

## Phrase extension in Haydn’s string quartet minuets: A preliminary corpus study

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### Abstract

This study examines a small but well-defined corpus: Franz Joseph Haydn’s string quartet minuets and trios (n=76 paired dances, or 152 individual minuets), composed between 1764 and 1803. Seeking to identify the metrical differences between a minuet intended for dancing and one intended for the salon or the concert stage, this study parses Haydn’s 8- and 10-measure minuet and trio sections (using the models of “tight-knit” theme types proposed by Caplin 1998), identifies patterns in Haydn’s phrase extensions, and discusses challenges and opportunities for further corpus-informed studies of phrase rhythm and hypermeter.

KEYWORDS: *Haydn, phrase rhythm, form, corpus analysis*

### Introduction

A triple-meter dance generally written in rounded binary form, the Minuet was a popular eighteenth-century social dance, and a common inner movement in large instrumental works. In symphonies and quartets, the second or third movement is usually a “minuet and trio”: a higher-level ternary form that pairs two minuets, the second of which is often simpler, and written in a complementary key [1]. Gretchen Wheelock (1993) has emphasized the importance of the minuet form for Haydn and his contemporaries: The genre was a pedagogical prototype for larger forms, and its formulaic layout made it an ideal vehicle for unexpected and often humorous compositional procedures.

As a dance, the minuet demanded consistent meter and phrase structure. The minuet step (*pas de minuet*) required six beats (or two measures) to execute, and these steps were chained together into groups of four to eight units—requiring musical phrases of eight to sixteen measures. Eighteenth-century composers and theorists accordingly emphasized the need for symmetry and balance in the minuet. However, these theorists were well aware of the different options available, based on whether the minuet in question was meant to be danced, or only listened to. As H.C. Koch wrote, “If [the minuet] is arranged for dancing, then its melodic sections must have a rhythmical relation of an even number of measures; and it must consist of two sections

or reprises, each containing no more than eight measures. If, however, it is not designed for a dance, then not only can its reprises be of quite arbitrary length, but also its melodic sections can be of an uneven number of measures” (Koch 1983, 79). It is this formularity of phrase structure and harmonic scheme—two phrases of eight measures each, with varied figuration over substantially similar harmonies—that made the minuet a popular subject for combinatorial methods of composition such as musical dice games (see Zbikowski 2002).

While several excellent studies of the minuet exist, and individual minuets have often been analyzed, there is still more to learn. This study contributes to the understanding of phrase structure in Classical dance forms by assembling and analyzing a small corpus based on a single repertoire: the minuets and trios found in Franz Joseph Haydn’s string quartets [2]. In my analysis, I am concerned primarily with movements that break the minuet form’s prevailing four-bar hypermeter, in an attempt to understand precisely how “arbitrary”—or not—Haydn’s concert minuets are in their meter, phrase structure, and formal design.

### Background

Among Haydn’s sixty-eight string quartets, there are 76 minuet & trio movements, for a total of 152 discrete dances. Generally, each quartet features a minuet and trio, but Haydn’s earliest quartets feature *two* minuet/trio pairs each, as part of a five-movement layout that places minuets & trios as the second and the fourth movements.

Every minuet and all but two of the trios are divided into two sections by repeat signs, leaving 300 distinct sections for study [3]. These range from 8 measures (the most common length, and the one called for by Koch and his contemporaries) to an upper limit of 58 measures. Table 1 lists the works studied.

#### *Phrase Extension and Expansion*

Music theorists have discussed phrase expansion and contraction for more than 200 years, and have invented various schemas with which to classify these deviations.



Table 1: Quartets included in this study [4]

Work	# of quartets	Year
Op. 1	5*†	1764
Op. 2	4*†	1765
Op. 9	6	1769
Op. 17	6	1771
Op. 20	6	1772
Op. 33	6	1781
Op. 42	1	1784
Op. 50	6	1787
Op. 54	3	1788
Op. 55	3	1788
Op. 64	6	1790
Op. 71	3	1793
Op. 74	3	1793
Op. 76	6	1797
Op. 77	2	1799
Op. 103	1	1803

\* Each of these quartets features two minuets/trios

† Some Opp. 1 and 2 quartets have been proven inauthentic

Koch (1983, pp. 41–54), for instance, identified phrase extensions that use internal repetition, appendices that extend the phrase beyond a logical ending (such as a cadence), and parentheses, which interpolate “unessential melodic ideas” (p. 53) within the phrase.

William Caplin’s (1998) theory of “form functionality” analyzes the construction of large forms from small syntactic units. Caplin’s model holds that “tight-knit” themes such as the period and the sentence are constructed in predictable and consistently sized units—most often two measures. The two-measure building blocks that normatively make up such theme types are analyzed according to the *formal functions* that they express: standard musical processes such as *presentation* or *continuation*.

While tight-knit themes are defined according to eight-measure exemplars, exceptions are common, and their effects on a phrase’s grouping structure and form-functional content can be analyzed according to their harmonic and melodic content. Phrase extension, Caplin writes, “results from ‘adding on’ material to stretch out a particular formal function in time” (Caplin 1998, p. 20). Expansion, on the other hand, results from “the internal lengthening of component members of the [formal] function over their normative size in tight-knit themes” [5]. In other words, extension describes an extra subphrase unit comprised of repeated or interpolated material, while expansion describes a lengthening departure from a phrase’s established

harmonic or melodic rhythm, akin to the durational augmentations associated with contrapuntal technique.

Though separated by two centuries, Koch and Caplin (the latter synthesizing a great deal of intervening music and thought) approach issues of phrase rhythm in a remarkably similar way. Both rely on informal accounts of perception, defining phrase modification and repetition through the response of an idealized listener. Koch is interested primarily in four-measure phrases, and his analyses of slightly longer units—five and six measure phrases—hinge upon whether the listener is thought to hear an obvious repetition of the phrase’s material, or if the longer phrase is perceived as an integrated whole. In the former case, Koch considers the phrase to be essentially a four-measure unit, for the purposes of composition and analysis; only in the latter case, when no repetition or segmentation can be detected, would the phrase actually be considered to be five or six measures long (see Koch 1983, pp. 41–44).

Similarly, Caplin’s clearest explications of formal functionality appeal to a listener’s perception of pseudo-grammatical functions of initiation, continuation, and conclusion. And his distinction between “real” and “notated” meter hinges upon a subjective interpretation of a piece’s metric or grouping structure—“the only valid measure for an analysis of form based on our musical experience” (Caplin 1998, p. 35).

## Method

This study surveys formal designs and phrase structures in Haydn’s String Quartet minuets, with the initial goal of establishing some central facts for a larger study of compositional exemplars and the use of musical “templates” in 18th- and 19th-century compositional theory and pedagogy [6]. For each minuet, I have tabulated the number of measures in each section. My analysis then focused on sections that deviate from the minuet’s usual template of four-bar hypermeter and balanced construction. Informed by Caplin’s theory of formal functions, I determine the generic theme type of each of Haydn’s eight- and ten-measure phrases. After surveying the theme types present in normative eight-measure phrases, I explore the ways that these phrases are extended into ten-measure units, with an eye towards laying the foundation for a more extensive study of hypermeter and phrase rhythm in Haydn’s minuets. Such further study will involve larger syntactical units, and phrase contractions from larger phrases.

## Results

### *Short, Regular “A Sections” are the Norm*

Table 2 lists the number of sections of each type (Minuet A section, Minuet B, Trio A and B) with each given length. As noted above, eighteenth-century music theorists like Koch described eight measures as the ideal length for a minuet section. Even when removed from the constraints of writing for the dance floor, this guideline remains very strong in Haydn’s quartet minuets. The effect is especially clear in the A sections of either minuets or trios. 46% of A sections are 8 measures long. The next most common lengths are 12 measures (16%) and 10 measures (14%). Taken together, these lengths account for 76% of minuet and trio A sections; the remainder are between 16 and 20 measures, with only two outliers (24 and 36, occurring once each). B sections tend to be notably longer, most likely because they are compositionally more “loosely knit” and because they often contain a reprise of the A section (“rounded binary form”). While 77.3% of all A sections are 12 bars or less, only 17.3% of B sections are that short.

### *Sections with an Odd Number of Measures*

As we might expect from a form that originates in dance, the vast majority of the minuet and trio sections studied feature an even number of measures. Only 10 out of 300 sections (0.033%) include an odd number of measures. These are equally distributed throughout Haydn’s compositional career, and there is no generic distinction to be found (six occur in minuets, while four occur in trios). All but two are found in B sections, however, providing evidence that B sections are less structured than A sections. These odd-grouping sections can be as short as 9 measures, or as long as 45, indicating that the length or brevity does not predict an odd number of measures.

### *Characteristics of Eight-Measure Phrase Structures*

As noted above, eight-measure phrase templates are both common in music theory—they are the form taken by the period and the sentence, for example—and ideally suited to the minuet style, for which the two-measure minuet step serves as an ideal unit of compositional invention and analytical measurement.

My study of Haydn’s phrase structures employs a taxonomy of theme types developed by Caplin (1998), which uses two-measure units as the basic level of analysis. Caplin’s model is centered on the *period* and *sentence*, two conventional theme types that are strongly

Table 2: Number of Measures, by Each Formal Section

# of measures	Minuet A	Minuet B	Trio A	Trio B	Total
8	33		35	8	76
9	1		1		2
10	11	2	10	2	25
11	1				1
12	12	4	12	9	37
13				1	1
14	5	1	9	6	21
16	5	4	4	9	22
18	2	7	1	6	16
20	3	8	1	10	22
21				1	1
22		4		6	10
23		2			2
24	3	10		2	15
25				2	2
26		4		3	7
28		2		3	5
30		5		3	8
32		3			3
33		1			1
34		2			2
35		1			1
36		5	1	1	7
38		2		1	3
42		3		1	4
44		2			2
45		1			1
46		1			1
54		1			1
58		1			1
<b>Total</b>	76	76	74	74	300
<b>Average</b>	11.025	26.0125	10.7	17.9	

identified with the Viennese Classical repertoire. Broadly, the period is characterized by an antecedent/consequent structure with a medial cadence in the fourth measure and a repetition of the phrase’s basic idea in mm. 5–6. The sentence is characterized by its use of two-measure subphrases, consisting of a “presentation” phrase that consists of a basic idea (mm. 1–2) and its immediate, varied repetition (mm. 3–4); and a continuation phrase that often presents shorter, “fragmented” versions of the basic idea (mm. 5 – 6) on the way to a weak cadence in m. 8. [7]

Along with these two basic theme types, Caplin presents four hybrids that mix some characteristics of each, roughly summarized as follows:

**Hybrid 1:** antecedent + continuation (begins like a period, ends like a sentence)

**Hybrid 2:** antecedent + cadential (similar to Hybrid 1, but with a second half that presents a simplified cadential figure rather than motivic variation)

**Hybrid 3:** compound basic idea + continuation (a period’s antecedent without the medial cadence, followed by sentential continuation (such as a fragmentation)

**Hybrid 4:** compound basic idea + consequent (essentially a period without the medial cadence).

Caplin (1998, p. 63) arranges these theme types by similarity, beginning with the sentence, through the four hybrids (arranged from most to least sentential), to the period; I have presented this spectrum in my tables.

The first stage in my analysis was to group each phrase by its theme type, using Caplin’s harmonic, motivic, and metric criteria. Table 3 tabulates the theme types in Haydn’s 66 eight-measure phrases, taken from the A sections of minuets and trios in the corpus (B sections have generally been omitted from this analysis, because their harmonic instability can lead to unexpected formal procedures). As Table 4 shows, conventional sentences and periods are well-represented within Haydn’s opening phrases, while all four of Caplin’s hybrids appear.

Table 3: *Tight-knit Theme Types in Haydn’s Minuet and Trio A Sections*

Theme type	# of works	Percentage
Sentence	22	33.3%
Hybrid 3	6	9.1%
Hybrid 1	10	15.2%
Hybrid 2	4	6%
Hybrid 4	7	10.6%
Period	17	25.7%

*A Taxonomy of Ten-Measure Phrases*

Caplin’s taxonomy of tight-knit phrases makes it possible to pinpoint how their extensions work. Haydn’s ten-measure phrases are almost always extended by the inclusion of additional material—Koch’s “interpolations”—while a few phrases use internal repetitions instead. As shown in Table 4, most of these interpolations and repetitions act at the level of the two-measure subphrase, expanding the sentential/periodic grouping structure that prevails throughout the minuets.

As Table 5 shows, Haydn’s phrase extensions almost always happen in the second half of the phrase. Only

Table 4: *Types of Extension by Theme Type in Ten-Measure Phrases*

Theme type	Total	Type of extension		
		Extra subphrase	Multiple extra measures	Repetition
Sentence	12	9	2	1
Hybrid 3	2	2	-	-
Hybrid 1	1	1	-	-
Hybrid 2	3	3	-	-
Hybrid 4	-	-	-	-
Period	9	6	3	-
Total	27	21 (77.7%)	5 (18.5%)	1 (3.7%)

Table 5: *Location of Phrase Extensions in Ten-Measure Phrases*

Theme type	1/2	3/4	5/6	7/8	9/10	Other	Separate
Sent.	-	1	5	4	-	-	2
Hyb. 3	-	-	1	-	1	-	-
Hyb. 1	-	-	-	1	-	-	-
Hyb. 2	-	-	-	1	-	2	-
Per.	1	-	2	3	-	-	3
Total	1	1	8	9	1	2	5

three extensions occur in antecedent or presentation phrases. The minuet from Op. 71/2 begins with arpeggios in the cello and first violin, before continuing as a conventional period; and B section of the Op. 64/5 trio features an immediate repetition of the basic idea, before its more conventional complementary repetition. The density of mid-phrase interpolations is unsurprising; when determining formal classifications, the beginning of the second half of the phrase is of central importance. Fragmentation, for instance, is a crucial component of a sentence’s continuation phrase, as is the return of the basic idea in a period’s consequent phrase. Seventeen out of Haydn’s 27 expansions (63%) occur in either mm. 5–6, or mm. 7–8: either delaying the expected subphrase, or immediately following it.

Only one two-measure interpolation positions itself against this grouping structure: Op. 33/5 features a full measure of silence and a metrically unaccented cadence in mm. 8–9. A few examples include two separate one-measure interpolations. When found in period themes (Op. 20/3, Op. 54/1, and Op. 64/4), interpolate new material into mm. 4 and 9, delaying each cadence by a

measure. Perhaps the most interesting case is the second minuet from Op. 2/2, a rare modification to the first half of a phrase in which the basic idea is extended by a measure, and then repeated. This produces the only example of Caplinian *expansion*, as opposed to extension: rather than adding an additional subphrase, the size of the basic idea itself is expanded.

## Discussion

The analyses presented here are concerned with extremely small numbers of pieces—subcorpora, as it were—and thus serve as a pilot study for a more comprehensive analysis of phrase rhythm in Haydn’s quartets. Future research will include longer phrases, and will deal with metric contraction alongside the need to more finely parse phrases and formal elements within the large formal sections studied in this paper. While identifying theme types and locating phrase extensions is a subjective analytical activity, the method shows promise for the ability to detect adaptations of phrase structure. An analysis of harmonic rhythm based on theme type may also combine fruitfully with recompositional analysis (see Rothstein, 1988; O’Hara, forthcoming). Results from this and future studies may contribute to computational studies of phrase rhythm, which will need to identify motivic patterns and cadences alongside harmonic and metric elements.

## Conclusion

Phrase rhythm in Haydn’s string quartets is varied: many examples stick to 8- and 16-measure models derived from social dance, while others incorporate odd numbers of measures and unbalanced phrase structures. His phrase expansions fall into few categories, and his frequently operate by interpolating additional material into tight-knit phrase models. Caplin’s tight-knit themes are a promising method for future studies, and are able to help analysts identify and understand phrase extensions in works of larger scale.

## End Notes

[1] On minuet and trio style, see Lowe (2002) and McKee (2005, 2011).

[2] Corpus studies on rhythm, meter, and style include Cortens (2014), Ito (2014), and Ohriner (2016).

[3] The undivided trios are found in Op. 76/6 and Op. 77/1. At 96 and 100 measures, respectively, these trios are by far Haydn’s longest. They are excluded from the analyses of form and phrase rhythm.

[4] Supplemental materials for this paper can be found at <http://www.williamohara.net/blog/haydnminuets>.

[5] For instance, the minuet from Mozart’s G Minor Symphony includes a 14-measure sentence constructed from a 3-measure basic idea and expanded continuation phrase (analyzed in Caplin, 1998, p. 40).

[6] See O’Hara (forthcoming).

[7] See Caplin (1998, pp. 35–58) for a fuller treatment of periods and sentences.

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