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Recorded asynchronies, structural dialogues: Brahms's Adagio Affettuoso, Op. 99ii, in the hands of Casals and Horszowski

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ABSTRACT: Many musicians performing an ensemble work would aim to achieve good, if not perfect, synchronisation of timing for the sake of an effective rendition (McCaleb, 2014). In this respect, Pau Casals and Mieczysław Horszowski's 1935 recording of the second movement of Johannes Brahms's F major Cello Sonata, Op. 99, is certainly intriguing, as asynchronies between the two instruments are clearly perceptible throughout extensive passages. Questions concerning the rationale behind these temporal discrepancies arise: To what extent did Casals and Horszowski intend not to play together? In what ways can we understand these asynchronies? What are their musical effects? Analysis of timing that focused on the magnitude of the asynchronies as well as on tempo curves and durational patterns employed by the performers in this recording has shed light on the effects, purpose, and meaning of those asynchronies. This article illustrates that the temporal discrepancies between the cello and piano parts are neither the result of chance nor only local expressive devices; rather, they are critical elements in a highly distinctive construction of the Adagio Affettuoso from Brahms's Op. 99. They attest to an ongoing structural dialogue between the musicians that shapes and paces the piece in unexpected ways, prompting a reconsideration of ensemble playing as affording different, even conflicting attitudes. Furthermore, their potentially structural import leads to a critical broadening of the methods and parameters that music analysis has traditionally acknowledged. On these bases, a fruitful dialogue between music analysis and performance is put forward.

KEY WORDS: asynchrony, ensemble, structure, performance, analysis, timing

As a cellist myself, I have been exposed to Pau Casals and Mieczysław Horszowski's recording of Johannes Brahms's Cello Sonata in F major, Op. 99,¹ early in my music education, and more consciously during my attempts at performing the piece for the first time about ten years ago. Nevertheless, their rendition of the second movement of the Sonata, the *Adagio affettuoso* in F sharp major, has always been hard for me to understand and empathise with. This might be due to the fact that performance styles continuously change, and aesthetic ideals from eighty years earlier can therefore seem unfamiliar and even strange.² Yet, given my admiration for these musicians' interpretive approach to the rest of the Sonata, not to mention other pieces, it is more likely that my initial discomfort with their rendition of this movement resulted from insufficient understanding of the artistic principles guiding it.

More specifically, I always felt troubled by the lack of synchronisation that is clearly perceptible between the piano and cello throughout extensive passages. My personal experience as a chamber musician is that a significant amount of rehearsal time is usually devoted to achieving temporal coordination between the ensemble members, not only by repeatedly playing the most complicated passages, but also by developing techniques and a purposeful body language that may facilitate interpersonal communication during the eventual public performance.³ Even during chamber music coaching sessions, one is generally told that 'playing as together as possible' is a fundamental prerequisite for good ensemble playing, and that only on this basis is it possible to construct a more effective, 'artistic' performance.⁴ In fact, the idea of cooperation between players for the sake of coordination in any 'good' ensemble seems to be deeply rooted in Western music pedagogy, appearing already in the early twentieth-century⁵ and exerting a most powerful

¹ Pau Casals and Mieczysław Horszowski: Sonata in F major (F Dur), Op. 99 (Brahms). HMV DB 3059/62 (ca. 1935), 4 x 78 rpm. Digitally reissued as: Beethoven – Brahms – Cello Sonatas. Naxos Historical 8.110949-50 (2001). Available at <u>https://www.youtube.com/watch?v=wghTleb41ig</u>

² For a more detailed exploration of the ways in which performance styles have changed over the last one hundred and fifty years, see Leech-Wilkinson (2009, 2010a, 2010b).

³ Numerous psychological studies have focused on musicians' skills of anticipation and reaction in ensemble performance. While some authors speak of a basic technique of 'hunting' or 'tracking', whereby one musician follows the other(s) (e.g. Sundberg, Friberg & Frydén, 1989), other theories have put forward more collaborative models in which players are shown to interact with each other in highly complex ways, usually swapping leading and subordinate roles (Appleton et al., 1997), and in which the idea of agency might be seen to operate at the level of the instrumental part (Graybill, 2011). It has been posited that musicians' embodied knowledge of instrumental performance triggers processes of inter-reaction that include the transmission of information, the inference of others' intentions, and the continuous attuning to the ever-changing situation (McCaleb, 2014). Emphasis has also been laid on the importance of sharing a mental representation prior to the performance (Clayton, 1985; Loehr & Palmer, 2011; Shaffer, 1984) and of visual contact (Appleton et al., 1997). Refer to Goodman (2000, 2002) for a comprehensive summary of most of these ideas.

⁴ I remember being instructed to play Anton Webern's *Fünf Sätze*, Op. 5, as an exercise to improve the synchronisation skills of the string quartet of which I was a member. Numerous rehearsals and classes took place around a metronome, and our scores were full of annotations indicating whom to look at – or listen to – more attentively in virtually every bar.

⁵ Even if there is too much asynchrony in early recordings to support the claim that coordination was a universal aim in the first decades of the twentieth-century, some contemporary texts point in that direction. For instance, already a century ago J. A. Fuller-Maitland (1915, pp. 2-3) referred to ensemble as "that kind of co-operation in music in which each performer bears some share of responsibility for the general effect",

influence after the Second World War. Key texts on ensemble performance share an emphasis on qualities such as 'homogeneity' and 'blending'. For instance, *The Oxford Companion to Music* defines 'ensemble' as "the degree of unanimity of timing, balance, and style between the members" of a chamber music group (Montagu, 2002),⁶ and general English dictionaries refer to it as a synonym for "together"; and even more significantly here, as meaning "at the same time", that is, as synchronous.⁷ It seems, then, that chamber performance is generally perceived as a cooperative process in which performers adjust to each other to produce an 'organically'⁸ constructed interpretation in which, ideally, synchronisation between the players in all of music's multiple aspects – and timing is outstanding in this regard – is taken for granted.⁹

Nevertheless, Casals and Horszowski's rendition of Brahms's Adagio affettuoso – hereafter C/H – does not fulfil those expectations. Its clearly audible disjunctions between the cello and piano parts powerfully, and fundamentally, challenge the concept of an ensemble performance as an act of agreed interpretation between the musicians taking part in it. These asynchronies are so conspicuous that many questions arise immediately:

- To what extent did Casals and Horszowski intend not to play together?
- What is the purpose and effect of these asynchronies?
- How can we understand them within the context of chamber music performance?

Taking my misgivings as a performer/listener as a point of departure,¹⁰ the subsequent

emphasising the importance of personal self-abnegation: "it is only necessary to withdraw from prominence at the moment of performance to attain good ensemble" (p. 4). Similarly, for G. Stratton and A. Frank (1951 [1935]) it meant "literally 'playing together'. In chamber music it embraces very much more than the mere synchronisation of notes and chords" (p. 7).

⁶ Along these lines, M. D. Herter Norton states that "the general principles of playing together ... [are] style, homogeneity, and the happy blending of the individual players' distinctive qualities" (Norton, 1963), and similarly *The Oxford Dictionary of Music* stresses a supposedly "co-operative spirit, e.g. unanimity of attack, balance of tone, etc".

⁷ 'ensemble, adv. and n.', in *OED Online*. In this same dictionary, 'synchronic', or 'synchronous', is defined as "Existing or happening at the same time; coincident in time", and therefore it is posited that, in folk psychology, both concepts may have a shared root.

⁸ Loft (1992) describes 'ensemble' as "an integrated musical organism" that reflects "the collective insight of all members" (p. 18). As J. M. Levy (1987) explains, the idea of organicism as a positive value operates covertly in most writings about music, reinforcing, for example, the notion of chamber music performance as a teamwork activity in which aristocratic and democratic ideals coalesce (p. 11).

⁹ As Rudolf Rasch puts it, on account of notes being vertically aligned on scores, it is customarily believed that "in polyphonic music the score very often prescribes that notes of different parts or voices should begin at the same moment in time" (Rasch, 1979, p. 121). That is, the score is frequently treated as an authoritarian text that faithfully transmits the composer's intentions – an idea that emanates from the long-established supremacy of the composer over performer(s) and listener(s). For further discussion on this topic, see Cook (1999b, 2001, 2013); Goehr (1996); Ingarden (1986); and Leech-Wilkinson (2012).

¹⁰ Since the development of Performance Studies in Musicology, two main trends can be observed with regard to the relation between performance and analysis. Whereas some scholars have treated the latter as a 'prescriptive tool' having some sort of authority over performance – for instance Berry (1989) and Narmour (1988) – analysis has also been used to describe individual performances in support of a 'performative turn' for the discipline (Cook, 2010, 2012). The approach I pursue in this article, however, takes John Rink's discussion of Chopin's E major *Etude* (Rink, 2004), a revised version of which can be found in Rink (2015b), as a model. In both versions, Rink is primarily concerned with the apparent lack of 'coherence' he identified in a particular passage as notated by Chopin, and the analysis of a number of recordings of the same piece follow as a

analysis will address these questions by exploring both the recording and Brahms's score.¹¹ To this end, I will attempt to let my insights as both performer and analyst establish a twoway channel of communication, thus putting forward a collaborative model whereby a more fluid, non-hierarchical dialogue might be achieved between these two domains.¹² No value judgements regarding the 'accuracy' or 'quality' of the recording are intended; rather, the puzzling uniqueness of the rendition is considered a testimony of a fascinating performance practice¹³ that may bring to light new perspectives on Brahms's composition. In addition, an examination of Brahms's script¹⁴ will be necessary to understand some of C/H's features. On the basis of the peculiarities of the temporal disjunctions in the recording, existing literature on asynchronisation in the practice and perception of music will also be reviewed. More significantly, those asynchronies will be shown to potentially play a structural role in ensemble performance beyond the local scope of their expressive effects.

METHOD AND DATA

To detect and measure the temporal discrepancies between the cello and piano parts in C/H, the original 78 rpm was used.¹⁵ Once converted into digital format, manual tappings – obtained in Sonic Visualiser¹⁶ with a measurement unit of a semiquaver – were taken as a point of departure. Subsequently, those tappings were visually corrected in conjunction with the spectrogram. As a rule, the image was clear enough to allow the desired precision. Junctures, in which note onsets were not synchronised between the two instruments, were

corollary. As different from Rink's approach, however, the initial trigger for a detailed analytical study of both Brahms's score and the recording was my discomfort with the asynchronies in Casals and Horszowski's rendition. That is, in contrast to Rink's perspective, the questions to materialize first were those that I contemplated for a long time as a performer – and inevitably as listener – and, most significantly, they have the highest priority over my score-focused analytic 'persona'.

¹¹ As a main source I have used the critical edition prepared by Johannes Behr for Henle Verlag (HN 1135; Munich, 2012); all of the musical examples in this article are based on this edition. I have also consulted Brahms's autograph for his second Cello Sonata in F major, Op. 99 (in the Archive of the Gesellschaft der Musikfreunde, Vienna; Brahms estate, shelfmark 101), although no significant divergences were found with respect to the above edition or the first published score of the composition (N. Simrock 8750; Berlin, 1887).

¹² While Janet Schmalfeldt attempted such an approach already in 1985, her article involved a one-to-one mapping of analysis and performance on to one another and in the end the analyst still gained precedence over the performer (Cook, 1999a). Also refer to Rink (1990) for a similar criticism of Berry (1989).

¹³ As will be explored below, even though asynchronisation was a common performative practice in the early twentieth-century, this particular interpretation by Casals and Horszowski displays some peculiarities that make it stand out among most of the recordings that have been examined up to now. Studies of this practice, with an emphasis on piano performance, include Peres de Costa (2012); Philip (1992, 2004); Scott (2014); Slattebrekk & Harrison (2010).

¹⁴ I use this term intentionally here. See Cook (2001, pp. 15-16) and (2003, p. 206) for an exploration of the notion of composers' scores as scripts and not as fixed, closed texts.

¹⁵ HMV DB 3059/62 (ca. 1935). To carry out this analysis, a digital transfer was made using the equipment available at the Faculty of Music, University of Cambridge. A playback curve similar to the one used by HMV in the 1930s was employed, and no interventions were made regarding the temporal, dynamic, or timbral characteristics of the recording.

¹⁶ <u>http://www.sonicvisualiser.org/</u>. The onset detection function was not accurate enough on C/H. Cook (2009) and Sapp (2011) include detailed explanations of this and other methods for measuring the time-span between note onsets in recorded music.

located and measured. Finally, to determine the extent and significance of the asynchronies thus identified, the criterion that divergences smaller than 0.1 seconds are perceived as a single tone, not as two tones in succession, was adopted.¹⁷ As a consequence, timing discrepancies smaller than a hundred milliseconds were not taken into consideration in the analysis. Table 1¹⁸ gives the complete measurements obtained through these means. As shown, the asynchronies between the cello and piano stretch over three passages that span more than half of the movement, thus appearing in the same ratio as parts in which no disjunctions are perceptible. Furthermore, two of these passages alone account for almost 86% of the asynchronies detected.

In order to produce a meaningful analysis and to minimise the risks of a too unmusical study, the obtained data were evaluated against a more ecological background. In that way, all but two asynchronies (in green) were taken into account. The disjunction produced between the cello and the piano in the first semiquaver of bar 2 seems to be a consequence of an 'error' on the part of Casals: one can perceive a double attack produced by an imprecise positioning of the right-hand finger over the C-string when playing the *pizzicato*.

Furthermore, it is completely isolated within the context of the first phrase (bars 1-4), and does not occur in the parallel juncture (bar 45) in the reprise. Similarly at the end of the piece, the asynchrony in bar 70 is unique not only within the musical phrase to which it belongs, but also within the coda. It is so sizeable and unexpected, even almost bamboozling, that it gives the impression of being involuntary. It does not fit into the general trend encountered throughout the performance. Therefore, these two temporal disjunctions are considered as unintended 'inaccuracies' that do not partake in the structural and expressive function that the other asynchronies perform in the rendition. It is believed that the omission of these two asynchronies in bar 2 and 70 in C/H will facilitate a more musically valid study. This manifests the need in music analysis for a more careful and nuanced assessment of the context from which the hard-and-fast numerical data emerges.

¹⁷ Different criteria have been applied in this respect. Epstein (1995, p. 377) and Dodson (2011a, p. 59) use a threshold of 50 milliseconds (instead of 0.1 seconds) in their analyses of asynchronisation in music performance. Rasch argues that any onset difference smaller than thirty milliseconds does not lead to "perception of order" (Rasch, 1978, 1979), and Ira J. Hirsch reduces the limit to 0.02 seconds (Hirsch, 1959, 'Auditory perception of temporal order', *The Journal of the Acoustical Society of America*, *31*(6), 759; as cited in Rasch, 1979). However, as Rasch states, "there are no experimental data for thresholds of temporal order in musical situations", as the qualities of the stimuli, including the rise times of tones, differ on each occasion (1979, p. 130). In other words, the musical context has to be taken into account when trying to determine which notes might be perceived as asynchronised between the performers. In the case of Casals and Horszowski's rendition of Brahms's Op. 99ii, one has to acknowledge that, in the earlier part of the twentieth-century, asynchrony was a much more widespread performative resource than it is nowadays, and that, therefore, smaller discrepancies might not have been perceived as asynchronous tones, but rather recognised as a natural element in the musical discourse. Significantly, a theorist coetaneous to this rendition, Vernon (1936), proposes the limit of 0.1 seconds that is being used in this analysis.

¹⁸ The bar has been divided into eight semiquavers. Measurements are given in seconds and indicate the divergence of the cello part with respect to the note onsets in the piano part. Negative values denote anticipation from Casals's part.

Article

Bar	Semiq. 1	Semiq. 2	Semiq. 3	Semiq. 4	Semiq. 5	Semiq. 6	Semiq. 7	Semiq. 8
1								
2	-0.1277							
3-4								
5					-0.2090			
6	-0.1519					-0.1683		0.1509
7						-0.1916		-0.1161
8			•		•	•	•	
9		0.1625	0.1045					
10			-0.2497		-0.1741			
11								
12	-0.1451				-0.1973			
13			-0.1393			-0.2031		
14	-0.2032	-0.1045			-0.1335			
15	-0.2032		-0.2148					-0.1045
16	-0.1045							
17				-0.1045		-0.1219		
18								
19								-0.1973
20-34								
35			-0.2090					
36	-0.1335				-0.1045			
37					-0.1161			
38	-0.1741				-0.1045		-0.1045	
39	-0.1045							
40-49								
50	-0.2032							
51								
52		-0.3193			-0.1470		-0.1061	
53			-0.1045	-0.2032				
54					0.1143			
55								
56								
57			-0.2380			-0.1045	-0.1306	
58	-0.1625							
59		-0.3184	-0.2286					
60-61								
62-69								
70					-0.3429			

Table 1. Brahms Op. 99i	i, C/H. Asynchronies between	cello and piano (in seconds)
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Particularities of the asynchronies

Asynchrony between the multiple parts of a polyphonic composition¹⁹ was a widespread expressive device in the early stages of the recording era.²⁰ However, the temporal disjunctions in C/H are so peculiar in nature and extent that they make the recording stand out among other renditions that have been discussed in previous studies on the topic. For instance, it has been claimed that this practice was particularly relevant to eighteenth- and early-nineteenth-century repertoires; yet Brahms's second Cello Sonata dates from 1886. More importantly, the technique of 'melodic' or 'earlier' rubato referred to in the literature involved a delay of the singing line in relation to the accompaniment (Dodson, 2009, p. 61; Hudson 1994; Peres da Costa, 2012, p. 334). While Robert Philip (2004) demonstrated that some singers²¹ did anticipate their melody notes with respect to the piano part, they did so sporadically and always in an evenly balanced combination with delays of melody notes.²² In C/H, however, dislocations in which the accompaniment 'follows' the melody are virtually the rule.²³

The asynchronies in C/H are also noteworthy in their magnitude. Their mean value (0.1602 seconds) ranks among those 'large onset difference times' – between 100 and 200 milliseconds – that Rudolf Rasch (1979, 1988) considers to be rare in music performance. Furthermore, the maximum deviation encountered between cello and piano is 3.184 seconds,²⁴ which is significantly larger than the upper threshold that this scholar contemplates (namely 0.2 seconds). In any case, according to Rasch, notable asynchronisations in chamber music performance are arguably the result of mistakes, as "intentional asynchronization is ... difficult and risky for an ensemble" (Rasch, 1979, p. 130).²⁵ He makes it clear that for him, the goal of any chamber music group is to be temporally coordinated; in this sense he sides with traditional ideas about 'organic'

²⁴ Bar 59, second semiquaver.

¹⁹ Robert Philip (1992) and Alan Dodson (2009) employ the term 'dislocation' between melody and accompaniment to denote this effect. As most of the existing literature on the topic focuses on music for solo piano, this phenomenon has also been named as the 'breaking', 'splitting', or 'separation' of hands (Hudson 1994, pp. 334ff.)

²⁰ For instance, Peres da Costa (2012) argues that "such dislocations were simply a product of the current vogue. We are now slaves to a highly synchronized style of playing. What sounds glaring or uncomfortably obvious to us was very probably normal, imperceptible, or hardly noticeable a century earlier" (p. 74). For further accounts of early-twentieth-century performance practices, see especially Dodson (2011a); Hudson (1994, pp. 334-340); Johnson (2002); Peres da Costa (2012, pp. 41-100); Philip (1992, 2004).

²¹ Philip specifically speaks of Adelina Patti's 1905 recording of Cherubino's aria "Voi che sapete" from Mozart's *The Marriage of Figaro* and Frieda Hempel's performance (1911) of the first aria of the Queen of the Night, "Zum Leiden", from the same composer's *The Magic Flute* (Philip, 2004, pp. 104-139).

²² Exploring this phenomenon in performances of Chopin's piano music, Richard Hudson has observed that melody anticipations intermingle with delays and are restricted to a small number of notes in order to fulfill the structural function of articulating "the commencement of a formal section" (Hudson, 1994, p. 334).

²³ The only instances when Horszowski enters before Casals are found in bars 6.8, 9.2, 50.7 and 61.4, that is, in only four (or 7%) of the fifty-two asynchronies bigger than 0.05 seconds that were found in C/H. Decimals indicate the semiquaver within each bar.

²⁵ Conversely, Vernon states that "it is probable that most of the deviations are intentional" (Vernon, 1936, p. 344), although his study is based on solo piano performances, and his conclusions are therefore not strictly applicable to C/H. See discussion below, and note 31, for an appreciation of the study of performers' intentionality in solo vs. ensemble performance.

ensemble playing that have been explored in the introduction of this article. However, the idea that the asynchronies in C/H were mere 'errors' on the part of the performers seems unsustainable. First of all, they are manifestly conspicuous and generally large, and, furthermore, they are not randomly scattered throughout Brahms's piece. Rather, they are clearly located in three passages (bars 5-19, 35-39, and 49-59), and, as will be explored below, two of them are parallel with regard to their location within the overall thematic-harmonic structure of the movement. Furthermore, comparable temporal disjunctions are not perceptible in any of the remaining movements of Brahms's F major Cello Sonata that Casals and Horszowski recorded on the same occasion in 1935; likewise, the degree of 'vertical' precision in their performances of other pieces,²⁶ which are even more complex rhythmically – for instance, the fugal finale of Brahms's Cello Sonata in E minor, Op. 38²⁷ – is remarkably high. In this context, it is noteworthy that Casals himself laid enormous emphasis on the importance of accurately manipulating time, and time relations, in performance, explicitly stating that nothing should be left uncontrolled:

It is only natural to try not to leave anything to chance. At no time do I want to go astray; each moment I must know where I am, in order to maintain a proper connection between all the different elements and not to lose the right proportions (in Corredor, 1956, pp. 194-195).²⁸

Equally from the perspective of the expressive function of asynchrony, C/H does cast doubt on some claims that are made in the literature. For instance, Vernon posits that this effect might be produced for the sake of melodic distinctiveness, as "notes might be brought in singly to facilitate perception" (Vernon, 1936, p. 330). Dodson also takes this assumption as a point of departure in his study of Vladimir de Pachmann's recording of Chopin's Prelude No. 6 in B Minor,²⁹ quoting Albert Bregmann's contention that "the constituent voices of a notationally solid chord are brought out of alignment in performance".³⁰ However, these studies focus on solo piano music, where the hypothetical intentions of only one performer are considered. In a duo performance, on the other hand, intentionality is even thornier as an analytical assumption, as in this sort of ensemble not only are the individual actions of two performers involved, but also the manifold interactions between them.³¹ That is, even if C/H's asynchronies have the effect of attracting the listener's attention to certain tones, it is not possible to assert that the cellist's (or the pianist's) anticipations with respect to his partner were necessarily, or exclusively, a corollary of an agreed view on the expressive sense of the movement.

For all of these reasons, the timing discrepancies between the piano and cello parts are

²⁶ Their professional relationship began in 1906 after they met in Milan, and lasted until the cellist's last days in the 1970s. See 'Obituary of Mieczysław Horszowski', *The Daily Telegraph*, 25-V-1993, p. 23.

²⁷ Pau Casals and Mieczysław Horszowski: live recording at Prades Festival (1958); never released commercially; <u>https://www.youtube.com/watch?v=J4Gh0gS6uBQ</u>

²⁸ Also refer to Blum (1977) for similar accounts of the cellist's teachings.

²⁹ See Dodson (2011a).

³⁰ Bregman, Albert S. (1994). *Auditory scene analysis: The perceptual organization of sound*. Cambridge [MA]: The MIT Press; as quoted in Dodson (2011a, pp. 491-492).

³¹ As Rasch (1979, pp. 130-131) reminds us, it is not possible to speak of solo and ensemble performance similarly in terms of motor coordination and intentionality, as interpersonal interaction further complexifies the phenomenon; see also Goodman (2000, 2002).

one of the most distinctive features of C/H and should by no means be overlooked – let alone dismissed – as unintended mechanical 'inaccuracy'. In fact, it is precisely the uniqueness of these asynchronies, in terms of their context, pervasiveness, magnitude, and melodically anticipating nature, that captures the listener's interest. They bear an enhanced importance as a performance strategy in the rendition, ultimately giving C/H its unique flavour among the numerous recorded interpretations of Brahms's *Adagio affettuoso* that can be found nowadays.³²

Distribution, local effects, and possible triggers for the asynchronies

Brahms's Adagio affettuoso has attracted significant scholarly attention, not only because of its alleged origins in conjunction with the E-minor Cello Sonata, Op. 38,³³ but also because it belongs to Brahms's fascinating late chamber music. Not surprisingly, given the composer's admiration for old models, this piece, like most of the slow movements of his late period,³⁴ manifests clear traits of the ternary-form model that by 1886 had become customary in the *Formenlehre* tradition to which Brahms belonged (Figure 1).³⁵ At the same time, the *Adagio affettuoso* contradicts in many ways one of the most fundamental principles of this formal type, namely that of contrast between the main sections.³⁶

The information provided in Table 1 acquires greater meaning when superimposed on such a tripartite model. As remarked above, two of the passages in which asynchronies are perceptible between the two instruments, namely bars 5-19 and 49-59, are particularly extensive. More significantly, their location within the A and A' sections is absolutely parallel (Figure 2): both commence in the fifth bar of the first theme (subsection a) – i.e. in the middle of phrases I and X respectively – and unfold up to the end of the second theme. Even if in the reprise asynchronies are not significant in bars 48 and 61-62, the close correspondence between the emergence of asynchronies throughout C/H and the

³² As part of my doctoral research, I studied eleven recordings of this piece, including C/H. As a whole, they encompass a time span of seventy years from 1935 (C/H) to 2005 (by Steven Isserlis and Stephen Hough). None of them involved asynchronies that might be comparable to those in C/H. In fact, temporal disjunctions were virtually nonexistent in all the other renditions. See Llorens (in progress) for detailed sources and their analysis.

³³ Max Kalbeck was apparently the first to speculate about a compositional connection between these two cello sonatas. Other scholars, such as Margaret Notley, have taken this claim further, supporting it on the basis of both the corrections visible on the composer's autograph (see note 10 above for full details) and the tonal and motivic relations that may be observed across the two works (see Notley, 1994). Nevertheless, those claims are weakened by the clear stylistic differences between the two sonatas. Wiesenfeldt (2006, pp. 209-215) offers a summary of the diverging stances.

³⁴ Margaret Notley has devoted significant efforts to exploring aesthetic and genre-centred conceptions of the '*Adagio*' in late-nineteenth-century Austro-German circles. She claims that by the turn of the century this kind of piece had become "an elevated genre unto itself" (Notley, 2007, p. 172), as it was considered "a special case that transcended the usual standards of composition" and which represented a "single inner experience" (1999, pp. 37 and 38); see also Notley (1998).

³⁵ In Figure 1, the prefix 'p' stands for 'phrase'; it is used to avoid confusion with harmonic nomenclature in roman numerals.

³⁶ See Pascall (1972, pp. 158-59) for an appreciation of the complexity and formal ambiguity of Brahms's slow movements. More specifically focused on Op. 99ii, Notley (1994) explores the richness of semitonal relations that pervade the movement, and which manifestly blur the boundaries between the various sections of the piece.

phraseological construction of Brahms's piece prompts a reconsideration of this second asynchronised section as comprising those three bars as well – hence the light blue tonalities in Figure 2. As a result, two passages of respectively fifteen and seventeen bars, that is, bars 5-16 and 48-62, are seen to feature manifest disjunctions between the two instruments of the duo.³⁷ The fact that the cello melody almost invariably enters before the piano is symbolised by leftward arrows in Example 1, whereas the delays in the cello part are represented by rightward pointers. The magnitude of the asynchrony is indicated in seconds over the corresponding arrows.

Sections	ctions A				В				A'						
Subsections	ubsections a b		Ci			Cz		a'		b'		coda			
Phrases	рІ	pH	pIII	pIV	рV	p∨I	pVII	pVIII	pIX	pХ	рХI	pXII	pXIII	pXIV	рХV
Bars	1 2 3	456789	10 11 12 13 14 1	5 16 17 18 1	19 20 21 22 3	23 24 25 26 2	7 28 29 30 31 32	33 34 35 36 37 38 3	9 40 41 42 43	44 45 46 47	48 49 50 51 52 53 54 5	5 56 57 58 59	60 61 62	63 64 65	66 67 68 69 70 71
Harmonic movement	I F#		T	V	– Fm/Db			Db (V/F#)		I F#		VI	T		





Figure 2. Brahms Op. 99ii, C/H: distribution of asynchronies between cello and piano throughout the recording

Although these two large passages are absolutely parallel with regard to the overall thematic-harmonic structure of the piece, Casals and Horszowski interpret them differently in terms of small-scale agogics. The first significant deviation between the two segments occurs in the third bar of each passage, that is, bars 7 and 50, which correspond to the second portion of the first theme of the movement. On the first occasion, the semiquaver upbeat is played earlier in the cello by almost 0.1 seconds. This "phenomenal microaccent" (Dodson, 2002, par. 3.1ff.) stresses the ensuing downbeat in bar 8 by stretching the upbeat and the consequent expectation for metric resolution.³⁸ In the reprise, on the other hand, Casals enters on the downbeat with his partner. According to Dodson's theory, this "elongation" lays an emphasis on the melodic minim that is comparatively stronger than the previous "hesitation" on the first emergence of the material. Again a consequence of temporal anticipation in the cello part, upbeat "hesitation" is used in the second theme too (bars 12ff. and 56ff.), where the magnitude of the asynchronies might be interpreted as a direct response to Brahms's dynamic indications (note the hairpin in bar 13 and the anticipation of 0.2 seconds preceding its peak).

³⁷ The difference in the numbers of bars between these two passages is explainable through the insertion of bars 53-54 in the reprise with respect to the initial appearance of the material in the A section; see Example 1 for a comparison of the melodic construction in the two asynchronised passages.

³⁸ Dodson (2002) explores this in relation to "phenomenal micro accents", and calls this particular device "hesitation style" (par. 3.1ff.).

Moreover, through the cellist's anticipation of the C* in bar 52 by 0.32 seconds, the ensuing D sharp is performatively highlighted in correlation with the harmonic tension that the leading note, i.e. the C*, produces. In this way, the juncture effectively becomes a turning point that opens the way for the harmonic change that follows and the new dolce character of the music (Example 2b). In the opening section, conversely, Casals delays the C* and thus imparts it a clear passing-note quality towards the ensuing B-minor chord (Example 2a). What happens at these parallel junctures, then, seems to contradict Vernon's contention that "asynchronousness is not related to ... changes in tonality" (Vernon, 1936, p. 344). Nonetheless, the pervasiveness of the asynchronies between the cello and piano throughout C/H makes it impossible to speak of an unequivocal relationship of cause and effect between harmony and temporal dislocation in this rendition: asynchronies emerge in virtually every possible beat,³⁹ and thus harmony cannot be deemed to be the only factor of primordial influence. The melodic profile does not seem to be a crucial factor in this respect either. Even if in the initial bars of both passages asynchronies seem to increase – or at least to proliferate more compellingly – as the cello line ascends, they are present with equal intensity in the second half, where the cello's register is lower. It is significant in this respect that one of the largest temporal discrepancies between the two instruments emerges in bar 59, where Casals plays the A sharp 0.32 seconds earlier than Horszowski and anticipates the ensuing C sharp by 0.23 seconds. Equally the conclusions presented by Rudolf Rasch (1989) in his very detailed study of asynchronisation in ensemble performance do not tally with these two passages, as none of the musical characteristics that he puts forward as plausibly inducing "large onset differences"⁴⁰ is present in C/H.

³⁹ Given that the metric values are normally shorter in the piano with respect to the cello part, there are fewer note onsets in the latter, and, as a consequence, not in every occasion that the piano strikes a new note there is a note onset in the cello as well.

⁴⁰ Rudolf Rasch considers the following compositional features as sources for asynchronisations in ensembles: 1) the first notes of a movement; 2) a section with long notes in one voice and short notes in other voices; 3) ritenuto or accelerando sections; 4) onset of an individual part after rests 5) final notes following a ritardando or separated from the preceding notes by a rest; 6) sections that are complicated with regard to rhythm and/or metre; and 7) absence of directly preceding tones or uncertainty concerning the temporal structure (Rasch, 1979, p. 130; 1988, p. 81).



Example 1. Brahms Op. 99ii, bars 5-16 and 48-60. Asynchronies between cello and piano in C/H; annotated in cello part only



Example 2. Brahms Op. 99ii, a) bars 8-9; b) bars 51-53

Structural challenges and asynchrony in C/H

The other passage in which asynchronies between piano and cello are clearly observable (namely bars 35-39; see Figure 2 above) is even more intriguing. While it is credible that the harmonic change in bar 53 induced Casals to stretch the semiquavers before vertically aligning with Horszowski at the B-minor resolution in the second half of the bar – and to generate the overall sense of pull at that point - in bars 35-39, and especially 36-39, there does not seem to be a single score-based trigger for the temporal displacements that emerge in the recording. In bar 36, the initial motif of four semiguavers (Example 3a) is employed twice in the cello line (Example 3b), and is subsequently developed in the form of ternary groupings in both instrumental parts. Thus, the performers' diverging approach to this passage with respect to bars 1 and 44 in terms of their timing strategies is not explainable on motivic or rhythmic grounds. Even if the harmonic context in which the motif appears throughout this passage is different from the tonic sonority at the start of the A and A' sections, its tonal linkage - as the enharmonic main dominant - to the reprise is too powerful to be overlooked (Pascall 1972, p. 18; see Example 4).⁴¹ Moreover, while the two more extensive, parallel asynchronous passages (i.e. bars 5-19 and 49-59) are in close correspondence within the thematic-harmonic construction of the Adagio affettuoso, this shorter segment does not map onto any of the main formal divisions of the movement, as it is part of an ongoing process towards the reprise of the initial material. On the basis of an analysis of Brahms's script, then, neither harmony nor phraseological/motivic construction seems to offer strong enough motivation to elicit the asynchrony at this juncture in the recording. And, yet, the change in Casals and Horszowski's timing strategies yields to a breach in the middle of a structural unit that is clearly defined on the score.

⁴¹ That is, by weakening the central contrast of the movement, the reappearance of the initial material becomes blurred and ambiguous. In this connection, Sisman asserts that in the ternary forms dating from the composition of the quartets Opp. 25 and 26 onwards (1861), Brahms's "most important innovation was to transform the moment of return into an entity far more elusive than in earlier music ... by redefining the nature of contrast and the limits of return or recurrence" (Sisman, 1990, p. 102).



Example 3. Brahms Op. 99ii, a) bars 1-2; b) bars 35-39



Example 4. Brahms Op. 99ii, bars 40-45

In fact, it seems that Brahms himself wanted to strengthen the unity of this transitional segment in performance, as he apparently advocated avoiding a separation between bars 39 and 40, and instead clearly emphasised such a division before the start of the reprise in bar 44. According to cellist Robert Hausmann, with whom Brahms premièred the sonata, the composer "increased the tempo in measures 38 and 39, took mm. 40 and 41 meno adagio and, along with the diminuendo, delayed mm. 42 and 43 such that the reprise from m. 44 onwards returned to the opening tempo of the movement".⁴² However, in C/H the decrease in tempo leading to bar 40 is much more pronounced and sudden than that which

⁴² Robert Hausmann, cited by Johannes Behr in the preface to the Henle Verlag Urtext edition of this sonata (*Sonate für Klavier und Violoncello F-dur Opus 99* (HN 1135); Munich, 2012, p. 4). It is generally believed that performers manipulate tempo and dynamics to highlight structural divisions. More concretely, decreases in these two parameters are believed to serve as a means for marking structural boundaries, only to increase their values to commence a new unit. In this way, these parameters usually delineate a sort of arch-shape that ascends at the start of the phrase and descends at the end. The scope and abruptness of those fluctuations account for the relative importance of the structural punctuations in relation to each other. Refer especially to Todd (1985), and also to Clarke (1988); Cook (1987, 1995); Dodson (2011b); and Repp (1990, 1998) for further discussion and applications of Todd's ideas; note the focus on timing issues.

occurs just before bar 44,⁴³ and this structural boundary is also reinforced by an accompanying decrease in loudness (Figure 3).⁴⁴

It needs to be highlighted that throughout this article musical structure is conceptualised in a flexible and diachronic manner, according to which its processual nature is brought to light. In other words, even if the idea of "structuralist", or synchronic playing was not yet predominant when C/H was made (Cook, 2013), this does not necessarily imply that a sense of the formal shape of the movement was completely absent from the performers' interpretive approach to the piece. What it means is that musicians might have held a view of musical structure unlike those seen after the Second World War. In fact, research has revealed much earlier instances of performers' concerns with music's structure – for instance, Clara Wieck's insistence on delineating it by *hineinlegen* (not rushing) (Scott, 2014, p. 129).

So far as Casals is concerned, he clearly advocated having a sense of the whole composition: "each moment I must know where I am, in order to maintain a proper connection between all the different elements and not to lose the right proportions" (Corredor, 1956, p. 195). His performative decisions were not influenced by any hard and fast analytical findings, but rather by intuition (p. 191). And yet he experienced musical form – in the form of diachronically-shaped musical proportions, projected through his manipulations of time and presumably of other parameters as well. On these bases, theories regarding the signalling of structural boundaries in performance by means of decelerando and diminuendo profiles are informative when analysing this 1935 recording.

The aforementioned decreases before bar 40 rank, furthermore, among the most prominent ones across the recording. As Figure 3 shows, the other lowest levels of both tempo and dynamics together occur at the beginning of the second theme in the two corresponding sections A and A' (namely bars 12 and 56), as well as in bars 20 and 63. The latter two are especially significant from a large-scale perspective, as they signal two of the three most important moments of structural division in any tripartite piece: the start of the central section and the coda. Furthermore, they totally align with the two parallel passages in which asynchronies between piano and cello are manifest. That is, at these junctures there is an exact correspondence between the performers' handling of the parameters of dynamics and timing – comprising both tempo fluctuations and asynchrony between parts – and the thematic-harmonic construction of the movement.

⁴³ The original 78 rpm recording (HMV DB 3059/62) for this movement consists of two sides of a shellac, and the break between them coincides precisely with the end of bar 39. Two recording lathes were used, as the extra letter A at the end of the matrix number shows; thus the musicians did not have to stop playing. In any case, they would have been aware that the listener would have to turn the disc over before moving on to bar 40. The merging in the CD reissue (Naxos Historical 8.110949-50 (2001)) seems perfectly coherent in the context of the passage. It follows the progressive lengthening of the beats, which commences much earlier and whose magnitude is significant – in fact, it is much more pronounced than the one before bar 44. Therefore, I have used the 2001 digital release when analysing the recording at this particular juncture.

⁴⁴ The semiquaver was taken as the measurement unit. Tempo values at a given beat indicate the measurements made in relation to the previous semiquaver, and those of dynamics with respect to the following beat.



Figure 3. Brahms Op. 99ii, C/H: tempo and dynamic fluctuations, and their alignment with asynchronised passages

On the other hand, at the beginning of the reprise, which arguably is the other most significant point of structural definition within any tripartite construction, the full return of the initial motivic material and key is not in line with the musicians' performative strategies, as both timing – referring to tempo and asynchrony again – and dynamics coalesce not in bar 44 but in bar 40. Given the strength of the punctuations before the middle section and the coda, then, in C/H it seems reasonable to argue for a structural boundary in bar 40 which would eventually override that before the start of the score-based reprise four bars later. By the same token, it is plausible that Casals and Horszowski considered the incomplete emergence of the opening material in bar 40 to be self-sufficient as a reprise-defining factor, not requiring supplementation by a full resolution in the main tonic.

Asynchrony and a-isochrony

Some other factors support these claims, not least the effects of a-isochrony throughout the rendition. The relation between this phenomenon and the temporal disjunctions in C/H is straightforward: not only do the asynchronies derive from beat durations that are necessarily disparate between the two instrumental parts, but also the durations of notes of the same notated length within any of these lines separately are not exactly equal in any performance.⁴⁵ That is, uneven beat durations in each of the two parts independently are intrinsically connected to the temporal disjunctions that they produce with one another when their respective values are not strictly equal. Example 5⁴⁶ illustrates this phenomenon in bars 36-39, and provides the durations (in seconds) of crotchets and bars in both Casals and Horszowski's parts, as well as the magnitude of the asynchronies that emerge between them. For the sake of a more detailed analysis, and to provide the reader with more complete data, asynchronies smaller than 0.1 seconds have also been indicated in this Example.



Example 5. Brahms Op. 99ii, C/H: Durations of asynchronies, as well as of crotchets and bars in both the cello and piano parts

⁴⁵ As Rasch points out, there exists a "relation between asynchronization and a-isochronization" (Rasch, 1988, p. 79);⁴⁵ that is, the various beat lengths that emerge in each of the asynchronised parts need not be, and indeed are not, exactly identical. This is applicable not only to the beats within a single part, as Rasch explores, but also to the beat durations in both parts in relation to one another.

⁴⁶ No expressive indications are included in the interest of a clearer visualisation of the durational values.

Along those lines, it has already been investigated how, in C/H, the diverging beat lengths in the cello and piano parts give rise to different degrees of 'phase synchrony' at the end of the most important sections in Brahms's *Adagio affettuoso*.⁴⁷ On the basis of David Epstein's model, the beat durations that emerge from the various asynchronies detected in C/H were observed to invariably reinforce the marking of a structural boundary four bars before the full thematic and harmonic reprise, that is, between bars 39 and 40.⁴⁸ Moreover, an increased diversity of beat durations in the cello line was noticed with respect to Horszowski's part, this being in line with Casals's own beliefs. As he put it, "Variety is a great word – in music as in everything; variety is a law of nature" (Blum, 1977, p. 18).

Even more significant for the present study, however, is the fact that this variety of beat durations in C/H is a determining factor in the segmentation of the piece at the highest structural level. By means of an analysis of the sequence in which they appear throughout the rendition, these beat – or, more specifically, semiquaver – lengths⁴⁹ were clustered and classified as various general profiles, or timing patterns (T)⁵⁰ that work as motives across the performance. Whereas motivic analysis has traditionally focused on pitch and rhythmic relations, it has recently been claimed that general timing patterns of this sort too may play a motivic role, broadening the analytical scope to encompass performative parameters that have tended to be overlooked in a largely score-based analytical and theoretical practice.⁵¹ As a consequence, these general timing patterns can be deemed to be another aspect of the organisational fabric of a given piece that might be unique to a particular rendition.⁵²

⁴⁷ See Llorens (2015) for a complete analysis, where David Epstein's (1995) notion of "phase synchrony" for Romantic rubato playing, defined as the reconciliation occurring at phrase ends between the "strict metric control of the beat" and "the pulse distorted by rubato" (p. 372) – as well as his claims for structural segmentation deriving from this phenomenon – was taken as a theoretical basis. After providing the necessary corrections in the analytical method Epstein employs, I applied it to the durational values of both the cello and piano parts in C/H. At multiple hierarchical levels – namely phrases, subsections, and sections – within Brahms's movement, the "phase synchrony" was always highest in the cello part.

⁴⁸ "Phase synchrony" in the cello part was particularly high at the end of bar 39, whereas in bar 43 it was notably reduced. The same was noticed when the values of Horszowski's part were analysed.

⁴⁹ I have based my analysis on the semiquaver durations that emerge in the cello part.

⁵⁰ On the basis of the metric nature of Brahms's *Adagio affettuoso*, the bar was used as the grouping unit. That is, groups of eight semiquavers were formed and then classified into generalising groups. The semiquaver durations were converted into percentage values within their respective bars in order to afford an equalised analysis. Then a clustering analysis was performed with the help of the software Viscovery SOMine®, version 5. See Spiro et al. (2007) for a more detailed explanation of the analytical method. The results shown in this article were obtained with a precision of 2000 nodes in accurate mode. Even if other degrees of accuracy were trained as well, the results obtained in each case were congruent with one another, strongly validating the analytical method employed.

⁵¹ The same has been extrapolated to the dynamic profile of any given interpretation. See Rink et al. (2011) and Spiro et al. (2007, 2010) for a more detailed discussion and application of these findings. The analysis of articulation sequences is more complex and difficult to perform with the help of the clustering software specified above. However, it might still be possible to develop some other techniques more appropriate for that aim; see Smith (2004) and Llorens (in progress) for some attempts in this direction.

⁵² On some other occasions, however, a correspondence might be found between the profiles employed by different performers at specific junctures of a given piece. For instance, in Llorens (in progress, ch. 4) a particular ritardando profile was observed to mark points of structural segmentation in most of the recordings of Brahms's Op. 99ii that were analysed.





Figure 4. Brahms Op. 99ii, C/H: timing patterns detected (precision: 2000 nodes in accurate mode)

In C/H, five of these general durational patterns were detected (Figure 4).⁵³ Whereas the first three patterns – T1, T2, and T3, by decreasing order of emergence – interweave with each other throughout three long spans, T4 and T5, on the contrary, are used on only three specific occasions across the piece. T5, which has a distinct semiquaver-upbeat character, is employed at the beginning of the central section in bars 20, 22, and 24, where Brahms's articulation slurs indicate such phrase construction (Example 6). On the other hand, T4 appears at the end of phrases VIII and XIII, precisely coinciding with bar 40 – and not bar 44 – and the start of the coda. Surprisingly, it is this more vacillating timing pattern, and not T2 despite its marked Group-Final-Lengthening (GFL) contour,⁵⁴ that functions as a boundary marker in C/H, in this way challenging Todd's phrase-arch theory.⁵⁵

⁵³ See note 46 above for a description of the method employed. Of the patterns detected, T1, T2 and T3 together emerge in 90% of the bars, whereas patterns T4 and T5 are used in only 10% of them.

⁵⁴ According to Mitchell Ohriner, "performers can suggest novel descriptions of grouping structure by lengthening group-final events", that is, by resorting to ritardando profiles (Ohriner, 2012, p. 2). This is arguably an application of Todd's arch-phrase theory (1985) to the microlevel, i.e. to small timing fluctuations within individual bars. See note 39 above.

⁵⁵ See note 39 above.

In summary, in C/H, the most important junctures of structural division, namely the start of the central section, the 'reprise' in bar 40, and the coda, are marked in a similar fashion from an agogic point of view. Whereas T5 works as an opening motive, T4 plays the opposite role, that of a closing gesture. Moreover, the few emergences of these two timing patterns are invariably in alignment with the boundaries signalled through the performers' handling of dynamics, tempo fluctuations, and the alternation of asynchronised and synchronised passages.⁵⁶



Example 6. Brahms Op. 99ii, bars 19-23

⁵⁶ The distribution of dynamic patterns is also in agreement with the other performative strategies explored. For reasons of space, and on the basis of this article's focus on timing issues, the analysis of dynamics has been relegated to an endnote, even if in C/H the structural role of this parameter is also very powerful. Again with an applied precision of 2000 nodes in accurate mode, three general dynamic patterns were found with the help of Viscovery SOMine® 5 (see Figure below). On the basis of Todd's (1985) phrase-arch theory – see note 39 above – D1 might appear to play a more neutral role, providing the performance with continuity in the sphere of loudness; D2 might function as a closing gesture; and D3 might be located at bars involving cadential arrival, after which the performance might take on a new impulse. Accordingly, it is not surprising to find that it is T2 that marks the boundaries between the first and second themes in both the opening section and the reprise, and equally before the coda. Moreover, this diminuendo profile is also employed to convert bar 40 into the start of a new structural block (see Figure 5 in the main body of the text).





Figure 5. Brahms Op. 99ii, C/H: strategies of structural segmentation and interaction between tempo and dynamic fluctuations, asynchronised passages, and performative patterns

The interplay with synchrony as broad-scale understanding

The asynchronies between the cello and piano serve another significant purpose at the highest structural level. As a result of their alternation with passages in which no such disjunctions are apparent, they create a sort of high-order rhythm that shapes the Adagio affettuoso in unique ways. At the start, four bars where no asynchronies are perceptible are followed by fifteen bars in which temporal misalignments are pervasive. The alternation between synchronised and asynchronised passages is subsequently replicated but with virtually swapped bar numbers: sixteen bars of synchrony precede four asynchronised ones. After bar 40, synchrony comes to light again during eight bars. However, this passage is followed by fifteen bars where Casals and Horszowski's parts are not vertically aligned, synchrony being finally restated in the final eight bars. On this basis, a sequence of 4S - 16S - 4A - 10S - 10A - 11S57 bars emerges throughout C/H.

As expected, the emergence of synchronised passages throughout the piece precisely match moments of structural significance in this rendition: besides the opening of the movement, it marks the beginning of the middle section (bar 20) and roughly the coda (bar 63; see dashed and light-blue vertical lines in Figure 6), and, more importantly, the moment of 'reprise' signalled by the other means detailed above (bar 40). As a consequence, it is possible to say that, in C/H, the asynchronies between the cellist and the pianist play a structural role, in the sense that it is precisely at junctures of enhanced formal weight that these musicians begin to display disparate views regarding the durational proportions of their respective parts.

Hence this alternation between synchrony and asynchrony is seen as a testimony of a structural dialogue between Casals and Horszowski. However, its formal implications might be imperceptible to the listener, who is more concerned with the sense of moment-to-moment continuity and overall coherence⁵⁸ that the performers create, and not so much with the structural proportions that the analyst might discover – even if these are intended by the composer or the musicians playing the piece. Yet the effects of this alternation do not pass unnoticed by the listener, as they are also crucial for the overall emotional and expressive effect of the rendition. The alternation is fundamentally responsible for the impression of dynamism, directionality, and flux that pervades the rendition; it is also a vital factor in the 'diachronic'⁵⁹ feeling of the recording, and ultimately in the sense of tension and relaxation that it yields. By its enhanced swiftness in the first part of the movement, the alternation between synchrony and asynchrony propels the motion towards its centre (bar 40), and the slower overall tempo in the middle section⁶⁰ equally enhances the sensation of climactic arrival at this point.

⁵⁷ The subscripts stand for asynchrony (A) and synchrony (S).

⁵⁸ See Leech-Wilkinson (2015, p. 352).

⁵⁹ In this respect, I have taken E. Kurth (1925, 1931, 1991); A. Halm ([1913] 1947); B. Assafjew (1976); and W. Berry's (1976, 1989) writings as theoretical bases and inspiration. A more comprehensive exploration of these ideas, and of their opposition to 'synchronic' conceptions of musical form, can be found in Llorens (in progress). See bibliography for full references.

⁶⁰ The mean tempos have been calculated on the interquartile values within each section in order to "moderate the influence of the score" and avoid the extremes (Leech-Wilkinson, 2010a, p. 75).

The clash between the performers regarding the durational values of their respective parts is more intense at the start of the piece, where Casals and Horszowski are in agreement during four bars only, being temporally misaligned immediately thereafter. Furthermore, this A-B structural block ends in temporal dispute. In the second half, conversely, their confrontation is established at a calmer pace, as this second large structural block both starts and finishes in accord, and the alternation between asynchronised and synchronised passages is steadier. It is, then, not only the amount – or magnitude – of the asynchronies that is of consequence for the interpretive construction of Brahms's movement in C/H, but also their expanse and sequential arrangement over time. In other words, this alternation between asynchronised and synchronised passages is critical for the sense of ebb and flow, and of unremitting tension that the performance yields, as it attests to a fundamentally energetic, diachronic understanding of Brahms's movement. Tension increases and recedes with varying degrees of intensity as the performance elapses, potentially drawing on "our embodied sense of motion" (Leech-Wilkinson, 2015, p. 352).⁶¹

In C/H, therefore, the asynchronisations between cello and piano – with the former virtually always entering before the latter – do play the structural role that Hudson ascribes to the melodic anticipations that are sometimes found in the "earlier rubato" style, namely that of articulating "the beginning of a section" (Hudson, 1994, p. 333). However, they do not operate at the note level exclusively, as Hudson acknowledges, but rather are pervasive throughout the recording, and exert an effect at a much broader scale. In other words, they contribute not only to the musicians' 'vertical' understanding of Brahms's *Adagio affettuoso*, i.e. to their views with regard to the segmentation of the piece, but also, and perhaps more importantly for the overall musical perception of the performance, to their forward-moving, 'linear' sense of the composition. Through their alternation with more synchronised passages, these temporal discrepancies govern Casals and Horszowski's shaping of the piece at the broadest scale, contributing to the compelling sense of directionality and intensity of their rendition (Figure 6).

The above analysis has shown how the asynchronies between the cello and piano in C/H prompt – by means of their magnitude, nature, and distribution – a re-evaluation of previous literature on this phenomenon. They do not only comprise an expressive trait, but also, and more significantly, a crucial element in Casals and Horszowski's structural organisation of Brahms's *Adagio affettuoso*. They delimit the large cycles around which the movement is organised. At the beginning of the piece, both performers seem to share an understanding of the durational proportions of the passage, yet their opinions eventually diverge, at which point the dialogue becomes sharply confrontational. This dispute extends to the end of the section. Whether or not agreement is reached is of little consequence because another cycle starts, and so the dialogue has to be taken up again. It would have been useless to continue the dispute over the structural boundaries as the rift between the performers might have become more pronounced. It is as if these musicians were trying to impose their views on the structure of the piece through their manipulations of time, regardless of the very audible disjunctions. It is in this manner that the latter testify to an

⁶¹ In his recent study of Cortot's 1920 recording of Chopin's *Berceuse*, Daniel Leech-Wilkinson explores how this performer's use of rubato has the effect of "engaging our bodily responses ... so that the music models the dynamics of human feeling" (Leech-Wilkinson 2015, p. 353) and interacts with our bodies.

ongoing dialogue between the performers, a dialogue which is supported by other issues of timing (and dynamics), and which primarily concerns matters of musical proportions, structural segmentation, motion, and intensity. Significantly, Casals and Horszowski's organisation of the movement is at odds with a score-based segmentation of Brahms's piece, as it projects a main division before bar 40 instead of bar 44. While they emphasise the separation between the two main themes of the piece very clearly, and to a certain extent that before the coda too, they make the central section consist of phrases V to VIII only. As a consequence, phrase IX (i.e. bars 40-43) is detached from the middle section and is thus converted into the starting point of the reprise. That is, the boundary before bar 40 is reinforced so strongly that it acts as arguably the most important structural division of the movement, and therefore, in C/H the A' section is deemed to start before the full restatement of the initial material (hence the leftward arrow preceding letter A' in Figure 6). Besides, by means of the musicians' performative strategies, not least the rhythm of alternation between asynchronised and synchronised passages, the boundary that marks the start of the central section is enclosed within a structural block of broader dimensions, and as a result sections A and B are made to form a closed unit. The same happens in the following passage, as the coda is similarly integrated into the course of the reprise. Furthermore, within these two higher-order units, both intensifying and receding impulses come into light that account for the intensity and sense of motion of the interpretation, and ultimately of the structural discussion in which the performers engage through their temporal disjunctions. This dialogue is to be understood 'diachronically', that is, as undergoing a series of transformations – as acquiring varying degrees of vigour throughout the rendition. The dialogue is not operative in the moments of structural segmentation exclusively; rather, it pervades the entire performance.



Figure 6. Brahms Op. 99ii, C/H. Rhythm of asynchronies and resulting overall structural construction

On these bases, it is not tenable to regard the asynchronisations between the cello and piano in C/H as involuntary accidents on the part of the performers. Even if the notion of intentionality is highly problematic when one speaks of renditions for which no direct testimonies concerning the musicians' ideas are available, and even more so when more than one performer is involved, the analysis of this 1935 interpretation of Brahms's Adagio affettuoso supports the understanding of those temporal disjunctions as serving very specific structural and expressive purposes. Surprising to modern listeners as they might sound, they are Casals and Horszowski's strongest tool for signaling the moment of intended reprise, as well as guaranteeing interest, tension, and cohesion at the highest level. Furthermore, these asynchronies are evidence of an ongoing dialogue between two performers who might have opposing views. That is, they fundamentally contradict the idea of chamber music performance as an integrated, organic act in which the participants supposedly agree at all times. As Goodman puts it, the cello-piano duo ensemble may be characterised as more than just the sum of two individual performers, or rather the blending of solo trends. Indeed, it is an entity that comprises a complex (and not necessarily balanced) combination from three component strands: the cellist's individual traits, the pianist's individual traits, and the 'ensemble' traits per se (hence the outcome of interaction between cellist and pianist) (Goodman, 2000, p. 253).

Taking a further step, this analysis also prompts a re-evaluation of traditional notions such as the alleged distinction between expression and form, as the asynchronies in C/H have both locally expressive – as explored in the two presentations of the main theme – and large-scale structural consequences, in the sense of signaling moments of formal significance and of creating an all-encompassing sense of ebb and flow. C/H illustrates, then, that a particular performative strategy might have structural as well as emotional effects, and, equally, that the idea of 'structural' performance might not be restricted to late-twentieth- century renditions.⁶² On the contrary, what is usually restricted is our conception of 'structure', which tends to be mostly associated with synchronic, structuralist principles.

As their rendition of Brahms's Adagio affettuoso shows, Casals and Horszowski had a clear structural and expressive understanding of the piece. It might not coincide with modern, analysis-based views of the movement, and these musicians might project their understanding by means of performative strategies that seem out of the ordinary nowadays. Yet this is not to deny that they constructed the piece in an extremely coherent manner from a broad-scale perspective.⁶³ They combined a sense of "measuring time in space" (Corredor, 1956, p. 191) – or 'structural' vantage point – with a continuous form of rubato which can be likened to Cook's (2013) description of 'rhetorical performance' – and which is related to the asynchronies detected in this recording of Brahms's piece. In their playing, 'speech' and 'structure' are not opposed; they are rather complementary ways of approaching the music. The opposition only emerges when one tries to convert them into

⁶² See Cook, 2013.

⁶³ In a similar vein, Daniel Leech-Wilkinson (2015) acknowledges that Cortot's use of rubato in his 1920 recording of Chopin's *Berceuse* attest to a higher-order understanding of the piece: besides prompting an embodied response in the listener, it matches the melodic profile of the piece and thus makes structural sense at a deeper level. However, he sees this matching between melodic structure and rubato as a mechanical device on the part of Cortot (p. 354).

"belief systems" (Cook 2013, p. 129) that have little to do with the more elastic reality of performers, and when 'structural' is equated with 'structuralist'.

This study ultimately aspires to broaden the scope not only of previous analyses of recorded performances, but also of music analysis in general. By proposing asynchrony as the feature that most strongly governs this particular construction of Brahms's movement, that is, as a structurally paramount element, it expands the parameters worthy of analysis beyond the conventional triumvirate of pitch, rhythm, and harmony, and even of dynamic and tempo fluctuations and patterning. Therefore, an acknowledgment of the dialogue involving not only the performers, but also analysis and performance, becomes imperative in any study of this sort – and ultimately in any investigation of the meaning of musical structure in the context of the, by definition diachronic, nature of performance. Through these lenses, structure becomes a more flexible notion that implies tension, energy, freedom of choice, and a spectrum of musical elements and strategies,⁶⁴ and thus reveals itself as open to performers' intervention.

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⁶⁴ See Rink (2015a) for related ideas.

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