

Methodological Guidelines for The Mozart Expositional Punctuation Corpus: A Dataset of Interthematic Cadences in Mozart's Sonata-Allegro Expositions

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The following guideline are divided into four sections documenting different aspects of our decision making process in labeling interthematic cadences. In the first section, we discuss the requirements for recognizing a given musical event as a cadence. In the following two sections we discuss criteria for labeling certain cadential events found in a given exposition as interthematic cadences: in the second section, we address considerations that pertain to all four closural types used in our annotations; in the third one we discuss considerations pertaining to specific closural types, that is, K1, K2, K3, and K4. Finally, in section 4 we include additional methodological considerations regarding miscellaneous aspects of our decision making and annotation standards.

1. Methodological guidelines for the identification of cadences

Cadences are closural events punctuating the musical fabric and, thus, segmenting a musical piece into smaller units. Cadence identification and analysis in general represent highly topical research fields at the junction between *Formenlehre* (e.g., Rosen, 1988; Caplin, 1998, 2004; Webster, 2001; Hepokoski and Darcy, 2006), contextualized harmonic analysis (e.g., Caplin, 2004; Rohrmeier and Neuwirth, 2015; Martin and Pedneault-Deslauriers, 2015), schema theory (e.g., Temperley, 2004; Gjerdingen, 2007), and computational and empirical musicology (e.g., Ito, 2014; van Kranenburg and Karsdorp, 2014; Duane, 2019). The phenomenological complexity of cadences, and the difficulty of identifying and classifying cadential events have been amply pointed out in recent research literature (see, e.g., the monographic collection of studies on the Classical cadence in Neuwirth and Bergé, 2015). Cadences are required to fulfil certain intrinsic (local) and extrinsic (contextual) requirements in order to be recognized as such. The current section discusses the intrinsic preliminaries of cadences (or, in some rare cases, surrogate harmonic progressions) that are labeled in our corpus—cadence’s contextual preliminaries will be discussed in the following sections.

Intrinsically, a closure should be articulated by means of a certain voice-leading/harmonic progression that sufficiently establishes the harmonic degree embodied by the closure’s type. In the case of the four expositional closure types specified by Heinrich Christoph Koch (1782–1793, vol. 3, pp. 342ff.), cadences involve establishing the principal-key and secondary-key tonic in K1 and K4-type authentic cadences respectively, and the principal-key and secondary-key dominant in K2 and K3-type half cadences respectively. Accordingly, the two relevant cadence types for our considerations are the authentic and the half cadence. Deceptive cadences, representing authentic cadential progressions in which the expected final tonic degree is replaced by a tonic substitute, do not qualify as K1-/K4-type cadences and are disregarded in our labeling (in this, we succumb to the traditional definition of deceptive cadences rather than a more recent one proposed by Neuwirth [2015]—the author proposes to conceive of specific forms of imperfect authentic cadences in terms of “melodic deceptiveness”).

The evaded cadence—more a cadential strategy than a specific cadence type—stands for aborting the cadential process short of its cadential goal, or, alternatively, attaining the cadential goal in a deficient form. As far as the expected, standard harmonic degree is substituted for by an alternative degree, evaded cadences (similarly to deceptive ones) do not qualify for inclusion under the four cadential labels used in our annotations. However, we take into account certain evaded cadences in which the correct degree is attained, but is articulated through a deficient voice leading as discussed below.

Authentic cadences

Modern theory of harmony (cf., e.g., Aldwell, Schachter, and Cadwallader, 2011; Kostka, Payne, and Almén, 2013) distinguishes between two types of authentic cadences: the perfect authentic cadence ending on the tonic with

the root in the upper voice (in addition to the bass), and the imperfect authentic cadence that has other scale degrees of the tonic chord (the third or the fifth) in the upper voice. As a rule, K1 and K4-type cadences are of the perfect category (see, e.g., Figure 1 in our main report, mm. 17 and 33); however, occasionally also imperfect authentic cadences may fulfil an interthematic function: for instance, in the first movement of Mozart's Clarinet Quintet K. 581 (see Example G1)¹ the opening theme attains several cadences on the tonic in third soprano position, including the one we label "K1" in m. 15. The strength of a given authentic cadence also depends on the inversion of the preceding dominant: the cadential progression in the first movement of the *Sonata facile* K. 545, at m. 4 (see Example G2) is weakened not only by the imperfect soprano position (the tonic's third), but also by the fact that it is preceded by the dominant seventh in its first inversion rather than root position (as explained below, we opt for labeling this cadential event as "K1" for lack of a better candidate in this exposition).

Rarely, we opt for labeling certain evaded cadences as interthematic. One constellation is that of a deficient voice-leading at the point of cadential arrival with one or more parts failing to resolve to the goal tonic (see, e.g., Sonata in A minor K. 310, i, m. 35: here, the resolution of the trill from the previous measure in the upper voice is postponed by one sixteenth note and shifted to a higher register). An extremely rare constellation involves the goal tonic occurring in wrong inversion (see, for instance, Mozart's early piece K. 15r from the *London Sketchbook* where the only K4-type cadence attained throughout the exposition is arrived at in m. 21 in first inversion).

Exceptionally, certain "surrogate" progressions that establish the tonic degree without representing authentic cadences are also taken into account in our annotations due to contextual considerations. In some cases, an extended pedal point on the tonic critically impairs the functionality of the dominant degree in an otherwise authentic cadential progression, as, e.g., in the first movement of the Symphony K. 76 in F major (see Example G7): here, the dominant harmony in m. 8 is mounted over a persistent tonic pedal point extending from the movements beginning—notably, in this exposition Mozart doesn't attain any stronger confirmation of the principal-key tonic, for which reason we label the impaired cadential arrival at m. 9 as a K1-type cadence. In other cases, the dominant degree is missing altogether, and the confirmation of the tonic is attained through a plagal progression (in which the subdominant degree substitutes for the dominant), as at the beginning of the Piano Piece in C major, K. 9a, mm. 3–4 (see Example G3).

Half cadences

The labels "K2" and "K3" pertain to half cadences in the home-key and the secondary tonic respectively. The great majority of the half cadences labeled in our corpus use a raised fourth scale degree to attain the goal dominant. Typical examples are found, e.g., in the first movement of Mozart's Sonata for Two Pianos K. 448 (see Figure 1 in our main report), where both the elided K2 and the K3-type half cadences in mm. 24 and 25 respectively are accessed through the raised fourth scale degrees g-sharp and d-sharp (for a further example see *Sonata facile* K. 545, i, mm. 10–11 in Example G2, and K. 9a, m. 7–8 in Example G3). In the minor mode, raising the fourth scale degree prior to a half cadence often results in penultimate sonorities with augmented sixth. By and large, the repertoire under investigation shows half cadences *not* using the raised fourth scale degree to fulfil a merely local, intra-thematic punctuation function (often concluding the antecedent in period-like themes)—accordingly, such half cadences are disregarded in our corpus. However, a small number of half cadences that do not involve the raised fourth scale degree are nevertheless included in the corpus for various reasons (see, e.g., *Jupiter Symphony* K. 551, i, mm. 18–19 in Example G4).

Half cadences that serve as interthematic punctuations present the goal dominant almost invariably in root position and, in most cases, in triadic form, that is, without the seventh. In very rare cases, the half-cadential arrival occurs in inversion, suggesting comparison with one of the evasion techniques described above with regard to authentic cadences—one such rare example being the K2-type cadence in the first movement of the Symphony in E-flat major, K. 132, arrived at in first inversion on the downbeat of m. 22. Another phenomenon suggestive of an "evaded half cadence" strategy involves one or more parts failing to resolve to the goal dominant at the point of cadential arrival—this occurs, e.g., in the first movement of the C-minor Piano Sonata K. 457, where the secondary-key dominant's bass and middle part are missing at the downbeat of m. 30 and complemented (at a

¹ All music examples appear at the end of the guidelines report.

higher register than the one prepared) on the next beat. Occasionally, in the course of a postcadential extension, a triadic dominant may turn into a dominant seventh chord; however, this occurs as a rule only in conjunction with K3-type cadences, one such example being the half cadence introducing the lyrical secondary theme in the first movement of the Clarinet Quintet K. 581 (cadential arrival at m. 35 as a triad, postcadential extension as dominant seventh chord until m. 41, see Example G1). In a single case in the repertoire under investigation, a K3-type cadence is attained as a dominant seventh already at the point of cadential arrival—in the case in question (the first movement of the *Jupiter* Symphony, mm. 99–100), the goal dominant is further presented in inversion (as a six-five chord). Practically all K2-type dominants in the repertoire under investigation are arrived at and remain strictly triadic throughout (no dominant seventh chords, the only exception being the fourth movement of the String Quartet in D major, K. 499, mm. 38–43, where the half cadence—as opposed to most K2-type cadences in the corpus—does not lead on to the secondary key, but instead returns to the home key). (Notably, in acknowledging half-cadences that involve inversions or the dissonant seventh we are at odds with Caplin’s assertion that “the dominant of the half-cadential progression must take the form of a root-position triad,” [1998, p. 29].)

Based on an examination of Mozart’s piano sonatas, Martin and Pedneault-Deslauriers (2015) develop a typology of voice-leading patterns in half-cadential preparations. Their “simple I–V” paradigm seldom occurs among the half cadences annotated in our corpus, as it lacks the raised fourth scale degree generally typical of interthematic half cadences (see discussion above). Their other three types—converging, expanding 6–8, and what they dub the “doppia half cadence”—are represented in the corpus under investigation at varying degrees of frequency. We draw attention to a further (rather infrequent) voice-leading option where the goal dominant is attained through its secondary dominant with an ascending fourth (or a descending fifth) leap in the bass. Due to the leaping bass motion, this voice-leading pattern deceptively resembles that of an authentic cadence, as can be seen in Example G5 from the first movement of the *Dissonance* Quartet K. 465, where a K3-type half cadence (attained at m. 53 and extended through m. 55, see Example G5) locally assumes the appearance of an authentic one (cf. Kaiser 2007, pp. 105f.). (In conjunction with a K2-type closure in the major mode, such heavily tonicized half cadences may lead to confusion with K4-type authentic cadences which locally look the same—distinguishing between the two categories will be discussed in some detail below).

2. General methodological considerations regarding interthematic cadences

Extrinsically/contextually, a closural event is ought to represent the ending of some musical segment; hence, cadential voice-leading alone is insufficient as a closural marker. (Notably, cadential harmony is often found in the middle of music passages, where it does not fulfil any closural function.) Cadences may be recognized at a low (local) level, where they separate small segments inside a larger unit (Koch [1782–1793] generally refers to such lower-level closural events as “incises” [*Incisionen*] as opposed to the higher-level *Absätze*). However, in our dataset we only propose to include higher-level cadences. In eighteenth-century music, larger units are most typically represented by themes—we accordingly refer to the cadences in our corpus as “interthematic” cadences (as opposed to the lower-level “intra-thematic” cadences separating segments inside a theme). In most cases, cadences that fulfil an interthematic function are also intrinsically clearly articulated. However, there is no binding correlation between the intrinsic and the extrinsic level: while intrinsically weak cadences (such as evaded cadences and surrogate progressions discussed above) occasionally fulfil a “strategic” role in segmenting the movement, intrinsically strong cadences may be located in the middle of a thematic block, making their contextual function a merely local one. The present section addresses general considerations and difficulties with regard to identifying interthematic cadences.

At the outset of our methodological considerations we postulate two categories of interthematic closure: cadences that terminate a theme and cadences that introduce a new thematic block. The function of thematic conclusion is associated with an authentic cadence, whereas introducing a new theme is often (though not always) achieved through half cadences. Accordingly, we expect K1- and K4-type cadences to conclude thematic units, and K2- and K3 cadences to precede such units—note, however, that new themes may also be preceded by K4-type (and, much more seldom, K1-type) cadences. (Occasionally, a single cadence may fulfil both functions, as in the case of K4-type

cadences that both conclude the secondary theme and launch the closing theme group, see, e.g., the elided cadence in the first movement of the *Haffner Symphony* K. 385, m. 74.) The criteria for identifying cadences of the two categories of interthematic closure differ fundamentally: for a cadence to be recognized as a theme-concluding cadence, the preceding section must display a sufficient degree of thematic completion upon reaching the point of closure, whereas identifying a theme-introducing cadence does not require any completeness of the preceding section, but rather a new beginning following the cadential event.

In the following, we define a set of principles used to decide which closural events are to be included and labeled in our corpus. The principles discussed in the present section apply to all four closural types, whereas in the next section we discuss particular characteristics of specific types separately. Some of the principles result in increasing the number of cadential events labeled as interthematic, whereas some of them tend to decrease this number. For the sake of clarity, we begin by discussing the former cluster of principles.

Multiplicity of same-type cadences. In his discussion of musical punctuation in the first *Hauptperioden* (=exposition), Koch (1782–1793, vol. 3, pp. 366ff.) allows for more than one *Absatz* in the secondary-key tonic: an initial closure of the K4 type may be followed by an “appendix” (*Anhang*) which, in turn, closes with yet another K4-type cadence. Inasmuch as the relevant contextual requirements are fulfilled in a given exposition, we opt for a multiplicity of interthematic cadential labels of the same type. As will be discussed below, a succession of several K4-type cadences is very common. However, a succession of thematic modules occasionally occurs also in the primary-theme zone resulting in a succession of K1-type cadences (see, for instance, the first movement of the *Symphony* in E-flat major K. 543, with one primary-theme module ending at m. 54 and another at m. 71). Multiplicity of same-type interthematic cadential labels generally occurs in conjunction with K1- and K4-type theme-concluding cadences and results from a succession of several thematic modules in the same key (either the principal or the secondary key). Multiplicity of same-type theme-introducing cadences (either in immediate succession or with intervening cadences of other types), on the other hand, occurs in conjunction with temporal loops discussed below.

Temporal loops. Although Koch’s discussion does not involve such complex designs, the idea that a movement may proceed to cadential events at a temporal position where these are no longer expected, thus creating the impression of a “temporal loop,” surfaces now and again in the analytical literature (see, for instance, Neuwirth, 2011; Hepokoski and Darcy, 2006, pp. 74f.). We propose that theme-introducing cadences may appear almost at any point throughout the exposition: a premature K2-type cadence may occasionally occur in the middle of the primary-theme zone (see inclusion of declined and elided mid-exposition caesuras below); similarly, an additional secondary theme may be introduced via a K3-type half cadence following a previous thematic module in the secondary key terminated via a K4-type cadence (see, e.g., *Jupiter Symphony*, first movement, mm. 99–100). If the principle of multiplicity discussed above allows for a succession of several cadences of the same type, the present principle also takes into account constellations in which interthematic cadences follow one another in a different order than the standard one prescribed by Koch.

Elided interthematic cadences. Elided cadences lack an important characteristic of cadences as discussed by Koch—the resting point (“*Ruhepunkt des Geistes*”): the simultaneous beginning of a new passage at the point of cadential arrival prohibits any stopping of the musical activity even for a short while. From his discussion of the matter (1782–1793, vol. 3, pp. 384ff.), it is not quite clear whether Koch himself considers elided cadences to function as punctuations in the first place. However, for our analytical purposes it is obvious that elided cadences may fulfill interthematic functions: a straightforward case such as the elided K1-type cadence at m. 17 in the first movement of the *Sonata for Two Pianos* K. 448 (see Figure 1 in our main report) demonstrates that the cadence in question provides an unequivocal conclusion of the entire primary theme notwithstanding its elision with the transition section’s beginning. The elision principle significantly increases the number of annotated interthematic cadences in our corpus, as can be gleaned from Table 2 in our main report.

Inclusion of declined and elided mid-exposition caesuras. The concept of “medial caesura”—going back to Hepokoski and Darcy (1997 and 2006)—does not appear in historical sources, as the extensive discussions of closural and caesura-related phenomena, e.g., in Koch (1782–1793) and Riepel (1752–1768), get along without it. The authors define it as “the brief, rhetorically reinforced break or gap that serves to divide an exposition into two parts, tonic and dominant (or tonic and mediant in most minor-key sonatas)” (2006, p. 24). The application of the medial caesura concept to Classical expositions is problematic, as individual expositions may contain from none to several caesuras. One relatively common constellation is that of two successive theme-introducing caesuras, most typically a K2-type and a (later) K3-type half cadence, each followed by new thematic material in the secondary key (see, for instance, the first movements of the String Quartet in C major K. 157, with a new theme mediating between the K2-type cadence at m. 20 and the K3-type one at m. 30). (Hepokoski and Darcy [2006, pp. 170–177] develop the concept of a “trimodular block” to handle such constellations that involve what they term “apparent double medial caesuras”; however, in our dataset we opt in such cases for labeling multiple closural events rather than selecting among them). In other cases, between two adjacent caesuras there are only a few transitory measures and not a thematic block in its own right, a constellation that undermines the theme-introducing function of the earlier of the two cadences (see, for instance, the first movement of the Symphony in A major K. 201, with an extensively articulated K2-type half cadence at mm. 23–27, and another cadential arrival at a K3-type half cadence following after just two measures at m. 29). In such cases, the first caesura is considered by Hepokoski and Darcy to represent a declined/failed medial caesura (2006, pp. 45ff.). The most extreme form of reducing the scope of a declined caesura is by confining it to the cadential arrival only, directly eliding it with the following passage (which then, in turn, normally produces a veritable caesura used to introduce new thematic material). We recognize a phenomenological parallel between the multiplicity of mid-expositional caesuras that are realized as theme-introducing punctuations on the one hand, and the constellation of declined or even elided caesuras on the other. We accordingly annotate such declined and elided cadences in our corpus as interthematic closural events, notwithstanding the fact that they do not materialize as veritable caesuras in their context (see, e.g., the half-cadential arrival in K. 448/i. m. 24, Figure 1 and discussion in our main report).

“Moving on” rhetoric. This principle contributes toward identifying higher-level (interthematic) cadences at points where the musical rhetoric suggests the beginning of a new section, regardless of the degree of thematic completion of the preceding section (see discussion of thematic completion principles below). This particularly pertains to situations where the music seems to be “moving on” not only to a new thematic module, but rather to a new section along the expositional trajectory (e.g., from the primary theme to the transition section, or from the secondary theme on to the closing zone). This principle essentially differs from the previous one in that the closural events considered under the “moving on” principle are not failed theme-introducing cadences, but rather failed theme-concluding ones—accordingly, our reassessment of them as interthematic cadences relies on the section subsequent to them rather than the one preceding them. Consider, for example, the cadence at m. 19 in the first movement of the *Paris* Symphony K. 297 (see Example G6): the preceding thematic presentation, despite its length, doesn’t seem sufficiently complete, because it consists of two near-identical statements (mm. 1–9 and mm. 9–19 respectively), a constellation that generally requires thematic continuation (see discussion of thematic continuation principle below); however, the new elided section beginning at m. 19 displays the rhetorical characteristics of a transition section (heightened rhythmical activity, loud dynamics), thus granting the preceding closural event an interthematic status as a dividing point between two expositional zones: primary theme and transition. Musical rhetoric is a complex phenomenon largely dependent on listeners’ perception, knowledge, and expectations—accordingly, the “moving on” principle, based on modern annotators’ perception, lays no claim to a historical mode of analysis.

Whereas the five principles specified above contribute toward increasing the number of labeled interthematic cadences in a given exposition, we now turn to discuss a group of methodological principles that, conversely, limit the number of cadences annotated in our corpus. A general requirement regarding theme-concluding cadences (which may be either of the K1 or the K4 type as discussed above) is the attainment of sufficient thematic completion at the point of closure. Identifying thematic completion is methodologically particularly difficult, as no

method—no matter how extensive—is capable of exhausting all possible theme structures in Mozart’s music. We propose two general principles by which to establish whether a given thematic unit is to be considered complete or not: the repetition principle and the continuation principle.

Repetition. A cadential event immediately followed by a repetition of the preceding passage is disqualified as an interthematic cadence. In fact, it is immaterial how elaborate thematically and grammatically the preceding passage is: its immediate repetition overrides, so to speak, the closure by indicating that the thematic idea hasn’t come to an end as yet. Among Mozart’s secondary themes there are ample examples for passages that are rephrased rather than simply repeated—such as, for instance, the passage in mm. 93–104 of the *Linz Symphony* K. 425 finale, which is immediately repeated in a substantially altered form in mm. 105–116 where it is transferred to the minor mode with an underlying pedal point and profound motivic transformations. When the impression arises that a given passage rephrases—however remotely—an immediately preceding one, we opt for suppressing the intermediate closure in our annotations.

Continuation. Perceiving a given passage as a direct continuation of the preceding one negates the possibility of thematic closure attained at the junction between the two passages. The question of thematic continuation is particularly delicate and dependent on listeners’ judgment: it involves both the question of how much the preceding passage seems to require continuation and to what extent the subsequent passage furnishes an organic continuation. To a certain degree, one may seek the answer in the structural norms of Classical themes.

Schoenberg (1967), Ratz (1973), and Caplin (1998) distinguish between two basic thematic templates: the sentence and the period. The sentence’s first half (“presentation phrase” according to Caplin)—itself consisting of two elements (the “basic idea” and its immediate repetition)—necessitates a subsequent “continuation phrase.” The essentially symmetrical period consists, on the other hand, of only two elements (which may, in turn, represent complex structures)—antecedent and consequent—which complement each other and require no further continuation. By interpreting, for instance, the first eight measures of Mozart’s *Jupiter Symphony* (see Example G4) as a period (as in Dahlhaus, 1975, p. 440; Kühn, 1987, p. 56), these measures are granted a sufficient degree of thematic completion justifying labeling the cadence in m. 8 as an interthematic one. If, on the other hand, these measures are construed as a presentation phrase in a larger sentence, extending from the movement’s beginning to m. 23 (with mm. 1–4 figuring as a compound basic idea and mm. 5–8 as its repetition), the same eight measures call for a subsequent continuation phrase and attain no thematic completion (this interpretation is suggested, e.g., by Waldura, 2002). As demonstrated by the discussion of the secondary themes of K. 465/i below and K. 563/i below (see Examples G5 and G11), our decisions regarding the degree of thematic closure often depend on a case-to-case evaluation of complexes of aspects, some of which may bespeak identifying an interthematic closure while others speak against it.

We propose three further principles that contribute towards limiting the number of interthematic closural events in a given exposition.

Pedal point. This principle implies that passages underlain by a unifying pedal point on a certain scale degree (usually the tonic or the dominant), that may also be rhythmically broken (e.g., into eighth-note repetition), represent continuous units also in the sense that they engender no further segmentation by interthematic cadences. There are only a few deviations from this principle, mainly in conjunction with the primary theme (see discussion of K1-type cadences below). We apply this principle in particular to expositional codettas that are often based on a pedal point—we accordingly refrain from labeling such codetta modules that are supported by a through-going pedal point as additional interthematic cadences.

Culmination. This principle implies that whenever a passage represents a gesture of culmination (e.g., by invoking the characteristic device of the “Mannheim *crescendo*”), it will be construed as “spilling over” into the next passage, and any intermediate cadential event will be suppressed in our labeling. The culmination device is often used in conjunction with a bass pedal point, as, e.g., in the *Sinfonia concertante* for Violin, Viola and Orchestra K. 364, i, mm. 46–58, where what may be perceived as an elided new beginning at mm. 58ff. is construed as a

seamless continuation of the preceding *crescendo* passage, with no interthematic punctuation at m. 58. A further example of the culmination principle—this time without a pedal point (however, with a similar reiteration of the tonic degree on every downbeat)—occurs in the first movement of the *Paris Symphony* in D major, K. 297, mm. 27ff. (see Example G6), where we consider the new motive beginning at m. 32 to continue the preceding *crescendo* passage without cadential segmentation.

Postcadential extension. This principle is more general than the previous two. It implies that passages that may be construed as postcadential extensions will be generally subsumed under a single closural event, thus potentially reducing the number of labeled cadences in an exposition. The pedal-point extension discussed above is not the only type of postcadential extension, and the present principle also covers cases where no unifying pedal point is present throughout the extension passage. A typical example occurs at the beginning of Mozart's Clarinet Quintet (see Example G1): we identify a K1-type cadential arrival at m. 15, whereas the next four measures—oscillating between the tonic and the dominant—are construed to represent no self-sufficient thematic module, but rather a short “codetta” attached to the previous thematic presentation—accordingly, they are considered to extend the cadence from m. 15 all the way to the beginning of m. 19. (The difference between the postcadential extension principle and the pedal-point principle is particularly significant with regard to K4-type cadences—see discussion below).

Further criteria for establishing interthematic closural events are discussed in the following section in conjunction with specific closural types.

3. Methodological considerations regarding specific closure types

K1-type cadences

Interthematic cadences of the K1 type are expected to conclude the primary-theme presentation (or any thematic module in the primary theme zone). However, many sonata-movement primary themes do not attain thematic completion on the principal-key tonic at all, and the only closure of sufficient thematic weight attained in the main key is of the K2 type (consider, e.g., the first movement of the *Sonata facile*, mm. 11–12, see Example G2). To handle such cases, we formulate the following principle which as a rule guarantees at least one K1-type label in an exposition, but, at the same time, limits the number of deficient K1-type cadences labeled in the corpus:

Point of maximal confirmation of the principal-key tonic. We argue that thematically (or even harmonically) deficient cadences of the K1 type play a non-local, strategic role in establishing the home-key tonic inasmuch as the exposition in question lacks a proper K1-type cadence with a sufficient thematic weight as well. In such cases, we opt for labeling the point of maximal confirmation of the principle-key tonic as K1; however, in the absence of a proper K1-type cadence, we strive to limit the number of deficient K1-type cadences labeled in the corpus to a single one per exposition.

By applying the rule of “maximal confirmation,” we opt, for instance, for labeling the imperfect cadence attained at the middle of m. 4 in the first movement of the *Sonata facile* (see Example G2) as a K1-type cadence for the lack of any stronger confirmation of the home-key tonic in this exposition. This principle further admits labeling surrogate harmonic progressions such as, for instance, the plagal progression in K. 9a, m. 3–4 (see Example G3), or the deficient cadential arrival in the first movement of the Symphony in F major, K. 76, m. 9 (Example G7), which takes place over an ongoing pedal point (noted that in this case, the principle of maximal confirmation overrides the pedal-point principle discussed above). Due to the principle of maximal confirmation, only nine expositions (out of 276) in our corpus lack a K1-type cadence (arguably, the deceptive cadence in the first movement of the Symphony in D major, K. 133, m. 10 substitutes for the missing tonic confirmation—however, although we acknowledge certain deficient cadential progressions in our guidelines, we don't go as far as labeling a deceptive cadence as “K1”).

By and large, we expect primary themes to attain thematic completion based on the building rules for sentences and periods (or any hierarchically nested combination of both). The most straightforward constellation is that of thematic completion coinciding with a perfect authentic cadence on the primary-key tonic (see, e.g., K. 448, i, m.

17 in Figure 1 in our main report, where this closure is elided with the beginning of the transition section). Contextually strong K1-type cadences—that is, cadences that also express thematic completion—override any preceding mid-thematic cadences that optionally occur throughout the thematic presentation, so that only the final closure is labeled in our corpus. (This still leaves open the possibility of a multiple K1 notation in cases where a subsequent thematic module reaches a sufficient degree of thematic completion with yet another authentic cadence on the home-key tonic; by contrast, any tentative K1-type cadences—e.g. in the transition section—that occur subsequently to a strong one are ignored—see, e.g., Piano Quartet in E-flat major, K. 493, i, m. 24 *not included in the corpus*). Several sonata-allegro finale movements featured in the corpus have refrain-like primary themes in the binary or rounded binary form (with or without repeat signs, see, e.g., Piano Sonata in F major, K. 332, iii, or Symphony in G minor, K. 550, iv)—in such cases, we disregard in our annotations any local closural events that precede the final closure of the entire thematic presentation, so that only this final K1-type cadence is labeled in the corpus.

In the case of primary themes failing to produce sufficient thematic closure on the principal-key tonic, there are often several deficient K1 candidates—however, as suggested by the principle of “maximal confirmation,” we aim at selecting only the most significant among these tentative cadences for labeling as “K1.” The closural strength is measured primarily by extrinsic, contextual parameters rather than by the cadence’s intrinsic ones: for instance, the authentic cadence attained at the middle of m. 2 of the *Sonata facile* first movement (see Example G2) is arguably stronger harmonically than the imperfect one attained in m. 4, as the former one has the harmonic root in the upper voice while the latter has the third—nonetheless, it is the intrinsically weaker cadence at m. 4 that is labeled in our corpus due to the fact that it stands higher in the formal hierarchy (the cadence in m. 4 concludes the entire presentation phrase of the sentential structure in mm. 1–12, whereas the earlier cadence in m. 2 concludes only the first statement of the basic idea). From this example, it may appear that it is the temporally most recent of multiple tentative K1 cadences which is considered to be formally the most significant one (in a similar vein, in the first movement of the Clarinet Quintet K. 581 we select the imperfect cadence at m. 15 rather than its near-identical counterpart occurring eight measures earlier at m. 7, see Example G1). However, this isn’t always the case. In some cases, the continuation phrase of a sentence-like theme displays a nested sentential structure consisting of a (subordinate) presentation phrase that ends on the tonic and a (nested) continuation phrase ending on the dominant. In such cases, it is rather the earlier of the two authentic cadences which stands higher in the formal hierarchy (and is the one selected for labeling), as it concludes the main sentence’s presentation phrase, whereas the later cadence concludes only a nested lower-level presentation phrase. (See, e.g., Church Sonata in F major, K. 224 in Example G8: the end of the presentation phrase at m. 4—consisting of twice two-measure unit—is selected for labeling as K1, rather than the later cadence at m. 8 which also concludes a presentation phrase, however, at a subordinate hierarchical level).

K2-type cadences

Half cadences in the primary key do not automatically qualify as interthematic K2-type cadences. For example, half cadences concluding the antecedent in period-like primary themes have a merely local, intra-thematic function. However, in some cases a primary-theme antecedent may stand out as particularly long and complex (this is suggested by the concept of “grand antecedent,” cf. Hepokoski and Darcy, 2006, pp. 77ff.)—in such cases, we annotate the relevant half cadence as “K2,” notwithstanding the fact that the primary-theme presentation is ongoing with the period’s consequent still beginning in the piece’s main key (for a typical example of the “grand antecedent” design, see mm. 1–23 in the first movement of Mozart’s *Jupiter Symphony*, K. 551 in Example G4). Notably, the grant antecedent is a rare design among Mozart’s sonata-allegro movements.

As may be gleaned from Table 2 in our main report, the great majority of K2-type cadences in the repertoire under analysis directly precede passages in the secondary key, making them a medium of modulating between the principal key and the secondary key area. This informs the following principle:

Delineation of principal-key area. Marking off the end of the principal-key area is a global, strategic event in the exposition’s trajectory. Accordingly, whenever mediating between the primary and the secondary key area, we annotate half cadences in the main key as interthematic “K2” cadences regardless of their harmonic strength or thematic role. The most straightforward constellation is that of a theme-introducing K2-type cadence that directly

precedes the onset of the secondary theme, as, for instance, in the first movement of the *Sonata facile*, mm. 11–13 (see Example G2). (This constellation essentially corresponds to the concept of the “bifocal close,” cf. Winter, 1989.) However, as discussed above in conjunction with the elision principle, many K2-type cadences are declined as medial caesuras. Optionally, a modulating K2 cadence may be followed by merely subordinate thematic material in the secondary key (“not yet” the secondary theme “proper”—see, e.g., the passage in mm. 17–26 in the first movement of the Duo for Violin and Viola in G major, K. 423, which may be construed as a “transition theme”); occasionally, the subsequent passage may be reduced to just a few measures of transitory character—with no new thematic beginning (as in the first movement of the Symphony in A major, K. 201, mm. 27–29); some K2-type cadences may even go almost unnoticed due to elision with the subsequent unit (see, e.g., Sonata for Two Pianos K. 448, i, mm. 23–24 in Figure 1 in our main report; *Jupiter Symphony* K. 551, i, mm. 37 in Example G4). In accordance with the delineation principle, all such cadences are included in the corpus in spite of their inferior thematic role. A particularly intriguing case occurs in the first movement of the Clarinet Quintet K. 581, mm. 19ff. (see Example G1). Here the half cadence in mm. 26 isn’t even approached as a theme-introducing one—in fact, in all but its tonal embedding, this cadence behaves like an intra-thematic one located halfway into a tightly knit transition theme beginning at m. 19. However, having the shift from the tonic to the dominant key occur directly at this point grants this cadence a higher-level significance and leads to its inclusion in the corpus.

Owing to the delineation principle, many dominant arrivals in the main key are labeled as K2-type cadences in our corpus, in spite of not fulfilling a clear punctuational role in their context. However, it is required that the cadential arrival be perceived as still occurring in the principal key in order for it to be considered for labeling as K2. In several major-mode expositions, Mozart uses a tentative tonicization of the sixth degree as a means of initiating the modulation to the dominant key (see, e.g., *Divertimento for String Trio* in E-flat major, K. 563, i, mm. 19–23)—in such cases any subsequent arrivals on the home-key dominants are considered to be already in the dominant key (or, alternatively, embedded in a modulatory process that has already quitted the home key) and the delineation principle does not apply (accordingly, the above-mentioned cadence in K. 563/i, m. 19 is not included in our annotation corpus).

A more complex constellation occurs when a dominant arrival that appears to have already quitted the principal key fulfills a clear theme-introducing function, and thus qualifies for inclusion in our corpus (independently of not fulfilling the delineation principle). Such a case occurs, for instance, in the second movement of the Violin Sonata in C major, K. 303 (see Example G9): the arrival on G major at m. 24 raises the difficulty of whether to label it as a K2-type or as a (pre-secondary-theme) K4-type cadence. Although in the case in question the passage directly preceding the cadential arrival is hardly any more in C major, but rather already in the dominant key G major (it even features a fleeting tonicization of E minor at m. 22), we opt for labeling it “K2,” because we require that K4-type cadences conclude sections that are (already from their beginning) in the secondary key (in the case at hand, the passage in mm. 13–24 still begins in the main key, C major).

Nearly 40% of the cadences labeled “K2” in our corpus have an extended postcadential space (see Table 2 in our main report). In many of the cases, this stands for a postcadential extension in the sense used by Caplin (2004), although the extended space may also result from a long upbeat figure to the next unit (see, e.g., *Sonata facile*, i, m. 13). Significant stretches of music may act as prolongations of the dominant degree—according to the principle of postcadential extension discussed above, we opt for considering, for instance, the entire passage in mm. 71–77 in the first movement of the *Prague Symphony* K. 504 as a single postcadential extension, notwithstanding the fact that this passage has a thematic-presentational function and not only a postcadential-prolongational one.

K3-type cadences

The harmonic degree denoted by “K3” varies according to the movement’s mode: in major-mode movements of the repertoire under investigation, the degree in question is (invariably in Mozart) the dominant of the dominant key (V:V); in minor-mode movements, by contrast, K3 denotes the dominant of the relative major key (III:V), with one notable exception (in the opening movement of the String Quartet in D minor, K. 173, where the secondary key is the key of the minor-mode fifth degree, and the K3-type cadence is achieved by the degree “v:V”).

Half cadences in the secondary key often play a merely local (intra-thematic) role delineating the boundary between antecedent and consequent in period-like secondary themes—such cadences are disregarded in our

annotations. Most typically, K3-type cadences take on the role of medial caesuras (cf. Hepokoski and Darcy, 2006, pp. 25ff.) directly preceding the onset of the secondary theme (see, e.g., *Jupiter Symphony*, i, mm. 49–58 in Example G4). However, some K3-type cadences preceding a thematic presentation in the secondary-key area do not materialize as middle caesuras due to being elided or embedded in transitional passage that extend beyond them and end, eventually, with a K4-type closure (see Sonata for Two Pianos, K. 448, i, m. 25–33, Figure 1 and discussion in our main report). In analogy to elided/embedded K2-type cadences (discussed above), we take such cases into account in our annotations.

Quite seldom, a thematic presentation in the secondary-key area is disrupted by the execution of a half cadence in this key—inasmuch as such half cadences interrupt the passage they are embedded in (rather than serve as local intra-thematic delimiters), we annotate them as K3-type cadences. One well-known example occurs in the first movement of the *Jupiter Symphony*, mm. 99–100, where a passage with codetta characteristics is interrupted through a K3-type half cadence, which, subsequently, introduces completely new thematic material in the secondary key. A perhaps less obvious case occurs in the first movement of the Piano Sonata in D major, K. 284 (see Example G10): here the secondary theme's presentation in mm. 22ff. is interrupted by the preparation and execution of a K3-type cadence (cadential arrival at m. 34) which sets apart two modules of the secondary theme, each of which possesses a thematically fairly complete sentential-like structure (mm. 22–34 and mm. 34–44).

In accordance with the principle of postcadential extension discussed above, we annotate many cadences of the K2 and K3 types as featuring an extended postcadential space (see also Table 2 in our main report). The largest postcadential space in our corpus (17 measures in common time) occurs in the first movement of the String Quintet in C major, K. 515, mm. 69–85: here the K3-type postcadential extension transcends a mere reiteration of the closural degree—in fact, it spends several measures in the dominant key of the home-key dominant (D major), thus creating an additional (though short-lived) tonal space in this exposition, besides those of the primary and secondary keys (C major and G major respectively).

Some cases of apparently extended K3-type cadences represent particularly complex constellations. Consider, for instance, the passage in Mozart's Sonata for Two Pianos K. 448, i, mm. 25–33 (see Figure 1 and discussion in our main report): what starts as an apparently regular postcadential extension of the K3-type half cadence at mm. 25ff. does not in fact extend the secondary key's dominant, but is retrospectively understood to be an independent passage in the secondary key terminating with a K4-type cadence at m. 33.

K4-type cadences

In Mozart's major-mode sonata-allegro movements, "K4" invariably stands for the dominant key's tonic; in minor-mode movements, on the other hand, the tonal goal of the exposition is the relative major tonic (III:I), with the sole exception of K. 173/i, a D minor movement featuring A minor ("v:i") as its secondary-key goal. A K4-type cadence—as opposed to the other closure types—is absolutely mandatory, and occurs in every Classical sonata exposition at least once (cf. Table 2 in our main report). Notably, whereas interthematic cadences of the K1, K2, and K3 type normally occur only once in a given exposition, the expositions under analysis reveal a multiplicity of K4 cadences to be the rule, which accounts for their large number in the corpus (totaling 722 occurrences, with an average of 2.6 K4-type cadences per movement). This appears to agree with Koch's concept of an "appendix"—a passage in the secondary key that extends beyond and complements a previous passage that has already achieved closure on the secondary-key tonic (1782–1793, vol. 3, pp. 366ff.). In a similar vein, some modern sonata theories (e.g., Webster, 2001; Hepokoski and Darcy, 2006) acknowledge besides the secondary theme a "closing group" (or a "closing zone") which may consist of several closing themes and codettas, all of which end on the secondary-key tonic.

In terms of modern sonata theories, K4-type cadences may occur at pre-secondary-theme, mid-secondary-theme, secondary-theme-concluding, and post-secondary-theme positions. As will be seen below, a cadence's location with respect to the exposition's formal trajectory influences the way it is perceived, and, accordingly, our decision whether or not to include it in our corpus.

Pre-secondary-theme K4-type cadences as a rule conclude the transition section and are separated from the secondary theme itself by a short caesura (that may be, however, bridged by an upbeat figure—see, e.g.,

Dissonance Quartet K. 465, i, m. 71 in Example G5). Because they function as theme-introducing cadences, labeling such cadences as interthematic in our corpus does not depend on the degree of thematic completion attained at the point of closure (consider, e.g., the loosely knit, a-thematic passage in mm. of K. 448/i that culminates in a pre-secondary-theme closure at m. 33 in Figure 1 in our main report). However, in some cases of pre-secondary-theme cadences on the tonic of the dominant key (in major-mode expositions) there is doubt whether they should be more adequately labeled as K2-type half cadences in the primary key—in order to decide in such ambiguous constellations, we require that K4-type cadences must conclude sections that are—already from their beginning—in the secondary key (see above discussion of the K2-type closure in the second movement of the Violin Sonata in C major, K. 303, m. 24 in Example G9).

Whereas different modules in a (complex) secondary-theme zone may be separated by mid-secondary-theme K4-type cadences, there is in every sonata exposition (at least) one K4-type cadence that may be construed as concluding the entire secondary theme. Hepokoski and Darcy (2006, pp. 117ff.) pay special attention to locating a specific cadential event that concludes the secondary theme zone (this event is termed by them “Essential Expositional Closure” to indicate its foremost structural role)—however, their analytical endeavor is often confronted with considerable methodological difficulties in conjunction with specific expositions featuring complex secondary themes. Our annotation system avoids altogether the need to select among the various K4-type cadences featured in a sonata exposition: by using a uniform “K4” label for all interthematic authentic cadences in the secondary key area, we leave open whether a given cadence is located between two sections of the secondary theme (in which case it is mid-thematic) or between the secondary theme and the closing group (theme-concluding cadence). We argue that inasmuch as there are multiple thematic modules in the secondary-key area displaying a sufficient degree of thematic completion, using multiple K4 labels is justified—even in cases where such individual modules can be shown to combine together to create a bigger thematic zone.

Determining the degree of thematic closure in secondary-theme modules draws on the principles of repetition and continuation discussed above. As a rule, full-fledged sentential and period-like structures allow us to recognize a sufficient degree of thematic completion. There are, however, cases of “small” periods (usually spanning eight measures) that consist of non-complex antecedent and consequent, which raise the question of whether to interpret them as sufficiently closed thematic units or as continuation-demanding elements of a longer sentential presentation. In our annotations we give no uniform solution for such constellations; instead, we opt for basing our individual labeling decisions in every case on the perceived sense of closure at the end of the small period-like unit. Whereas, for instance, in the case of the secondary theme of the *Dissonance* Quartet’s first movement (see Example G5) we consider the elided cadence on the downbeat of m. 79 to conclude a sufficiently developed thematic module, in m. 34 of K. 563/i (Example G11), on the other hand, we annotate no interthematic closure (note that although the subsequent section in the case of K. 465/i goes on using the previous triplets motive in a way suggesting a continuation of the same thematic module, the intermediate cadence at m. 34 of K. 563/i is particularly weak harmonically in a way that undermines the fact that the subsequent passage presents new thematic material).

Identifying post-secondary-theme (closing-group) K4-type cadences requires to some extent different rules than those applied in the case of the other thematic zones. We argue that hearing a given passage in the secondary key as a closing theme (or a codetta)—as opposed to, say, the secondary theme “proper”—engenders a different mode of listening with regard to the expected degree of thematic completion. Serving to round off the exposition section, closing thematic material is not expected to represent complete sentence or period structures—accordingly, we annotate a K4-type cadence whenever a closing idea seems to come to an end, regardless of whether thematic completion of the kind postulated above with regard to the primary and secondary theme is attained or not. It follows that towards an exposition’s end, cadences annotated as “K4” tend to occur at comparatively short intervals and in multitude.

Notably, due to the relatively limited degree of thematic completion expected from closing ideas, we do not apply the “postcadential extension” rule formulated above to such thematic modules. Although from a harmonic point of view many post-secondary-theme codettas may be construed as mere postcadential extensions, we generally treat them as individual modules contributing additional cadential labels to the corpus. Consider, for instance, the three final measures of the *Sonata facile* first movement’s exposition (Example G2, mm. 26–28): although the

simple oscillation between tonic and dominant degrees suggests interpretation as a postcadential extension (see, e.g., our above discussion of K. 581/i, mm. 15–19, Example G1), this concise closing module nevertheless contributes a new thematic element (to be immediately re-invoked at the development section’s beginning) and appears to be self-sufficient enough—on a codetta’s terms—to justify two separate cadential labels at mm. 26 and 28.

Although the principle of “postcadential extension” is not applied to closing-group element, we do apply the more specific pedal-point rule (see discussion above). Very frequently, the exposition’s final measures feature a bass pedal point on the secondary-key tonic that stretches throughout the passage. While some of these passages are very short, some are considerably longer and may also include references to previous themes from the exposition (see, e.g., Sonata for Violin in G major, K. 301, i, mm. 80–84). In the case of such passages we opt for a uniform treatment—regardless of their scope and degree of complexity—annotating them as a single K4-type closure that extends all the way through the exposition’s end. Along similar lines, chord breaking and unison figures that may be construed as connecting chord tones (see, e.g., *Haffner* Symphony K. 385, i, mm. 92–94) are considered as belonging to the previous passage and do not contribute additional closural labels.

4. Miscellaneous methodological guidelines and considerations

Expositional cadences vs. recapitulatory cadences. In most sonata movements by Mozart, the recapitulation section follows closely in the exposition’s footsteps—this also applies to the employment of interthematic cadences in the recapitulation. However, labeling recapitulatory cadences poses particular methodological challenges: for one thing, due to the tonal adjustment of the secondary-key area K2-type and K3-type cadences in the recapitulation target the same harmonic degrees, quite often creating ambiguous constellations. We accordingly opt for confining our corpus to expositional labels only; however, we suggest that further investigation into the recapitulatory counterparts of the interthematic cadences labeled in our corpus may yield insightful results.

Tempo and time signature fields specified in the dataset. For every movement, we specify only one tempo and one time signature, even where it has a further tempo/time signature, as in the case of movements featuring a slow introduction. The values specified refer in all cases to the sonata-allegro portion of the movement.

Omission of “next key” specification with regard to exposition’s final cadence. As a rule, an exposition section may be followed by either a return to the movement’s beginning (if there is a repeat sign), and, thus, to the main key, or by moving on to the development section’s initial tonal region. (If there is a retransition passage, the secondary key is abandoned already prior to the exposition’s nominal ending position.) Generally, we conceive of the next tonal goal following the final closure (even where there is no multiplicity of options as described above) as located beyond the exposition’s boundaries and, accordingly, opt for suppressing this data in our annotations.

Annotation of elided cadences. Elision is considered in some sources to represent a strategy of evading a closure by aligning it with the following beginning. However, we do not consider elided theme-concluding cadences to represent a deficient closural event *per se*—unless there is a concrete breech of the cadential voice-leading, we do not apply the designation “evaded” to elided interthematic cadences. Elided cadences may be of all four label types (K1–K4). For a cadence to be annotated as elided, we essentially require that the new beginning occur directly at the point of cadential arrival (occurring, most typically, on a downbeat). If there is postcadential extension involved, the end of the extension passage must coincide with the beginning of the new unit (see, e.g., *Prague* Symphony K. 504, i, m. 77). Generally, we expect the upper voice (“melodic voice”) to be involved in the elision, that is, to engage in (new) melodic activity at the point of elision. We further opt for annotating elision also in some cases where the upper voice comes to rest—but only if a new unit’s beginning is recognizable in some of the other parts. However, in such cases the activity must be of a melodic-motivic character: by contrast, merely athemetic accompaniment figures launched simultaneously with the closure do not amount to elision. In the passage from the Sonata for Two Pianos K. 448 in Figure 2 of our main report, we consider the left-hand figures starting on the downbeat of m. 17 to represent a thematic element and, accordingly, annotate this K1-type

cadence as an elided one; on the other hand, the half cadence in m. 25 is not elided, because the following passage starts at the measure's middle rather than on the downbeat (the tremolo figure in the second piano's upper staff is considered to be a-thematic).

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Example G1: W. A. Mozart, Clarinet Quintet in A major, K. 581, i, mm. 1–41

*Clarinetto
in La/A*

Allegro

Violino I **Violino II** **Viola** **Violoncello**

8

16

Example G1 (cont.): W. A. Mozart, Clarinet Quintet in A major, K. 581, i, mm. 1–41

The musical score consists of four staves, each representing a different instrument. The top two staves are in treble clef, while the bottom two are in bass clef. The key signature is A major (no sharps or flats). Measure 21 starts with sixteenth-note patterns in the upper voices. Measures 22-23 show eighth-note patterns. Measure 24 begins with eighth-note patterns. Measures 25-26 show sixteenth-note patterns. Measure 27 starts with eighth-note patterns. Measures 28-29 show sixteenth-note patterns. Measure 30 begins with eighth-note patterns. Measures 31-32 show sixteenth-note patterns. Measure 33 begins with eighth-note patterns. Measures 34-35 show sixteenth-note patterns. Measure 36 begins with eighth-note patterns. Measures 37-38 show sixteenth-note patterns. Measure 39 concludes the excerpt.

Musical markings include dynamic changes (e.g., p , f , fp) and performance instructions (e.g., grace notes, slurs).

Example G2: W. A. Mozart, Piano Sonata in C major, *Sonata facile*, K. 545, i, mm. 1–28 (exposition)

Allegro

5

8

15 tr

Example G2 (cont.): W. A. Mozart, Piano Sonata in C major, *Sonata facile*, K. 545, i, mm. 1–28 (exposition)

The musical score consists of four staves of piano music. The top two staves are in treble clef, and the bottom two are in bass clef. Measure 18 starts with a forte dynamic. Measures 19 and 20 show eighth-note patterns. Measure 21 begins with a forte dynamic and includes a bassoon-like part. Measures 22 and 23 continue the melodic line. Measure 24 features a trill over a sustained note. Measures 25 and 26 show eighth-note patterns. Measure 27 concludes the section.

Example G3: W. A. Mozart, Piano Piece in C major,, K. 9a, i, mm. 1–8

The image shows three staves of piano sheet music. The top staff is in treble clef, the middle staff is in bass clef, and the bottom staff is also in bass clef. The music consists of eighth-note patterns. Measure 1 starts with a forte dynamic in the treble and bass staves. Measure 2 begins with a sixteenth-note pattern in the bass staff. Measure 3 starts with a forte dynamic in the treble staff, followed by a trill in the bass staff. Measure 4 features a sixteenth-note pattern in the bass staff. Measure 5 starts with a forte dynamic in the treble staff. Measure 6 starts with a forte dynamic in the bass staff.

Example G4: W. A. Mozart, *Jupiter* Symphony in C major, K. 551, i, mm. 1–58 (piano reduction)

Allegro vivace

The musical score consists of eight staves of music for piano, spanning from measure 1 to measure 58. The score is in common time and C major. The instrumentation includes two treble staves and one bass staff. Measure 1 starts with a forte dynamic (f) in the right hand, followed by eighth-note patterns in both hands. Measures 2-3 show a continuation of eighth-note patterns with dynamic changes (p, f). Measures 4-5 feature sixteenth-note patterns. Measures 6-7 show eighth-note patterns with dynamic changes. Measures 8-9 show sixteenth-note patterns. Measures 10-11 show eighth-note patterns with dynamic changes. Measures 12-13 show sixteenth-note patterns. Measures 14-15 show eighth-note patterns with dynamic changes. Measures 16-17 show sixteenth-note patterns. Measures 18-19 show eighth-note patterns with dynamic changes. Measures 20-21 show sixteenth-note patterns. Measures 22-23 show eighth-note patterns with dynamic changes. Measures 24-25 show sixteenth-note patterns. Measures 26-27 show eighth-note patterns with dynamic changes. Measures 28-29 show sixteenth-note patterns. Measures 30-31 show eighth-note patterns with dynamic changes. Measures 32-33 show sixteenth-note patterns. Measures 34-35 show eighth-note patterns with dynamic changes. Measures 36-37 show sixteenth-note patterns. Measures 38-39 show eighth-note patterns with dynamic changes. Measures 40-41 show sixteenth-note patterns. Measures 42-43 show eighth-note patterns with dynamic changes. Measures 44-45 show sixteenth-note patterns. Measures 46-47 show eighth-note patterns with dynamic changes. Measures 48-49 show sixteenth-note patterns. Measures 50-51 show eighth-note patterns with dynamic changes. Measures 52-53 show sixteenth-note patterns. Measures 54-55 show eighth-note patterns with dynamic changes.

Example G5: W. A. Mozart, String Quartet in C major, *Dissonance*, K. 465, i, mm. 51–79

Musical score for String Quartet in C major, K. 465, showing four staves (Violin 1, Violin 2, Viola, Cello) across four systems (mm. 51-58).

System 1 (Mm. 51-52): Violin 1 plays eighth-note patterns. Violin 2 and Viola play sixteenth-note patterns. Cello provides harmonic support. Dynamics: p , f , tr , p , sf , p .

System 2 (Mm. 53-54): Violin 1 and Violin 2 play sixteenth-note patterns. Viola and Cello provide harmonic support. Dynamics: p , f , p .

System 3 (Mm. 55-56): Violin 1 and Violin 2 play eighth-note patterns. Viola and Cello provide harmonic support. Dynamics: f , p .

System 4 (Mm. 57-58): Violin 1 and Violin 2 play eighth-note patterns. Viola and Cello provide harmonic support. Dynamics: f , p .

Example G5 (cont.): W. A. Mozart, String Quartet in C major, *Dissonance*, K. 465, i, mm. 51–79

Musical score for String Quartet in C major, K. 465, i, mm. 51–79. The score consists of four staves: Violin I (top), Violin II, Viola, and Cello/Bass. The key signature changes from C major to F major at measure 68. Measure 51: Violin I starts with a eighth-note rest followed by a sixteenth-note pattern. Measures 52-53: Crescendo markings appear above the staves. Measure 54: Dynamics include μ (mezzo-forte) and p (pianissimo). Measure 55: Crescendo marking appears below the staves. Measures 56-57: Dynamics include p . Measure 58: Crescendo marking appears below the staves. Measures 59-60: Dynamics include f . Measures 61-62: Dynamics include f . Measures 63-64: Dynamics include f . Measures 65-66: Dynamics include f . Measures 67-68: Dynamics include f . Measures 69-70: Dynamics include f . Measures 71-72: Dynamics include p . Measures 73-74: Crescendo markings appear above the staves. Measures 75-76: Dynamics include f . Measures 77-78: Dynamics include f . Measures 79-80: Dynamics include p . Measures 81-82: Crescendo markings appear above the staves. Measures 83-84: Dynamics include f . Measures 85-86: Dynamics include f . Measures 87-88: Dynamics include f . Measures 89-90: Dynamics include f . Measures 91-92: Dynamics include f .

Example G6: W. A. Mozart, *Paris Symphony* in D major, K. 297, i, mm. 1–51

Allegro assai

This musical score page displays the first 51 measures of the first movement of Wolfgang Amadeus Mozart's "Paris Symphony" in D major, K. 297, Movement I. The score is written in 2/4 time and uses a key signature of one sharp. The instrumentation includes Flauti, Oboi, Clarinetti in La/A, Fagotti, Corni in Re/D, Trombe in Re/D, Timpani in Re, La, D, A, Violino I, Violino II, Viola, Violoncello e Basso, and Bassoon. The dynamic markings throughout the score include forte (f), piano (p), and soft (s). Measure 1 begins with a forte dynamic from the Flauti and Oboi, followed by sustained notes from Clarinetti in La/A and Fagotti. Measures 2-3 show a transition with sustained notes and rhythmic patterns from various instruments. Measures 4-5 feature a prominent bassoon line. Measures 6-7 continue with sustained notes and rhythmic patterns. Measures 8-9 show a continuation of the established patterns. Measures 10-11 feature a bassoon line. Measures 12-13 continue with sustained notes and rhythmic patterns. Measures 14-15 show a continuation of the established patterns. Measures 16-17 feature a bassoon line. Measures 18-19 continue with sustained notes and rhythmic patterns. Measures 20-21 show a continuation of the established patterns. Measures 22-23 feature a bassoon line. Measures 24-25 continue with sustained notes and rhythmic patterns. Measures 26-27 show a continuation of the established patterns. Measures 28-29 feature a bassoon line. Measures 30-31 continue with sustained notes and rhythmic patterns. Measures 32-33 show a continuation of the established patterns. Measures 34-35 feature a bassoon line. Measures 36-37 continue with sustained notes and rhythmic patterns. Measures 38-39 show a continuation of the established patterns. Measures 40-41 feature a bassoon line. Measures 42-43 continue with sustained notes and rhythmic patterns. Measures 44-45 show a continuation of the established patterns. Measures 46-47 feature a bassoon line. Measures 48-49 continue with sustained notes and rhythmic patterns. Measures 50-51 show a continuation of the established patterns.

Example G6 (cont.): W. A. Mozart, *Paris Symphony* in D major, K. 297, i, mm. 1–51

The musical score consists of two systems of staves, each containing six staves. The key signature is D major (one sharp). Measure 16 begins with a dynamic *p*. The first staff features eighth-note chords in the treble and bass clefs. The second staff has eighth-note chords in the treble clef. The third staff has eighth-note chords in the bass clef. The fourth staff (B♭) has eighth-note chords in the bass clef. The fifth staff (B♭) has eighth-note chords in the bass clef. The sixth staff (B♭) has eighth-note chords in the bass clef. Measures 17 through 21 continue this pattern of eighth-note chords. Measure 22 begins with a dynamic *f*. The first staff has eighth-note chords in the treble clef. The second staff has eighth-note chords in the bass clef. The third staff has eighth-note chords in the bass clef. The fourth staff (B♭) has eighth-note chords in the bass clef. The fifth staff (B♭) has eighth-note chords in the bass clef. The sixth staff (B♭) has eighth-note chords in the bass clef. Measures 23 through 27 continue this pattern of eighth-note chords. Measure 28 begins with a dynamic *p*. The first staff has eighth-note chords in the treble clef. The second staff has eighth-note chords in the bass clef. The third staff has eighth-note chords in the bass clef. The fourth staff (B♭) has eighth-note chords in the bass clef. The fifth staff (B♭) has eighth-note chords in the bass clef. The sixth staff (B♭) has eighth-note chords in the bass clef.

Example G6 (cont.): W. A. Mozart, *Paris Symphony* in D major, K. 297, i, mm. 1–51

Musical score for orchestra, page 28, measures 33-34. The score consists of ten staves. Measures 33 (measures 1-2) show various instruments playing eighth-note patterns. Measure 34 begins with a dynamic of p , followed by a crescendo, and ends with a dynamic of f . Measures 35-36 show sustained notes and eighth-note patterns. Measure 37 begins with a dynamic of p , followed by a crescendo, and ends with a dynamic of f .

Example G6 (cont.): W. A. Mozart, *Paris Symphony* in D major, K. 297, i, mm. 1–51

The musical score consists of two systems of staves, each containing six staves. The top system starts at measure 39 and the bottom system starts at measure 45. The score includes various instruments such as strings, woodwinds, and brass. Measure 39 features eighth-note patterns in the upper voices and sustained notes in the lower voices. Measure 40 shows sustained notes across all staves. Measures 41-42 show eighth-note patterns. Measures 43-44 show sustained notes. Measures 45-46 show eighth-note patterns. Measures 47-48 show sustained notes. Measures 49-50 show eighth-note patterns. Measures 51-52 show sustained notes.

Example G7: W. A. Mozart, Symphony in F major, K. 76, i, mm. 1–16

Allegro maestoso

Oboe I, II

Fagotto I, II

*Corno I, II
in Fa/F#*

Violino I

Violino II

Viola

*Violoncello
e Basso*

6

12

Example G8: W. A. Mozart, Church Sonata in F major, K. 224, mm. 1–16

Musical score for Violin I, Violin II, Organ, and Basso. The score consists of four staves. Violin I starts with a dynamic *p*. Violin II and Organ enter with a dynamic *p*, followed by a dynamic *f*. Basso enters with a dynamic *p*, followed by a dynamic *f*. The score continues with measures 7 through 16, showing complex rhythmic patterns and dynamics including *tr* (trill) and various time signatures (6, 5, 7, 16).

Example G9: W. A. Mozart, Sonata for Piano and Violin in C major, K. 303, ii, mm. 1–26

Sheet music for piano, Tempo di Menuetto. The music is arranged for two hands, with the right hand playing the treble clef staves and the left hand playing the bass clef staves. The key signature changes between G major (two sharps) and F# major (one sharp). Measure numbers 1 through 24 are indicated. The dynamics include *f*, *p*, *tr*, and *N*. Measure 1 starts with a forte dynamic. Measures 2-4 show eighth-note patterns. Measure 5 begins with a piano dynamic. Measures 6-7 continue the eighth-note patterns. Measure 8 shows a transition to a new section with a forte dynamic. Measures 9-11 show eighth-note patterns. Measure 12 begins with a piano dynamic. Measures 13-14 show eighth-note patterns. Measure 15 begins with a forte dynamic. Measures 16-17 show eighth-note patterns. Measure 18 begins with a piano dynamic. Measures 19-20 show eighth-note patterns. Measure 21 begins with a forte dynamic. Measures 22-23 show eighth-note patterns. Measure 24 begins with a piano dynamic.

Example G10: W. A. Mozart, Piano Sonata in D major, K. 284, i, mm. 22–44

Musical score for W.A. Mozart's Piano Sonata in D major, K. 284, i, mm. 22–44. The score consists of four staves of music for piano.

Movement: First Movement (i)

Key: D major (two sharps)

Time Signature: Common time (indicated by 'C')

Measure 22: Treble clef. Dynamics: p . The bass staff is silent.

Measure 23: Treble clef. Dynamics: p . The bass staff shows eighth-note chords.

Measure 24: Treble clef. Dynamics: $cresc.$, $sforz.$, p . The bass staff shows eighth-note chords.

Measure 25: Treble clef. Dynamics: p . The bass staff shows eighth-note chords.

Measure 26: Treble clef. The bass staff shows eighth-note chords.

Measure 27: Treble clef. The bass staff shows eighth-note chords.

Measure 28: Treble clef. The bass staff shows eighth-note chords.

Measure 29: Treble clef. The bass staff shows eighth-note chords.

Measure 30: Treble clef. The bass staff shows eighth-note chords.

Example G10 (cont.): W. A. Mozart, Piano Sonata in D major, K. 284, i, mm. 22–44

Musical score for piano sonata K. 284, i, mm. 22–44. The score consists of four staves of music, each with a treble clef, a key signature of one sharp (D major), and a common time signature. Measure 33 starts with a forte dynamic (f) in the right hand. Measures 34 and 35 show eighth-note patterns in the bass and sixteenth-note patterns in the treble. Measure 36 begins with a piano dynamic (p) in the right hand. Measures 37 and 38 feature eighth-note chords in the bass. Measure 39 starts with a forte dynamic (f) in the right hand. Measures 40 and 41 show eighth-note chords in the bass. Measure 42 begins with a piano dynamic (p) in the right hand.

Example G11: W. A. Mozart, Divertimento (String Trio) in E-flat major, K. 563, i, mm. 26–37

Musical score for String Trio in E-flat major, K. 563, i, mm. 26–37. The score consists of three staves: Violin I (top), Violin II (middle), and Cello/Bass (bottom). The key signature is one flat (E-flat major). The time signature is common time.

Movement: Divertimento (String Trio) in E-flat major, K. 563, i

Meter: Common time

Key Signature: One flat (E-flat major)

Measure 26: Violin I starts with a dynamic *p*. Violin II and Cello provide harmonic support. Measure 27 begins with a dynamic *p*.

Measure 28: Violin I continues its melodic line. Measures 29-30 show a rhythmic pattern of eighth-note pairs followed by sixteenth-note patterns. Measure 31 concludes with a dynamic *f* and a trill.

Measure 32: Violin I begins with a dynamic *f*. Measures 33-34 show a rhythmic pattern of eighth-note pairs followed by sixteenth-note patterns. Measure 35 concludes with a dynamic *f*.