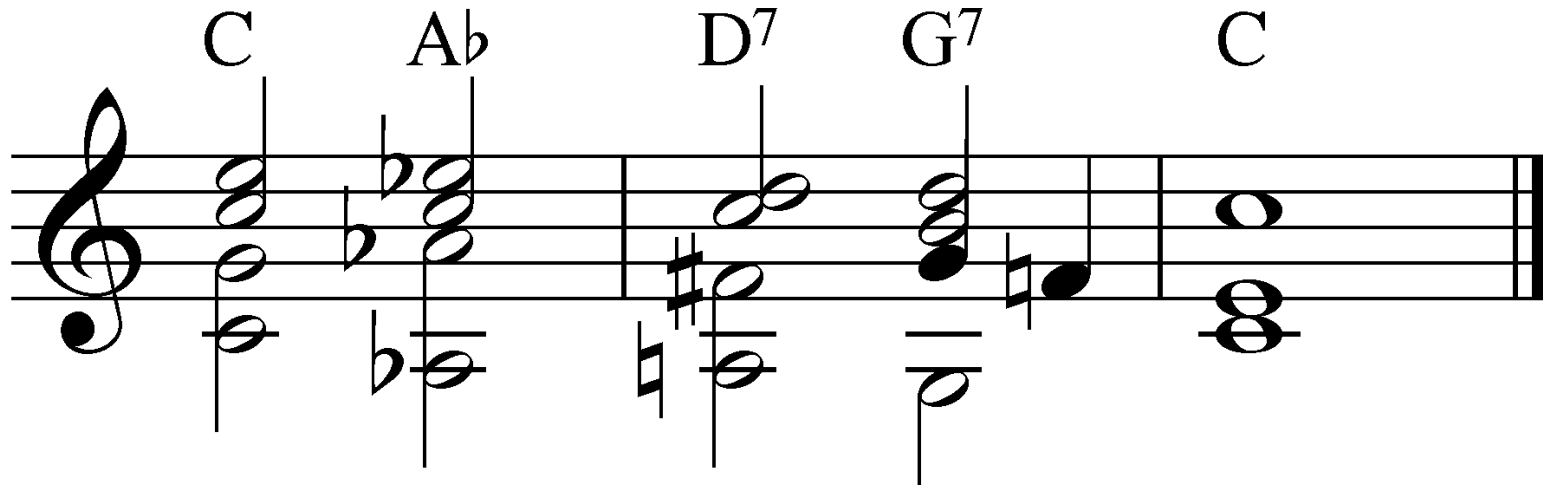


Tonality and functional equivalence

A multi-level model for the cognition of triadic
progressions in 19th century music

Fabian C. Moss – Cologne University of Music and Dance, Germany

A Riemannian motivation



H. Riemann (1880): *Outline of a new method of harmonic theory*, p. 67

Scale degree analysis is inadequate ✉ other explications needed

Outline

I. Empirical research on tonality

Problems when applied to romantic music

II. Music theoretical background

Transformational Theory; Functional equivalence

III. A multi-level model

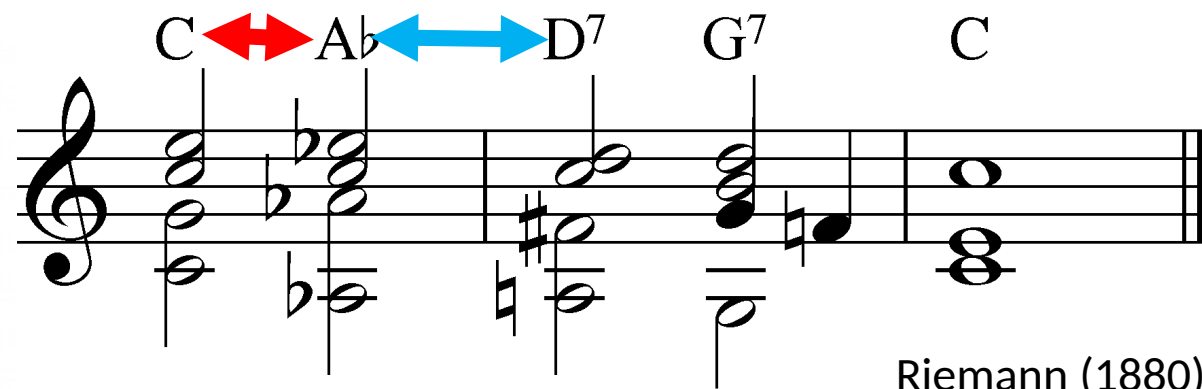
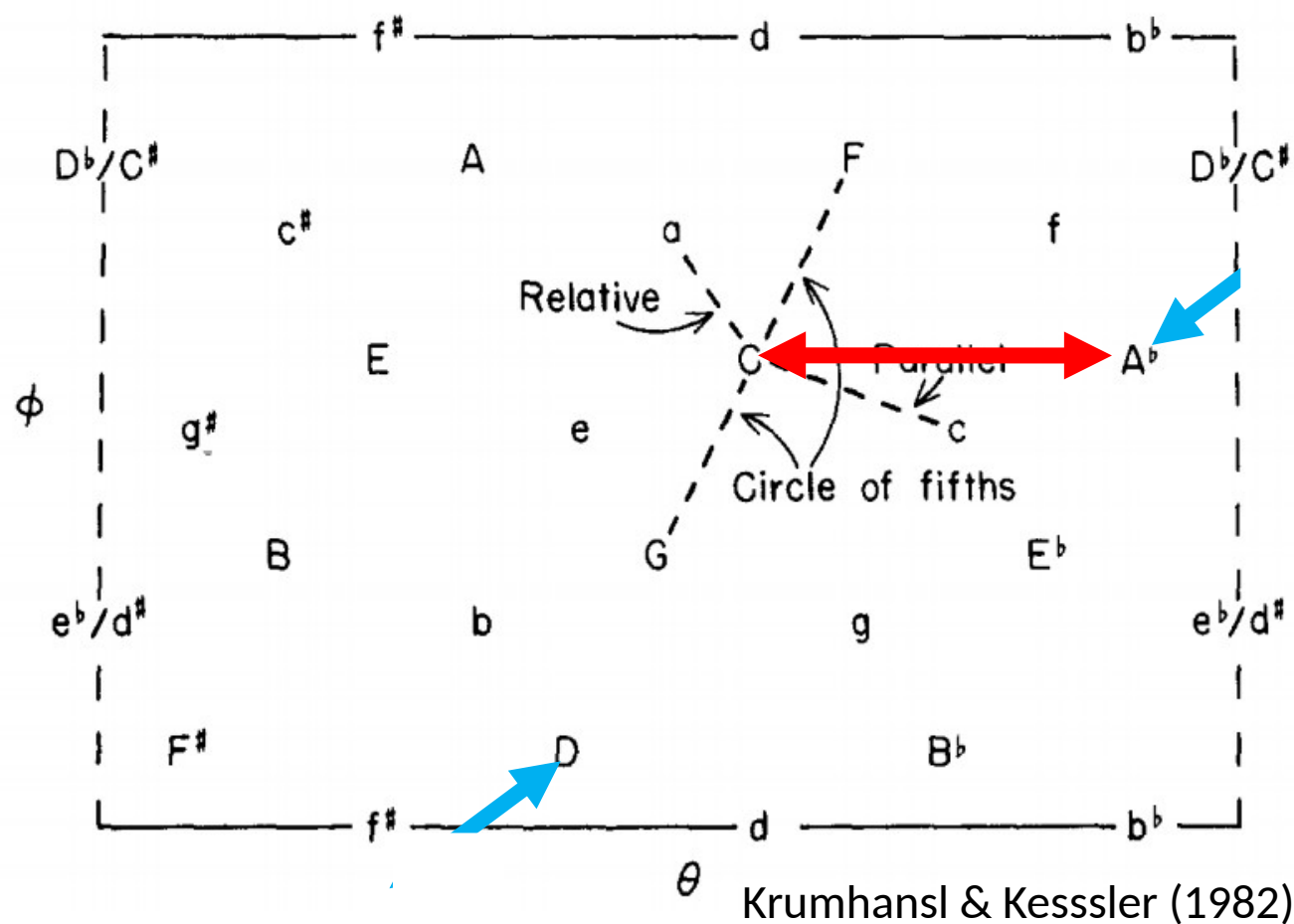
Tonality: Syntactic and schematic features

IV. Conclusion

Open questions and tasks

I. Empirical research on tonality

Perceived distances

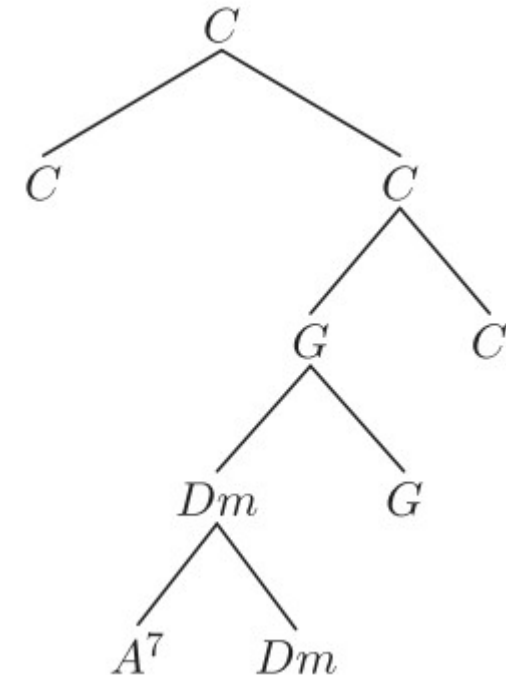


I. Empirical research on tonality

Modelling harmonic progressions

Tonal progressions have

- Syntactic features
- Hierarchic representations



Rohrmeier (2011)

C A⁷ Dm G C

I. Empirical research on tonality

Modelling harmonic progressions

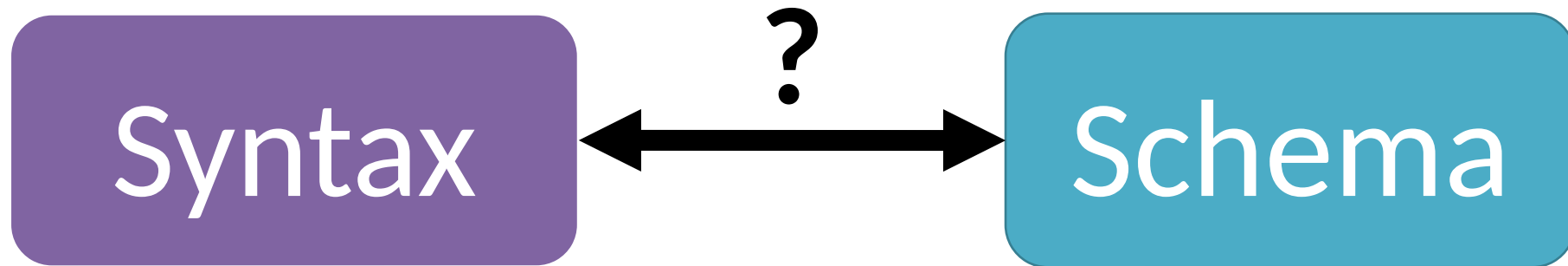
London (2012): “tones and chords are not really syntactic at all”

Schema

- Structured perceptual category
- Default value, variable values
- Internal organization

I. Empirical research on tonality

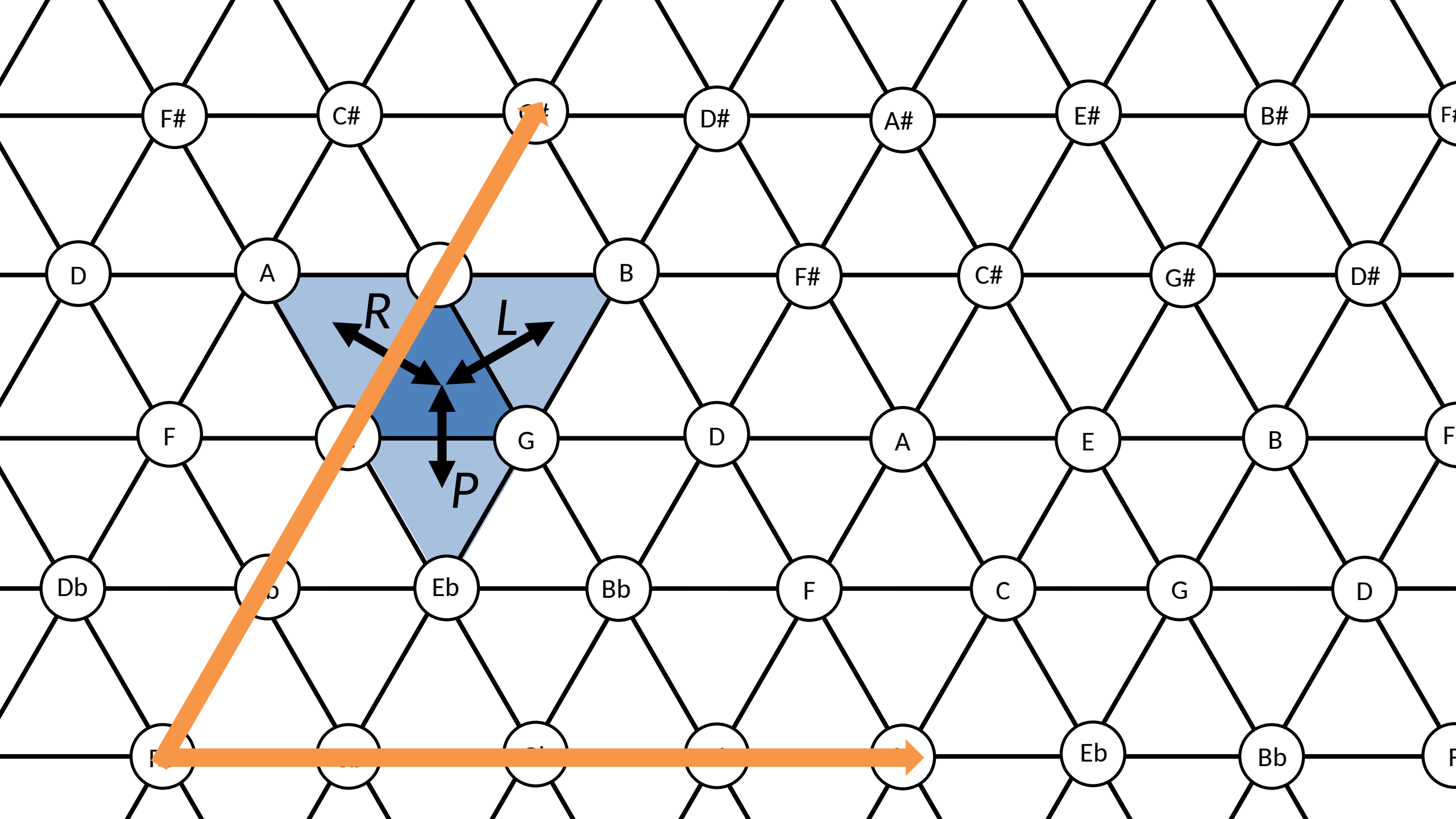
Modelling harmonic progressions



II. Music Theory

Transformational Theory

- Mathematical operations on pitch class sets (e.g. triads)
- Inversions correspond to parsimonious voice-leading:
Parallel (P), relative (R), leading-tone (L) transformations
- Correspond to empirical findings on key distances
- “Tonnetz” (tone net) as analytical illustration



II. Music Theory

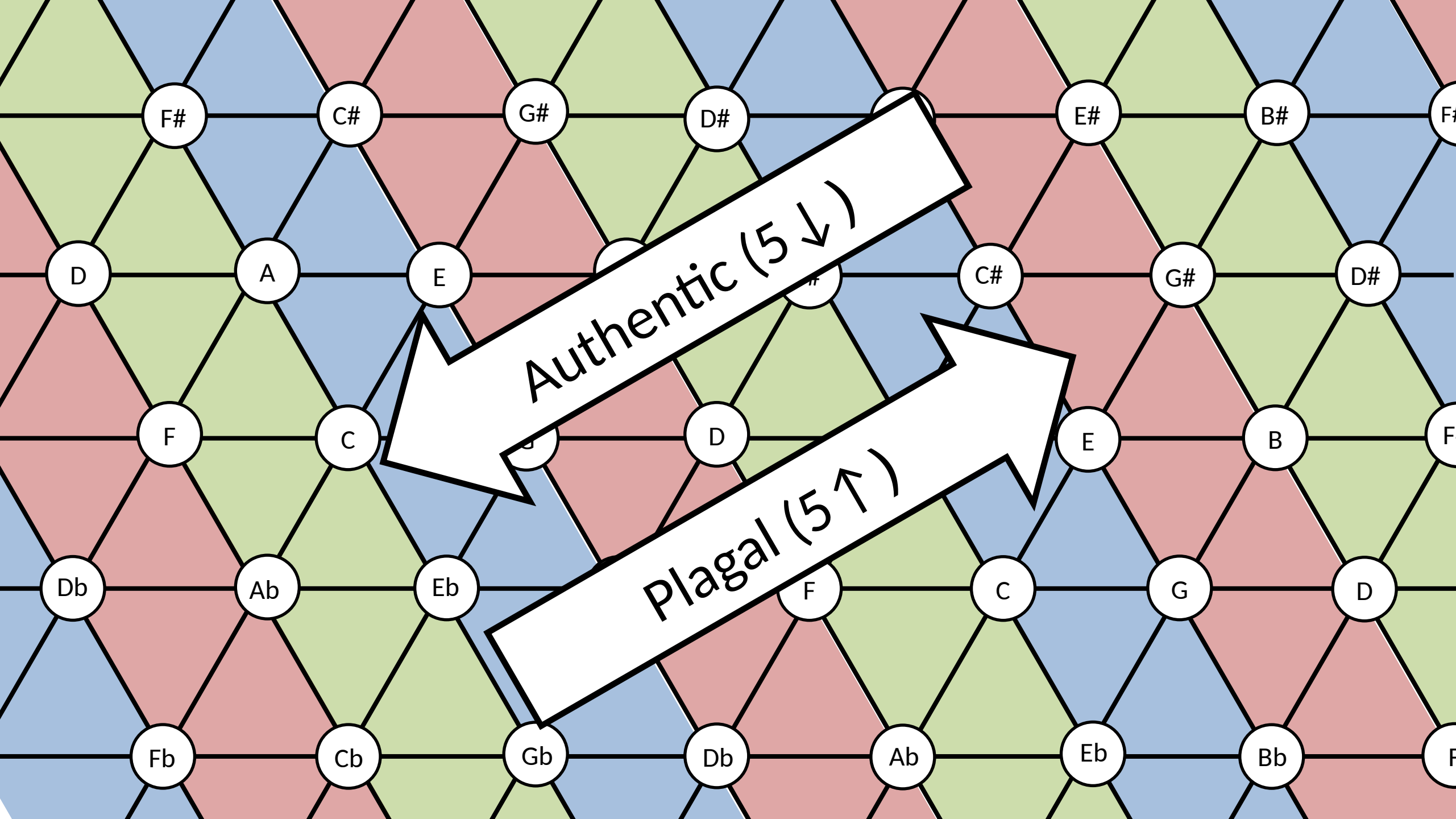
Functional equivalence

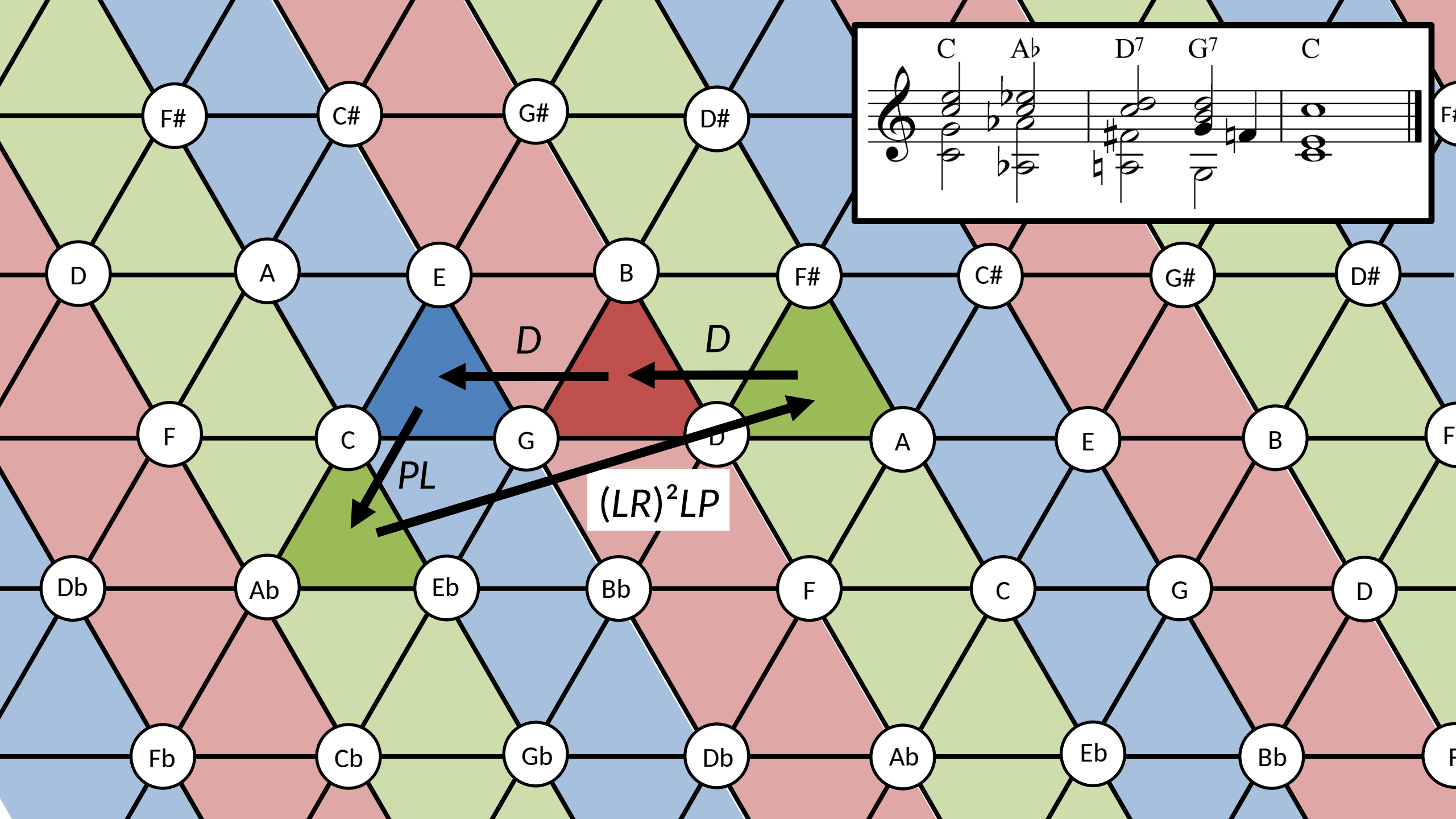


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Summary

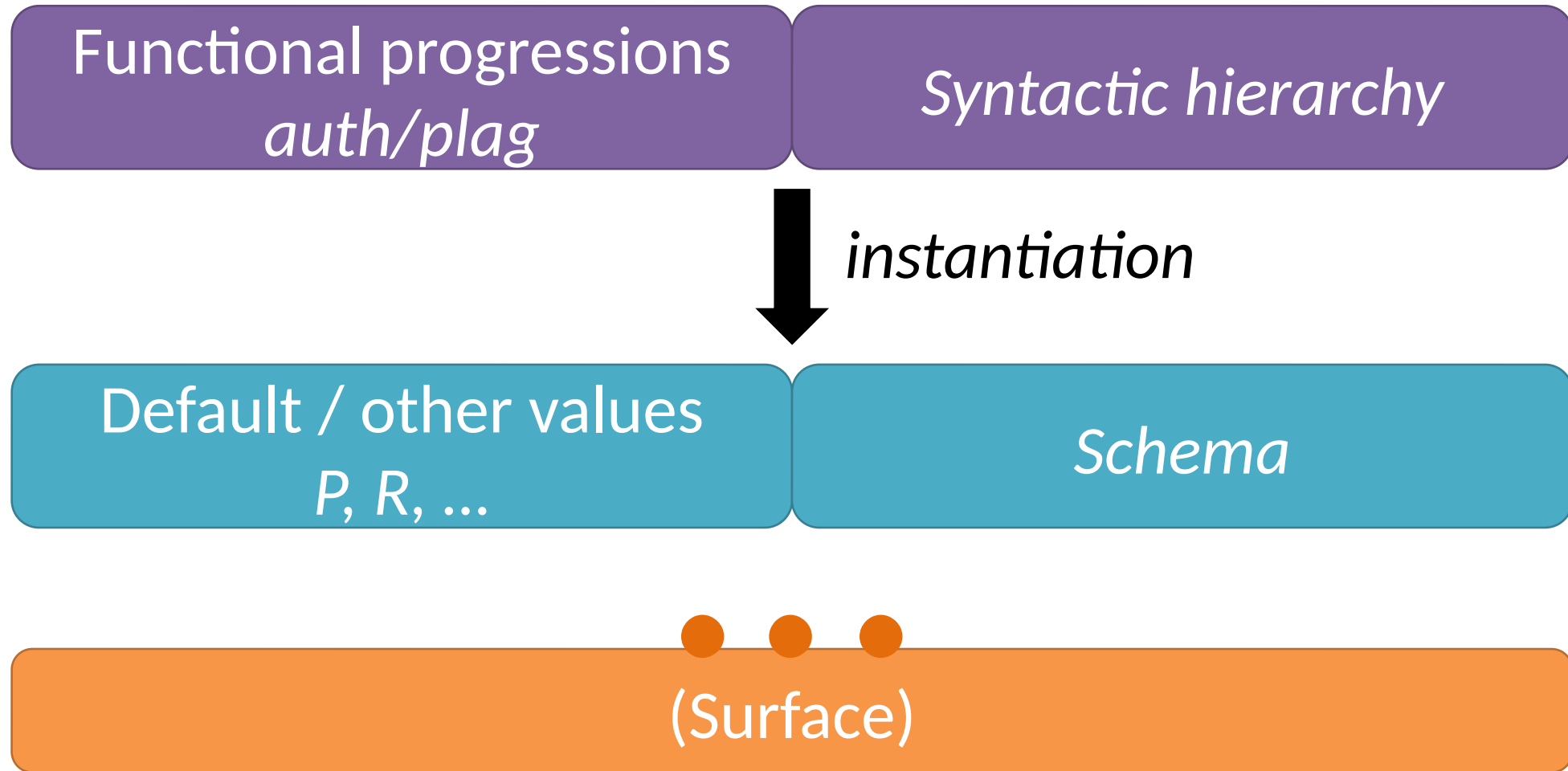
Empirical Research

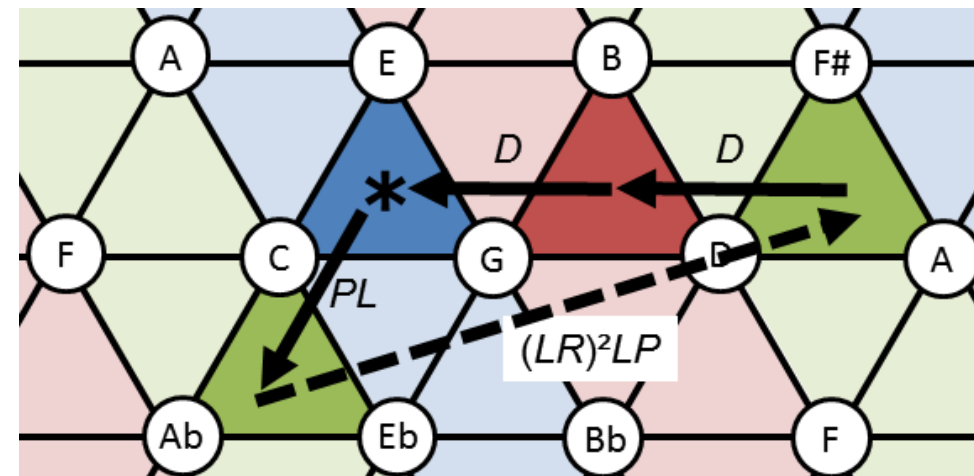
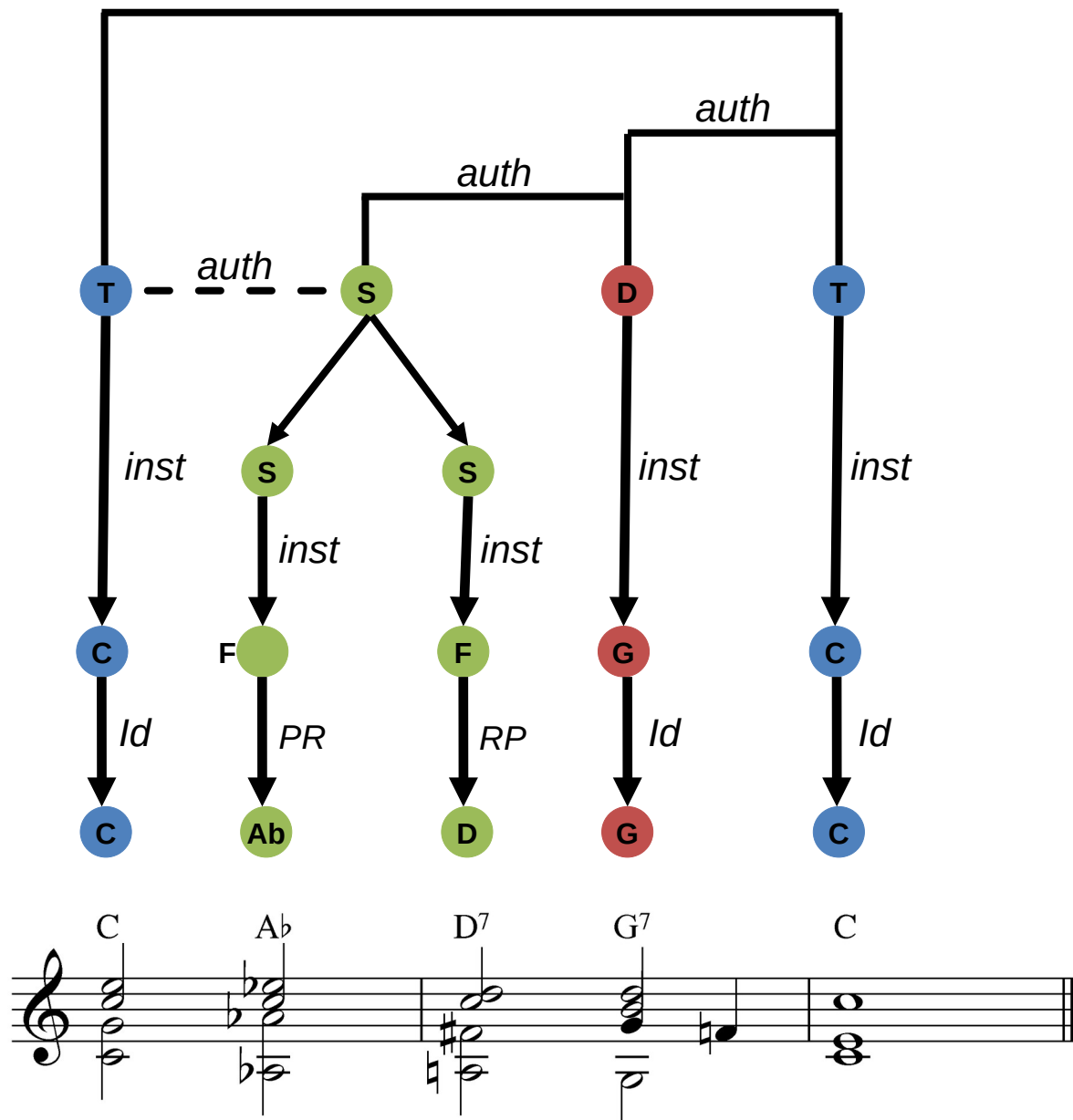
- Close key distances: relative, parallel
- Hierarchical representation of harmonic progressions
- Schemata as an alternative to syntax?

Music Theory

- Sequential analysis by transformational concatenations
- Function: 8 functionally equivalent triads (P , R)
- Functional progressions: authentic and plagal (*auth*, *plag*)

III. A multi-level model





auth = authentic progression

inst = instantiation

Id = triadic identity transformation

PR = triadic Parallel-Relative transformation

RP = triadic Relative-Parallel transformation

IV. Questions and conclusion

- Formalization
- Empirical testing
- Highest hierarchical element vs. no tonal center

- Distinction of hierarchical and schematic processes
- “Key” and “scale” become more dispensable
- Applicable to diatonic and chromatic tonal music

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