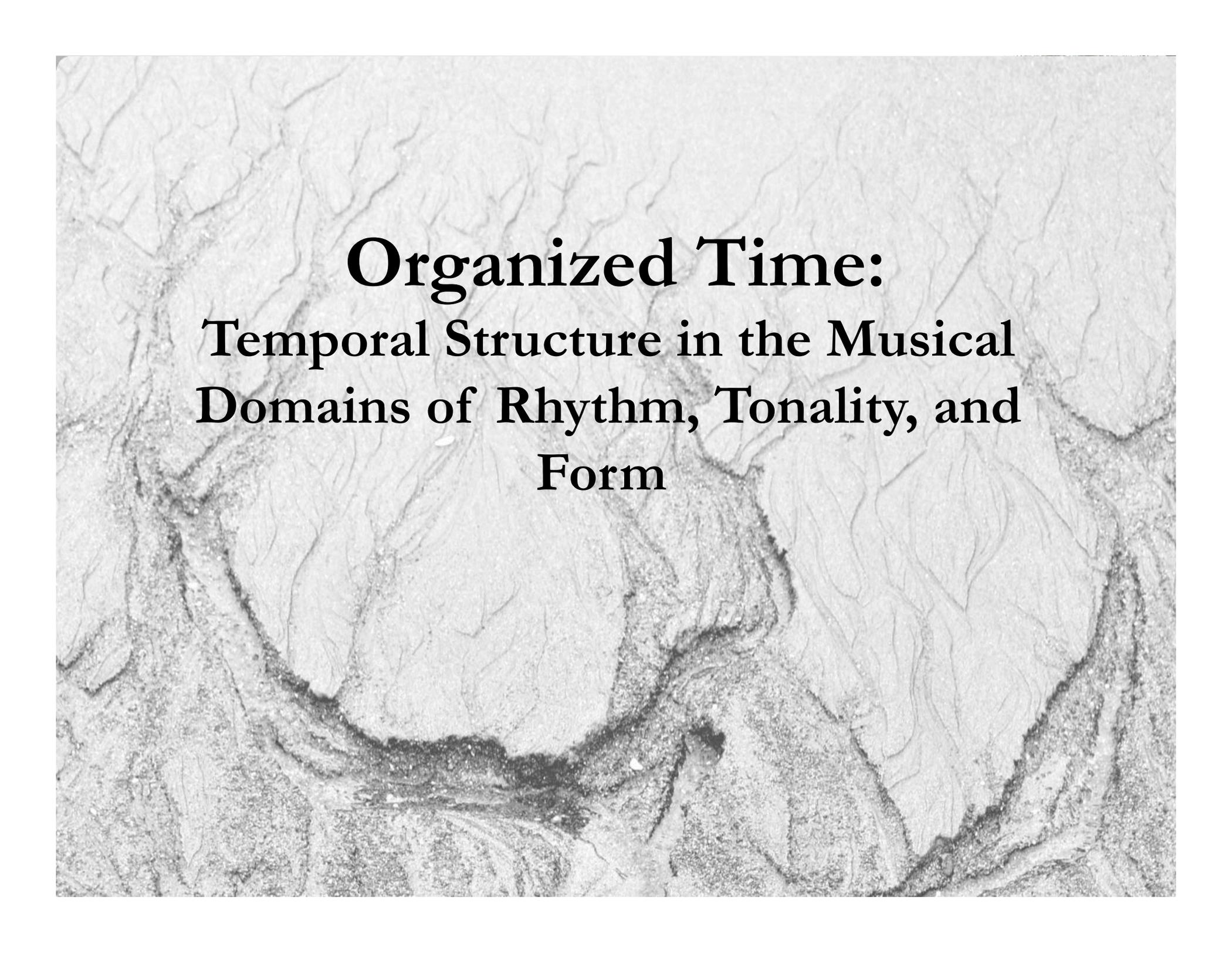


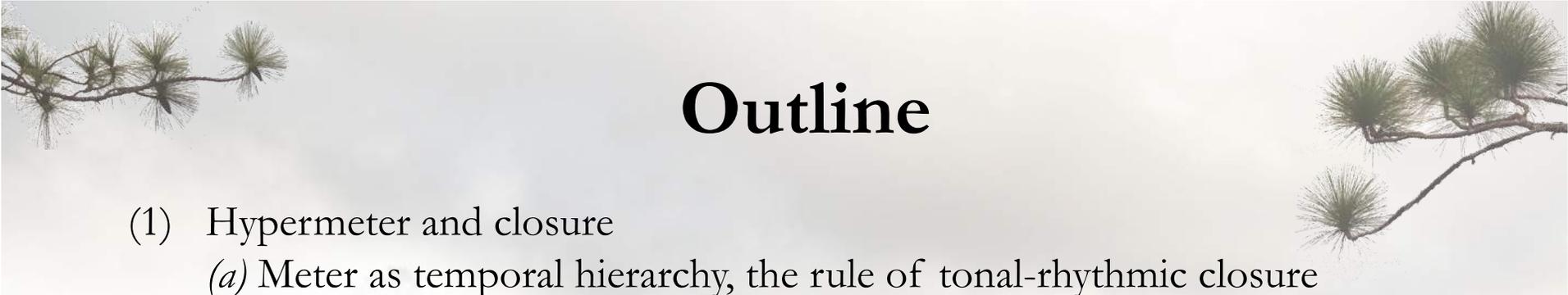
# Hypermeter, Form, and Closure in Haydn and Beethoven's Codas

Jason Yust, Boston University

[jason.yust@gmail.com](mailto:jason.yust@gmail.com)



**Organized Time:  
Temporal Structure in the Musical  
Domains of Rhythm, Tonality, and  
Form**



# Outline

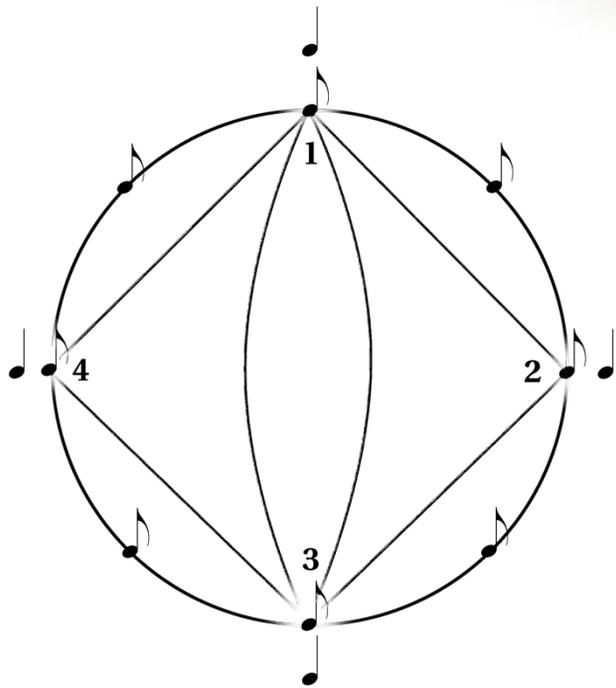
- (1) Hypermeter and closure
  - (a) Meter as temporal hierarchy, the rule of tonal-rhythmic closure
- (2) Two methods of expositional closure
  - (a) Simple closure: Haydn Op. 54/2, Beethoven Op. 9/1
  - (b) Elided closing material: Beethoven Op. 7
  - (c) The open exposition: Beethoven, Op. 47, Op. 59/2
- (3) Network model of musical form
  - (a) Sonata form
  - (b) Introductions and codas
- (4) Typology of codas
  - (a) Adjunct coda: Beethoven, Op. 95
  - (b) Integrated coda: Beethoven, Op. 7
  - (c) Disjunctive coda: Haydn, Op. 64/1, Beethoven, Op. 59/2

# **(1) Hypermeter and Closure**

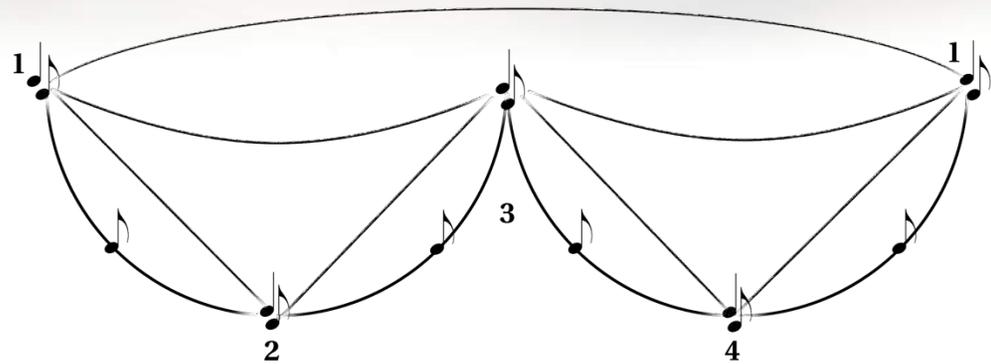
- (a) Meter as temporal hierarchy,  
Rule of tonal-rhythmic closure
- (b) Two methods of expositional closure
- (c) The open exposition

# Meter as temporal hierarchy

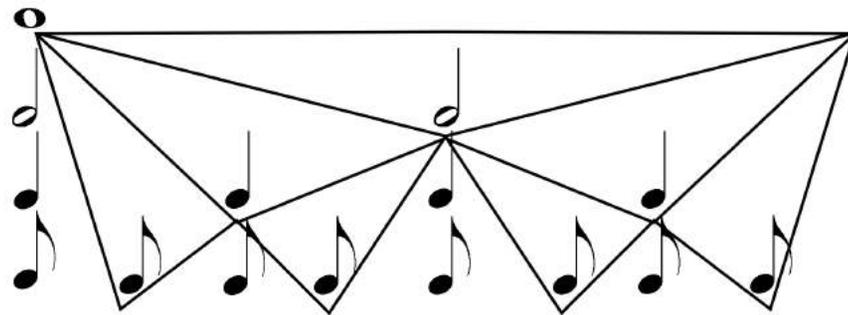
A measure of 4/4  
from Justin London,  
*Hearing in Time*:



Unfolded:

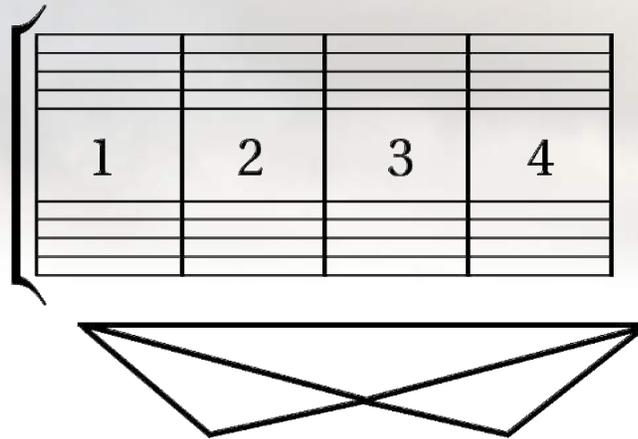


As a network on timepoints:



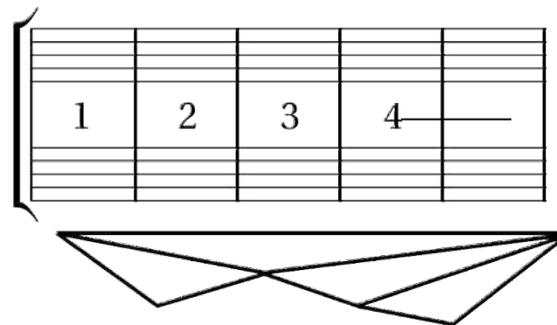
## Meter as temporal hierarchy

Normal hypermeter is a structural relationship between downbeats in four-measure groups:

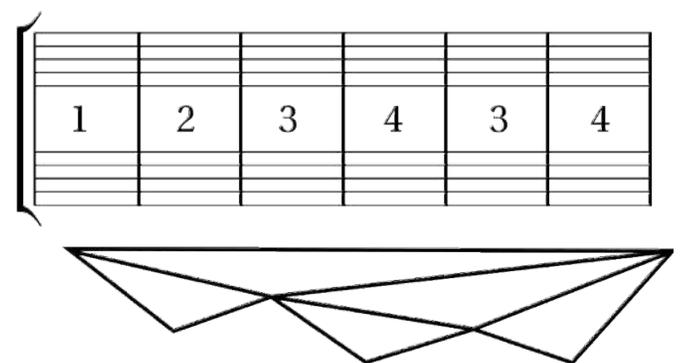


It also commonly allows for various types of irregularity:

One-measure extension:



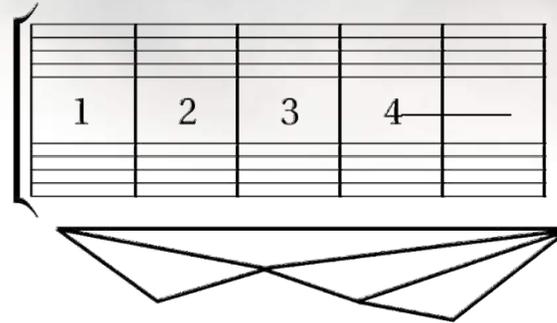
Two-measure extension:



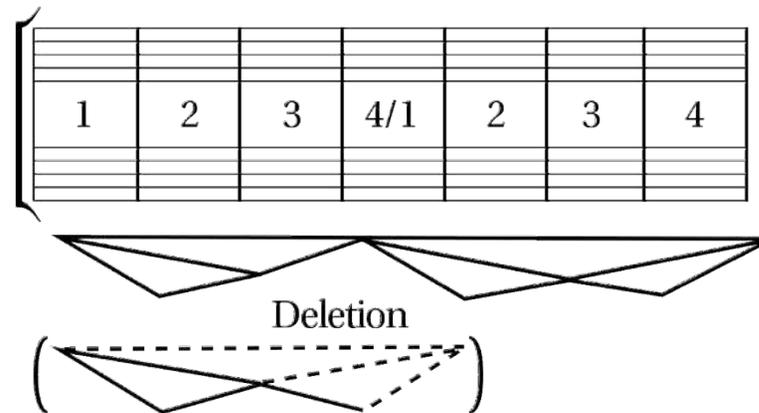
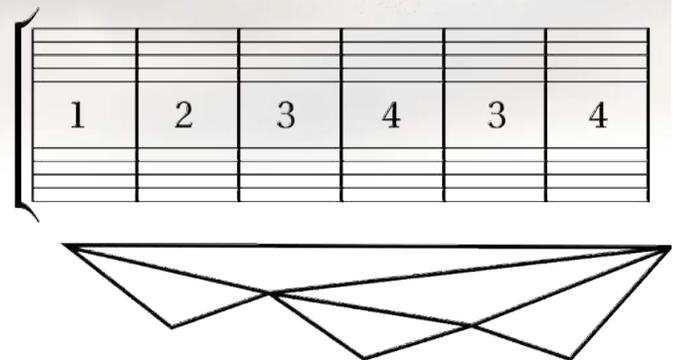
# Meter as temporal hierarchy

It also commonly allows for various types of irregularity:

One-measure extension:

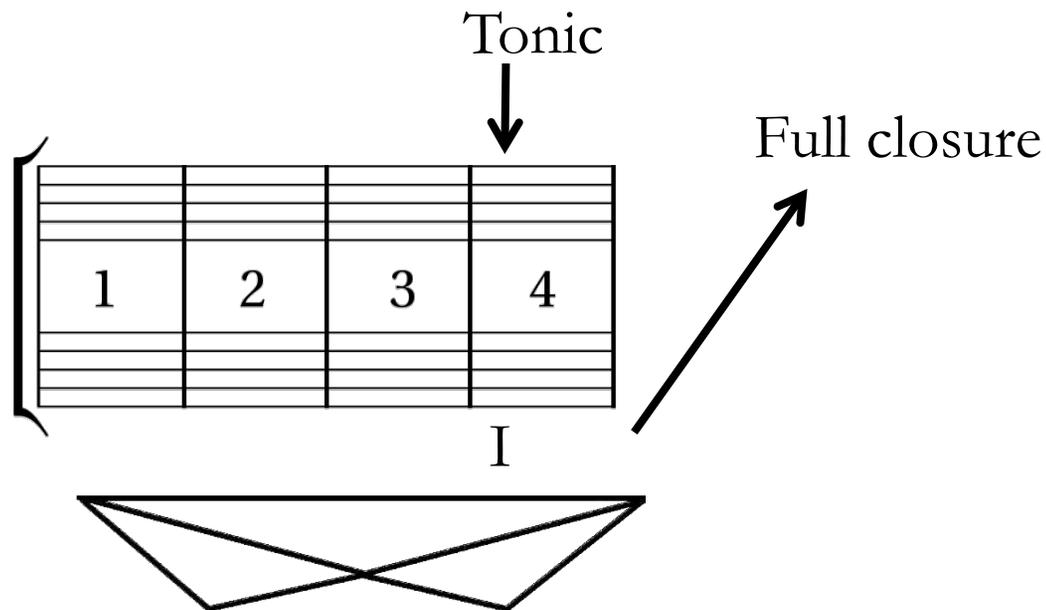


Two-measure extension:



## Rule of tonal-rhythmic closure

Tonal and rhythmic closure are *coordinated* when the cadential **final tonic** occupies the **final measure** of a group.

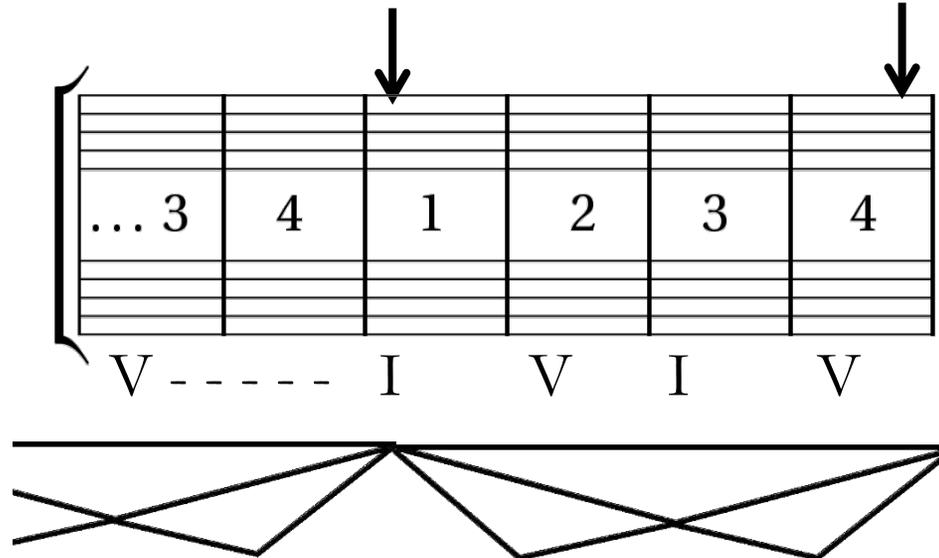


## Rule of tonal-rhythmic closure

**Elided cadences** lack tonal-rhythmic coordination and therefore are a method of **avoiding full closure**

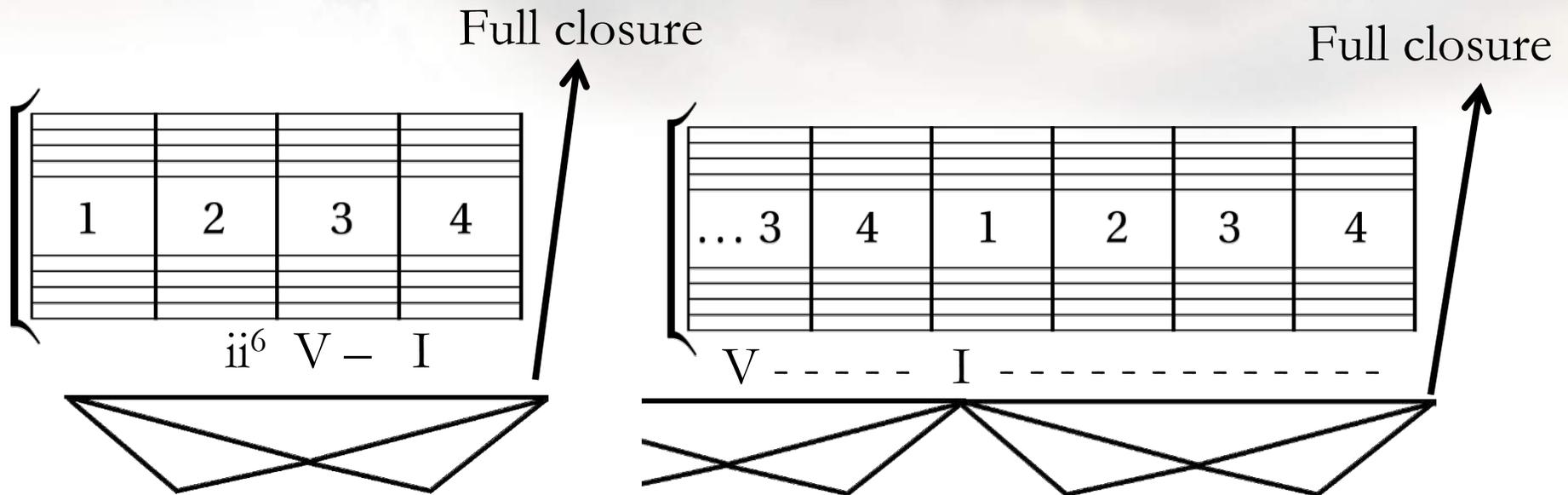
Cadence elided.  
Not full closure

Doesn't end on tonic.  
No closure



## Rule of tonal-rhythmic closure

Two ways to satisfy the rule of closure:



Simple method:  
Cadence in bar 4

Expanded method:  
Cadence at the beginning of a group  
and hold tonic through entire group

# Rule of tonal-rhythmic closure

Example of simple closure,  
Haydn Op. 54/3, Trio

The musical score shows a 4-bar group in G major. The first two bars feature a forte (*f*) dynamic and trills (*tr*) on the notes G and B. The third bar is piano (*p*) and contains a cadential phrase. The fourth bar is also piano (*p*) and ends with a full tonal-rhythmic closure. The cadential phrase is labeled "Cadential" and "B: ii V I".

PAC, final tonic ends  
4-bar group: full  
tonal-rhythmic closure

## **(2) Methods of Expositional Closure**

- (a) Simple closure
- (b) Elided closing material
- (c) Open exposition



## Methods of Expositional Closure: Simple Closure

Haydn usually gives full tonal-metrical closure through simple closure (PAC in the fourth bar of a group).

*Example:* String Quartet in C major, Op. 54/2

Many early works of Beethoven follow this precedent.

*Example:* String Trio in G major, Op. 9/1

# Haydn, Op. 54/2, End of ST group

48

HC

55

*p dolce*

PAC

Simple closure

Repeat of cadential phrase

64

*dolce*

73

PAC

*cresc.*

*f*

*f*

*p*

*mf*

8va

Beethoven Op. 9/1, End of ST group

ST part 2

65

*dolce.* *cresc.* *sf* *sfp*

*dolce.* *cresc.* *f* *sfp*

*dolce.* *f* *sfp*

PAC: Simple

72

*sf* *sf* *sf* *pp* *pp* *cresc.* *pp*

*sf* *sf* *sf* *pp* *pp* *cresc.* *cresc.*

*sf* *sf* *sf* *pp* *pp* *cresc.* *cresc.*

PAC: Simple

80

*cresc.* *sf* *sf* *sf* *pp* *cresc.* *sfp*

*sf* *sf* *sf* *pp* *pp* *cresc.* *sfp*

*sf* *sf* *sf* *pp* *cresc.* *sfp*



## Elided Closing Material: Beethoven Op. 7

Persistent elision of cadences can push the moment of tonal-metrical closure to the end of the exposition.

This is common in Beethoven's Piano Sonatas and middle period works in many genres.

Beethoven, Op. 7 Piano Sonata, Exposition

pp

sf

This system shows the beginning of the exposition. The piano part starts with a *pp* dynamic, and the forte part begins with a *sf* dynamic. The music is in a minor key and features a complex rhythmic pattern.

Beginning of ST

PAC elided

sf

This system continues the exposition. The piano part features a *sf* dynamic. The music is characterized by a strong rhythmic drive and a complex harmonic structure.

Repeat

sf

This system shows the continuation of the exposition. The piano part features a *sf* dynamic. The music is characterized by a strong rhythmic drive and a complex harmonic structure.

PAC elided

p

sf

This system shows the continuation of the exposition. The piano part features a *p* dynamic, and the forte part begins with a *sf* dynamic. The music is characterized by a strong rhythmic drive and a complex harmonic structure.

Beethoven, Op. 7 Piano Sonata, Exposition

The first system of the musical score shows the beginning of the exposition. It consists of two staves, treble and bass clef. The music is in 3/4 time and features a rhythmic pattern of eighth and sixteenth notes. The key signature has two flats (B-flat and E-flat).

V ... Deceptive cadence!

The second system of the musical score highlights a deceptive cadence. The music continues with the same rhythmic pattern. The bass clef part features a series of chords that lead to a deceptive cadence. The dynamic markings *cresc.*, *ff*, and *pp* are present. The treble clef part has a melodic line with slurs and accents.

The third system of the musical score continues the exposition. It consists of two staves, treble and bass clef. The music is in 3/4 time and features a rhythmic pattern of eighth and sixteenth notes. The key signature has two flats (B-flat and E-flat).

Beethoven, Op. 7 Piano Sonata, Exposition

PAC elided and evaded

The first system of the musical score consists of two staves, piano and bass. The piano staff features a melodic line with eighth and sixteenth notes, while the bass staff provides a harmonic accompaniment with chords and moving lines. Dynamic markings include *f* (forte) and *p* (piano). The system concludes with a repeat sign.

Repeat

The second system continues the musical piece. It begins with a repeat sign. The piano staff has a complex melodic passage with a fermata over a group of notes. The bass staff has a steady accompaniment. Dynamic markings include *ff* (fortissimo) and *f* (forte). The system ends with a repeat sign.

The third system of the musical score shows the piano and bass staves. The piano staff continues with a melodic line, and the bass staff provides accompaniment. Dynamic markings include *f* (forte) and *p* (piano). The system concludes with a repeat sign.

Beethoven, Op. 7 Piano Sonata, Exposition

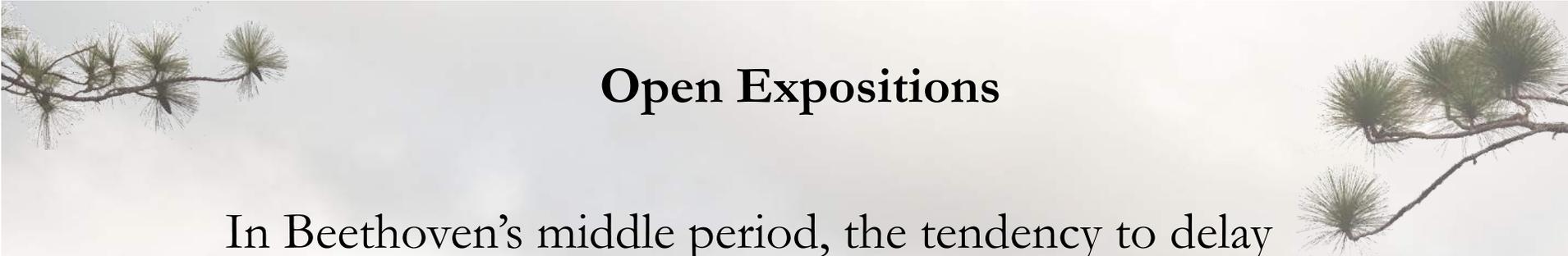
Closing  
PAC elided

The image displays three systems of musical notation for the Exposition of Beethoven's Op. 7 Piano Sonata. Each system consists of a grand staff with a treble clef and a bass clef. The first system features a complex melodic line in the treble with many accidentals and a bass line with chords and a dynamic marking of *ff*. The second system shows a more rhythmic treble part with eighth notes and a bass line with a dynamic marking of *sf*. The third system continues the rhythmic pattern in the treble and has a bass line with a dynamic marking of *sf*. The text 'Closing PAC elided' is written in blue and red above the first system, indicating the end of the exposition.

Beethoven, Op. 7 Piano Sonata, Exposition

The image displays three systems of musical notation for the exposition of Beethoven's Op. 7 Piano Sonata. Each system consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The first system shows a rhythmic pattern of eighth notes in the right hand and a bass line with a forte (*sf*) dynamic. The second system continues this pattern, with a crescendo leading to a more complex melodic figure in the right hand. The third system concludes the exposition with a final cadence, marked with a double bar line and a repeat sign, ending on a tonic chord.

Closure: hypermetric unit ends on tonic



## Open Expositions

In Beethoven's middle period, the tendency to delay closure in expositions evolves into a **denial of closure**, resulting in **open expositions**, ones that lacks tonal or tonal-metrical closure altogether.

*Examples:*

- Op. 47 Violin Sonata (“Kreutzer”): Tenacious hypermeter prevents full tonal-metrical closure despite multiple PACs through elision.
- Op. 59/2 String Quartet (E minor): Also has strong hypermeter, but also no completed PAC—all cadences are deceptive or imperfect.

Beethoven, Op. 47 Violin Sonata, end of exposition

156 Subord. Theme no. 2

Evaded PAC

163

Evaded PAC

Elided PAC  
Closing Section

170

Beethoven, Op. 47 Violin Sonata, end of exposition

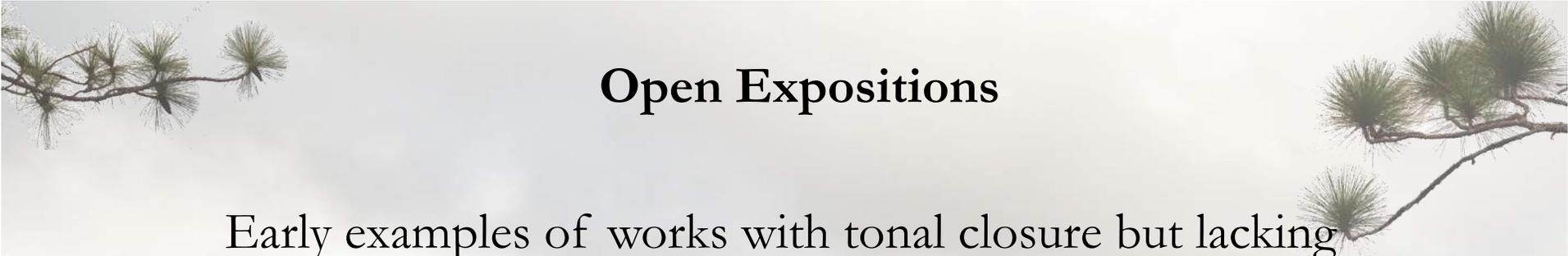
177

184

*i* *V* *i* *V* *i* *V* *V*<sup>6</sup>/<sub>iv</sub>!

*f* *f* *f* *f* *f* *f* *ff*

The image displays two systems of musical notation for the end of the exposition of Beethoven's Op. 47 Violin Sonata. The first system, starting at measure 177, shows a treble clef staff with a melodic line and a grand staff (treble and bass clefs) with a piano accompaniment. Blue annotations 'V' and 'i' are placed above the piano staff in measures 177, 178, 180, and 181. The second system, starting at measure 184, continues the notation. Blue annotations 'i', 'V', 'i', 'V', 'i', 'V', and 'V<sup>6</sup>/<sub>iv</sub>!' are placed above the piano staff in measures 184 through 190. Dynamic markings 'f' and 'ff' are present throughout the piano part. The notation includes various rhythmic values, accidentals, and articulation marks.



## Open Expositions

Early examples of works with tonal closure but lacking tonal-metrical closure in the exposition:

Op. 13 Piano Sonata (“Pathetique”)

Op. 24 Violin Sonata (“Spring”)

Op. 28 Piano Sonata (“Pastorale”)

Op. 30/3 Violin Sonata (G major)

Op. 53 Piano Sonata (“Waldstein”)

The first four of these all involve dissonance over tonic pedal (weak examples)

Beethoven, Op. 59/2 String Quartet, end of exposition

36

8

41

*cresc.* *p dolce*

46

DC!

V - I

*cresc.* *f sf sf* *p dolce*

*cresc.* *f sf* *p dolce*

*cresc.* *f sf* *p dolce*

*cresc.* *f sf* *p dolce*

V - vii<sup>o</sup><sub>2</sub> V - I

Beethoven, Op. 59/2 String Quartet, end of exposition

53

*f f f f f f f f*  
*p dolce pp*  
*f f f f f f f f*  
*f f f f f f f f*  
*p pp*

DC!

60

*cresc. piu cresc. f f*  
*f f f f*  
**Elided IAC!**

67

*f f f f f f f f*  
*f f ff*



## Open Expositions

Early examples of open expositions:

In Haydn:

Op. 20/3 String Quartet (G minor)

Op. 76/2 String Quartet (D minor)

In Beethoven:

Op. 30/2 Violin Sonata (C minor)

Op. 59/2 String Quartet (E minor)

Fifth Symphony finale

Op. 69 Cello Sonata (A major)

Op. 70/1 Piano Trio (“Ghost,” D major)

Op. 70/2 Piano Trio (E-flat major)

Seventh symphony first mvt.

Op. 96 Violin Sonata (G major)

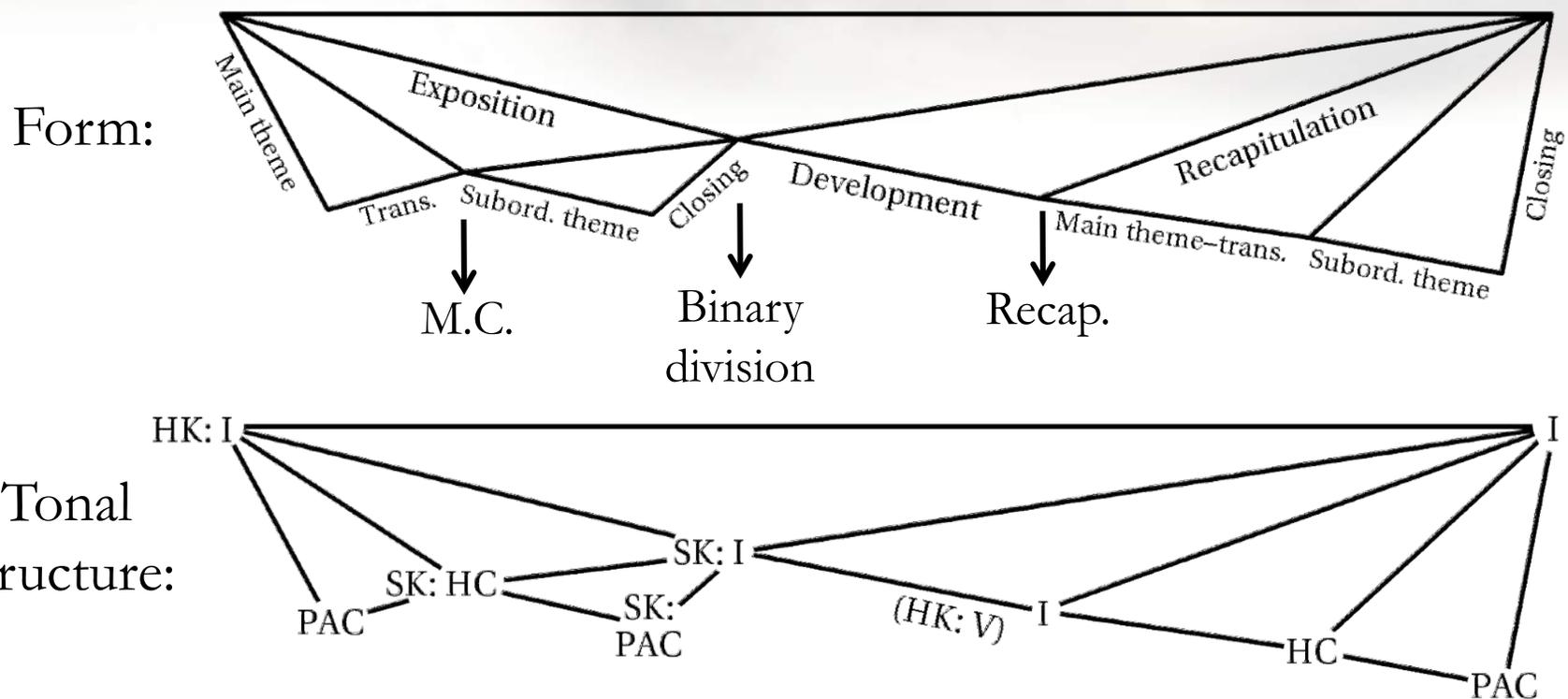
### **(3) Network Model of Musical Form**

(a) Sonata form

(b) Introductions and codas

# Sonata Form

Sonata form conventionally involves *coordinated* structures in two modalities, **formal** and **tonal**:



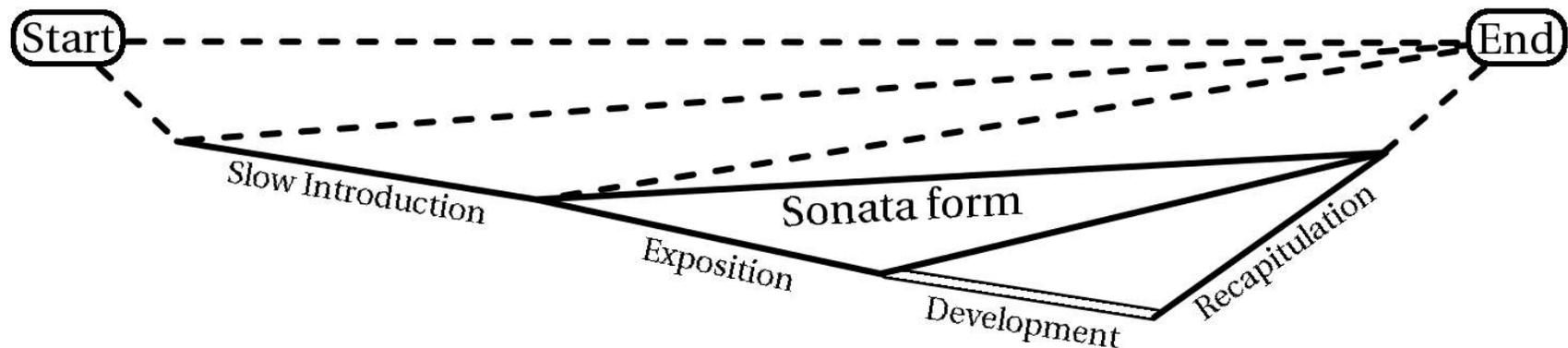
## Introductions and Codas

“Framing functions”: Caplin, *Classical Form* (1996)

“Parageneric spaces”: Hepokoski and Darcy,  
*Elements of Sonata Theory* (2006)

Both emphasize the symmetry of “before the beginning”  
and “after the end”

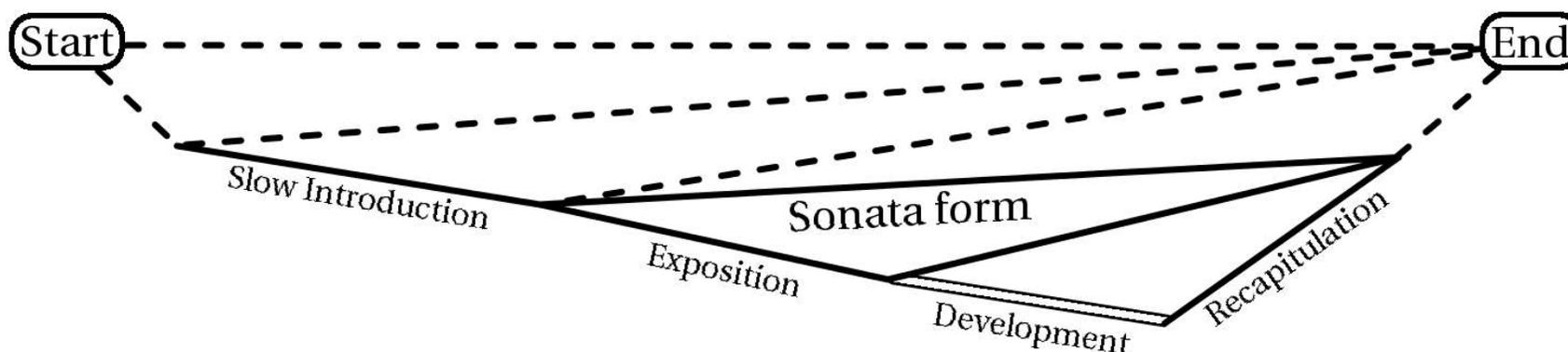
A slow introduction as an incomplete unit:



## Introductions and Codas

Imaginary “*start*” and “*end*” vertices can be used to show incomplete units.

Slow introduction to a sonata form:

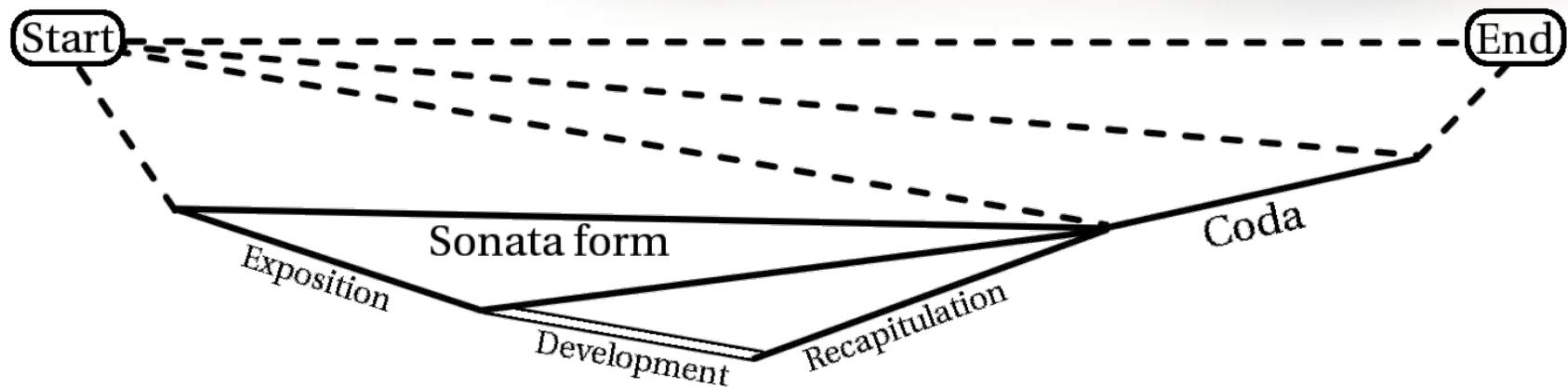


Connections to “*end*” show that the slow introduction is a beginning that is unintegrated into the sonata form.

## Introductions and Codas

Imaginary “*start*” and “*end*” vertices can be used to show incomplete units.

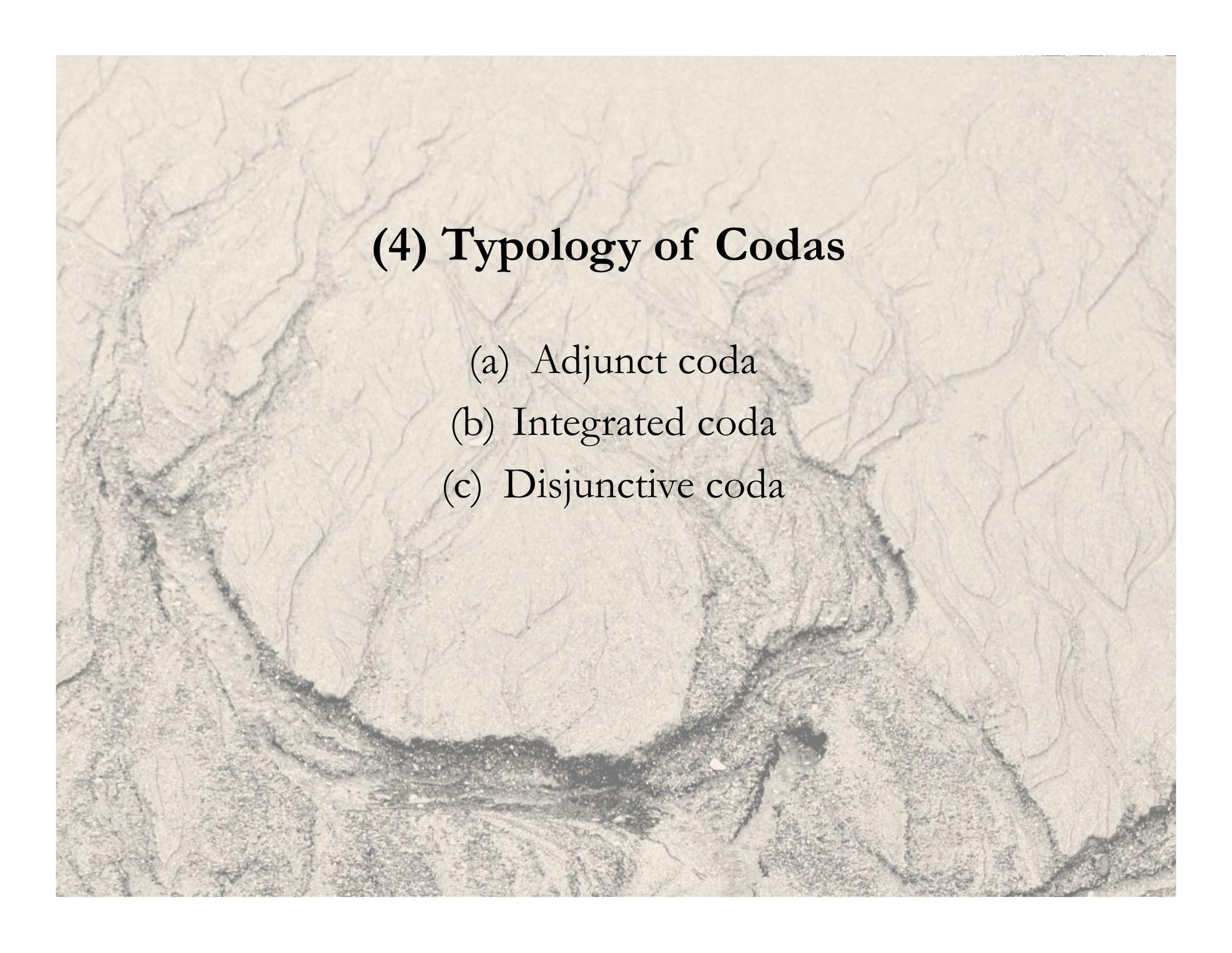
Analogous *adjunct coda*:



Connections to “*start*” show an unintegrated coda.

**Unlike slow introductions, unintegrated codas are extremely rare**

Therefore the analogy between introductions and codas is imperfect in practice.



## **(4) Typology of Codas**

- (a) Adjunct coda
- (b) Integrated coda
- (c) Disjunctive coda



## On Beethoven's Codas

Kerman (1982): “On Beethoven’s Codas”

Rosen (1988): *Sonata Forms* (Revised Edition)

Hopkins (1988): “When a Coda is More than a Coda”

Morgan (1993): “Coda as Culmination: The First Movement of the *Eroica* Symphony”

Analysis focuses on problems of individual works

(Why is there a coda in this piece?)

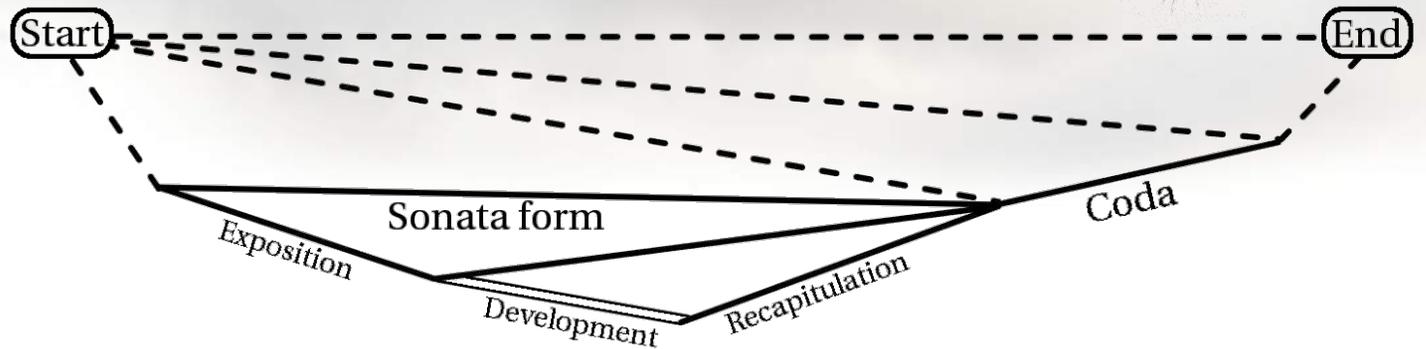
Observations are not generalizable

(E.g., coda solves outstanding problem)

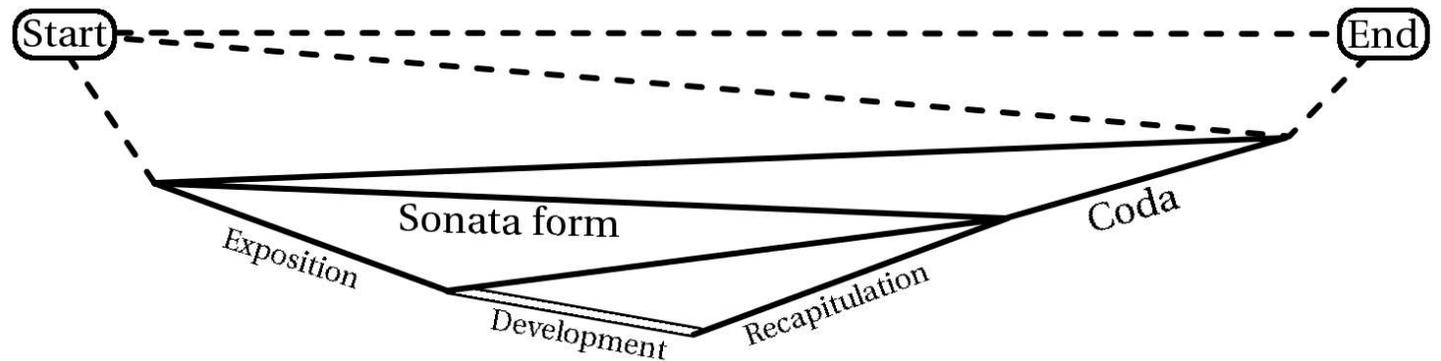
A different question: How do codas work (in general)?

# Adjunct versus integrated coda

Adjunct coda:



Integrated coda:



Most codas use some device to formally *integrate* the coda with the preceding sonata form, as a **third part**.

## Adjunct coda, example: Beethoven Op. 95

dim. p pp p pp

dim. p

dim. p

dim. p

Final cadence  
(weak tonal closure)

# Adjunct coda, example: Beethoven Op. 95

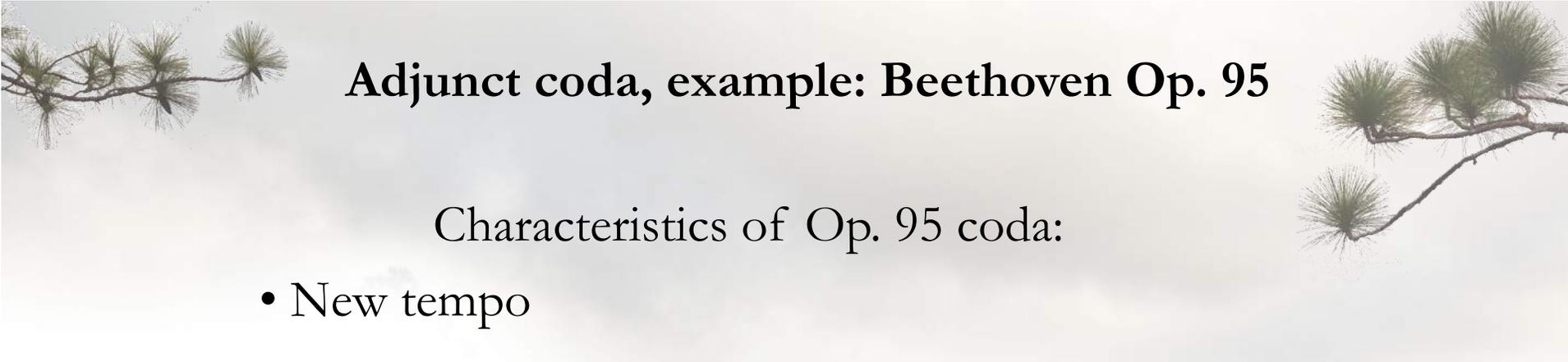
dim. p pp p pp

Closing  
(tonic  
pedal)

poco ri - tardan - do  
pp ppp  
p pp ppp

Coda

Allegro. molto leggieramente.  
sempre piano sempre pp  
sempre piano sempre pp  
sempre piano sempre pp  
sempre piano sempre pp



## Adjunct coda, example: Beethoven Op. 95

Characteristics of Op. 95 coda:

- New tempo
- New idea thematically unrelated to rest of quartet
- Sense of initiation

But . . .

Lack of strong tonal closure in preceding sonata rondo means that it is only *formally* adjunct, it is integrated tonally.

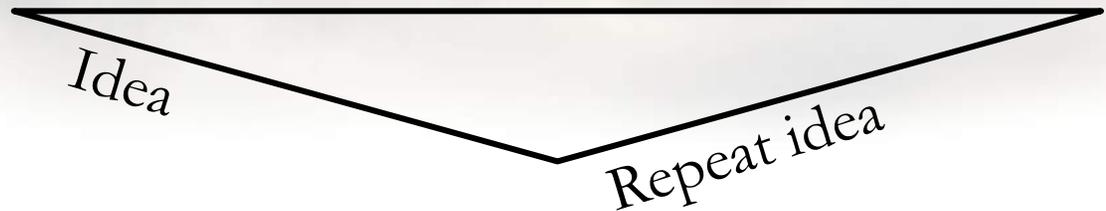
Hypothesis: The coda is part of a goal of integrating the four movements by means of formal and tonal dependency rather than motivic linkage.

# Integrated coda: Methods of integration

Building blocks of formal structure:

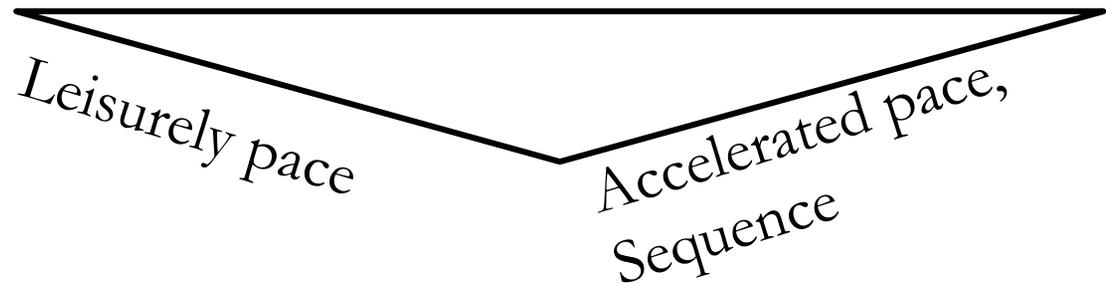
Repetition:

(Example:  
“monothematic exposition”)



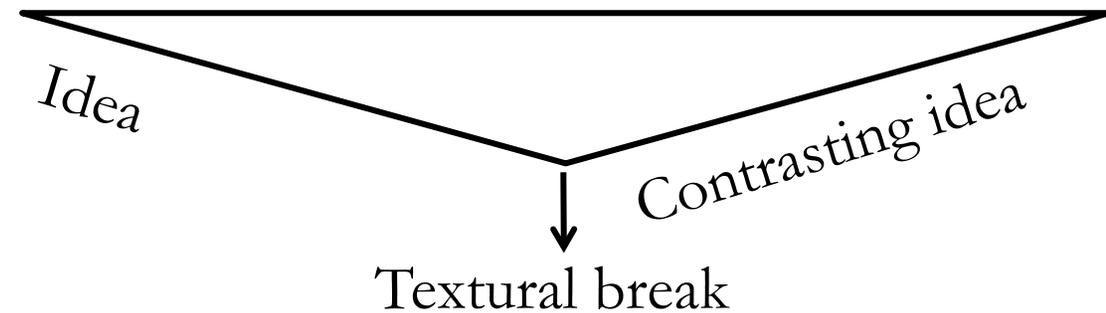
Fragmentation:

(Example:  
continuous exposition)



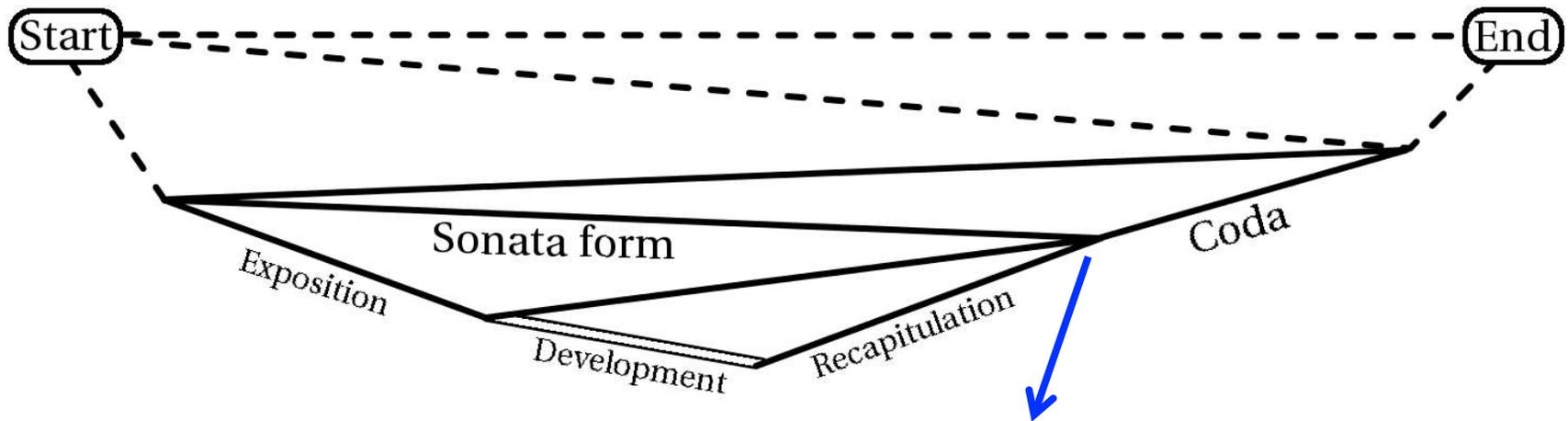
Caesura/Contrast:

(Example: second theme)



## Integrated coda, example: Beethoven, Op. 9/1

In an *integrated coda* the coda makes a larger structure with the sonata form using techniques of *repetition* — return of main theme—and/or *fragmentation*, e.g. development-like sequence (hence the notion of “second development.”)



Repetition or fragmentation integrates coda

The integrated coda may be considered a **third part** to added to the sonata form (especially if it is long).

Beethoven, Op. 9/1: Coda

(Closing section, sonata form completed)

204

*cresc.* *p* *f* *cresc.* *f*

PAC (tonal closure)

208

1. *f* *cresc.* *f* *cresc.* *f* *cresc.*

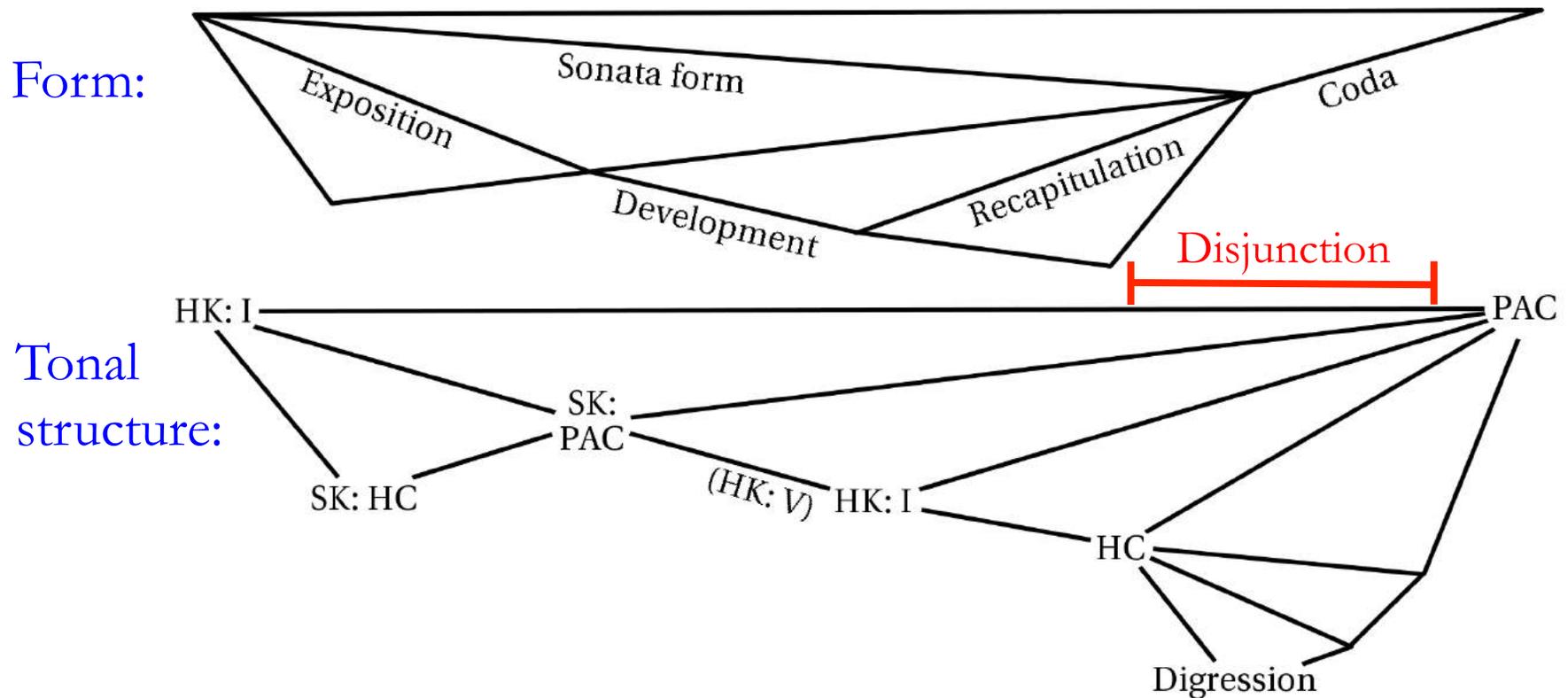
Coda: fragmentation of main theme basic idea

210

*ff* *sf* *pp* *cresc.* *sf* *ff* *sf* *pp* *cresc.* *sf* *ff* *sf* *pp* *cresc.* *sf* *ff* *sf* *pp* *cresc.* *sf*

## Disjunctive coda, Examples: Haydn Op. 64/1, Beethoven, Op. 59/2

In a *disjunctive coda* the denial of final tonal-metrical closure perpetuates the *tonal* recapitulation, while the *formal* recapitulation is completed by the closing material.



Haydn, Op. 64/1: Coda

(... Recapitulation)

Musical score for measures 120-130. The score is in G major, 3/4 time. It features a piano introduction with a dynamic of *p* and a *dim.* marking. The music then builds up with a *molto cresc.* leading to a fortissimo (*ff*) section, followed by a piano (*p*) section. The key signature changes to G minor for the final measure.

Unexpected digression

Musical score for measures 130-138. This section is in G minor, 3/4 time. It begins with a fortissimo (*fz*) dynamic, followed by a piano (*p*) section, and then a pianissimo (*pp*) section. The music then builds up with a *cresc.* leading to a fortissimo (*f*) section. The key signature changes to G major for the final measure.

$Ger^{+6} = V^7/N$  Tonal closure denied!

Coda: Sequence (Fragmentation)

Musical score for measures 138-145. This section is in G major, 3/4 time. It features a piano introduction with a dynamic of *p*, followed by a piano (*p*) section, and then a mezzo-forte (*mf*) section. The music then builds up with a *cresc.* leading to a fortissimo (*f*) section, followed by a mezzo-forte (*mf*) section, and finally a piano (*p*) section.

Frag. of MT

Musical score for measures 145-152. This section is in G major, 3/4 time. It features a mezzo-forte (*mf*) piano introduction, followed by a piano (*p*) section, and then a fortissimo (*f*) section. The music then builds up with a *cresc.* leading to a mezzo-forte (*mf*) section, followed by a piano (*p*) section, and finally a mezzo-forte (*mf*) section.

Beethoven, Op. 59/2: Coda

198

Musical score for measures 198-205. The score is in G major and 3/4 time. It features a four-part texture with piano (pp), mezzo-forte (mf), and fortissimo (ff) dynamics. The music is characterized by a steady eighth-note accompaniment in the lower parts and a more active melodic line in the upper parts. The dynamics increase from pp to ff over the course of the measures.

Elided IAC

206

Musical score for measures 206-208. The score continues from the previous system. It features a four-part texture with piano (p) and fortissimo (ff) dynamics. The music is characterized by a steady eighth-note accompaniment in the lower parts and a more active melodic line in the upper parts. The dynamics decrease from ff to p over the course of the measures.

209

Musical score for measures 209-216. The score continues from the previous system. It features a four-part texture with fortissimo (ff), piano (p), and pianissimo (pp) dynamics. The music is characterized by a steady eighth-note accompaniment in the lower parts and a more active melodic line in the upper parts. The dynamics fluctuate between ff and pp over the course of the measures.

Coda: Fragmentation of main theme

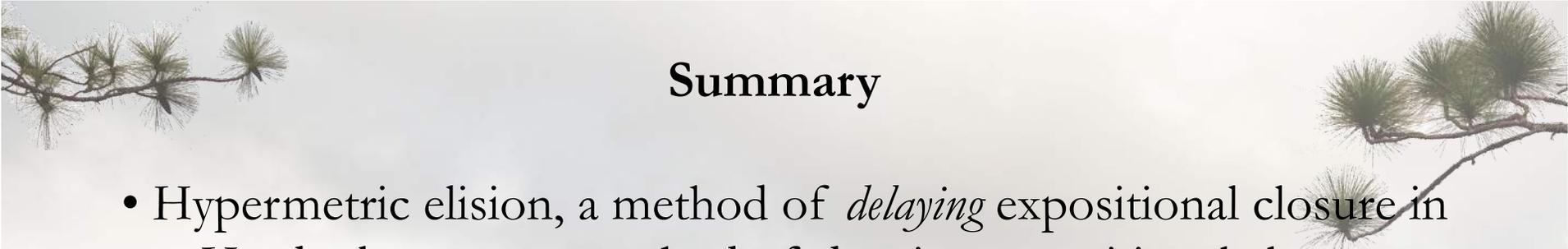
Tonal digression

## Disjunctive Coda and Other Disjunctive Techniques

Beethoven evidently adopted the disjunctive coda from Haydn. But it leads to other forms of disjunction that were distinctively Beethovenian innovations:

- Non-standard subordinate keys (Opp. 28, 31/1, 53, 56, Lenore)  
= disjunction at the binary division (exposition/development)
- Off-tonic recapitulation (Op. 9/1 first mvt. and scherzo, Op. 18/3, Op. 26 scherzo, Op. 27/2 allegretto, Op. 31/3, Op. 47, Op. 59/1 scherzando)

—See Burstein “The Off-Tonic Return in Beethoven’s Piano Concerto No. 4 in G major, Op. 58, and Other Works.” *Music Analysis* 24/3 (2005)



## Summary

- Hypermetric elision, a method of *delaying* expositional closure in Haydn, becomes a method of denying expositional closure altogether in Beethoven, leading to more radical denial of closure in the middle-period works.
- The denial of closure in recapitulations necessitates codas.
- Methods of composing codas may be understood as techniques for *formal integration* of sonata form and coda, in particular through *repetition* and *fragmentation*.
- A special type of coda, pioneered by Haydn and influential for Beethoven, is the *disjunctive coda*, in which a tonal extension of the recapitulation coincides with a conflicting formal structure (of integrated coda).