ba] [ke-pe-te] *mp*

③

(non-stacc.) *mp* f *mp* [5] *mp* mf *mp* [ke-pe-te] (poco stacc.)

⑤ *accel poco a poco* →

④

(mp) [ke-pe-te-pa-du] [ke-pe-te-pa-du-ba-du] *ff*

⑥ (poco stacc. et a tempo)

⑥

[ti-pe-da-ba-du-ba-da-ba] [ke-pe-te-pa-du-ba] *mp*

(non-stacc.)

(poco stacc.)

⑦

mp f *mf* *mp* [5] *mp* [ke-pe-te] [tu-pe-du-pe-da-ba-du] *ff*

9 *accel* → *rit* → 8 10 (a tempo) *attacca* →

ff 8 9 *less pitch* (SECTION 9)

mp (*rit // un poco*)

1 (poco stacc.) (non stacc.) (poco stacc.)

(mp) *ff* *mp* *ff*

[ka-pa-tu-pe-ti-pi-ta] [ke-pe-te-pa-du] [S] [ti-pe-da ba-du-ba-da]

2 (molto rapido) (a tempo) 3 (poco stacc.)

(ff) *mp*

[tu-pe-du-pe-da-ba-tu-pe-du-pe]

4 (molto rapido) (a tempo) (poco stacc.) (non stacc.)

ff *mp*

[ti-pe-da-ba-pst-te-ba]

5 (simile) (poco stacc.)

ff *mp*

[ka-pa-tu-pe-ti-pi] [S-pe-te-pe]

6 7 8

ff *mp* *ff* *mp*

[ke-pe-te-pa-du-ba-du-ba-di] [x-x-x-x-x-x-x-x]

u/v
-page 9-
(unclear syllables - random muttering)

Handwritten musical score for piano, measures 1-5. The score is written in treble and bass clefs. Dynamics include *mp*, *sfz*, and *mp*. A circled number 8 is present above the staff. Below the staff, there are rhythmic patterns in brackets: [x-x-x-x-], [x-x-x-x-x-x-x-x], [x-x-x-x-x-x-x], [x-x-x-x], and [x-x-x-x]. The letter 'u/v' is written below these patterns. The word '(normale)' is written above the staff in the first and fifth measures.

Handwritten musical score for piano, measures 6-9. Dynamics include *mp*, *sfz*, and *mp*. A circled number 9 is present above the staff. Below the staff, there are rhythmic patterns in brackets: [x-x-x], [x-x-x-x-x], [x-x-x], and [x]. The letter 'u/v' is written below these patterns. The word '(normale)' is written above the staff in the first measure. At the end of the system, the dynamics *ff mp ff mp ff* are written.

Handwritten musical score for piano, measures 10-11. Dynamics include *mp ff mp ff*, *mp ff mp ff mp ff mp ff*, and *fff*. A circled number 10 is present above the staff. The word 'attacca' is written above the staff with an arrow pointing to the right. The text '(SECTION 10)' is written below the staff.

Handwritten musical score for piano, measures 12-15. Dynamics include *mp ff mp ff mp ff mf mp ff mf mp ff mp*. Circled numbers 1 and 2 are present above the staff.

Handwritten musical score for piano, measures 16-19. Dynamics include *mf*, *ff*, *mf*, *ff*, *mf*, *ff*, *f*, and *mf ff*. A circled number 3 is present above the staff. Trills are marked with 'tr' and 'b' above notes.

Handwritten musical score for piano, measures 20-23. Dynamics include *ff*, *f*, *ff*, *mp*, *f*, *mp*, *ff*, *mp*, and *mf*. A circled number 4 is present above the staff. Trills are marked with 'tr' and 'b' above notes.

⑤

ff mp ff mf mp f ff

⑥

mf mp f ff mp ff > mf

⑧ poco più lento (a tempo)

mp mf f ff f mf mp f ff f ff

⑩ più lento (a tempo)

f mf mp mf f mf ff

⑪ lento (a tempo)

mf ff mp > p ff f ff mf mp

⑫ molto lento

> p