

Refractions

for string quartet

Tom Lane

Commissioned in 2021 by the Banbha Quartet with an Arts Council of Ireland Commissioning Award.
First performed 21st of September 2022.

Duration: Approximately 12 minutes

Programme note:

The title “Refractions” refers in part to the kaleidoscopic harmony of the piece's musical material – rotating clashing major thirds whose close proximity create colourful contrast. This material is then continuously refracted using various techniques to create alternating sections which explore the potential of this rich musical content. Structurally, the piece continuously returns to the musical material of the opening in a quasi-rondo form. The intervening passages develop different characteristics of the opening material until an extended melodic passage is reached about two thirds of the way through the piece. A densely chromatic rising section builds tension before returning to a reimagined version of the music from the beginning of the piece.

Performance notes:

All bowings are suggestions only and may be changed as necessary.

Multiple bow strokes should be used for any long notes, particularly when volume is required.

Tempos are flexible and may be varied as desired.

Stems marked with three strokes should be played as unmeasured *tremolo*.

Refractions

for String Quartet

Score

Tom Lane
January - July 2022

Flowing ♩ = c. 90

Violin 1

Violin 2

Viola

Cello

Vln. 1

Vln. 2

Vla.

Vlc.

Vln. 1

Vln. 2

Vla.

Vlc.

Refractions

2
11

Vln. 1

Vln. 2

Vla.

Vlc.

15

Vln. 1

Vln. 2

Vla.

Vlc.

18

Vln. 1

Vln. 2

Vla.

Vlc.

A

Refractions

3

Musical score for measures 22-24. The score is for four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is two sharps (F# and C#). The time signature changes from 2/4 to 4/4. Dynamics include *f* (forte) and *p* (piano). The music features melodic lines with slurs and dynamic markings.

Musical score for measures 25-28. The score is for four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is two sharps (F# and C#). The time signature is 4/4. Dynamics include *p* (piano) and *f* (forte). The music features melodic lines with slurs and dynamic markings.

B

pizz.

Musical score for measures 29-31. The score is for four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is two sharps (F# and C#). The time signature is 4/4. Dynamics include *pp* (pianissimo) and *pizz.* (pizzicato). The music features melodic lines with slurs and dynamic markings.

Refractions

4
32

Vln. 1

Vln. 2

Vla.

Vlc.

arco

p

35

Vln. 1

Vln. 2

Vla.

Vlc.

f

f pizz. >

f

f

C

39

Vln. 1

Vln. 2

Vla.

Vlc.

arco

p

arco

p

42

Vln. 1
Vln. 2
Vla.
Vlc.

4/4, 3/4, 4/4, 2/4, 5/4

f

Detailed description: This system contains measures 42 through 45. The first two staves (Vln. 1 and Vln. 2) are mostly silent, with rests. The third staff (Vla.) and fourth staff (Vlc.) feature a rhythmic pattern of eighth and sixteenth notes, often beamed together. The key signature is two sharps (F# and C#). The time signature changes from 4/4 to 3/4, then back to 4/4, then to 2/4, and finally to 5/4. A dynamic marking of *f* (forte) is present at the end of the system.

46

Vln. 1
Vln. 2
Vla.
Vlc.

arco
p
arco
p
p

5/4, 4/4, 3/4, 4/4

Detailed description: This system contains measures 46 through 48. The first two staves (Vln. 1 and Vln. 2) play long, sustained notes, with the instruction "arco" above them. The dynamic marking *p* (piano) is placed below the first two staves. The third staff (Vla.) and fourth staff (Vlc.) continue with the rhythmic pattern from the previous system. The time signature changes from 5/4 to 4/4, then to 3/4, and finally back to 4/4. The dynamic marking *p* is also present at the beginning of the third and fourth staves.

49

Vln. 1
Vln. 2
Vla.
Vlc.

f
f
f
f

4/4, 3/4, 4/4, 2/4, 5/4

Detailed description: This system contains measures 49 through 52. The first two staves (Vln. 1 and Vln. 2) play long, sustained notes. The dynamic marking *f* (forte) is placed below the first two staves. The third staff (Vla.) and fourth staff (Vlc.) continue with the rhythmic pattern. The time signature changes from 4/4 to 3/4, then to 4/4, then to 2/4, and finally to 5/4. The dynamic marking *f* is also present at the beginning of the third and fourth staves.

Refractions

6
53

Vln. 1
Vln. 2
Vla.
Vlc.

p

56

Vln. 1
Vln. 2
Vla.
Vlc.

p

D

60

Vln. 1
Vln. 2
Vla.
Vlc.

f *p* *f*

Refractions

63

Vln. 1

Vln. 2

Vla.

Vlc.

p

f

67

Vln. 1

Vln. 2

Vla.

Vlc.

p

sfz subito *p*

sfz subito *p*

sfz

pizz.

pizz.

(V)

(V)

(V)

74

Vln. 1

Vln. 2

Vla.

Vlc.

pp

pp

pp

pp

pp

pp

arco

arco

(V)

(V)

rit.

F

Grazioso

♩ = c. 64

8
79

Refractions

Musical score for measures 79-82. The score is for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). The key signature is one sharp (F#) and the time signature is 4/4. The dynamics are marked as *mf* (mezzo-forte) and *pp* (pianissimo). The music features a complex rhythmic pattern with many sixteenth and thirty-second notes, and some rests.

Musical score for measures 83-86. The score is for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). The key signature is one sharp (F#) and the time signature is 4/4. A box containing the letter 'G' is positioned above measure 84. The dynamics are marked as *mf* (mezzo-forte) and *p* (piano). The music continues with complex rhythmic patterns, including some changes in meter (2/4 and 4/4).

Musical score for measures 87-90. The score is for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). The key signature is one sharp (F#) and the time signature is 4/4. The dynamics are marked as *mf* (mezzo-forte) and *p* (piano). The music continues with complex rhythmic patterns.

91 Refractions 9

Vln. 1

Vln. 2

Vla.

Vlc.

ff

p

(V)

96

Vln. 1

Vln. 2

Vla.

Vlc.

sfz subito p

ppp

(V)

ppp

ppp

ppp

ppp

H Flowing ♩ = c. 90

103

Vln. 1

Vln. 2

Vla.

Vlc.

p

p

Refractions

10
106

Vln. 1

Vln. 2

Vla.

Vlc.

110

Vln. 1

Vln. 2

Vla.

Vlc.

113

Vln. 1

Vln. 2

Vla.

Vlc.

Refractions

117

Vln. 1

Vln. 2

Vla.

Vlc.

p

120

Vln. 1

Vln. 2

Vla.

Vlc.

I

124

Vln. 1

Vln. 2

Vla.

Vlc.

f

p *f*

f

f

12
127

Refractions

Vln. 1

Vln. 2

Vla.

Vlc.

p

f

J *poco meno mosso*

♩ = c. 84

131

Vln. 1

Vln. 2

Vla.

Vlc.

f \rightrightarrows *p*

(V)

f \rightrightarrows *p*

(V)

f \rightrightarrows *p*

(V)

f \rightrightarrows *p*

(V)

f \rightrightarrows *p*

(V)

138

Vln. 1

Vln. 2

Vla.

Vlc.

p

f \rightrightarrows *p*

p

f \rightrightarrows *p*

p

f \rightrightarrows *p*

p

f \rightrightarrows *p*

Refractions.

rit.

145

Vln. 1

Vln. 2

Vla.

Vlc.

f *p* *ppp* *p* *f*

Con moto

K

$\text{♩} = \text{c. } 94$

151

Vln. 1

Vln. 2

Vla.

Vlc.

p leggiero

p leggiero

p leggiero

p leggiero

155

Vln. 1

Vln. 2

Vla.

Vlc.

pp *mf*

pp

pp

pp

14
159

Refractions

Vln. 1

Vln. 2

Vla.

Vlc.

163

Vln. 1

Vln. 2

Vla.

Vlc.

mf

167

Vln. 1

Vln. 2

Vla.

Vlc.

p

mf

p

Refractions

L

171

Vln. 1

Vln. 2

Vla.

Vlc.

subito p

Detailed description: This system contains measures 171 through 174. It features four staves: Violin 1, Violin 2, Viola, and Violoncello. The key signature is three sharps (F#, C#, G#) and the time signature is 4/4. The music is characterized by a complex, multi-measure rest in the first measure of each staff, followed by a series of eighth-note patterns in the subsequent measures. A dynamic marking of *subito p* (suddenly piano) is placed below the first measure of each staff. The measures are grouped by vertical bar lines, with some measures containing multi-measure rests.

175

Vln. 1

Vln. 2

Vla.

Vlc.

mf

Detailed description: This system contains measures 175 through 178. It features the same four staves as the previous system. The key signature remains three sharps and the time signature is 4/4. The music consists of continuous eighth-note patterns across all staves. A dynamic marking of *mf* (mezzo-forte) is placed below the first measure of the Violoncello staff. The measures are grouped by vertical bar lines.

179

Vln. 1

Vln. 2

Vla.

Vlc.

mf

Detailed description: This system contains measures 179 through 182. It features the same four staves. The key signature remains three sharps and the time signature is 4/4. The music continues with eighth-note patterns. A dynamic marking of *mf* is placed below the first measure of each staff. The measures are grouped by vertical bar lines.

Refractions

16
183

Musical score for measures 16-18. The score is for four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is three sharps (F#, C#, G#). The time signature is 4/4. Measures 16 and 18 are in 4/4, while measures 17 and 19 are in 7/8. The Vln. 1 and 2 parts play a rhythmic eighth-note pattern. The Vla. part plays a similar pattern. The Vlc. part has a long note in measure 16, a half note in measure 17, and a whole note in measure 18. A hairpin crescendo is shown at the bottom right.

M

186

Musical score for measures 186-188. The score is for four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is three sharps. The time signature is 7/8. A box labeled 'M' is above measure 187. The Vln. 1 and 2 parts play a rhythmic eighth-note pattern. The Vla. part plays a similar pattern. The Vlc. part has a whole rest in measure 186 and then plays a rhythmic eighth-note pattern. A forte 'f' dynamic marking is present in measures 187 and 188.

189

rit.

Musical score for measures 189-191. The score is for four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is three sharps. The time signature is 7/8. A 'rit.' (ritardando) marking is above measure 189. The Vln. 1 part has a long note in measure 189 and a half note in measure 190. The Vln. 2 part plays a rhythmic eighth-note pattern. The Vla. part plays a rhythmic eighth-note pattern. The Vlc. part plays a rhythmic eighth-note pattern.

Refractions

192

Vln. 1

Vln. 2

Vla.

Vlc.

G.P.

G.P.

G.P.

G.P.

N *Misterioso*

197

$\text{♩} = \text{c. } 58$

Vln. 1

Vln. 2

Vla.

Vlc.

sul G sul tasto

sul C sul tasto

ppp

ppp

199

sul tasto

Vln. 1

Vln. 2

Vla.

Vlc.

ppp

ppp

Refractions

18
201

Vln. 1

Vln. 2

Vla.

Vlc.

Detailed description: This system covers measures 18 to 201. Vln. 1 starts with a whole note chord (F#4, C#5, G#5) and ends with a triplet of eighth notes (F#4, C#5, G#5). Vln. 2 plays a sequence of eighth notes with triplet groupings. Vla. plays a sequence of eighth notes with triplet groupings. Vlc. has a long note (F#2) with a triplet of eighth notes (F#2, C#3, G#3) at the end.

ord.

203

pp

Vln. 1

Vln. 2

Vla.

Vlc.

Detailed description: This system covers measures 203 to 205. Vln. 1 starts with a whole note chord (F#4, C#5, G#5) and ends with a triplet of eighth notes (F#4, C#5, G#5). Vln. 2 plays a sequence of eighth notes with triplet groupings. Vla. plays a sequence of eighth notes with triplet groupings. Vlc. has a long note (F#2) with a triplet of eighth notes (F#2, C#3, G#3) at the end.

205

Vln. 1

Vln. 2

Vla.

Vlc.

Detailed description: This system covers measures 205 to 207. Vln. 1 starts with a whole note chord (F#4, C#5, G#5) and ends with a triplet of eighth notes (F#4, C#5, G#5). Vln. 2 plays a sequence of eighth notes with triplet groupings. Vla. plays a sequence of eighth notes with triplet groupings. Vlc. has a long note (F#2) with a triplet of eighth notes (F#2, C#3, G#3) at the end.

Refractions

207

Vln. 1

Vln. 2

Vla.

Vlc.

ord.

p

Musical score for measures 207-210. Vln. 1 has a long note with a slur and a triplet. Vln. 2, Vla., and Vlc. have triplet patterns. Vlc. starts with 'ord.' and 'p'.

209

Vln. 1

Vln. 2

Vla.

Vlc.

Musical score for measures 209-210. Vln. 1 has a long note with a slur and a triplet. Vln. 2, Vla., and Vlc. have triplet patterns.

211

Vln. 1

Vln. 2

Vla.

Vlc.

pp

Musical score for measures 211-214. Vln. 1 has a triplet and a slur. Vln. 2, Vla., and Vlc. have triplet patterns. Vlc. starts with 'pp'.

Refractions

Vln. 1

Vln. 2

Vla.

Vlc.

O

Vln. 1

Vln. 2

Vla.

Vlc.

pp

ord.

p

ord.

p

pp

poco accel.

Vln. 1

Vln. 2

Vla.

Vlc.

Poco più mosso ♩ = c. 68

Refractions

21

219

219

Vln. 1 *3p cresc.*

Vln. 2 *pp cresc.*

Vla. *pp cresc.*

Vlc. *p cresc.*

Measures 219-220. The score features four staves: Violin 1, Violin 2, Viola, and Violoncello. Each staff contains a melodic line with triplet markings. The dynamics are *3p cresc.* for Vln. 1, *pp cresc.* for Vln. 2, *pp cresc.* for Vla., and *p cresc.* for Vlc. The tempo is marked 'Poco più mosso' with a metronome marking of ♩ = c. 68.

221

poco a poco accelerando

221

Vln. 1 *mf cresc.*

Vln. 2 *mf cresc.*

Vla. *mf cresc.*

Vlc. *mf cresc.*

Measures 221-222. The score continues with the same four staves. The dynamics are *mf cresc.* for all parts. The tempo is marked 'poco a poco accelerando'.

223

223

Vln. 1 *f cresc.*

Vln. 2 *f cresc.*

Vla. *f cresc.*

Vlc. *f cresc.*

Measures 223-224. The score continues with the same four staves. The dynamics are *f cresc.* for all parts. The tempo is marked 'poco a poco accelerando'.

22
225

Refractions

Vln. 1

Vln. 2

Vla.

Vlc.

ff *cresc.*

ff *cresc.*

ff *cresc.*

ff *cresc.*

$\text{♩} = c. 88$

accel.

P $\text{♩} = c. 74 (V)$

Vln. 1

Vln. 2

Vla.

Vlc.

fff

fff

fff

fff

ff (V)

ff

230

Vln. 1

Vln. 2

Vla.

Vlc.

p (V)

p

p

(V)

(V)

(V)

(V)

(V)

(V)

(V)

Q Refrations
Flowing ♩ = c. 90

238 rit.

Vln. 1 *ppp*

Vln. 2 *ppp*

Vla. *ppp*
p

Vlc. *ppp*
p

242

Vln. 1 *p*

Vln. 2 *p*

Vla. *p*

Vlc. *p*

246

Vln. 1

Vln. 2

Vla.

Vlc.

24
250

Refractions

8va-----

Vln. 1

Vln. 2

Vla.

Vlc.

R

254

Vln. 1

Vln. 2

Vla.

Vlc.

257

Vln. 1

Vln. 2

Vla.

Vlc.

S

Grazioso

Refractions

261

$\text{♩} = c. 64$

Musical score for measures 261-264. The score is for four string parts: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is two sharps (F# and C#) and the time signature is 4/4. The dynamics are marked *pp* (pianissimo). The first two measures (261-262) feature a melodic line in the violins and a sustained note in the violas and cellos, both marked with a *pp* dynamic. The last two measures (263-264) continue the melodic line in the violins. A *rit.* (ritardando) marking is present above the first violin staff in measure 264. A *(V)* marking is placed above the first violin staff in measures 262 and 263.

265

T

Presto $\text{♩} = c. 130$

Musical score for measures 265-267. The score is for four string parts: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is two sharps (F# and C#). The time signature changes from 4/4 to 5/4 in measure 265 and back to 4/4 in measure 267. The dynamics are marked *mf* (mezzo-forte). The first two measures (265-266) feature a melodic line in the violins and a sustained note in the violas and cellos, both marked with a *mf* dynamic. The last measure (267) features a rhythmic pattern in all parts, marked with a *mf* dynamic. A *rit.* (ritardando) marking is present above the first violin staff in measure 266.

268

Musical score for measures 268-271. The score is for four string parts: Vln. 1, Vln. 2, Vla., and Vlc. The key signature is two sharps (F# and C#) and the time signature is 4/4. The dynamics are marked *mf* (mezzo-forte). The first two measures (268-269) feature a melodic line in the violins and a sustained note in the violas and cellos, both marked with a *mf* dynamic. The last two measures (270-271) feature a rhythmic pattern in all parts, marked with a *mf* dynamic.

26
272

Refractions

Vln. 1
Vln. 2
Vla.
Vlc.

f

Vln. 1
Vln. 2
Vla.
Vlc.

f

Vln. 1
Vln. 2
Vla.
Vlc.

279

U

ff *sffz* *sffz*

ff *sffz* *sffz*

ff *sffz* *sffz*

sffz *sffz*

Refractions
Grazioso ♩ = c. 64

283

Vln. 1

Vln. 2

Vla.

Vlc.

sfz

sfz

sfz

sfz

p

p

p

p

pp

pp

pizz.

pizz.

V