

Study 5

Rhythmic Study for Brass quartet: Trumpet, Trombones and Tuba

Alejandro Franco-Briones

The number 5 in the title of this rhythmic study does not represent an index that denotes other four previous similar pieces, it describes a relevant structural aspect of the work. The main structural device of the present work is a recursion process found in the metric values in which a measure of $7/8$ is repeated three times as a first state, in the second iteration the numerator diminishes one unit as the number of bars augments by one as well: $6/8 \times 4$, etc. The recursion process is repeated five times, until it becomes the exact opposite of the first idea: $3/8 \times 7$. A mirror image is juxtaposed to the aforementioned one starting with an explicit attack every three quavers seven times with the inverse recursive process (next state would be 6 quavers repeated 4 times, etc). A broad interest of the work relies on the tension between these two metric ideas that create four different poly-metric textures plus an unanimity (or convergence) in the $5/8$ measure in which a free use of rhythm is often proposed.

The macro-form of the work is of a pseudo-fractal nature and it is defined by three proportional temporal modulations. A quintuplet in the first section (with a tempo of 90 bpm per crotchet) reveals the temporal proportions of the next section in which the value of the crotchet becomes 113 bpm. A second temporal modulation occurs in the same way; from this point forward the number of bars per measure bar are doubled (instead of 7, 14, etc). At the coda the crotchet as quintuplets mark a final modulation to a proportion very close to the starting 90 bpm: 88 bpm roughly. The metric material of the coda is simultaneously the next and previous state in the metric iteration process as it denotes a $2/8 \times 8$ or it may as well be $8/8 \times 2$; such strategy is similar to the finishing and opening lines of James Joyce's work *Finnegans Wake*.

The macro-form in the given study depends in the micro-formal gestures that take place at rhythmic level; in this way the form is contingent to the material reality of the proposed work but not as a continuous flow, paradoxically form becomes circular by linear processes of iteration and recursion. A repetition that becomes different by contingency.

The texture that emerges from the tension between the juxtaposed rhythmic and metric processes is rich and intuitive. It successfully keeps the structural level of the work suggested rather than evident. A topological music that spatialises time is produced in which form relies in other aspects.

Instructions for the performance

Tempo, metre and rhythm

A click track for studying and performing purposes may be provided with the score however it is not encouraged as the temporal proportions and modulations of the work may be extrapolated from the score and the initial tempo.

 Indicates the new tempo of the work from the given bar.



Indicates the proportional relationships of the previous with the actual tempo. In this case a crotchet of a quintuplet in the previous tempo is equivalent to the value of a crotchet in the new tempo.

Transposition

The trumpet part is written in transposed pitch, this means that the written pitch sounds a major 2nd lower than the written note.

General timbre modification techniques



1. Flutter-tongue. Creating a tremolo effect articulating the consonant sound [rr].



2. Growl. Creating a tremolo effect by emitting a deep throat growl while playing.



3. Half-valve. Pressing half way the valves needed to produce the indicated pitch generating a pitch distortion and/or instability.



4. Producing a wide, exaggerated and expressive vibrato shaking the hand pressing the valves. The effect should invoke the trumpet style of mambo, specially Perez Prado band, and mariachi.

5. From bars 38-42, the straight or cup sordina is used. ‘+’ is a fully stopped sordina and ‘o’ is a fully open. The line that joins the two signs means that a gradual change between states should be produced in the most expressive form possible.

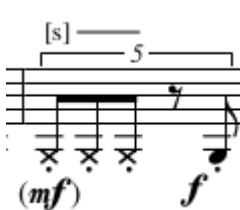
6. Small diamond-shaped note-heads denote singing into the instrument with an approximated pitch to the one indicated in the score.



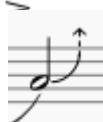
7. Lip glissando. Glissando provoked by lip pressure.



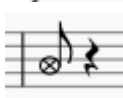
8. Percussed valve effect. Pressing the valves strongly generating a percussive sound. No pitch or tone should be produced. The indicated pitch is a reminiscence of previous tone sounds in order to create continuity in the musical discourse.



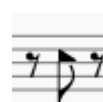
9. The [s] and [k] over the staff indicates the gesture indicated in the staff should be complemented by producing a [s] or [k] consonant sound and blowing into the mouthpiece regardless if tones are produced. The sounds should be produced respecting the rhythmic idea of the gesture. E.g. in the case of the image to the left case three [s] sounds should be produced with the quavers and the percussive valve effects.



10. Squeeze effect. An ascending glissando produced with a single attack that projects the sound up the overtone series used to produce the given tone.



11. Percussive bubble. A percussive sound produced by striking the mouthpiece hole with the extended palm of the hand and fingering the given tones. The sound should be a “popping” percussive effect.



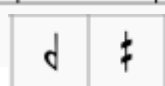
12. Triangular note-head denotes a percussive effect produced by thrusting the tongue vigorously into the mouthpiece creating a vacuum effect.



13. A rectangular and white note-head denotes an air sound using the trumpet as a resonating body amplifying it. No real tones should be produced with the sound.



14. Air-sound with an [s]. No real tones being produced.



15. Microtone indications. Quarter tone lower and quarter tone higher respectively.



16. A rhythmically irregular growl as described in point 2.

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$\text{♩} = 90$

Trumpet in B♭

Trombone I

Trombone II

Tuba

11

Tpt. B♭

Tbn. I

Tbn. II

Tba.

23

Tpt. B♭

Tbn. I

Tbn. II

Tba.

37

Tpt. B♭

C.S. S.S. a tempo lip gliss.

Tbn. I

C.S. S.S. a tempo growl

Tbn. II

C.S. S.S. a tempo growl ft

Tba.

a tempo growl

mf f mf < f mp < f mf f mf

mf f mf < ff mp < f mf f mf

sfz mf^v f

48

Tpt. B♭

Shake Vibrato

f ff p

Tbn. I

ft f mp p sfz mp p

Tbn. II

ft pp f mp p sfz mp p gliss.

Tba.

growl mp p mp mf p

59

Tpt. B♭

pp f (mp) f (mp) (mf) f

Tbn. I

pp f

Tbn. II

pp f

Tba.

sfz mp f v (mf) f

68

Tpt. B♭

Tbn. I

Tbn. II

Tba.

79

Tpt. B♭

Tbn. I

Tbn. II

Tba.

94

Tpt. B♭

Tbn. I

Tbn. II

Tba.

Cantabile

107

Tpt. B♭

Tbn. I

Tbn. II

Tba.

mf^v

gliss.

f *mf* *f* *mf*

fp *f*

sfz *mp* *mf* *f* *ff*

115

Tpt. B♭

Tbn. I

Tbn. II

Tba.

[s]— [s]— [s]— [s]— [k]— [k]—

mp

ft *ff* *mp* *fp* *mf*

ff *mp* *f*

mp *f* *mf*

123

Tpt. B♭

Tbn. I

Tbn. II

Tba.

mp *p* *mf* *f*

gliss. *mp* *f* *ff* *mp* *mf* *f*

f *ff* *mp* *mf* *f*

growl *mp* *súbito f* *ff* *mp* *f*^v

134

Tpt. B♭

Tbn. I

Tbn. II

Tba.

ff *mf* *fff* *sfz*

ff *mf* *fff* *sfz*

f *ff* *fff* *sfz*

ff *mf* *fff* *sfz*

146

Tpt. B♭

Tbn. I

Tbn. II

Tba.

a tempo

espressivo tempo rubato

p *mp* *p* *pp*

mp *p* *mp* *pp*

espressivo tempo rubato

mp *p* *mp* *pp*

158

Tpt. B♭

Tbn. I

Tbn. II

Tba.

pp *mp* *mf*

mf

pp *mf*

mf *sfz*

172

Tpt. B♭

Tbn. I

Tbn. II

Tba.

pp *ff* *p* *ff* *p* *ff* *mp* *mf*

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

pp *ff* *mp* *ff* *mp* *ff* *pp* *mp*

mf *ff* *p* *ff* *sfz* *mp* *sfz*

185

Tpt. B♭

Tbn. I

Tbn. II

Tba.

mp *f* *mf* *f* *mp*

mp *f* *mf* *f* *mp*

mf *mf* *mf* *f* *mp*

mf *mp* *f* *mf* *sfz* *mp*

195

Tpt. B♭

Tbn. I

Tbn. II

Tba.

f *ff*

f *ff* *mf*

f *ff* *mf*

f *ff* *mf*

Tpt. B \flat *mf*^v *mp* *f* *ff*

Tbn. I *mp* *f* *ff*

Tbn. II *mp* *f* *ff*

Tba. *mp* *f* *ff*

$\text{♩} = 88$ (tempo primo ma un po sostenuto)

213

Tpt. B \flat *p* *fff*

Tbn. I *p* *fff*

Tbn. II *p* *fff*

Tba. *mp*^v *ff* (as loud as possible)