What Is a Cadence?

Theoretical and Analytical Perspectives on Cadences in the Classical Repertoire

Markus Neuwirth
Pieter Bergé (eds)

WHAT IS A CADENCE?
THEORETICAL AND ANALYTICAL PERSPECTIVES
ON CADENCES IN THE CLASSICAL REPERTOIRE
What Is a Cadence?

Theoretical and Analytical Perspectives on Cadences in the Classical Repertoire

Markus Neuwirth and Pieter Bergé (eds)
CONTENTS

INTRODUCTION: WHAT IS A CADENCE? 7
Nine Perspectives
Markus NEUWIRTH and Pieter BERGÉ

HARMONY AND CADENCE IN GJERDINGEN’S “PRINNER” 17
William E. CAPLIN

BEYOND ‘HARMONY’ 59
The Cadence in the Partitura Tradition
Felix DIERGARTEN

THE HALF CADENCE AND RELATED ANALYTIC FICTIONS 85
Poundie BURSTEIN

FUGGIR LA CADENZA, OR THE ART OF AVOIDING CADENTIAL CLOSURE 117
Physiognomy and Functions of Deceptive Cadences in the Classical Repertoire
Markus NEUWIRTH

THE MYSTERY OF THE CADENTIAL SIX-FOUR 157
Danuta MIRKA
Contents

The Mozartean Half Cadence 185
Nathan John Martin and Julie Pedneault-Deslauriers

“Hauptidepunkte des Geistes” 215
Punctuation Schemas and the Late-Eighteenth-Century Sonata
Vasili Byros

The Perception of Cadential Closure 253
David Sears

Towards a Syntax of the Classical Cadence 287
Martin Rohrmeier and Markus Neuwirth

List of Contributors 339

Index 343
**“HAUPTRUHEPUNCTE DES GEISTES”**

Punctuation Schemas and the Late-Eighteenth-Century Sonata

Vasili Byros

Had publication practices in the Age of Enlightenment resembled the mass-media distribution and consumption of films in the New Millennium, eighteenth-century music may have come similarly packaged with “alternate versions,” “composer’s cuts,” and “outtakes.” The late-eighteenth-century equivalent of a “Collector’s Edition” Blu-ray disc for Beethoven’s Second Symphony in D major, op. 36 (1801–02), may well have included among its “outtakes” the passage given in Example 1: an alternate version for bars 56–71 of the first movement.¹

My ambition with this chapter is to explain the source of this “alternate version” and, in so doing, to provide some theoretical, historical, and analytic foundation to sustain a premise that lies relatively dormant in eighteenth-century Satzlehre. Namely, a cadence is a schema responsible for the cognition of sonata form. Such is my attempt to bring one answer to the query that headlines this symposium. It is a premise most strongly suggested by Heinrich Christoph Koch’s description of “caesuras” (Cäsuren) as “resting points of the mind” (Ruhepuncte des Geistes), and especially his grouping of more strongly weighted cadences into “principal resting points of the mind” (Hauptruhepuncte des Geistes).² A three-volume tome completed in 1793, the Versuch brings an implicitly cognitive orientation within the epistemology of the cadence that also frames a historically situated discussion of “sonata form” (die Form der Sonate) as a “punctuation form” (interpunctische Form).³ Koch objectifies the sonata concept as a periodized punctuation script,⁴ one founded on the cognition of structurally weighted

---

¹. A digital realization of the example may be heard online at http://vasilibyros.com/b2_hyp.aif.
². Koch, Versuch III (1793), §§119, 319–331 (209); §113, 322 (205).
³. Koch, Versuch III (1793), §119, 319–331 (209); §113, 322 (205).
⁴. The term “script,” discussed in detail below, comes from cognitive psychology, where it is used to characterize a serially-organized pattern.
Example 1: Beethoven, Symphony No. 2 in D major, op. 36/i (1801–02), bb. 56–71: Alternate version
caesuras. The implication is that cadences are a central feature in constructing mental representations of sonata-form syntax, which in turn powerfully influence listening behaviors in the eighteenth century.

To explain and build toward these contentions here, and to properly understand the context for this “outtake” from Beethoven’s Second Symphony, I must begin, unceremonious and roundabout as it may be, with a bit of intellectual housekeeping, (meta) theory, and a couple of anecdotes—the latter recounted from memory, so caveat lector.

The publication and influence of Robert Gjerdingen’s Music in the Galant Style in recent years seem to have occasioned a restricted understanding of the term “schema” in North American musicological circles—despite attempts by David Temperley to clarify Gjerdingen’s circumscribed usage of the term to designate certain “scale-degree schemata.”

Both the nature and potential weight of this limitation only became apparent to me through conversations with North American colleagues in the winter months of 2011 and 2012. The first setting is one of our symposium’s midday interludes, when William Caplin and I discussed the possible intersections between Formenlehre and “schema theory,” while descending the Pincian Hill of the Villa Borghese. The conversation was not without some collegial disagreement, and yet, any differences of opinion, I learned shortly thereafter, were nonetheless of the most unwelcome variety—namely those based in misunderstanding. Though Caplin has been receptive to exploring the form-functional meanings of galant scale-degree patterns, having even investigated Gjerdingen’sプリンネル as a species of cadence, all the same he balked at the idea that, from a schema-theoretic window, formal functions, formal types, and especially sonata form are conceptually similar to galant scale-degree patterns at the phrase level. It was Poundie Burstein who, having observed our conversation, clarified the misunderstanding by the time we reached the Pincian’s base: he brought it to my attention that, for Caplin, “schema” meant “galant phrase-level scale-degree pattern.”

This misunderstanding likely owes in no small measure to Gjerdingen’s explicit distancing of the schema concept from issues of musical “form,” and especially “sonata form”—viewing the latter as one among several nineteenth-century inventions whose application to music of the eighteenth century is nothing if not anachronistic, and therefore suspect where a historically “authentic” hearing of the music is concerned.

This constrained meaning of a schema conveyed by Music in the Galant Style would have rendered my suggestion rather flawed indeed, for, among other things, confounding musical parameters as well as hierarchic levels.

6. See Caplin’s contribution to this volume.
The issue became thematic when it returned in the following winter during a conversation atop another summit across the pond: East Hill of Ithaca, NY, with James Webster. Webster, too, initially expressed reservation at the possibility of a sonata “schema.” Soon enough, however, he inquired, “In Gjerdingen’s sense?” thus opening the possibility for an alternative understanding. This time, consequently, no real disagreement ensued, as Max Weber and Carl Dahlhaus entered the room: the idea seemed more reasonable when, following a short clarification on my part, Webster himself associated the term “schema” not with a specific musical parameter, but with a musical “ideal type,” which has no parametric or hierarchic limitations in principle, being equally applicable to a cadence, scale-degree progression, contrapuntal idiom, harmonic progression, sentence, period, or larger rounded-binary structure such as sonata form.

Nor is “schema” limited to any particular domain or hierarchic level in any principled way. The term was a cornerstone of twentieth-century cognitive and social psychology (with long precedents in empirical philosophy), used to explain knowledge structures shaped by one’s environment, particularly social and cultural environment—or, in Gibsonian terms, to describe knowledge formed through one’s attunement with the environment. The roots of this connotation lie in Aristotle’s treatise on memory, which holds the earliest such use of the term: “schema” (σχήμα) carried an equivalent meaning as the later Latin “habitus” as well as the English “shape.” Thus it came to represent a “shaping” of the mind by the structural conditions of an environment.

8. The conversation took place after my giving a colloquium at Cornell University, 23 February 2012, “Ethno-Graphing Mozart.”
9. For Weber’s concept of the “ideal type” in general, see Methodology of Social Sciences (1904/2011), 90–93; Dahlhaus, Analysis and Value Judgment (1983), 45–86, passim; idem, Realism in Nineteenth-Century Music (1985), 121, passim. Webster himself discusses the “ideal type” in Bergé (ed.), Musical Form, Forms, and Formenlehre (2010), 126. See also Gossett, “Carl Dahlhaus and the ‘Ideal Type’” (1989). though Webster’s analogy with the Marxian Idealtypus was a closer approximation of my intended meaning, to bring eighteenth-century style under a schema-theoretic lens is not equivalent to viewing musical categories as Idealtypen, and replacing the term “ideal type” with “schema.” The two are conceptually related as simplified abstractions from complex observable phenomena, but they are not synonyms. Idealtypen are largely unmalleable and idealized models, which often cause severe problems when used to explain the diversity and complexity of musical particulars, as Gossett showed in Dahlhaus’ own analytic application of the Idealtypus. In Weber’s own words, an ideal type “is a conceptual construct which is neither historical reality nor even the ‘true’ reality. It is even less fitted to serve as a schema under which a real situation or action is to be subsumed as one instance. It has the significance of a purely ideal limiting concept with which the real situation or action is compared and surveyed for the explication of certain of its significant components. [...] The ideal type is arrived at by the analytical accentuation of certain elements of reality. [...] In its conceptual purity, this mental construct cannot be found empirically anywhere in reality. It is a utopia.” Methodology of Social Sciences (1904/2011), 93, 90.
10. For an intellectual history of the schema concept in philosophy and cognitive and social psychology, see Byros, “Foundations of Tonality as Situated Cognition” (2009), Chapter 5, passim.
12. Aristotle, De memoria, in De sensu and De memoria (1966), 114f.
environment—a “shaping” by way of habit, or, in Aristotle’s words, “custom.” 14 For this reason, the Swiss child development psychologist Jean Piaget characterized a schema as an “exogenous mechanism.” 15 Environments, whether natural, social, or cultural, produce structural modifications on the mind by way of a mental “adaptation” to and subsequent “assimilation” of “the particularities of [its] objects.” 16 “Schema” has come to represent this relationship between “object” and mind: it refers to the relevant detail in the environment, to its mental representation or “copy,” 17 and to the mind’s use of that representation to navigate or comprehend the same environment subsequently, when encountering a similar and familiar situation. 18

The objects in question to which the mind is adaptable in this way have no restriction in principle. They may be any ecological feature or collection of features that is amenable to human perception, abstraction, and categorization, regardless of the type of environment—whether cities, languages, novels, musical works, or motion pictures. The schema concept applies to all varieties of knowledge. Indeed “schemata are our knowledge,” as David Rumelhart put it, in “Schemata: The Building Blocks of Cognition,” which stands among the most seminal modern writings on schema theory. They “represent all levels of our experience, at all levels of abstraction. […] All of our generic knowledge is embedded in schemata.” 19 Rumelhart is quite clear that “there are schemata for representing our knowledge about all concepts.” 20 A “schema theory,” then, as Rumelhart summarizes it, “is basically a theory about knowledge. It is a theory about how knowledge is represented and about how that representation facilitates the use of the knowledge in a particular way.” 21 Nothing in the epistemology of the schema concept would belie a schema-theoretic understanding of a harmonic cadence, a sentence, or a concerto form.

Nor is this understanding of a schema of course something entirely new to North American music theory and musicology. It was a foundational concept—in spirit, if not always in letter—for the majority of Leonard Meyer’s output, even if he never distributed his ideas consistently under an explicit schema headline (for a time even using the term “ideal type” to get at the concept). 22 Most important for our purpose here, in Style and Music of 1989, Meyer characterized various syntactic parameters of eighteenth-century music, what he called “primary parameters,” as “scriptlike

14. Aristotle, De memoria, in De sensu and De memoria (1906), 111.
16. Ibid.
17. Aristotle, De memoria, in De sensu and De memoria (1906), 107.
18. For a recent discussion of the schema concept’s musical application from psychological, compositional, and historical perspectives, see Byros, “Meyer’s Anvil” (2012).
20. Ibid., 34.
21. Ibid., 34.
schemata.” In this, he was adopting a concept from Yale psychologists Roger Schank and Robert Abelson, who advanced the further specification of a “script” schema: “A script is a structure [...] made up of slots and requirements about what can fill those slots. The structure is an interconnected whole, and what is in one slot affects what can be in another. [...] Thus, a script is a predetermined, stereotyped sequence of actions that defines a well-known situation.” The “scriptlike schemata” Meyer identified with the eighteenth century certainly included “changing-note melodies,” like Gjerdingen’s “Meyer,” “Aprile,” and “Pastorella.” These patterns were, after all, first discussed by Meyer himself under more generic titles: 1–7 ... 4–3; 1–7 ... 2–1, and 3–2 ... 4–3, respectively. But Meyer never limited the schema concept to the scale-degree level: “Schemata may arise in connection with any parameter”; and among his “scriptlike schemata” are also “antecedent/consequent phrases, full authentic cadences (subdominant-dominant-tonic), and sonata-form structures.”

My suggestion to Caplin on the Pincian Hill was, evidently, a mere echo of Meyer’s earlier, historically oriented formulation, which related the schema concept to the syntactic makeup of eighteenth-century musical organization in general. It is not simply that a schema-minded orientation may befit any music-theoretic inquiry because it deals with knowledge in some way—though this is also certainly true with qualification. Rather eighteenth-century music is especially apropos to such inquiry, because its environment is multi-parametrically and multi-hierarchically syntactic, or “scripted” in Schank and Abelson’s sense. It consists of numerous levels of “predetermined, stereotyped sequence[s] of action.” It is highly “perceptually redundant” (Meyer’s term) in the domain of syntax on the whole, and therefore schema rich at all levels of abstraction. Generalizations about the environment that give rise to schema formation are dependent on statistical regularity. James Gibson defined environments as “probabilistic” and “stochastically regular,” which renders their navigation predictive with experience. And Meyer similarly described the musico-stylistic environment in general as a “stochastic process” and “probability system.”

24. Schank and Abelson, Scripts, Plans, Goals and Understanding (1977), 41. Within the schema-theoretic literature, there have been several different approaches to formalizing a “schema,” for example as a prototype, exemplar, script, plan, or frame. See Byros, “Meyer’s Anvil” (2012), 329f. (n. 12).
28. Ibid., 245.
29. Because the schema concept is predicated on cultural or stylistic redundancies and regularity of behavior, it becomes problematic, for example, in some twentieth-century art-music idioms. See Meyer, Music, the Arts, and Ideas (1967/1994).
30. Ibid., 277.
eighteenth-century music exhibits high degrees of statistical regularity and probabilistic structure at numerous levels of its syntactic organization, it demands that one adopt a schema-minded approach.

Example 2: Haydn, String Quartet in D major, op. 33 No. 6/ii (1781), bb. 1–8: Structured integration of scriptlike schemata

To do so, moreover, requires a holistic consideration of the various forms and levels of eighteenth-century syntax, as different yet integrated types of schemata, and a scrutinizing of how their interaction affects listening behaviors. Meyer described the changing-note scripts at the foreground level as nested elements within larger syntactic processes: “The form of the [changing-note] schema is strophic (A A´), but on the next hierarchic level, [its] first two elements […] frequently form part of a larger bar form (A A´B).”33 This “larger bar form” is what Caplin calls a sentence. The various “scriptlike schemata” are thus hierarchically differentiated as well as interactive: “In the Classic style, […] changing-note schemata are usually only part of a theme whose full form is A A´ B.”34 This structured integration can be seen in Example 2, which displays the opening theme from the Andante of Haydn’s String Quartet in D major, op. 33 No. 6 (1781). Here, a DO–TI ... RE–DO scale-degree and harmonic schema characteristically forms the presentational first half of a sentence, whose continuation

34. Ibid., 231.
phrase involves another phrase-level pattern, a PASSUS DURIUSCULUS variant of a cadence that eighteenth-century Italians called a cadenza lunga (“long cadence”). Together, the DO–TI ... RE–DO and cadenza lunga communicate the SENTENCE at the next highest level, and all three scriptlike schemata play integrative roles in communicating the half cadence at bar 8 as the syntactic goal of the entire theme.

Most experiences, whether finding one’s feet in a new city or in a new symphony, are simultaneously regulated by numerous types of integrated knowledge. Schemata do not work as hermetically sealed cognitive vacuums but as a structured synergy. Or, as Bradd Shore eloquently phrased it in his Culture in Mind, the mind has a “polyphonic” structure: “A thick and complex texture of conscious experience is made possible by the simultaneous interactions of several ‘layers’ of different sorts of knowledge. [...] [E]xperience[s] are layered.” To be sure, “[a]ccording to schema theories [generally], all knowledge is [viewed as] packaged into units. [And t]hese units are the schemata. Embedded in these packets of knowledge is, in addition to the knowledge itself, information about how this knowledge is to be used.” But these units are not isolated representations in the mind. They result from consortiums of even smaller units of knowledge, and participate in the framing of larger-scale experiences. The mental organization of experience is a structured aggregate involving sequential, associative, as well as hierarchical relations among knowledge units. Schemata are, in essence, cognitive hierarchies built up of numerous, embedded subschemata, that define a broader concept through their interaction: “A schema is a network [...] of subschemata, each of which carries out its assigned task of evaluating its goodness of fit whenever activated. These subschemata represent the conceptual constituents of the concept being represented. [...] [A] schema uses results produced by its subschemata to carry out its tasks.” As the ecological psychologist Ulric Neisser describes the concept, a schema is something like a “cognitive map [...] Units at different ‘levels’ are not just related sequentially; [...] they are embedded. [...] Actions are hierarchically embedded in more extensive actions and are motivated by anticipated consequences at various levels of schematic organization.”

The SENTENCE in Example 2, for instance, plays such a charting role as a listener navigates the opening theme. Each harmonic and scale-degree subschema at the phrase level is hierarchically embedded in a more extensive action: namely, the cadence at bar 8, as an anticipated consequence at the highest level of schematic organization.

---

35. The cadenza lunga takes many different forms, see Sanguinetti, The Art of Partimento (2012), 107–110, passim, and 145–146 on descending chromatic basses. Cadenze lunghe are conceptually synonymous with Caplin’s concept of “expanded cadential progression” (see n. 93 below).
38. Ibid., 39; see also 40f.
for the opening theme. But at the same time, the *sentence* and its broader cadential goal are (reciprocally) enabled by these lower-level, subschematic processes. The *DO–ti ... RE–DO* is a phrase-level form of syntax that exemplifies *presentation* function, as one among several tonic-dominant statement-response paradigms. The inconclusiveness of its *presentation* function motivates the larger-scale structure: as Meyer put it, “closure is not very decisive in most instantiations of this schema. This is because in most cases the changing-note pattern is part of a higher-level melodic process [...] and larger bar form (A A′B).” 40 Not only does the *passus durjusculus* variant of the *cadenza lunga* bring the necessary cadential closure to round off the *sentence*, but the *DO–ti ... RE–DO* retrospectively emerges as an inner-voice pattern within a “higher-level melodic process”: a hexachordal descent that begins with the sustained A of the first violin and closes with the resolution of the *cadenza lunga* and C# in the melody. To paraphrase Rumelhart, the *sentence* schema uses results produced by these subschemata to carry out its tasks. It “emerge[s] from the interaction of [...] [these] simpler elements all working in concert with one another.” 41 The same principle applies to the largest level of schematic organization, so that syntactic forms that occupy the *sentence* level of structure (like the *period* and *hybrid* forms), in turn, become subschemata within a more global script: “formal schemata such as theme and variations, rondo, da capo arias, and sonata form.” 42

And so, the various forms of “replicated patterning” in eighteenth-century music share deep conceptual resonances insofar as they all are statistical regularities in the environment, are cognitive hierarchies composed of lower-level subschemata, are all syntactic (or “scripted”) in their makeup, and they all contribute to the formation of a summit of syntactic organization in a higher-level formal genre, like *sonata form*. As a global script schema, *sonata form* emerges from but also inversely subsumes all other varieties of syntax as its embedded subschemata. Meyer defined “[e]ighteenth-century sonata form [a]s a script-based schema whose parts are [...] articulated into an arched hierarchy according to the degrees of closure created by several [primary] parameters involved. [...] [T]he possibility of [such] hierarchic organization depends on the existence of different kinds and strengths of closure created by syntax. [...] [T]he formation of a hierarchy depends on the existence of closure.” 43

This last formulation is most suggestive in the context of eighteenth-century music theory, and contemporaries’ punctuative descriptions of musical form in general—as displayed in several writings by Johann Mattheson, Johann Adolph Scheibe,

---

43. Ibid., 303f., 15, 330 (my emphasis).
Joseph Riepel, Friedrich Wilhelm Marpurg, Johann Philipp Kirnberger, and Koch. Yet 1803 issues of the Leipzig Allgemeine musikalische Zeitung reference “sonata form” as a compositional norm. For example, when the publisher Nägeli announced the printing of Beethoven’s op. 31 set of piano sonatas, he described them as having “many departures from the customary sonata form” (Abweichungen von der gewöhnlichen Sonaten-Form). This sonata form “custom” or “habit”—the adjective gewöhnlich conceptually implies a noun-form, Gewöhnheit—is likely a reference to the concept objectified some years earlier in Johann Georg Sulzer’s 1774 article on the “Sonata” (Sonate), from the Allgemeine Theorie der schönen Künste, and especially in volume 3 of Koch’s Versuch from 1793. Both speak of “the form of the sonata” (die Form der Sonate). If not a nineteenth-century invention, something about the late-eighteenth-century view of the concept was certainly lost by the Romantic generation, as Karol Berger has argued for years—specifically, the importance of cadential punctuation, a view that has been gradually revitalized in recent decades, in more or less explicit terms, by Berger as well as by Carl Dahlhaus, Leonard Ratner, James Hepokoski and Warren Darcy, William Caplin, and Michael Spitzer, among others. Discussions of a sonata schema in the eighteenth century are most implicit in Koch’s definition and elaboration of “die Form der Sonate” as a “punctuation form” (interpunctische Form). In the Versuch, “form” is described as a cognitive hierarchy of different states of musical closure, punctuation, and rest, what Koch called Ruhepuncte des Geistes. These “resting points of the mind” produce a hierarchy of closure, and

---

44. Mattheson, Der vollkommene Capellmeister (1739); Scheibe, Der kritische Musikus (1738–1745); Joseph Riepel, Anfangsgründe (1752–1768); Marpurg, Kritische Briefe (1759–1763); Kirnberger, Die Kunst des reinen Satzes (1771–1779); and Koch, Versuch (1782–1793). For a survey of the concept of musical punctuation in the eighteenth century, see Stephanie Vician, The Art of Musical Phrasing (2008).
47. Nägeli, “Ankündigung: Repertoire des Clavecinisten” (1803). The term “allzugewöhnlichen Sonaten-Form” also appears in the “Recensionen” section of the 11 May 1803 issue (No. 33) of the Leipzig AmZ, 559–560, which announces the publication of several keyboard works by Anton Eberl.
48. Sulzer, Allgemeine Theorie (1774–1794), s.v. “Sonate”; Koch, Versuch III (1793), §119, 331 (203); §113, 322 (205).
50. Koch, Versuch III (1793), §20, 52 (83); §31, 82 (93); §28, 124 (116); §50, 395 (214); passim. Koch also uses the plural, “interpunctische Formen,” as he describes several types of punctuation form in vol. III, whose differences are affected by, among other things, genre.
thus of different formal sections, because they are varied in their markedness—or, in Meyer’s terms, they afford “different kinds and strengths of closure created by [different kinds of] syntax.” And this gradation enables “the possibility of hierarchic organization.” The “most marked [merklichsten] resting points” articulate “periods” (Perioden), the “less marked” (weniger merklichen) “single phrases” (einzelle Sätze) and “incises” (Einschnitte). Thus a hierarchy arises from the “more or less marked resting points of the mind” that produce these formal divisions. The largest divisions of a sonata or symphony that Koch advances are the equivalents of the present-day exposition, development, and recapitulation, which he called the first, second, and third “main periods” (Hauptperioden). Each “period” (Periode) is subdivided into different kinds of “phrases” (Sätze): one or more “internal phrases” (Absätze)—which are further qualified as “a basic phrase” (enger Satz), “an extended phrase” (erweiterter Satz), or a “compound phrase” (zusammen geschobener Satz)—and a “closing phrase” (Schlußsatz), which ends a Hauptperiode. (Because translations of Satz as “sentence” or “phrase” invite confusion with the more familiar North American meanings of such terms, the German is retained hereafter.)

The argument for an arched hierarchy within this punctuation form emerges most conspicuously in the Sätze that Koch associated with cadences of greatest structural and perceptual weight, which function as “landmarks” within the “cognitive map” of a sonata or symphony. These hierarchically superordinate caesuras Koch designated Hauptruhepuncte des Geistes (“principal resting points of the mind”), which sit atop the arch of the hierarchy, as they represent the highest degrees of closure. They also define large-scale syntactic relationships within the punctuation form. Koch maintained that only some cadences (Cäsuren) within a period share in the “collation of phrases by means of punctuation” (interpunctische Vergleichung der Sätze), so that structural cadences themselves form a higher-level syntactic script: a predetermined, stereotyped sequence of actions on a large-scale level. This script consists of a series of weighted caesuras and their attendant Sätze, and admits of several variants.

At the uppermost level of the Hauptruhepuncte sequence is the “closing Satz” (Schlußsatz) of the exposition and recapitulation (erste oder dritte Hauptperiode), produced by a perfect authentic cadence in the key of the dominant and tonic, respectively. This PAC is a particular kind of “caesura” (Cäsur) for which Koch specially reserved the term Cadenz. It sits atop the hierarchy because only this Cadenz may close a period, which

---

54. Ibid., vol. III (1793), §§10, 318–320 (204).
55. Ibid., vol. II (1787), §§79–80, 346–349 (2–3); passim.
58. Ibid., vol. III, §§129, 342f. (213); vol. II, §§42, 419f. (38f.); passim. Koch also uses the term förmliche Cadenz; ibid., vol. III, §§66, 260 (177), passim.
is the largest formal division and strongest Ruhepunkt. Each period-ending Schlußsatz is preceded by various arrangements of tonic- and dominant-oriented “internal Sätze” (Absätze) in the key of the tonic and dominant. Tonic-oriented Sätze go by the term Grundabsatz (“I-phrase”), and close with tonic harmony (with a perfect or imperfect authentic cadence), 59 and dominant-oriented Sätze go by Quintabsatz (“V-phrase”), directed at dominant harmony or a half cadence. 60 Depending on a composition’s scope, size, and grandiosity, the outer Hauptperioden of a sonata or symphony will have three or four such Sätze and Hauptruhepunkte in total. 61 Koch’s main script types for the major mode are outlined in Table 1. As seen, a sonata-form exposition consists of a stereotyped sequence of cadences: an opening Hauptruhepunkt, produced by the Thema or Hauptsatz (“theme” or “principal Satz”), 62 one or more medial Hauptruhepunkte, and a closing Hauptruhepunkt produced by the Cadenz of the Schlußsatz. A further hierarchic division is supplied by Koch’s distribution of these three or four Hauptruhepunkte into two halves. “This first period is [...] divided into two parts.” 63 Its “second half” consists of “those melodic ideas [...] which follow the Quintabsatz in the fifth.” 64 This two-part conception of the exposition suggests that the Cadenz which closes the Hauptperiode, and the Quintabsatz that divides it into two halves, are the structurally most weighted cadences. Later in his Musikalisches Lexicon of 1802, Koch would more explicitly identify the structural weight of the medial Quintabsatz to that of the Cadenz, by designating the former Absatz a Halbcadenz. 65 These two Hauptruhepunkte, the Cadenz and Halbcadenz, are equivalent to the “generically obligatory cadences” that underlie Hepokoski and Darcy’s sonata theory: the Cadenz marks the “essential expositional closure” (EEC) and “essential structural closure” (ESC) of an exposition and recapitulation respectively, while the Halbcadenz is synonymous with the half cadence of the “medial caesura”—specifically, the “strong half cadence that [is] rhythmically, harmonically, or texturally reinforced,” which the “medial caesura is built around.” 66 The

59. Tonic-oriented contrapuntal cadences and tonic-prolongational phrases more generally would also fall under the Grundabsatz category.
60. Ibid., vol. II, §79, 347 (3); passim.
62. Ibid., vol. III, §103, 311 (201); also §129, 342f. (213).
64. Ibid., vol. III, §129, 311 (201); also §129, 342f. (213).
65. Koch, Musikalisches Lexicon (1802), s.v. “Quintabsatz.” See also Poundie Burstein’s contribution to this volume on this usage of Halbcadenz in Koch, and its relation to what Hepokoski and Darcy call the “medial caesura” (see their Elements [2006], Chapter 3, passim).
66. Hepokoski and Darcy, Elements (2006), 24. The medial caesura is discussed in Chapters 3, 7–8, 11, and passim. In all uses of the term “medial caesura” in this chapter, I mean the entire multi-staged “process” that Hepokoski and Darcy outline in the Elements (30–36). To be sure, they most commonly use the term to reference the actual moment of gap between the transition and second theme, whether
overall picture of sonata form in Koch’s Versuch is a “periodic structure [Periodenbau] [that] depends on th[e] alternation [of] […] Grundabsätze, Quintabsätze, and Cadenzen.” The Hauptruhepuncte des Geistes and their attendant Sätze are explained as large-scale syntactic regularities in the eighteenth-century musical environment, which define the sonata concept’s representative constituents as a periodized punctuation script. 

Table 1: Punctuation scripts for a sonata-form exposition in Koch 1782–1793, 1802

<table>
<thead>
<tr>
<th></th>
<th>FIRST HALF</th>
<th>MEDIAL Halbecadenz*</th>
<th>SECOND HALF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hauptsatz</td>
<td>I: GA</td>
<td>V: QA</td>
<td>Schlußsatz [Anhang]</td>
</tr>
<tr>
<td>Type 1 (Vol. III, §45, §128)</td>
<td></td>
<td></td>
<td>V: Cadenz [Anhang]</td>
</tr>
<tr>
<td>Type 2 (Vol. III, §45, §128)</td>
<td>I: QA</td>
<td>V: QA</td>
<td>V: Cadenz [Anhang]</td>
</tr>
<tr>
<td>Type 3 (Vol. III, §45, §128)</td>
<td>I: QA</td>
<td>I: QA</td>
<td>V: BA [Anhang]</td>
</tr>
<tr>
<td>Type 4 (Vol. III, §129)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Musikalisches Lexicon (1802), 1212.

The broader significance of this script-based conception is that higher-level subschemas, like the Hauptruhepuncte, have a top-down influence on lower-level, embedded forms of syntax—or, from the other way round, lower-level forms of syntax have a bottom-up obligation to communicate the Hauptruhepuncte script. In their function as the primary subschemas of the sonata schema, the Hauptruhepuncte are not isolated events within the cognitive hierarchy. The “periodic structure” (Periodenbau) abstracted in Table 1 is communicated by further layering of syntax in the cognitive hierarchy. As Meyer relates it, sonata form is not only scripted as “a tonally defined hierarchic schema of slots,” but is also “script-dominated”—that is, dependent on lower-level subschemas: “patterns […] are hierarchically connected […] by virtue of their participation in the higher-level syntactic process of [a] whole movement.” Like Meyer, Koch specifies that hierarchically varied forms of closure (Ruhepuncte)—be they local-level

filled in or not; but they also use the term to reference a broader syntactic plan: “in order to function as a normative medial caesura, the forte half-cadence arrival within TR must be additionally reinforced. The whole process often proceeds as follows” (30). They then go on to describe the various stages of that process, which begins with a cadential progression (often including §4), and ends with a normative beginning of the second theme. To my way of thinking, the thrust of the medial caesura concept lies in its dynamic qualities: it too is a multi-staged scriptlike schema, not any isolated moment in time (whether that of the actual half cadence, or of the gap which follows)—for neither the medial caesura cadence nor the medial caesura gap may carry structural significance in the absence of the other. Both are components of a larger medial caesura schema. This perhaps becomes most explicit in the rationale Hepokoski and Darcy advance for their “shorthand symbols I:HC MC” and “V:HC MC”: “we […] use [these] symbols […] to suggest this whole complex of musical activity, one in which the literal MC moment [that is, the gap] is to be interpreted referentially to any preceding moment of half-cadential arrival” (24). In what follows, any references to particular stages in the medial caesura schema will be done so by name: “medial caesura cadence,” “medial caesura gap,” etc.

Einschnitte or large-scale Hauptruhepuncte—are communicated by hierarchically specific syntactic processes, which he variously termed “punctuation formulas,” “punctuation figures,” and “punctuation signs” (interpunctische Formeln; interpunctische Figuren; interpunctische Zeichen). The Cadenz, for example, is the punctuation formula specifically designated for the Schlußsatz. It is but one of several harmonic and contrapuntal patterns Koch discusses in Volume I of the Versuch. These formulaic, phrase-level signs are one of “two main characteristics [. . .] through which [. . .] the various sections in musical works [that] compose their periods [. . .] distinguish themselves as divisions of the whole. [. . .] The endings of these sections are certain formulas, which let us clearly recognize the more or less marked resting points. [. . .] What is important for all of these divisions is the formula through which they become marked as resting points, or, to use our chosen term, their punctuation sign [Zeichen].”

This last phrase is perhaps most indicative of the cognitive implications of punctuation form: it suggests a listener is in a constant state of attunement with some form of closure, or rest, depending on the “punctuation formula” or “scriptlike schema” currently in force. Indeed Koch’s specific turn of phrase, “mental resting point,” suggests that a listener is actively doing something in between moments of punctuation—conceivably tracking various forms of closure. And, if the different types of closure are themselves regulated by commensurately varied forms of syntax or punctuation formulas, and therefore integrated within the cognitive hierarchy, then lower-level forms of closure would be directed to a higher-level state of attunement with the Hauptruhepuncte at the top of the hierarchy. In Neisser’s words, “[a]ctions are hierarchically embedded in more extensive actions and are motivated by anticipated consequences at various levels of schematic organization.” Lower-level forms of syntax are designed to make the uppermost level of syntax, here the Hauptruhepuncte, most clear to a listener: “what is important for all of these divisions is the formula through which they become marked as resting points.” Berger, in his own reflections on Koch, characterizes this cognitive implication of punctuation form in semiotic terms. A cadence, as the ultimate goal of a phrase, is not only a terminal point, but a representation of the collective syntactic processes leading to it: “It symbolizes closure—not as an arbitrary signal but as the experience of reaching a goal.” Michael Spitzer voices a similar sentiment: “Riepel and Koch shared the same insight that phrase endings are understood

69. Koch, Versuch II (1787), §§79, 347f. (2–3); §§94, 390 (22); ibid., vol. III (1793), §§5, 7 (64); §§150, 395 (234); passim.
70. As Koch notes, “[t]he nature of the cadence [Cadenz], as the ending formula of the closing phrase, has already been treated in section 179 of the first volume” (38).
71. Ibid., vol. II (1787), §§79, 347f. (2f.).
73. Koch, Versuch II (1787), §§79, 347f. (2f.).
by the listener as comprehending the entire phrase, as a kind of musical 'sign'.”75 So closure is not an isolated moment in time, but a complex layered experience involving a consortium of subschemata, all of which are part of this experience of not only reaching but also setting up a goal. Musical punctuation is graded and processive. To view the sonata punctuation script as an arched hierarchy of closure is to view multiple, integrated levels of syntax as variously “anchored” to structurally weighted cadences (Hauptruhepunkte) at the top of the hierarchy.

Table 2 displays this integration in the exposition of Beethoven’s Second Symphony. The tabular analysis serves to align and thus illustrate the interactions among different levels of syntactic subschemata: specifically, how phrase-level patterning (DO–TI ... RE–DO types of syntax, registered in Column PHL) and middleground phrase-structure (sentence and period types of syntax, registered in Column FT) produce “different degrees and strengths of closure,” or variously “marked resting points.” These foreground and middleground grammars are shown to be synergetically oriented toward the larger stereotyped sequence of actions represented by the Hauptruhepunkte script, through the chunking design of the table: boxes refer to cognitive chunks at the various syntactic levels, beginning with individual bars in the leftmost column. The Hauptruhepunkte and their attendant Sätze are the largest chunks given in the Column designated HRP: bars 34–47, Grundabsatz or I: PAC; bars 47–69, Halbcadenz or v: HC; bars 73–112, Cadenz or V: PAC. The latter two cadences correspond to Hepokoski and Darcy’s medial caesura half cadence (HC MC) and cadence of essential expositional closure (EEC), respectively.76 The experience of large-scale musical organization in the Symphony is represented as various states of cadential attunement with the structurally weighted cadences at the top of the hierarchy. These states are registered in four successive columns to the left of the table as cadential implication (I), cadential realization (R), cadential denial (D), and cadential extension (E). For example, bars 44–46, which consist of a PRINNER and CADENZA SEMPLICE sequence at the phrase level (Column PHL), project a cadential implication (I), a state which shifts to cadential realization (R) with the I: PAC at bar 47.77

---

75. Spitzer, Metaphor and Musical Thought (2004), 216.
76. Hepokoski and Darcy, Elements (2006), Chapters 3, 7f., 11, passim. Hepokoski and Darcy place the medial caesura for the Symphony’s exposition at bar 71, with a half cadence at bar 69, and caesura fill in bars 71f. See Elements, 25f., 45. The problem of the medial caesura half cadence in the exposition is taken up in detail below.
77. The cadential attunement categories have been registered as a simple “on” or “off” state for the sake of economy. Ideally, and in reality, the monochrome grey in Columns I–E of Table 2 should be a spectrum, to register degrees of “on-ness,” where lighter and darker shades represent more pronounced or marked instances of the perceptual category.
### Table 2: Beethoven, Symphony No. 2 in D major, op. 36/i (1801–02), bb. 34–133: Cadential anchoring and structured integration of syntactic subschema in the sonata form schema

**Legend**


<table>
<thead>
<tr>
<th>B.</th>
<th>I</th>
<th>R</th>
<th>D</th>
<th>E</th>
<th>CAD</th>
<th>K</th>
<th>PHL</th>
<th>FF</th>
<th>FT</th>
<th>FS</th>
<th>HRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>Tonic Arpeggiation</td>
<td>b.i. (or c.b.i.)</td>
<td>Hybrid 4</td>
<td>a</td>
<td>FT</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>Indigo/Converging ...</td>
<td>consequent – b.i.</td>
<td>– Sentence</td>
<td>a'</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>Cadenza Semplice</td>
<td>cadential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td></td>
<td>I</td>
<td>PAC</td>
<td>D</td>
<td></td>
<td></td>
<td>Tonic Arpeggiation ...</td>
<td>post-cad. (intro.)</td>
<td>Sentence</td>
<td>TR</td>
<td>I, GA</td>
</tr>
<tr>
<td>48</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>Quiescenza</td>
<td>post-cad. (b.i.)</td>
<td>a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>[Long Comma]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>Quiescenza</td>
<td>post-cad. (b.i.)</td>
<td>a'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td></td>
<td></td>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td>[Long Comma]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td></td>
<td></td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td></td>
<td></td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td></td>
<td></td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td>Le-Sol-Fe-Sol Cad. Lunga ...</td>
<td>cont.min cad.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td></td>
<td></td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td></td>
<td></td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td>Passus duriusculus</td>
<td>cadential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td></td>
<td></td>
<td>v: HC²</td>
<td>a</td>
<td></td>
<td></td>
<td>Fenaroli-Ponte</td>
<td>post-cad.</td>
<td>Stand. on Dom.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77</td>
<td></td>
<td></td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td>Tonic Arpeggiation</td>
<td>c.b.i.</td>
<td>Sentence</td>
<td>a</td>
<td>ST</td>
</tr>
<tr>
<td>78</td>
<td></td>
<td></td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hybrid 4</td>
<td>a'</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td></td>
<td></td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td>Cadenza Lunga</td>
<td>(cadential)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
<td></td>
<td>V/V: PAC</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>Tonic Arpeggiation</td>
<td>c.b.i.</td>
<td>Hybrid 4</td>
<td>a’</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86</td>
<td></td>
<td></td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td>Tonic Arpeggiation ...</td>
<td>consequent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>87</td>
<td></td>
<td></td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td>Cadenza Lunga</td>
<td>(cadential)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>88</td>
<td></td>
<td></td>
<td>V/V: PAC</td>
<td>E-A</td>
<td></td>
<td></td>
<td>Sol-Fa-Mi (5, streto) ...</td>
<td>continuation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>89</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>93</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The idea represented in these columns is that the process and perception of closure, and thus of large-scale sonata-form organization, amounts to a continuous and graded process of cadential anchoring, analogous to what Jamshed Bharucha called “melodic anchoring” in a tonal melodic context, where some tones are perceived as stable points. In a sonata-form context, “stable points” or, in Koch’s terms, “more marked resting points,” are the collective and synergetic result of the hierarchically varied and integrated syntactic processes outlined in Columns PHL, FF, and FT. The states of attunement, or “degrees and strengths of closure,” in Columns I–E were determined in accordance with the normative formal functions of the phrase-level syntactic patterning of Column PHL, as well as the hierarchical position of these sub-schemata within higher-level, form-functional syntactic types like sentences, periods, and so forth. The formal functions of the phrase-level patterning are given in Column FF, their larger formal type context in Column FT. The prinner and cadenza semplice

---

sequence (Column PHL) in bars 44–46, for example, communicates continuation–cadential syntax at the form-functional level (Column FF) within the larger syntactic context of a sentence (Column FT). Together, these various levels of syntax serve as orienting subschemata that are anchored to the Hauptruhepunkte in Column HRP—or, in Hepokoski and Darcy’s language, they constitute the “trajectories toward generically obligatory cadences.”79 In this case, the generically obligatory or scripted cadences conform to Koch’s Type-1 exposition script of Hauptruhepunkte (Table 1).

The layered integration of these micro- and macro-structured scriptlike schemata in the Symphony brings a positive form of evidence that contemporaries’ descriptions of the “gewöhnliche Sonaten-Form” and “die Form der Sonate” implied a conception of sonata form as a punctuation script schema. But there is a complementary, and perhaps even stronger, piece of analytic evidence in the Symphony that would support this hypothesis: namely, an “Abweichung von der gewöhnlichen Sonaten-Form”—a marked deviation from this custom, which brings a kind of negative evidence for a sonata punctuation schema. Exceptio probat regulam (“the exception confirms the rule”). Beethoven interjects a powerful syntactic deviation that disrupts the multiple levels of syntax in one sweeping gesture—a gesture that unsettles the otherwise structured integration of subschemata and, by extension, the entire sonata form schema they represent as its conceptual constituents. At the middleground level (Column FT), all three Hauptruhepunkte are communicated by sentence forms. The principal theme (Grundabsatz, bb. 34–47, I:PAC) and second theme (Cadenz, bb. 73–112, V:PAC) are syntactically normative in this regard; they feature no disruption in the overall sentence script: presentation–continuation–cadence. The principal theme is a 14-bar compound sentence with a compressed continuation, and the second theme a 40-bar, doubly-compound sentence (based on a 32-bar sentence norm) with an extended continuation via a deceptive cadence (bar 100). The transition, however, bears a pronounced syntactic violation in the sentence script. Bars 47–56 present the first half of a compound (16-bar) sentence: an extended presentation phrase (2 + 4 + 4). This Absatz, which begins in bar 47, is a transition of the “dissolving codetta” type in Hepokoski and Darcy’s language, and of the “false closing section” type in Caplin’s.80 The 10-bar first half (8-bar presentation in bb. 49–56, plus a 2-bar “introduction,” bb. 47–48) implies an approximate 8-bar continuation phrase to follow. The continuation does begin at bar 57, but is interrupted at bar 61 by what Caplin has described as a “premature dominant arrival.”81

The entrance of this dominant is less an arrival than a sublime intrusion. In Caplin’s own words, the dominant of A minor in bars 61ff. “arrives [. . .] in a noncadential manner,” and the “complete change of musical material following the dominant

80. Ibid., 102–105; Caplin, Classical Form (1998), 129.
arrival gives the impression of being a typical standing on the dominant, despite the lack of cadential articulation.\textsuperscript{82} The implication is that a cadence was expected and denied, and yet a standing-on-the-dominant process, which normally proceeds from an achieved half cadence, follows in bars 61ff. nonetheless. The cadential anchoring for this passage in Table 2 (Columns I–E) captures this impression by showing a transformation from a state of cadential denial (bb. 61–62) to cadential extension (bb. 63–67). This succession of cadential anchoring states of course makes no logical sense, as a cadence must first be produced in order for it to be extended or prolonged by ancillary material. The analysis is deliberately meant to capture a sense of disorientation on the part of a listener as regards their cadential anchoring (“what’s coming next?”) and therefore formal orientation (“where are we?”). This premature dominant arrival at bar 61 represents a disruption on three hierarchically varied syntactic levels: phrase level (PHL), formal function (FF), and \textit{Hauptruheapuncte des Geistes} (HRP).

Bars 57–61 present the first two-thirds of a phrase-level harmonic pattern that I have styled the \textit{Le–Sol–Fi–Sol}. This schema (and its many variants throughout the long eighteenth century) was the centerpiece of a previous study dedicated to the historical perception of tonality, which focused on Beethoven’s \textit{Eroica} Symphony (1804).\textsuperscript{83} The schema is essentially a chromaticized species of one type of \textit{cadenza lunga}.\textsuperscript{84} The pattern expands and chromatically intensifies predominant harmony (something of a composing-out of an augmented-sixth chord) through a chromatic turn of phrase in the bass that is oriented around the dominant: $6\text{-}5\#4\text{-}5$. Figure 1 shows an abstract representation

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{\textit{Le–Sol–Fi–Sol} schema, \textit{cadenza lunga} variant: Abstract representation, from Byros 2009; 2012}
\end{figure}

\begin{itemize}
\item \textsuperscript{82} Ibid.
\item \textsuperscript{83} Byros, “Meyer’s Anvil” (2012); idem, “Foundations of Tonality” (2009).
\item \textsuperscript{84} See n. 35 above.
\end{itemize}
of its full form, which admits of three variables highlighted by asterisks: 1) an abbreviated version that omits the passing $^6_4$ chord between $^6_6$ and $^6_4; 2)$ the possibility of a $^6_5$ chord on scale degree $^6_4$ as an alternative to the diminished seventh; and 3) the optional placement of tonic harmony (on scale degree 1) at the beginning, giving rise to a longer descending thirds pattern in the bass characteristic of cadenze lunghe in general, though here chromatically altered: 1–$^6_6$–5–$^6_4$–5. The cadential $^6_4$ prior to the final dominant is also optional, according to customary usage of this chord. An instance from Haydn’s Symphony in C major, No. 60 (1774) is shown in Example 3.

(TRANSITION)

LE–SOL–FI–SOL (cadenza lunga)  (V: HC MC)

Example 3: Haydn, Symphony No. 60/i in C major (1774), bb. 49–52: le–sol–fi–sol schema, Halb cadenz usage

Figure 2 displays the cadential usage of 747 instances of this schema in a corpus of roughly 3000 musical works from 1720–1840. As seen in these statistics, the LE–SOL–FI–SOL is a punctuation formula strongly associated with the production of Quintabsätze in general: 63% of the time the (sub)schema articulates a half cadence, compared to 20% and 3% for a PAC (Cadenz) and IAC (Grundabsatz), respectively. More importantly, the LE–SOL–FI–SOL holds a strong affinity to a particular kind of Quintabsatz: it carried a specific syntactic function within the larger SONATA punctuation script.

85. The statistics are taken from the corpus data presented in Byros, “Foundations of Tonality,” Appendix B.
Table 3 registers the schema’s sonata-form usage in a smaller representative sample from the larger corpus, chosen here for the sake of economy: the opening movements of Haydn’s Symphonies in a fast tempo, where the le–sol–fi–sol schema appears 31 times. In this circumscribed sample, once again about 65% of the time (20/31) it closes a Quintabsatz, compared to 16% for a PAC. Of these 20 Quintabsatz examples, 14 (70%) are used to punctuate the cadential goal of the transition—the Halbcadenz, or the medial Hauptruhepunct in Koch’s exposition scripts (Table 1).

Table 3: le–sol–fi–sol schema: Sonata-form usage in the opening movements of Haydn’s Symphonies in a fast tempo

<table>
<thead>
<tr>
<th>Year</th>
<th>Symphony</th>
<th>Movement</th>
<th>Key</th>
<th>Cadence Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1757/61c</td>
<td>Symphony No. 2</td>
<td>C major, i, bb. 53–57</td>
<td>[g minor–major]</td>
<td>HC</td>
</tr>
<tr>
<td>1757/61c</td>
<td>Symphony No. 2</td>
<td>C major, i, bb. 167–168</td>
<td>[c-minor–major]</td>
<td>HC</td>
</tr>
<tr>
<td>1761²</td>
<td>Symphony No. 8</td>
<td>G major, “Le Soir,” i, bb. 109–113</td>
<td>[e minor]</td>
<td>HC</td>
</tr>
<tr>
<td>1762²</td>
<td>Symphony No. 9</td>
<td>C major, i, bb. 55–58</td>
<td>[a minor]</td>
<td>HC</td>
</tr>
<tr>
<td>1760c</td>
<td>Symphony No. 18</td>
<td>G major, i, bb. 20–24</td>
<td>[d minor–major]</td>
<td>HC</td>
</tr>
<tr>
<td>1760c</td>
<td>Symphony No. 18</td>
<td>G major, i, bb. 57–61</td>
<td>[g minor–major]</td>
<td>HC</td>
</tr>
<tr>
<td>1757/63 c.</td>
<td>Symphony No. 20</td>
<td>C major, i, bb. 50–54</td>
<td>[g minor–major]</td>
<td>HC</td>
</tr>
<tr>
<td>1757/63 c.</td>
<td>Symphony No. 20</td>
<td>C major, i, bb. 162–166</td>
<td>[c minor–major]</td>
<td>HC</td>
</tr>
<tr>
<td>1766–68c.</td>
<td>Symphony No. 59</td>
<td>A major, i, bb. 100–102</td>
<td>[a minor]</td>
<td>HC</td>
</tr>
<tr>
<td>1774</td>
<td>Symphony No. 60</td>
<td>C major, i, bb. 50–52</td>
<td>[g minor]</td>
<td>HC</td>
</tr>
</tbody>
</table>
This is the larger formal context for the occurrence in Haydn’s Symphony in Example 3. Another instance, given in Example 4, shows the same medial caesura context, now in the recapitulation, from Haydn’s Clock Symphony in D major (1793–94). And the medial caesura is precisely the context suggested by bars 57–60 of Beethoven’s Second Symphony. The G♯ that sounds in the bass at bar 61 is the expected, or would-be, #4 of the LE–SOL–FI–SOL cadenza lunga variant, the third stage of the punctuation formula’s chromatic falling thirds pattern (passage shown below in Example 7). Bar 57 thus begins a stereotypical push to a medial caesura half cadence in D minor, which would conform to Type 3 of Koch’s Hauptruhpuncte scripts (Table 1): a i:QA, or a i:HC MC in Hepokoski and Darcy’s terms. In light of this (sub)schematic context, bars 57–60 project a strong implication for a half cadence and Quintabsatz in D minor, owing to the orienting or anchoring function of the LE–SOL–FI–SOL, as a punctuation formula that communicates this specific Hauptruhpunct within the larger stereotyped sequence of actions, script, or cognitive map for a SONATA FORM. To paraphrase Neisser once more, the LE–SOL–FI–SOL is an “action hierarchically embedded in the more extensive action of the Hauptruhpunct script, and is motivated by these anticipated consequences at the highest level of schematic organization.”

But the expectation for a D minor Quintabsatz is aggressively interrupted by the intrusion of a new phrase, which immediately recontextualizes the G♯ of bar 61 into a new tonal context: it becomes the leading tone of the dominant, A minor. This new phrase introduces a syntactically competing punctuation formula at the phrase level, and in a new key at that. Bars 61–68 are a particular variant of a phrase-level pattern that Joseph Riepel called a PONTE, a variant which shares features with the schema Gjerdingen has

86. As occurs in Beethoven’s First Symphony, though without the chiaroscuro change of mode to minor.

termed a fenaroli. In its typical form (Figure 3a), the fenaroli consists of alternating dominant and tonic harmony, guided by a paradigmatic 7–1–2–3 scale-degree progression, typically in the bass, and a quasi-canonic 4–3–7–1 countermelody, which sometimes is realized as a pure canon, 2–3–7–1. The schema also characteristically features a dominant pedal in the soprano or in a “filler” voice. The end result is a four-stage structure, with the four stages normally repeated. The pattern is therefore quite cyclical, both in its dominant-tonic oscillation and in its repetition.

Figure 3a: Fenaroli schema: Abstract representation, from Gjerdingen 2007

87. Riepel, Anfangsgründe (1752–1768); Gjerdingen, Music in the Galant Style (2007), Chapter 14, passim.
The phrase in bars 61–68 is a hybrid version of this schema, a “Fenaroli-style Ponte” that Gjerdingen briefly mentions in passing, while working through Riepel’s discussion of the Ponte, and that I treat more extensively elsewhere (hereafter FenAROLi-Ponte). This hybrid (Figure 3b) is an explicit dominantizing of the standard FenAROLi, which carries a latent potential to become a dominant pedal: normally contained in a “filler” or upper voice of the standard version, in the FenAROLi-Ponte the dominant is positioned in the bass, while the paradigmatic 7–1–2–3 line and its countermelody are relocated to upper voices, typically the soprano and tenor, resulting in a soprano-tenor exchange, as seen in Figure 3b.

The end result is a phrase-type that Caplin would call a “standing on the dominant” and Hepokoski and Darcy a “dominant lock.” The normative usage of the FenAROLi-Ponte is to expand a structural half cadence—hence Caplin’s description of bar 61 in the Second Symphony as a “complete change of musical material following the dominant arrival[, which] gives the impression of being a typical standing

---

90. Hepokoski and Darcy, Elements (2006), 24, 30–34, passim; Caplin, Classical Form (1998), 16, 77, passim. The two terms are actually not precise synonyms insofar as the structural weight of the dominant pedal is concerned. Superficially, the terms are identical, in that both designate a dominant-pedal phrase, but they differ in the implied form-functional meaning of the dominant prolongation. For Caplin, a “standing on the dominant” represents incidental material that is supplied after the cadence proper. For Hepokoski and Darcy (2006), a “dominant lock” actually prolongs the space of the half cadence until the end of the dominant expansion—in their words, the half cadence is “kept alive” (24, 31) until the close of the dominant pedal-point. In this view, the dominant pedal is form-functionally essential, not incidental, an interpretation that is consistent with Koch’s description of the phenomenon as an Anhang (“appendix”), discussed below. See especially n. 95.
on the dominant, despite the lack of cadential articulation." Example 5 illustrates this cadence-extensional usage in the first movement of Beethoven’s C minor Piano Concerto, op. 37 (c1800). And so, there is a local, phrase-level syntactic deviation at bar 61 of Beethoven’s Symphony, where a FENAROLI-PONTE interrupts a LE–SOL–FI–SOL cadenza lunga variant.

Example 5: Beethoven, Piano Concerto in C minor, op. 37/i (c1800), bb. 34–44: Fenaroli-Ponte, standing-on-the-dominant function

This disruption at the phrase level also introduces a form-functional non sequitur at the next highest syntactic levels: the sentence and its formal functions (Columns FT and FF). The LE–SOL–FI–SOL, as a cadential pattern, begins to unfold the second half of

91. On the context-independence of a pattern’s inherent formal function, see Agawu, Playing with Signs (1991), 103; Caplin, Classical Form (1998), 111; and Vallières et al., “Perception of Intrinsic Formal Functionality” (2009), 17–43. There are some cases where the FENAROLI-PONTE exhibits continuation function, specifically in what Caplin calls a Hybrid 3 context (compound basic idea + continuation). This is the case, for example, with the opening theme of K. 452/i (bb. 5–8) and of K. 246/i (bb. 5–8).

92. I have deliberately avoided Caplin’s qualification of the standing on the dominant as “post-cadential” for the reasons outlined in n. 90. and n. 95.
the compound sentence initiated at bar 47, specifically a fused formal function that Caplin calls a “continuation ⇒ cadence,” where a continuation consists entirely of a cadential progression—in this case the LE–SOL–FI–SOL variant of a “long cadence,” which is conceptually similar to Caplin’s “expanded cadential progression.”93 The FENAROLI-PONTE interrupts this process, creating a form-functional non sequitur that is accompanied by an abrupt change of key: a cadence-extensional FENAROLI-PONTE in A minor intrudes on a cadential LE–SOL–FI–SOL in D minor mid-process.

Both the phrase-level (PHL) and middleground (FT) deviations are further coordinated to create a larger-scale disruption at the highest level of the arched hierarchy: the Hauptruhepuncte script. A corpus analysis of the FENAROLI-PONTE’s sonata-form usage also reveals an affinity to a medial caesura Quintabsatz, as is the case with the LE–SOL–FI–SOL, but from the opposite end of the Hauptruhepunct, as a clarifying punctuation formula.94 Whereas the LE–SOL–FI–SOL is typically used to produce the moment of cadence itself (the arrival of the dominant), the FENAROLI-PONTE was a standard formula for extending the cadence with ancillary material. Koch also discussed certain after-the-fact punctuation signs which function as an “appendix” (Anhang): an “explanation […] which further clarifies the phrase,” and a “means through which a phrase’s […] substance [is] more closely defined.”95 The Anhang affords a kind of retrospective anchoring of closure in marking the Hauptruhepuncte des Geistes—it communicates a state of attunement described as cadential extension (E) in Table 2. In the 88 extant movements of Cimarosa’s Keyboard Sonatas, the FENAROLI-PONTE appears a total of 21 times, 14 of which (66.7%) are Anhänge to a Quintabsatz that produces the medial caesura half cadence (Table 4).96

93. Indeed Caplin’s category of ECP which normally holds this formal function is one species of cadenza lunga described in the eighteenth century. See Sanguinetti, The Art of Partimento (2012), 107–100, passim. On the concept of a “continuation ⇒ cadence,” see Caplin, Classical Form (1998), 45–47, 61, 70, passim.

94. The corpus analysis is featured and outlined in Byros, “Trazom’s Wit” (2013).

95. Koch, Versuch II (1787), §110, 435 (45). Crucially, for Koch (and for Hepokoski and Darcy), a dominant Anhang or pedal-point prolongs the half cadence until the end of the Anhang. In Koch’s discussion of Anhänge, he makes clear that the terminal point of the Anhang and the cadence that precedes it constitute a single structural event insofar as the punctuation form is concerned: “In the comparison of the punctuation of phrases, only that phrase-ending with which the phrase attains its maximum completeness is taken into consideration. The preceding phrase-endings on exactly the same triad are not taken into account, but are considered as mere incises. Thus this multiplication of phrase-endings by means of an appendix takes place without transgressing the rule given in section 34” (vol. III [1793], §34, 110f. [110], original emphasis).

This punctuation formula exhibits an almost identical syntactic affinity to the medial "Hauptruhепuncte des Geistes" as the LE-SOL-FI-SOL in the Haydn Symphonies (70% compared to 66.7%), but from the opposite end of the cadence, as a transition-suffix, of sorts. And roughly the same percentage (60%) obtains in randomly encountered occurrences of the Fenaroli-Ponte in the music of Mozart, C. P. E. Bach, Haydn, Beethoven, and their contemporaries: Johann Christian Bach (1735–1782), Josef Antonín Štěpán (1726–1797), Johann Schobert (1720, 1730, or 1745–1767), Josef Mysliveček (1737–1781), Leopold Mozart (1719–1787), Baldassare Galuppi (1706–1785), and Johann Gottfried Eckard (1735–1809). This Halb cadenz-extending function is the formal context for the passage from Beethoven’s C minor Piano Concerto, shown in Example 5.

In the recapitulation of Beethoven Two, shown in Example 6, the transition (now also fused with the principal theme) is recomposed, and the Fenaroli-Ponte’s normative sonata-form usage restored: it appears in bar 236 as an Anhang to a medial cæsura half cadence (Halb cadenz), now in the tonic (Example 6). Beethoven’s recomposition of the passage renders the recapitulated Fenaroli-Ponte an explicit commentary on and corrective to its “premature” entry in the exposition. The latter causes one of the most powerful syntactic elisions in the repertoire, by producing a non sequitur that affects a listener’s orientation on numerous levels: tonal orientation (change of key),

---

97. Ibid.
phrase-level orientation (breaking of local syntax), middleground form-functional orientation (disruption of the compound sentence), and ultimately one’s location within the Hauptruhepuncte sequence that frames the entire cognitive map of a sonata. The end product is an abrupt clashing of keys and formal functions and an “absent cadence”\(^99\) at the global level.

This calculated deviation in the exposition, surely among the types of devices that Sulzer, Koch, and others associated with “sublime” (erhab[e]ne) effects most suitable and even expected for a symphony,\(^{100}\) could not produce such a wondrous effect had the large-scale goal of a medial Hauptruhepunct not been anticipated in the mind of a listener—that is, if one did not expect to be anchored to the “predetermined, stereotyped sequence of actions” one expects at the large-scale level of the sonata punctuation script, as they are shaped and communicated by the lower-level, embedded

\(^{99}\) Mirka, “Absent Cadences” (2012). See also Mirka, this volume.

subschemas. The force of the subschematic violations at the foreground (PHL) and middleground (FT) levels is compounded by this larger-scale “navigation” through the “cognitive map” for a SONATA FORM. The deviation is strategically targeted at, and therefore framed within, the larger-scale expectations formed by the Hauptruhepuncte des Geistes as the principal subschemata of the SONATA concept. It consequently imposes a reorientation in the mental representation or cognitive map of this expected “periodic structure” (Periödenbau), as communicated by the structured integration of subschemas, in the mind of a listener. And this change in orientation—effectively, a schema violation—at the SONATA-FORM level is responsible for the passage’s affective significance and sublime qualities.

Beethoven Two presents a situation where no medial Hauptruhepunct ever properly materializes in the exposition. The deviation at bar 61 causes a shift from a Koch-Type 3 exposition script, anchored by the LE–SOL–FI–SOL punctuation schema, to a Koch-Type 1, retrospectively anchored by the FENAROLI–PONTE. But a cadence is never articulated in either scenario. The LE–SOL–FI–SOL projects a i:QA that never materializes, the FENAROLI–PONTE retroactively expands a v:QA that never arrives by way of a cadence (a “lack of cadential articulation,” as Caplin put it). A half cadence does finally appear at bar 69, the only suitable candidate for an HC MC, but is articulated only at the most local level. It sounds within a larger standing on the dominant context (see Table 2), and is therefore not “cadential” in the sense of the end of a syntactic process, or goal. In Koch’s terms, it represents not a structural Halbcadenz, but a more local Ruhepunct (more along the lines of an Einschnitt) within a larger Anhang—an Anhang to a Hauptruhepunct that never materialized. The medial Hauptruhepunct is only represented by each punctuation (sub)schema from either end of the cadence, as shown in Example 7. Because neither cadence is fully articulated, the exposition is a member of neither Hauptruhepunct script category fully. In Hepokoski and Darcy’s language, a unique and powerful case of “medial caesura declined” results, whereby the Symphony suddenly leaps ahead in the “deployment sequence” of medial caesura options, from a projected i:HC MC to an after-the-fact v:HC MC (Example 7). The exposition of Beethoven Two is therefore part Koch-Type 3, part Koch-Type 1. By representing both i:QA and v:QA medial Hauptruhepuncte via their respective punctuation schemas (LE–SOL–FI–SOL and FENAROLI–PONTE), it also touches on Koch’s Type 4 exposition script.

102. Hepokoski and Darcy place the medial caesura at bar 71, with a half cadence at bar 69, and caesura fill in bars 71f. (see Elements [2006], 25f., 45).
103. For a more thorough consideration of this point, see Poundie Burstein’s contribution to this volume. See also Caplin, Classical Form (1998), 43: a cadence “essentially represents the structural end of broader harmonic, melodic, and phrase-structural processes.” See also Caplin, “The Classical Cadence” (2004).
Example 7: Beethoven, Symphony No. 2 in D major, op. 36/i (1801–02), bb. 57–63: Elision and symbolic references of the Halbcadenz

These discrepancies and ambiguities may invite the question as to what the “true” form of the exposition to this symphonic movement may be. But from a schema-theoretic perspective, these formal types are not candidates for a final interpretation. To search for the “true” form of the Symphony is to labor under a misapprehension. The exposition has no “final” form that can be represented by any one of Koch’s categories for a sonata-form exposition. Hepokoski and Darcy go some way to bring this point in relief when characterizing musical form in general as essentially “dialogic.”

Beethoven’s exposition is, once again to use their language, “in dialogue with all three Hauptruhepuncte scripts. From a schema-theoretic window, the dialogue or plurality of knowledge extends further to other lower-level features of syntax. Every utterance in a composition is somehow framed within a generic, culturally regulated context (even if by deviation or omission), and these various frames themselves are interconnected in a complex web of intra-opus, inter-opus, associative, sequential, and hierarchical relations. Koch’s several exposition scripts of Hauptruhepuncte (here most relevantly Types 1, 3, and 4), the LE–SOL–FI–SOL and FENAROLI-PONTE as lower-level punctuation (sub)schemas, the middleground syntactic category of SENTENCE, these are all des Geistes—mental representations of past experiences through and against which Beethoven Two is heard, understood, and communicated. They are, to invite the communication theorist Paul Cobley to the seminar table, integrated “cues” that collectively prompt generic expectations in the minds of listeners:

105. Ibid., 10f. See also Hepokoski, “Approaching the First Movement of Beethoven’s Tempest” (2009).
106. Cf. Hepokoski and Darcy, Elements (2006), 7: “[...] deviations helped to reinforce the socially shared norm that was temporarily overridden.”
It would be a mistake to imagine, as has traditionally been the case, that genres can be identified simply by examining some formal qualities of texts. Rather, genre should be understood as a set of expectations on the part of audiences; these expectations are sufficiently prominent in audiences’ minds, and prompted by numerous cues, that they impute a great deal of flexibility in the process by which a text might be said to be part of a genre.107

These “numerous cues” are structured and involve musical knowledge at all levels of abstraction. Past experiences, when operating together as an organized whole, produce an emergent concept, a structured configuration of different types of knowledge, a particular activation of the mind as a “polyphonic structure”—in short, a “schema.” Koch’s several exposition scripts of Hauptruhepuncte, the LE–SOL–FI–SOL and FENAROLI–PONTE as lower-level punctuation formulas, the middleground phrase-structural category of sentence, these are different varieties of eighteenth-century syntax that, through their structured integration, build to such a schema—to a SONATA-FORM schema.

This “schema” conceivably figured into contemporaries’ reasoning, when they speak, as does Nägeli in 1803, of both customary (“gewöhnliche”) and deviant (“abweichende”) aspects of “Sonaten-Form.” And it is reasonable to conclude that Beethoven’s gesture in the Second Symphony was calculated to deliberately exploit the generic expectations his listeners had formed on account of this SONATA-FORM schema. Bob Snyder, in his Music and Memory, suggests that “large-scale representations of musical form […] result in […] listeners having a sense of familiarity and increasingly specific expectations around the chunk boundaries,” and especially at the “higher-level chunk boundaries.”108 From an eighteenth-century perspective, these larger boundaries would correspond to Koch’s Hauptruhepuncte. Not only does Koch’s end-oriented approach to phrase-structure and phrase-definition in general support such an interpretation, but he also explicitly identifies the higher-level chunks—the “principal punctuation sections” (interpunctische Hauptteile)—with the means of their production: the boundary markers produced by the “principal resting points of the mind.”109 Beethoven’s deviation is targeted precisely at the boundary of one of these higher-level chunks, the medial caesura half cadence. In light of the normative punctuation scripts reconstructed via corpus analysis, it stands to reason that a SONATA-FORM punctuation script was among the culturally shared cognitive contexts by which composers and listeners communicated in the eighteenth century.

This “schema,” finally, is the context for the “outtake” given in Example 1. The alternate version for bars 56–71 might well have come from a Beethoven sketchbook.

108. Snyder, Music and Memory (2000), 222, 219; also 54f.
Indeed several folios in Landsberg 7,\textsuperscript{110} which contains sketches for the first movement, and six drafts of the exposition, show Beethoven working through several different versions of its transition and medial caesura. These include a diatonic form of the \textit{cadenza lunga}, as seen in the excerpt from a first draft reproduced in Example 8, which develops the primary motive from an early version of the Symphony.\textsuperscript{111} The “outtake” in Example 1, however, is a hypothetical recomposition that realizes the implications of the \textit{sonata-form} schema presupposed by the events of bars 47–61.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{example8.png}
\caption{Example 8: Beethoven, Symphony No. 2 in D major, early draft of the transition in the Landsberg 7 sketchbook: p. 39 (Karl Lothar Mikulicz, ed. [1927], Ein Notierungsbuch von Beethoven, Leipzig: Breitkopf und Härtel. Repr., Hildesheim: G. Olms, 1972)}
\end{figure}

The hypothetical recomposition features two basic “corrections” that restore the deviation to the anticipated course in the \textit{sonata} script. First, four additional measures have been added at bar 61 in order to complete the \textit{le−sol−fi−sol} \textit{cadenza lunga} variant initiated at bar 57, as well as the hypermetric and middleground form-functional implications of the compound \textit{sentence} initiated at bar 47.\textsuperscript{112} Second, the actual music from bars 61–71 of Beethoven’s Symphony has been recast in D minor, so that the \textit{fenaroli-ponte} now functions as a proper cadential extension of a normalized \textit{halbcadenz} in D minor, which is fully realized by the completion of the \textit{le−sol−fi−sol}.

To facilitate comparison, Example 9 aligns the bass line for the reconstruction with the bass line from Beethoven’s original in the smaller ossia staff. In sum, the hypothetical recomposition reconstructs a plausible (sentence-)continuation as expected by a listener fluent with the interactions among different kinds of eighteenth-century syntax—fluent, that is, with the \textit{sonata-form} schema.

\begin{itemize}
\item \textsuperscript{110} Mikulicz (ed.), Ein Notierungsbuch von Beethoven (1927/1972), 38–53.
\item \textsuperscript{111} The six drafts of the exposition in Landsberg 7 show an overall transition from a I:HC and V:HC (a Koch Type 4 script) to a V:HC MC.
\item \textsuperscript{112} The recomposition uses a protracted form of the \textit{le−sol−fi−sol} that appears in \textit{cadenza lunga} contexts. See for example, Mozart’s Symphony No. 27, K. 199/ii, in G major, Andantino grazioso, bb. 22–32, and 79–89.
\end{itemize}
In navigating this sonata schema landscape, I have undoubtedly left many stones unturned. But my ambition, in tying schema theory and the historical context of “interpunctische Form” to this passage in Beethoven’s Symphony (and its alternate version outtake), was not to bring a definitive answer or conceptualization to the table: where the cognition and listening practices of late-eighteenth-century sonata form are concerned, thereby hangs a long tale. My intention was simply to offer but a prologue for such a tale, to maintain that it is a tale worth telling, that the cadence is among its main protagonists, and that such a conception has strong roots in the late eighteenth century. This brief case study suggests there are indeed stones to be turned in the first place, and the cadence plays a fundamental role in determining which stones need turning.
BIBLIOGRAPHY


Forschner, Hermann (1984), Instrumentalmusik Joseph Haydns aus der Sicht Heinrich Christoph Kochs, München-Salzburg: Katzbiicher.


Mattheson, Johann (1739), Der vollkommene Capellmeister, Hamburg: Herold.


Scheibe, Johann Adolph (1738–1745), Der critische Musikus, 2 vols., Hamburg.

