

Jarkko Hartikainen

# Radix

a brass quintet

2013-14

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Helsinki, 2015

**Music Finland**

Jarkko Hartikainen

# Radix (2013–14)

a brass quintet

13 min.

*Commissioned by Ensemble Schwerpunkt*

*with funds by the Madetoja Foundation (Madetoja-säätiö)  
and the Swedish Cultural Foundation in Finland (Svenska kulturfonden)*

Trumpet in C	practise mute, cup mute
Trumpet in Bb	practise mute, cup mute
Horn in F / Bb	stop mute
Tenor Trombone	cup mute, harmon mute
Tuba (in F)	practise mute

all extended techniques are explained in the score, upon occurrence

questions, sound samples, parts, and further commissions: [jhartika@gmail.com](mailto:jhartika@gmail.com)

*Please thanks to brass players Miikka Saarinen, Annu Salminen, Sakari Kekola, Janne Ahonen, Max Murray and Matthew Brown for their invaluable help during the composition process. I owe you guys so many drinks (and perhaps solo pieces). I also like to extend my thanks to Bill Forman, Douglas Hill, Stephen Altoft, Mike Svoboda and Charlie Porter, all who, although mostly unaware, helped and inspired me a great deal in my quest with all things brass, primarily through recorded and written media. My final thank you must go to the tubist Harri Lidsle for believing in me enough to recommend me to Ensemble Schwerpunkt as a promising young Finnish composer they should commission.*

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## Radix

(lat. 'root', the number of unique digits in a positional numeral system, ie. 'base')

Quite early in the composition process of my brass quintet Radix (2013), it became clear that the brass instruments have many interesting possibilities hidden inside them. With the help of several broad-minded brass players in my geographically most immediate circle of musicians, we investigated the possibilities by starting truly from the root of the matter: air, tubes, vibrations. Later: combining, applying, repositioning.

Radix was commissioned by the remarkable Ensemble Schwerpunkt (Switzerland), with funds provided by Madetoja Foundation (Madetoja-säätiö) and Swedish Cultural Foundation in Finland (Svenska kulturfonden). It is dedicated to the members of Ensemble Schwerpunkt: Janne Jakobsson (né Ahonen), Matthew Brown, Cecilie Hoel, Mikael Rudolfsson, and Matthew Sadler.

(c) Jarkko Hartikainen



# Radix

5'n Blechbläserquintett

Jarkko Hartikainen 2013–14

$\text{♩} = 90$

"Helicopter" Air tones  
(mouthpiece ord., tongue attacks)

Trumpet 1 (C) *f* "Helicopter" Air tones (mouthpiece ord., tongue attacks) Bell position: L (facing the audience) → R (away from audience)

Trumpet 2 (B $\flat$ ) *f* "Helicopter" Air tones (mouthpiece ord., tongue attacks) Bell position: L (facing the audience) → R (away from audience)

Horn in F inhale violently (as in shock) hh(a) *p* Air tones (mouthpiece reversed) Unisono tremolo between a normal and a tubular tone Unisono tremolo between a normal and a tubular tone apply stopped mute, prepare the next tubular tone

Trombone *p* Hand pops *fp* remove mouthpiece, reverse it *fp* Air tones (mouthpiece reversed)

Tuba *mf* Air tones (mouthpiece reversed)

9 Tpt. 1 (C) R (facing the audience) L (away from audience) → R (facing the audience) L (away from audience) → R (facing the audience)

Tpt. 2 (B $\flat$ ) L (facing the audience) → R (away from audience) R (away from audience) L (facing the audience) → R (away from audience) L (facing the audience) → R (away from audience)

Hn. *f* *f* *f* Unisono tremolo between a normal and a tubular tone stop mute *p*

Tbn. *p* *fp* *p* *f* *p* put mouthpiece back on

Tuba *p* *fp* *p* *f* *p*

14 Tpt. 1 (C) L (away from audience) → R (facing the audience) 3 L (away from audience) → R (facing the audience) 6 L (away from audience) → R (facing the audience) 6  $\text{♩} = 60$  listen for the high, "whistling" combination tone created by the trombonist whistle  $\text{♩} = 63$  this is approximately the tone that should ring

Tpt. 2 (B $\flat$ ) L (facing the audience) → R (away from audience) 3 L (facing the audience) → R (away from audience) 3 6 L (facing the audience) → R (away from audience) 6 5

Hn. *mf* put the removed slides (for tubular tones) back on *f* *p* "wa wa" by finger into (+) and out of (o) the bell end of the mute remove mute *mf* Hand pops

Tbn. *p* *f* *p* Playing and singing (half-valve with P4) singing rhythm free: as needed to find the 7th partial *mf* Split tones + singing

Tuba *pp* Playing and singing (aim for even 32-note beating) *p* singing and playing *p* ossia *p*

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19

apply practise mute

Practise mute

*pp*

Tongue Slaps (sounds an octave lower)

Air tones (mouthpiece on)

123 3VS

123 3VS

ossia: tongue slaps

*p*

mf

mouth position: o-i-o-i - o-i-o-i-o-i-o-i-o-i-o-i-o-i-o-i - i - o

playing and singing

*p*

24

*f*

*pp*

*f*

Air tones (mouthpiece on)

Air tones (mouthpiece reversed)

put the mouthpiece back on, face the instrument downwards, the slide resting on the floor

Hand pops

ossia: tongue slaps

*p*

29

*pp*

apply practise mute

Practise mute

Split tones

*p*

*p*

Hand pops

ossia: tongue slaps

3

6/16 6/16 4/8

6/16 6/16 4/8

6/16 6/16 4/8



37

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

change to Cup mute

change to Cup mute

Playing and singing (aim for even 16-note beating) sing 8va if necessary

resume normal playing position remove mouthpiece, reverse it

Air tones (mouthpiece reversed)

Air tones (mouthpiece reversed)

remove mouthpiece, reverse it

C

43

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

Cup mute (closed)

Cup mute (closed)

*fp* *ff* *f* *p* *mf* *p* *ff* *p* *f* *fp* *ff*

*fp* *p* *f* *p* *f* *p* *f* *mf* *f* *5*

*p* *f* *p* *mf* *p* *fp* *f* *p*

47

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

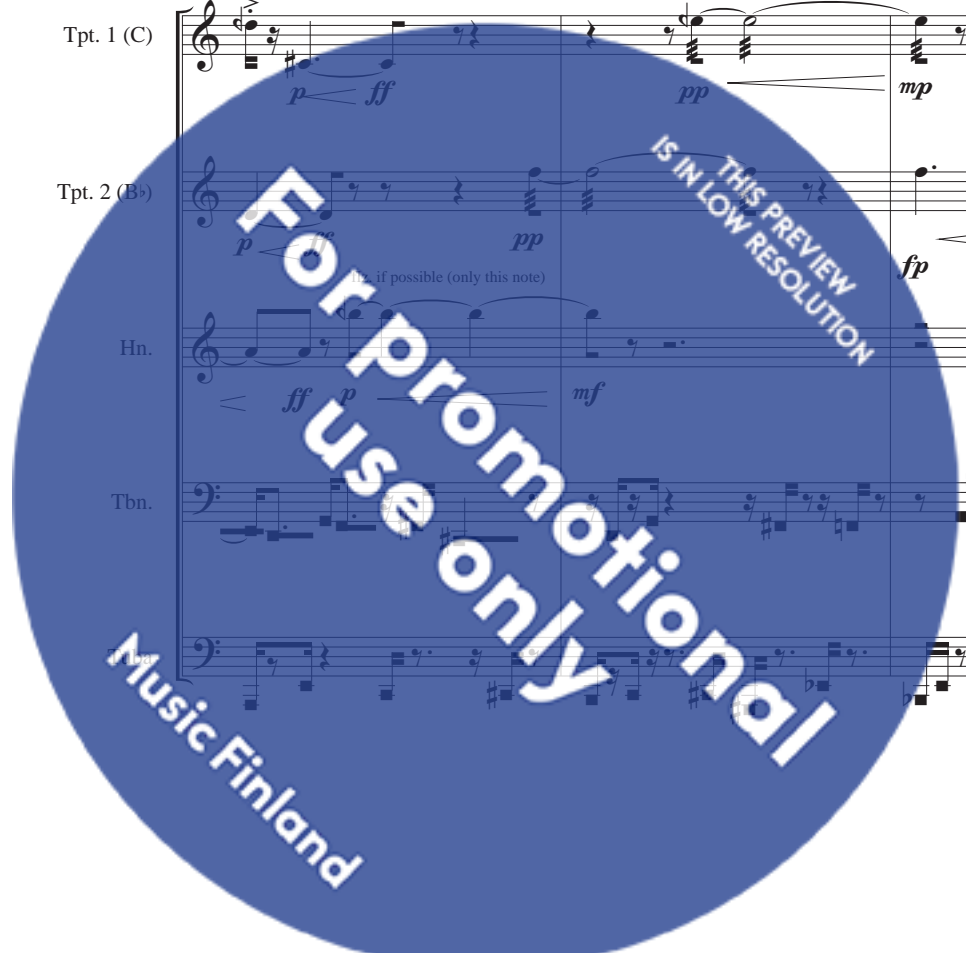
Tuba

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

*p* *pp* *fp* *f* *p* *f* *f* *f* *f* *pp*

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

*mf* *pp* *p*



52 *accelerando al-----*

Tpt. 1 (C) *f* *p* *f* *p* *mf* *p* *mf* *p* *f* *fp*

Tpt. 2 (B $\flat$ ) *ff* *p* *mf* *p* *pp* *f* *p* *pp* *mf* *fp*

Hn. *mf* *mf* *fp*

Tbn. *mf*

Tuba *mf*

remove mute

put mouthpiece back on

ord.

**D**

$\text{♩} = 72$

56

Tpt. 1 (C) *f* *fp* *f* *fp* *f* *mf* *ff* *pp* *mf* *fp* *pp* *f*

Tpt. 2 (B $\flat$ ) *f* *fp* *f* *fp* *f* *mf* *ff* *pp* *mf* *fp* *pp* *f*

Hn. *f* *fp* *f* *p* *f* *p* *f* *mf* *mf* *ff* *f* *p* *ff*

Tbn. *f* *fp* *f* *p* *f* *p* *f* *mf* *mf* *ff* *f* *p* *ff*

Tuba *mf* *f* *mf* *mf* *ff* *mf*

ord.

ord.

62

Tpt. 1 (C) *ff* *fp* *ff* *fp* *ff* *mf* *f* *p* *ff* *mf* *f* *p* *f* *p*

Tpt. 2 (B $\flat$ ) *ff* *fp* *ff* *fp* *ff* *mf* *f* *p* *ff* *mf* *f* *p* *f* *p*

Hn. *p* *ff* *f* *fp* *f* *p* *f* *f* *p* *f* *p* *f* *p* *f*

Tbn. *p* *ff* *fp* *f* *p* *f* *f* *p* *f* *p* *f* *p* *f*

Tuba *ff*

Air tones (mouthpiece reversed)







85  $\text{♩} = 60$   $\text{♩} = 63$

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

*ppp*

*ppp*

*ppp*

*8va*

*ppp*

pick the tempo from the previous measure (beating in the trumpets)

**F**

Air tones (mouthpiece reversed)

Air tones (mouthpiece reversed)

put mouthpiece back on

Hand pops

Hand pops

Hand pops

92

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

101

Tpt. 1 (C)

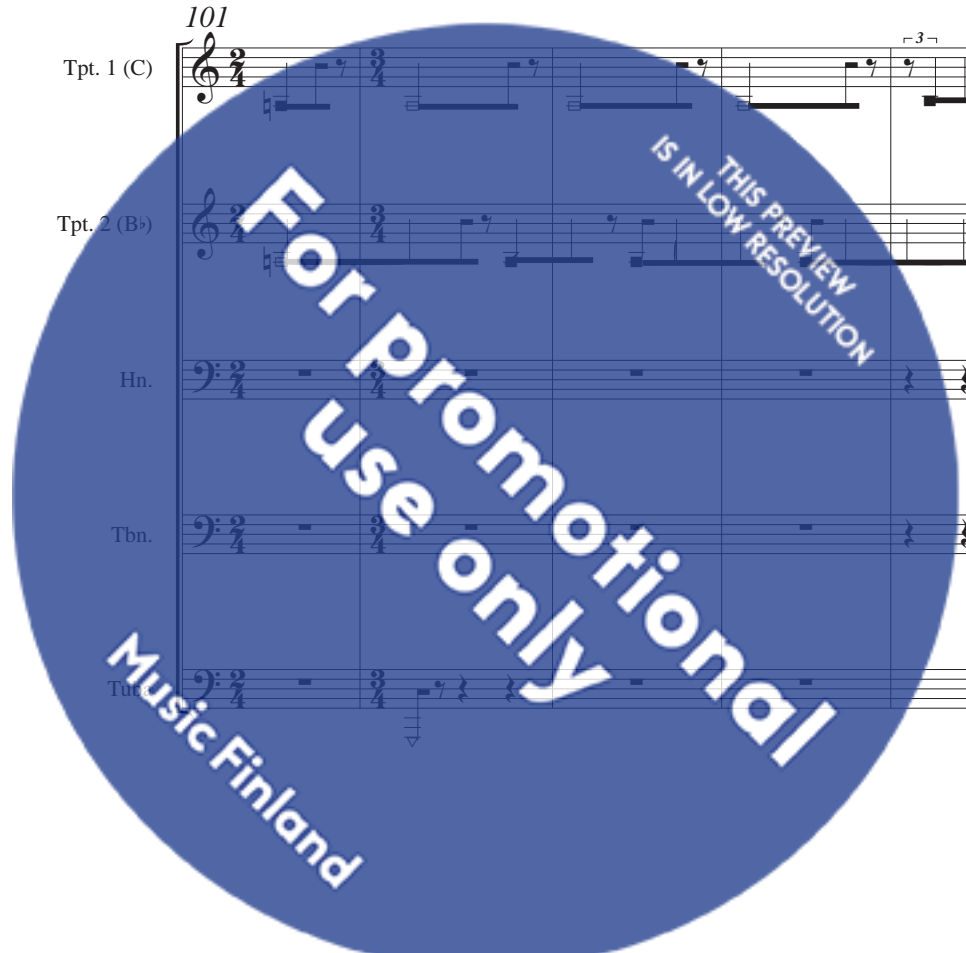
Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

*r3*



110

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

116

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

**G**

Air tones (mouthpiece reversed)

ord.

*ff*

apply practise mute

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

repeat as many times as needed for the tubist to put the sordino on (min 3x)

124

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

**H**

$\text{♩} = 78$

Air tones (without mouthpiece)

Air tones (mouthpiece reversed)

Tongue slap (sounds 8vb)

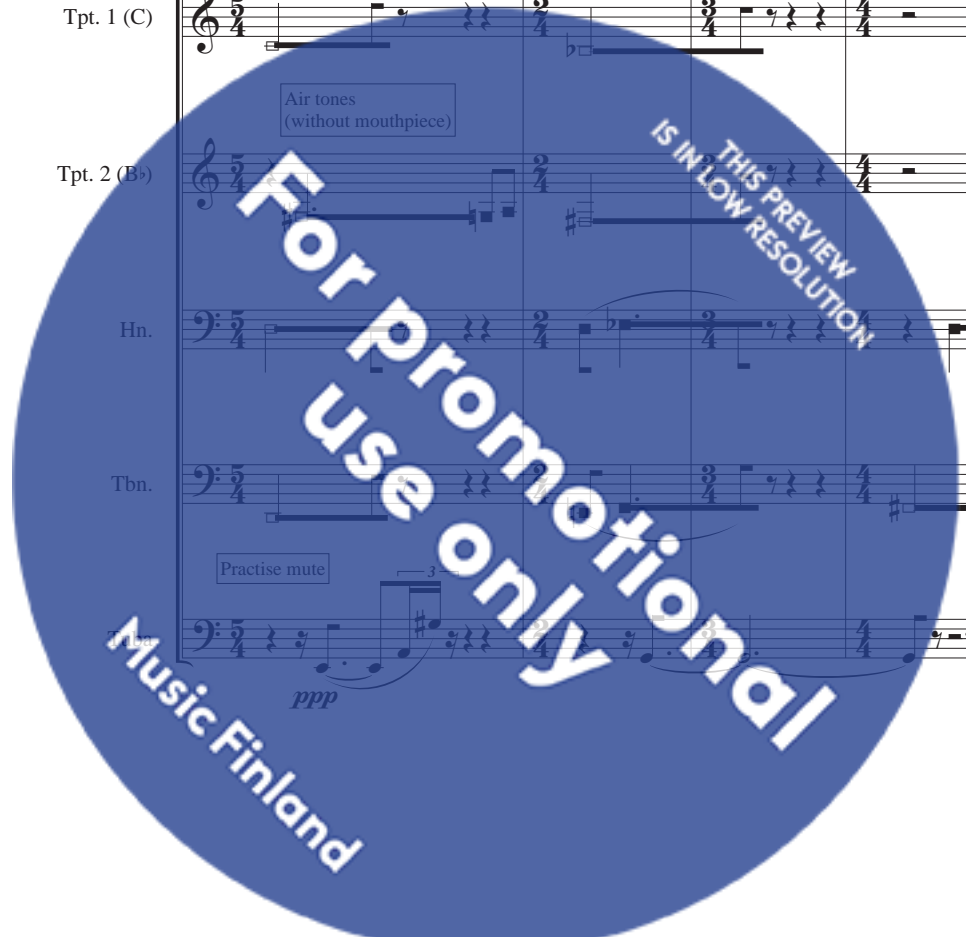
ord.

Practise mute

*ppp*

*ppp*

4x



I

134

Air tones (without mouthpiece)

Air tones (mouthpiece on)

Air tones (mouthpiece on)

Air tones (mouthpiece on)

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

stop mute

ord.

Cup Mute (closed)

ord.

*p*

*mf* *p*

*p* < *mf*

*ff*

*ppp*

*ppp*

144

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

Harmon mute (w/stem)

mute off

*pp*

*ppp*

*mf*

*ppp* < *f*

*ppp* < *p*

*pp*

*ppp* < *f*

*ppp*

153

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

Harmon mute (w/stem)

ord.

*mf*

*p*

*p*

*f*





K

182

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

188

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

191

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba



194

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

197

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

202

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba



M

207

Tpt. 1 (C) *fp* *f* *mf*

Tpt. 2 (B $\flat$ ) *fp* *f* *mf*

Hn. *fp* *f* *p* *ff* *p da lontano*

Tbn. *fp* *f* *p* *ff* *p da lontano*

Tuba *pp*

8va

211

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

Hand pops

N

216

Tpt. 1 (C) *p*

Tpt. 2 (B $\flat$ ) *p*

Hn. *mf*

Tbn. *mf*

Tuba

$\text{trio} = \text{trio} \quad \text{trio} = 117$

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221

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

Hand pops

"Helicopter" Air tones  
(mouthpiece ord., tongue attacks)

226

Tpt. 1 (C)

Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

O

230

Tpt. 1 (C)

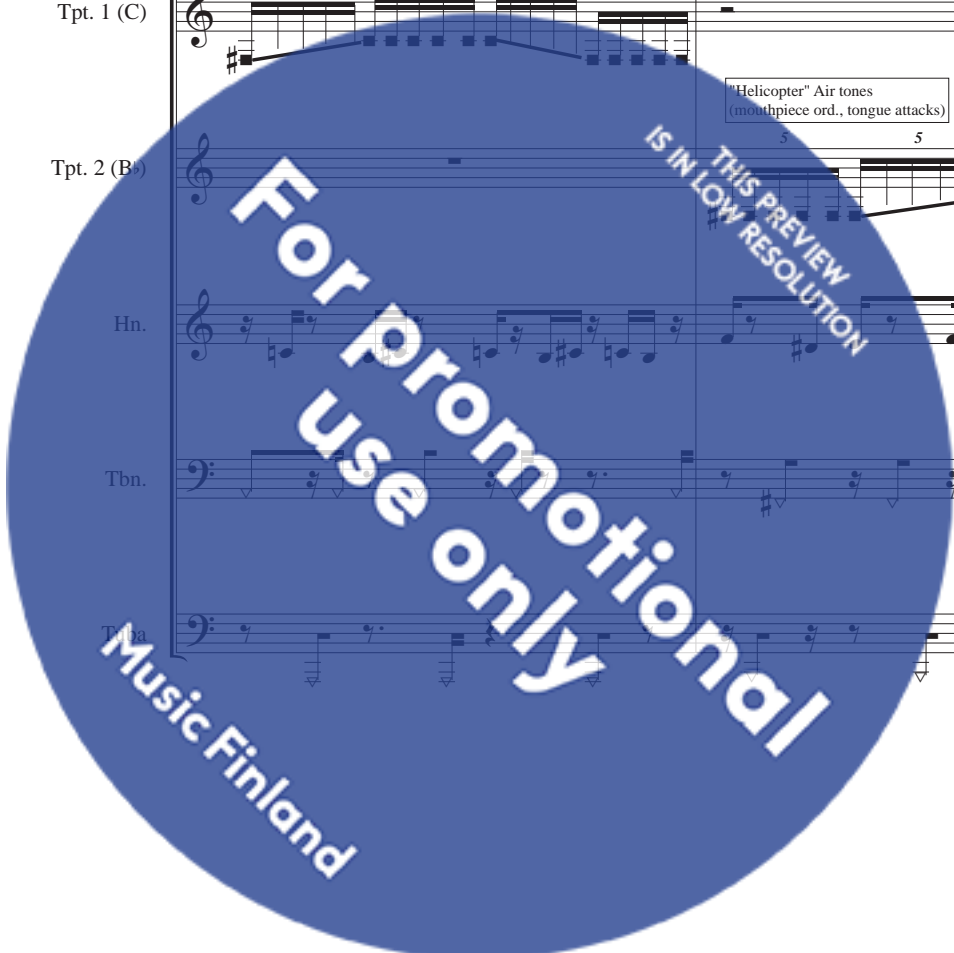
Tpt. 2 (B $\flat$ )

Hn.

Tbn.

Tuba

"Helicopter" Air tones  
(mouthpiece ord., tongue attacks)



234

Tpt. 1 (C)

Tpt. 2 (Bb)

Hn.

Tbn.

Tuba

239

Tpt. 1 (C)

Tpt. 2 (Bb)

Hn.

Tbn.

Tuba

P

Hand pops

Hand pops

Hand pops

245

Tpt. 1 (C)

Tpt. 2 (Bb)

Hn.

Tbn.

Tuba

3

正  
本  
小  
在