

**MTO 27.4 Examples: Llorens, Brahmsian Articulation:
Ambiguous and Unfixed Structures in Op. 38**

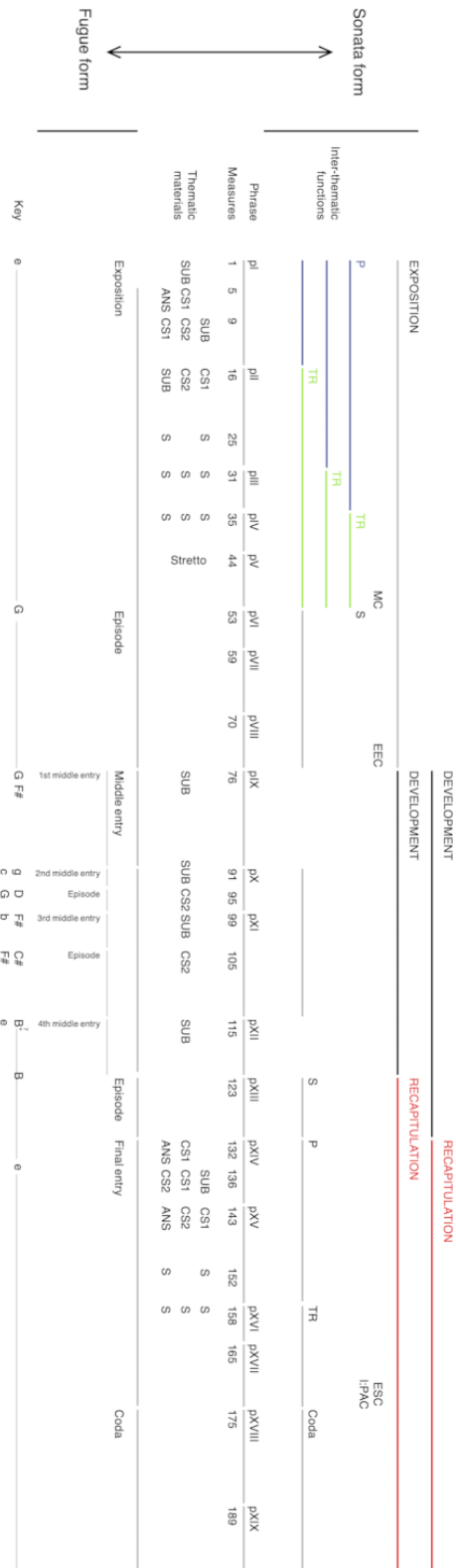
(Note: audio, video, and other interactive examples are only available online)
<https://mtosmt.org/issues/mto.21.27.4/mto.21.27.4.llorens.html>

Example 1. Brahms, op. 38, iii, mm. 1–11, first theme group (P): subject (SUB), answer (ANS),
 and countersubjects 1 and 2 (CS1 and CS2)

Allegro

The musical score is for Cello and Piano. The tempo is marked **Allegro**. The key signature is one sharp (F#) and the time signature is common time (C). The score is divided into two systems. The first system covers measures 1 to 5. The second system covers measures 6 to 11. The Cello part is in the bass clef, and the Piano part is in the treble and bass clefs. The score includes annotations for musical structures: **SUB** (Subject), **CS1** (Countersubject 1), and **CS2** (Countersubject 2). The Piano part features a prominent triplet pattern in the bass line. The Cello part has a triplet in measure 5. The score also includes dynamic markings such as *f* and *tr* (trills).

Example 2. Brahms, op. 38, iii, formal ambiguity. Inter-thematic functions: P = first theme group, TR = transition, S = second theme group; Thematic (fugal) materials: SUB = subject, ANS = answer, CS1= countersubject 1, CS2 = countersubject 2; Others: MC = medial caesura, EEC = essential expositional closure, ESC = essential structural closure; I:PAC = perfect authentic cadence over the tonic



Example 3. Brahms, op. 38, iii, mm. 53–56; second theme group (S)

53

p

f

53

p

f

tranquillo

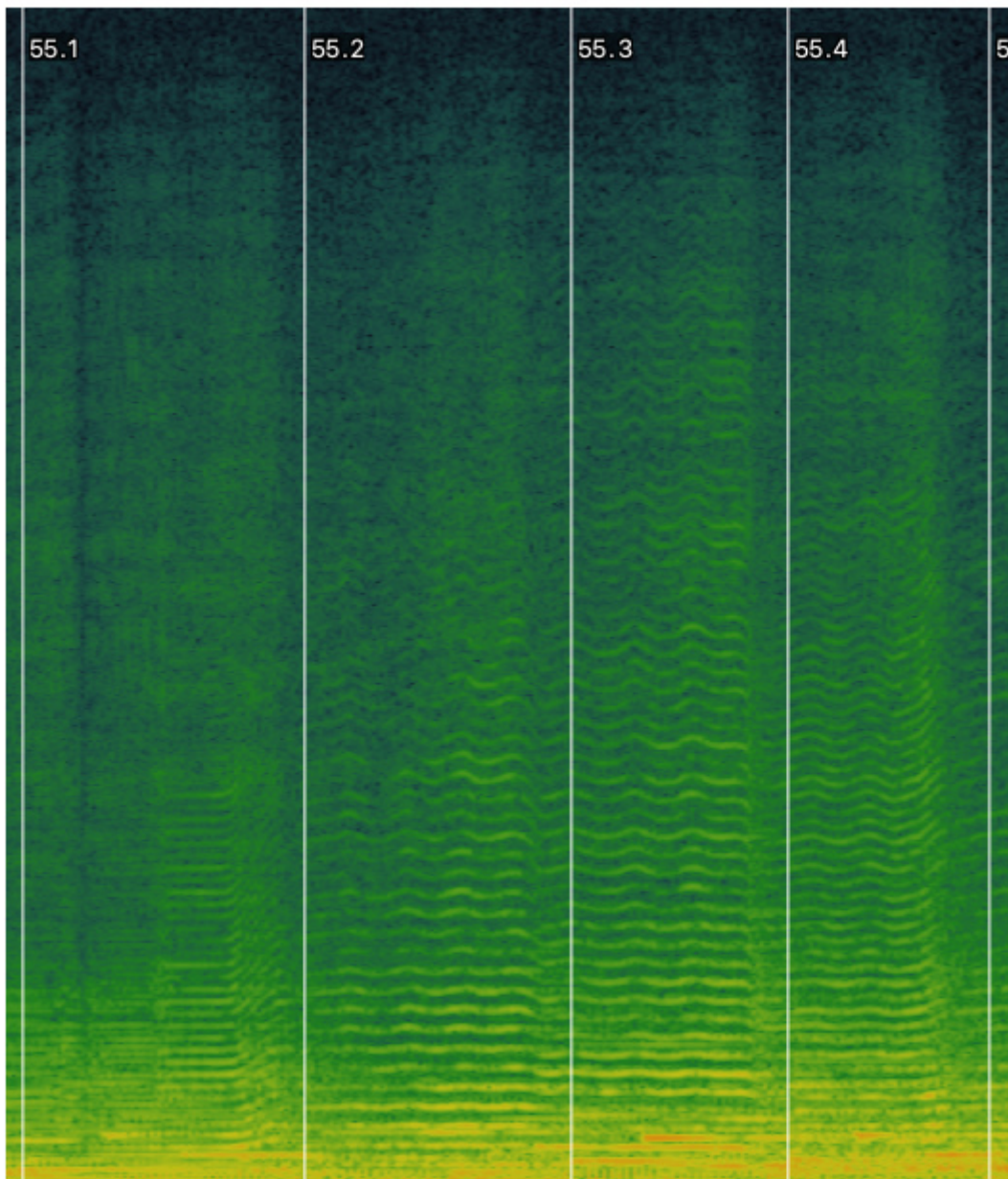
53

54

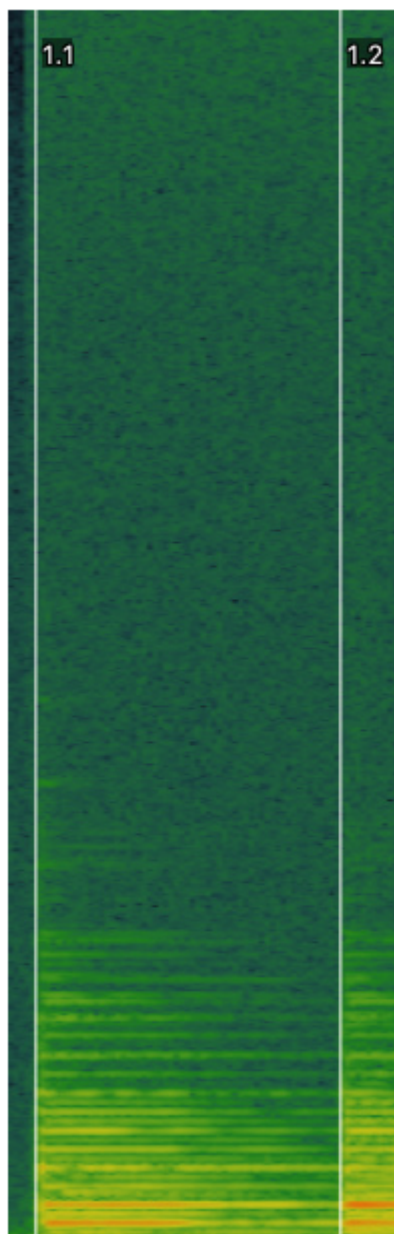
55

56

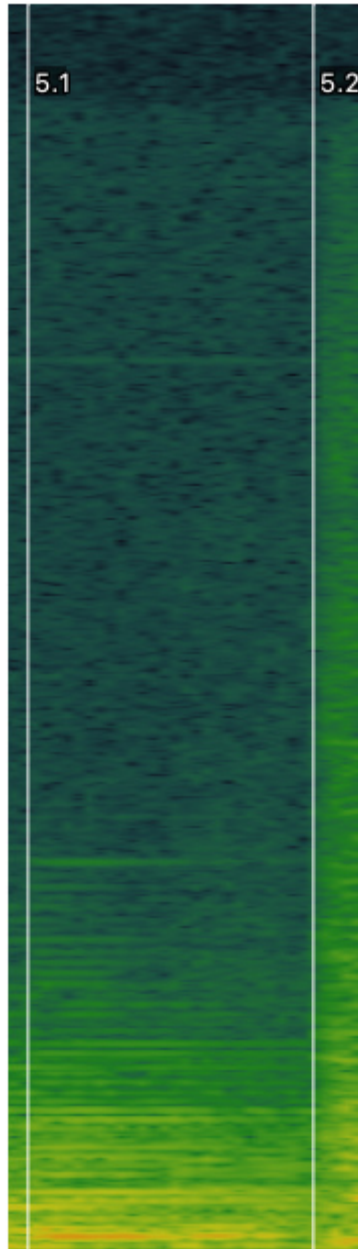
Example 4. Type 1 articulation: legato; as in Brahms, op. 38, iii, Meneses (cello) and Pires (piano), m. 55



Example 5. Type 2 articulation: long staccato; as in Brahms, op. 38, iii, Fournier (cello) and Backhaus (piano), first quarter note of m. 1



Example 6. Type 3 articulation: short staccato; as in Brahms, op. 38, iii, Rostropovich (cello) and Serkin (piano), first quarter note of m. 5



Example 7. Example of the input data for the Kohonen analyses of timing values in Viscovery SOMine: duration of the quarter note over the total duration of the measure. Brahms, op. 38, iii, mm. 1–4, Casals (cello) and Horszowski (piano)

	Quarter note 1	Quarter note 2	Quarter note 3	Quarter note 4
M. 1	0.2995	0.2903	0.2120	0.1982
M. 2	0.2457	0.2928	0.2509	0.2106
M. 3	0.2309	0.2942	0.2275	0.2474
M. 4	0.2593	0.2362	0.2429	0.2616

Example 8. Example of the input data for the Kohonen analyses of dynamic values in Viscovery SOMine: fluctuation in dB with respect to the following quarter note. Brahms, op. 38, iii, mm. 1–4, Casals (cello) and Horszowski (piano)

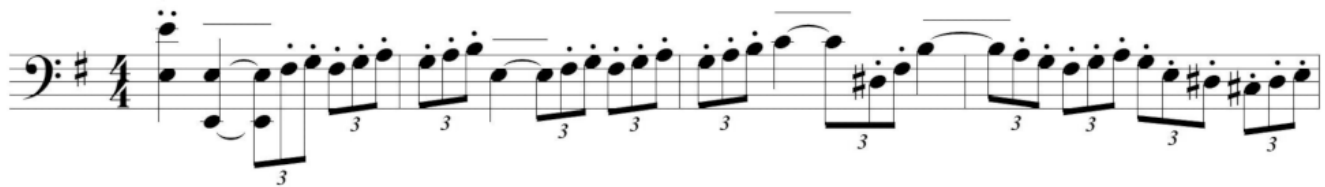
	Quarter note 1	Quarter note 2	Quarter note 3	Quarter note 4
M. 1	2.9	-6.6	5.7	-2.5
M. 2	2.4	-7.6	6.3	-1.3
M. 3	3.7	-7.6	2.1	-8.1
M. 4	5.7	-1.1	1.5	9.1

Example 9. Brahms, op. 38, iii, recognizable appearances of the fugal subject throughout the movement

Section	Measures	Part	Chords	Distance between entries
Exposition (mm. 1–75)	mm. 1–4	piano left hand	i	
	mm. 5–8	cello	V	
	mm. 9–12	piano right hand	i	
	mm. 16–19	piano left hand	i	
	mm. 25–28	piano	VI ⁺⁷	
	mm. 31–34	piano & cello	i	1 quarter note
	mm. 35–38	piano & cello	i	1 quarter note
Development (mm. 76–122)	mm. 44–50	piano right hand & cello	modulatory	1 quarter note
	mm. 91–94	piano left hand	iii (= v/vi) and modulatory	1 half note
	mm. 99–102	piano left hand	II (= V/v) and modulatory	1 half note
	mm. 115–118	piano right hand & cello	V ⁺⁷	1 quarter note
Recapitulation (mm. 123–198)	mm. 119–122	piano left hand & cello	V ⁺⁷	1 quarter note
	mm. 132–135	piano left hand	V	
	mm. 136–139	piano left hand	i	
	mm. 143–146	piano left hand	i	
	mm. 152–155	piano	VI ⁺⁷	
	mm. 158–161	piano & cello	i	1 quarter note
	mm. 162–165	piano & cello	i	1 quarter note

Distance measurements apply to those passages in which the fugal subject appears almost simultaneously in two parts. If nothing appears in this column, the subject emerges in one part only.

Example 10. Brahms, op. 38, iii, Rostropovich and Serkin; articulation of the fugue subject at the main structural junctures



- legato; type 1
- long staccato; type 2
- short staccato; type 3

Example 11. Brahms, op. 38, iii, mm. 31–34; start of the “merged transition” according to sonata theory

31

ff

31

ff

Example 12. Brahms, op. 38, iii, mm. 38–41; start of the transition according to Jackson 1996

38

p *f*

38

p *f* *f* *f* *f*

Example 13. Brahms, op. 38, iii, mm. 15–22; start of the transition according to 1972

15

15

19

19

tr

tr

cresc.

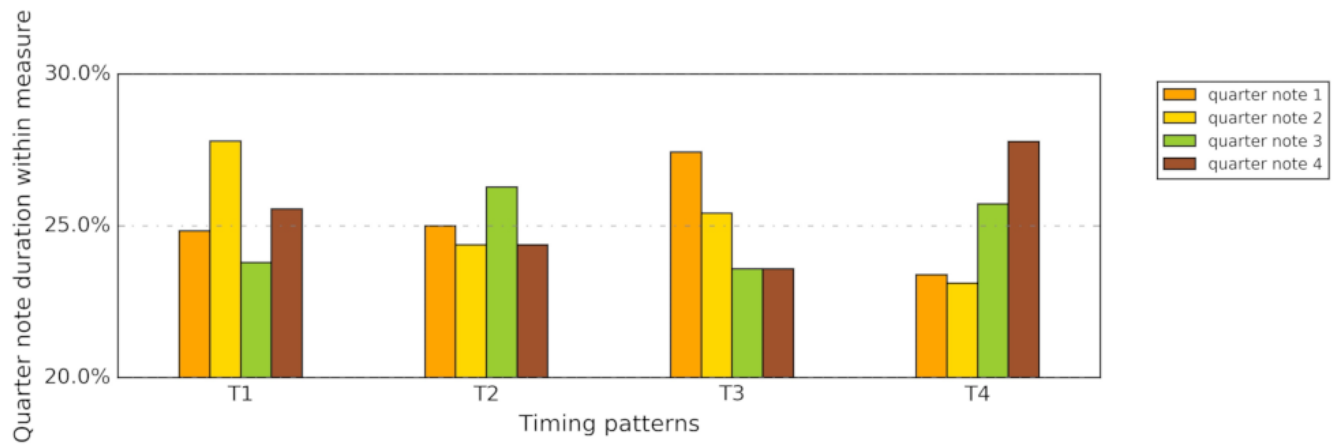
cresc.

tr

Example 14. Brahms, op. 38, iii, Polo and Nebolsin, mm. 1–4; articulation of the fugue subject

- legato; type 1
- long staccato; type 2
- short staccato; type 3

Example 15. Brahms, op. 38, iii, Casals and Horszowski, timing patterns detected with medium precision in this recording only



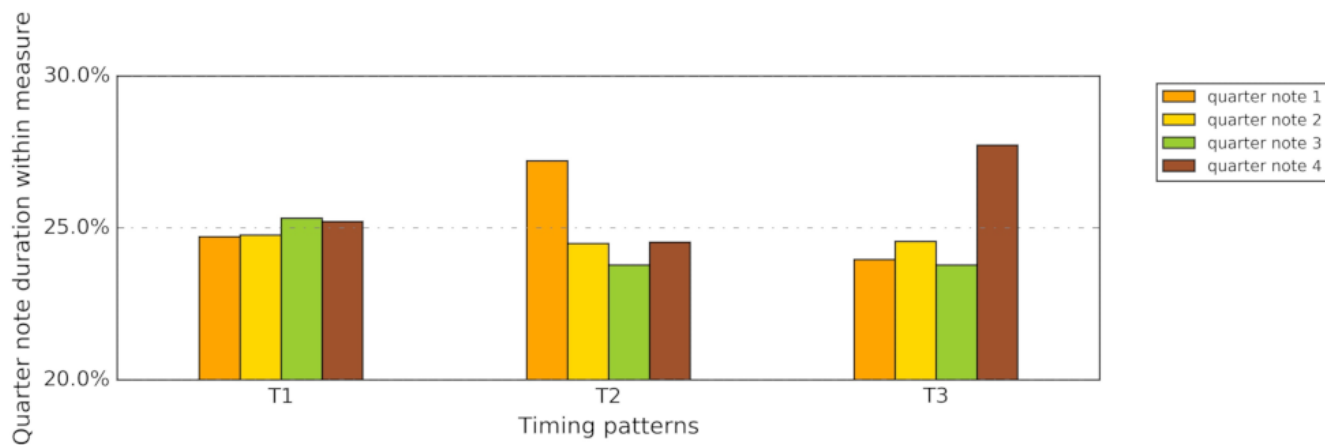
Example 16. Brahms, op. 38, iii, Casals (cello) and Horszowski, mm. 26–27, piano part: onset, offset, and IOI measurements for each triplet eighth note

Note no.	Onset (s)	Offset (s)	% IOI	Note no.	Onset (s)	Offset (s)	% IOI
238	52.517	52.666	89.92%	247	54.688	54.832	87.10%
239	52.683	52.794	86.98%	248	54.853	54.965	99.70%
240	52.811	52.96	93.33%	249	54.965	55.125	99.80%
241	52.971	53.125	96.46%	250	55.125	55.28	87.88%
242	53.131	53.258	83.71%	251	55.301	55.456	93.55%
243	53.283	53.434	96.18%	252	55.467	55.6	100.00%
244	53.440	53.589	82.17%	253	55.600	55.765	93.75%
245	53.621	53.781	80.3%	254	55.776	55.952	90.56%
246	53.820			255	55.970		
				Average			91.34%

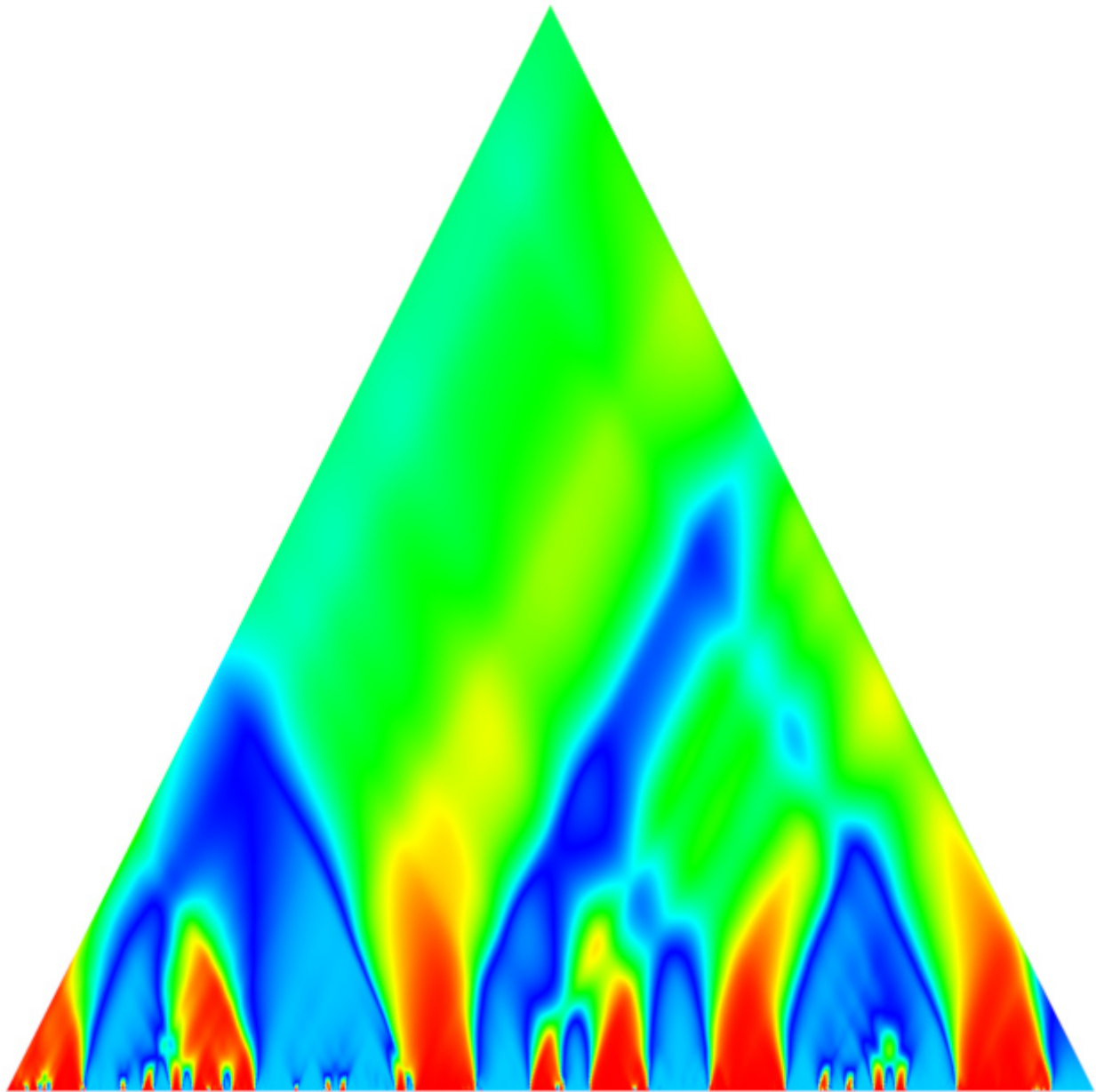
Example 17. Brahms, op. 38, iii, Casals (cello) and Horszowski, mm. 31–32, piano part: onset, offset, and IOI measurements for each triplet eighth note

Note no.	Onset (s)	Offset (s)	% IOI	Note no.	Onset (s)	Offset (s)	% IOI
280	63.664	63.85	87.19%	290	65.872	66.064	100.00%
281	63.877	64.016	92.86%	291	66.064	66.229	93.75%
282	64.027	64.16	89.29%	292	66.240	66.41	99.61%
283	64.176	64.314	89.22%	293	66.411	66.565	99.78%
284	64.331	64.49	96.37%	294	66.565	66.72	93.55%
285	64.496	64.65	90.23%	295	66.731	66.874	92.67%
286	64.667	64.853	94.43%	296	66.885	67.061	96.87%
287	64.864	65.018	96.25%	297	67.067	67.248	91.89%
288	65.024	65.194	92.73%	298	67.264		
289	65.207			Average			93.92%

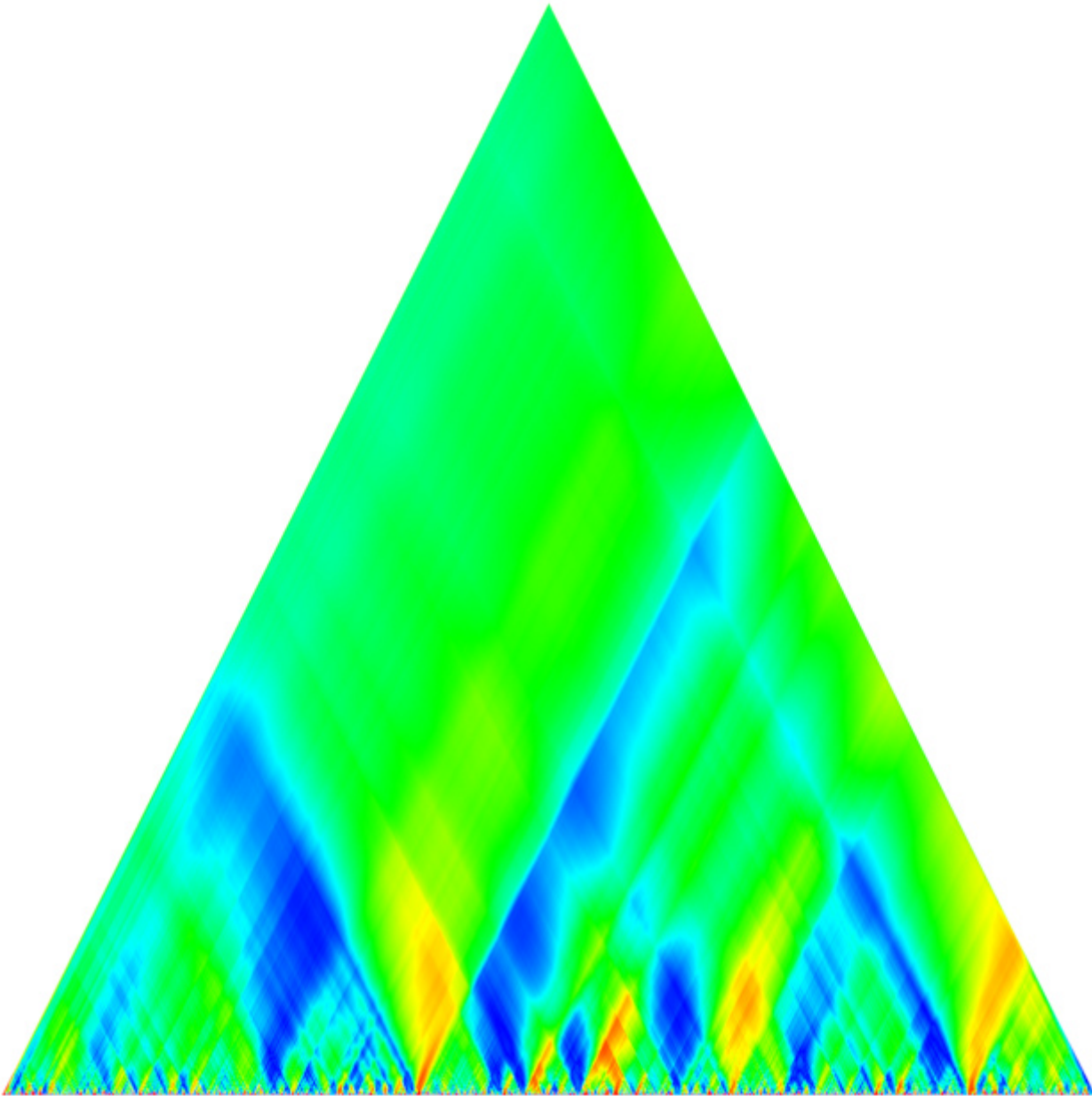
Example 18. Brahms, op. 38, iii, Fournier (cello) and Backhaus (piano), timing patterns detected with medium precision in this recording only



Example 19. Brahms, op. 38, iii, Fournier (cello) and Backhaus (piano), scape plot: smoothing = 0.1



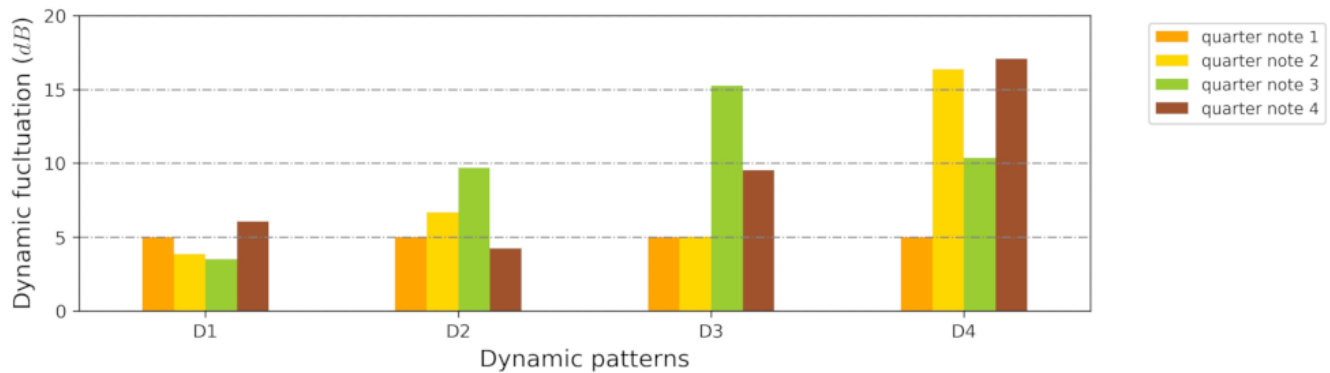
Example 20. Brahms, op. 38, iii, Fournier (cello) and Backhaus, scape plot: smoothing = 0



Example 21. Brahms, op. 38, iii, Rostropovich (cello) and Serkin (piano), mm. 53–54, cello part: onset, offset, and IOI measurements for each triplet eighth note

Note no.	Onset (s)	Offset (s)	% IOI	Note no.	Onset (s)	Offset (s)	% IOI
285	104.445	104.669	91.42%	298	106.980	107.125	83.18%
286	104.690	104.838	80.90%	299	107.154	107.276	72.38%
287	104.873	105.041	73.36%	300	107.322	107.461	89.96%
288	105.102	105.273	82.89%	301	107.476	107.647	85.15%
289	105.308	105.418	66.31%	302	107.677	107.816	61.81%
290	105.474	105.650	78.61%	303	107.902	108.031	91.85%
291	105.698	105.836	86.87%	304	108.042	108.170	97.66%
292	105.857	105.964	58.59%	305	108.173	108.332	78.51%
293	106.040	106.219	83.77%	306	108.376	108.489	82.75%
294	106.254	106.417	91.81%	307	108.513	108.663	75.07%
295	106.432	106.597	86.36%	308	108.713	108.820	70.27%
296	106.623	106.753	70.19%	309	108.865		
297	106.808	106.945	79.57%	Average			79.967%

Example 22. Brahms, op. 38, iii, Meneses (cello) and Pires (piano), dynamic patterns detected with high precision in this recording only



Example 23. Brahms, op. 38, iii, mm. 132–139; recapitulation of the first theme group (P)

132 *poco f*

136 *tr*

Example 24. Brahms, op. 38, iii, mm. 156–159

156 *8va*

156 *ff*

156 *f*

Example 25. Brahms, op. 38, iii; structural constructions inferred from a) Fournier (cello) and Backhaus (piano), b) Casals (cello) and Horszowski (piano), c) Rostropovich (cello) and Serkin (piano), d) Meneses (cello) and Pires (piano), and e) Polo (cello) and Nebolsin (piano)

