

Marco Buongiorno Nardelli

String Quartet n. 1

Circle Limits

after M.C. Escher

Violoncello

Movement n. 1 - Circle Limit II

intersections on the hyperbolic plane

Movement n. 2 - Circle Limit III

every line is a circle passing through infinity

Movement n. 3 - Circle Limit IV

on the harmony of the celestial spheres

Movement n. 1 - Circle limit II

intersections on the hyperbolic plane

In this first movement, the violin and the cello trade “intersections” with each other in a free space of events. Each of the nine episodes evokes the dynamics of encounter and separation as for two curves that intersect in a point (the greek letter of the episodes’ titles) on a hyper-geometric space to then separate themselves to infinity. Inspired by the woodcut *Circle Limit II* by M.C. Escher.

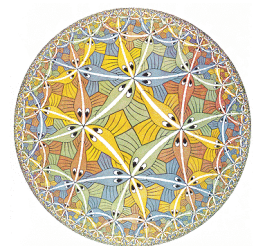


M.C. Escher,
Circle limit II,
woodcut, 1958.

Movement n. 2 - Circle limit III

every line is a circle passing through infinity

The abstract hyperspaces of non-euclidean geometry are the inspiration for the second movement. As a traveller who accelerates to relativistic velocities will see the pattern of constellations as seen near the Earth continuously evolve according to infinitesimal transformation of dilations, translations and inversions, so the music follows a cyclic patterns where time and structure modulation displace the musical material in a continuously varying contrapuntal landscape. If we define a line to be a circle passing through infinity, then it can be shown that all these transformations map circles to circles, in a continuous, infinite series, as brilliantly exemplified in the woodcut *Circle Limit III* by M.C. Escher.

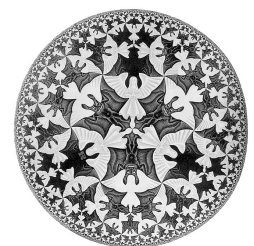


M.C. Escher,
Circle limit III,
woodcut, 1958.

Movement n. 3 - Circle limit IV

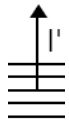
on the harmony of the celestial spheres

This last movement is based on a pitch set that encompasses all the musical intervals corresponding to the pythagorean definition of the music of the celestial spheres. From the Earth to the sphere of the fixed stars it goes like: Earth to the Moon, one whole step; Moon to Mercury, half step; Mercury to Venus, half step; Venus to Sun, minor third; Sun to Mars, whole step; Mars to Jupiter, half step; Jupiter to Saturn, half step; Saturn to fixed stars, a minor third. These intervals result in the so-called Pythagorean scale: C,D,Eb,E,G,A,Bb,B,D. Using these pitch classes, I have constructed a movement that reflects the equilibrium between darkness and light, from the Earth to the fixed stars, as symbolized by M.C. Escher in the wood-cut Circle Limit IV.



M.C. Escher,
Circle limit IV,
woodcut, 1958.

Performance notes:



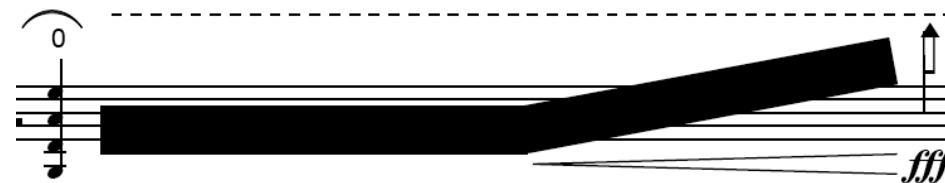
Highest possible note on the specified string



Open string



Snap pizzicato



Disordered arpeggiato on all four strings - then disordered arpeggiato glissando on all four strings to highest possible cluster note



Artificial harmonic



“whip bow” - whip bow in air to produce a whistling sound



players should apply an increasing pressure on the strings to produce a “grinding” sound. The width of the “ribbon” should give indications on which strings to apply the increasing pressure.



disordered bow vibrato (here shown on an artificial harmonics)

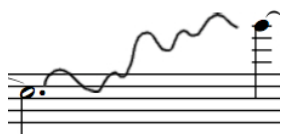
con la voce singing softly at arbitrary pitch while playing



suck-in air with a gasping sound



arpeggiato on the four strings behind the bridge



irregular glissando (if between different notes) or wide irregular vibrato (if between the same notes). Performers should follow the indication of the line in the movement of the finger on the fingerboard.



wide up-down glissando on the string indicated

arco, S.P.-----> Sul **tasto**-----> S.P.---

move the position of the bow from the *ponticello* to *tasto* and back

Movement n. 1 - Circle limit II

intersections on the hyperbolic plane

Violin II and Viola - TACET

Violin I

α

senza tempo

p, non vibrato

slow vibrato

f

Cello

p, non vibrato

Vln. I

subito *p*, non vibrato

silence

senza tempo

β

p, non vibrato

Vlc.

silence

p, non vibrato

Vln. I

Vlc.

Vln. I

silence

f

γ

senza tempo

IV'

ff

Vlc.

silence

f

Vln. I

Vlc.

5+3
8

senza tempo

Vln. I

Vlc.

$\text{♩} = 120$

senza tempo

ff

f

ff

3+5
8

IV'

Vln. I

Vlc.

senza tempo

silence

silence

Vln. I

Vlc.

senza tempo, come da lontano

ppp

pp

pont.

δ

Vln. I

Vlc.

pp *ppp*

pp *ppp*

3

Vln. I

Vlc.

silence

silence

senza tempo, vivo

f

f

ϵ

Vln. I

Vlc.

fff

fff

Vln. I

Vlc.

f *ppp* *f*

col legno

f

fff

Vln. I

col legno - - - - -

silence

p

ppp

Vlc.

col legno - - - - -

silence

p

ppp

Detailed description: This system shows the first two staves. Vln. I has a melodic line starting with a trill (III') and a dynamic marking of *p*. Vlc. has a melodic line starting with a trill (IV') and a dynamic marking of *p*. Both staves then transition to a *ppp* section marked 'col legno' with a dashed line, followed by a 'silence' instruction.

senza tempo, rubato

Vln. I

p *f*

Vlc.

p *f*

⌈ η ⌋

Detailed description: This system is marked 'senza tempo, rubato'. Vln. I and Vlc. both play a melodic line starting with a dynamic marking of *p* and ending with *f*. A circled Greek letter η is placed to the left of the staves.

Vln. I

p

Vlc.

p

Detailed description: This system shows Vln. I and Vlc. playing a melodic line with a dynamic marking of *p* throughout.

Vln. I

pizz.

ff

silence

Vlc.

pizz.

ff

silence

⌈ θ ⌋

sempre molto ritmico, impersonale ♩ = 240

5+2

8

2+5

8

Detailed description: This system shows Vln. I and Vlc. playing a pizzicato (*pizz.*) section with a dynamic marking of *ff*, followed by a 'silence' instruction. A circled Greek letter θ is placed between the staves. To the right, a rhythmic pattern is shown with the tempo marking 'sempre molto ritmico, impersonale ♩ = 240'. The pattern consists of two staves: the top staff has a 5+2 rhythm over 8 beats, and the bottom staff has a 2+5 rhythm over 8 beats.

Vln. I

Vlc.

Vln. I

Vlc.

Vln. I

Vlc.

senza rallentare

2+5

8

5+2

8

silence

silence

senza tempo, come con rabbia

ppp *fff* *ppp*

fff

ppp *fff* *ppp*

fff

ψ

Violin I (Vln. I) and Viola (Vlc.) parts. The score includes dynamic markings (*ppp*, *fff*, *ffff*) and performance instructions (*senza tempo*, *morendo*, *attacca subito*). The first system shows a crescendo from *ppp* to *fff*, followed by a decrescendo to *ppp*, and then a *ffff* section. The second system shows a *senza tempo* section with *ppp* dynamics, followed by a *morendo* section, and finally an *attacca subito* section marked *fff*.

Vln. I

Vlc.

ppp *fff* *ppp* *ffff*

silence

ppp *fff* *ppp* *ffff*

senza tempo

Vln. I

Vlc.

ppp *ppp* *fff* *morendo* *morendo* *attacca subito*

⊖

THIS SPACE IS INTENTIONALLY LEFT BLANK

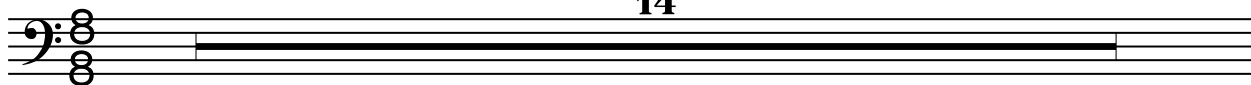
Movement n. 2 - Circle limit III

every line is a circle passing through infinity

vivo, with metronomic precision throughout ♩ = 280

14

Cello



15



mf

17



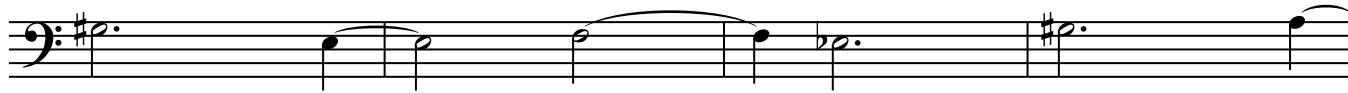
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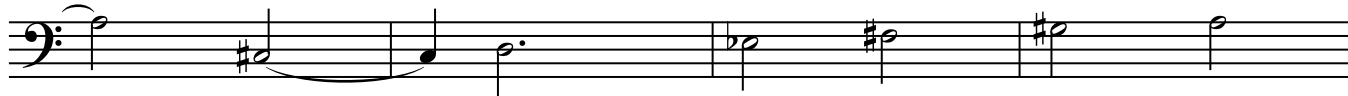
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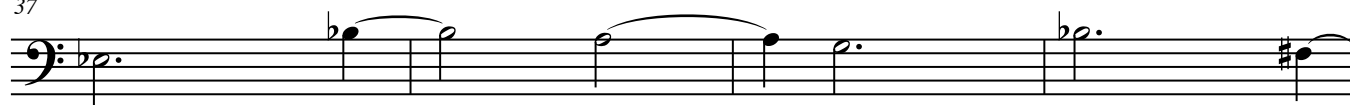


29



33

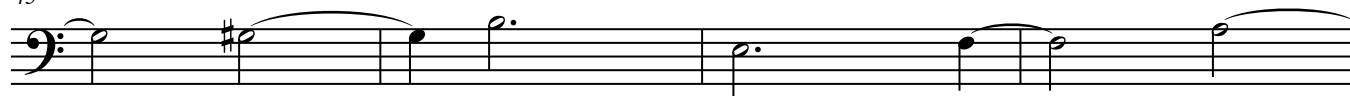


2
37

41



45



49



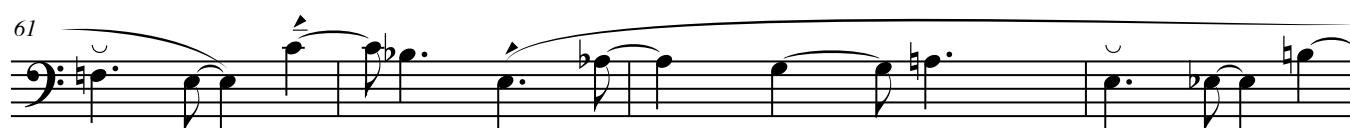
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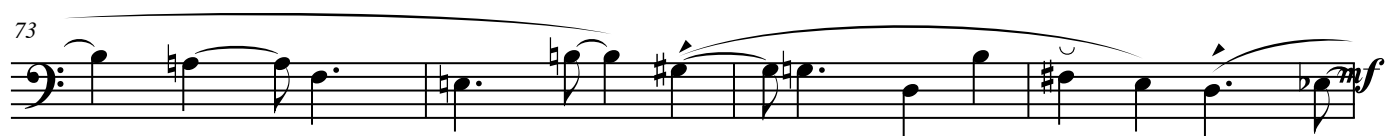


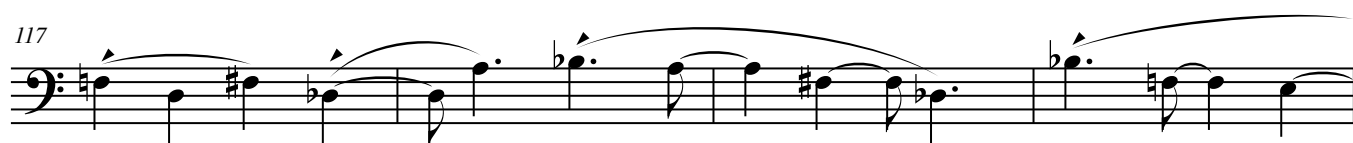
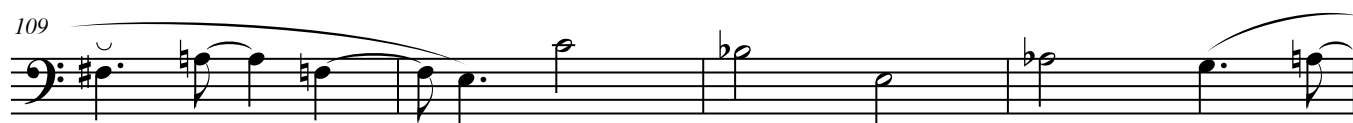
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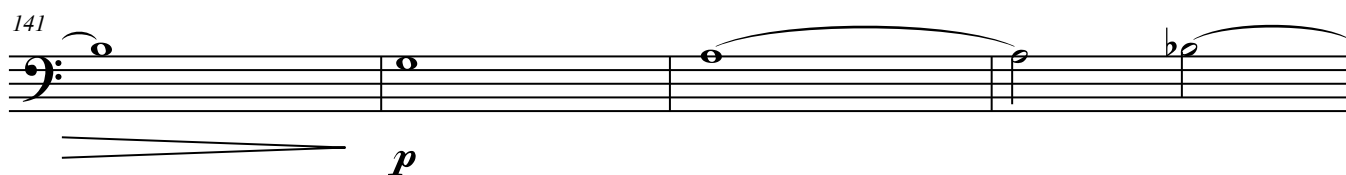
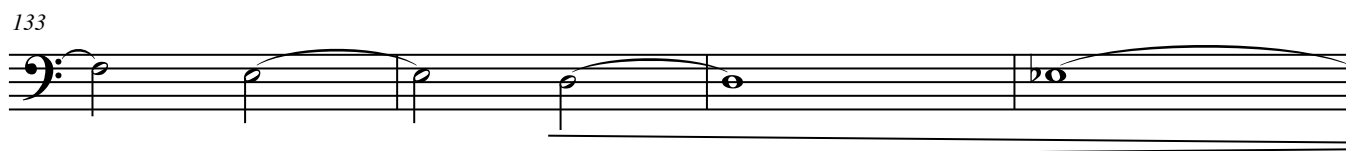


61





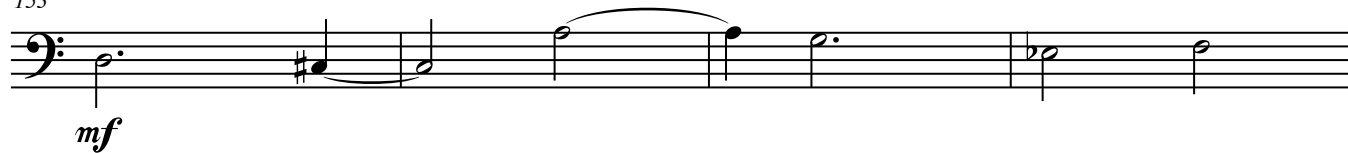




6
149



153



157



161



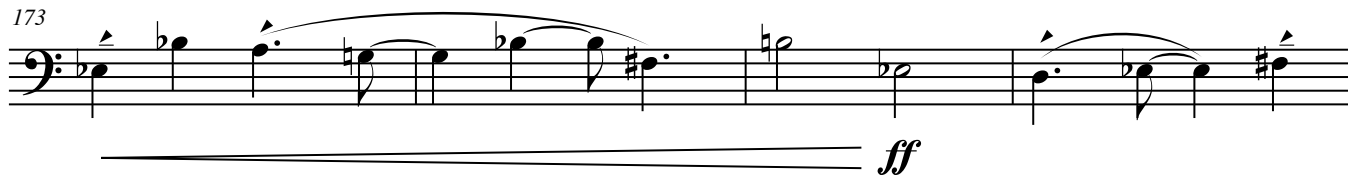
165



169



173



177



Movement n. 3 - Circle Limit IV

on the harmony of the celestial spheres

♩ = 90 *con freddezza*

Cello

2

arco, sul pont.

f pp

8 S.P. arco, S.P.

f pp

15 S.P. arco, S.P.

f pp

23 arco, S.P.

f pp

31 S.P. arco, S.P. pizz. arco S.P. S.T.

f pp *f* *mp*

2
39 arco, S.P. pizz. arco, S.P.-----

f 3:2 3:2 3:2 *mp*

45 S.P.-----

molto animato

f 3:2 3:2 3:2 3:2 3:2 3:2 3:2 *fff*

51

f 3:2 3:2 3:2 3:2 *ff*

56 *accel.* $\text{♩} = 120$ incalzando, sempre a tempo

f

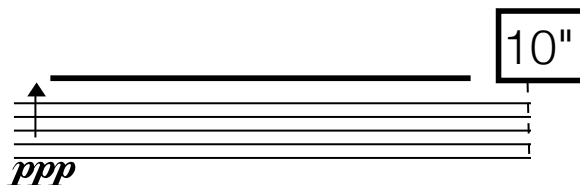
59

f 3:2 3:2 3:2 3:2 *ff*

61

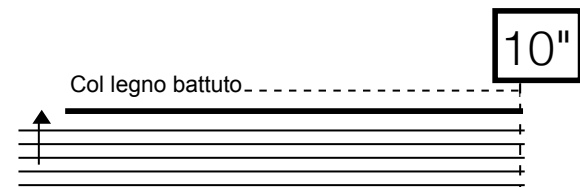
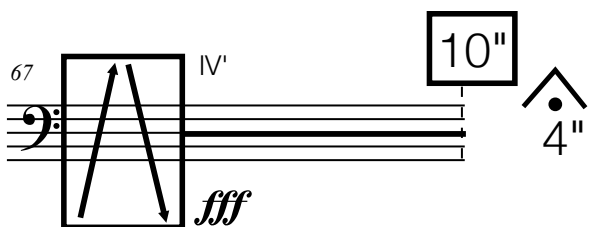


63



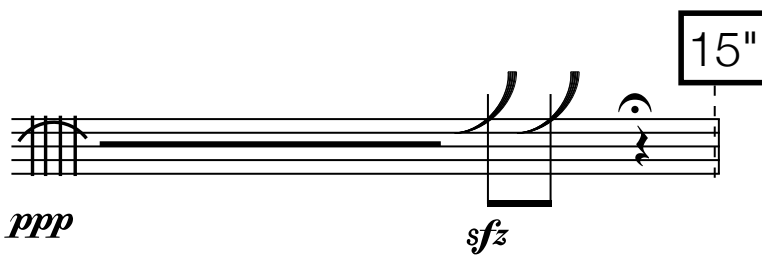
ppp
p
con la voce [eeh]

67



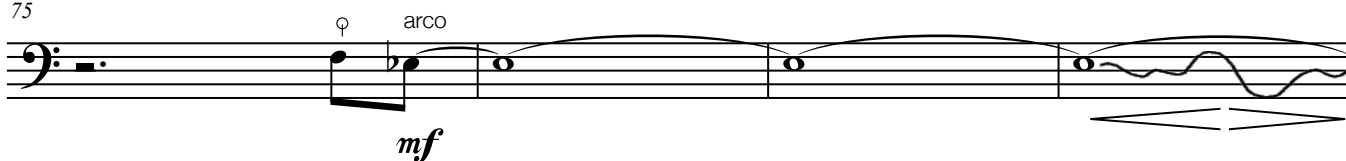
Col legno battuto
ppp
p
con la voce [teeh]

71



♩ = 90 senza vibrare, almost with a digital sound

75



4

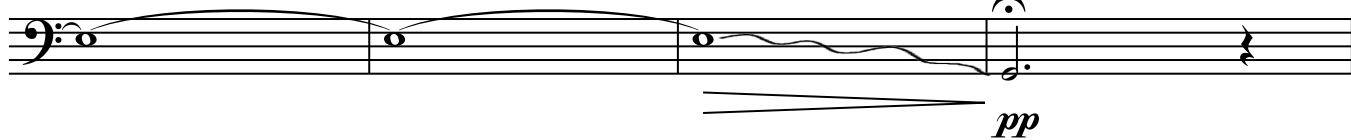
79



83



87

91 *calmo, sereno*

95



99

