

Integral Analysis in VIS

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1. Intervallic Analysis

Intervallic Analysis:

1. Intervallic Analysis

- Historically pertinent
- Straight-forward and perceptible connection to music
- Highly objective analytical approach
- Can apply to vertical and/or horizontal aspects of music or both
- Appropriate in the analysis of one or many pieces of music
- Issue of selective analysis

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The image shows a musical score for two voices: Cantus and Altus. The music is in a common time signature (C) and a key signature of one flat (B-flat). The lyrics are: "Qui se - qui-tur me, qui se - qui-tur me, qui se -". The Cantus part is written on a treble clef staff, and the Altus part is written on a treble clef staff. The lyrics are written below the notes. A fermata is placed over the final note of the Cantus part, and a finger number '5' is written above it.

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The image shows a musical score for two voices, Cantus and Altus, in a common time signature and key signature of one flat. The Cantus part is written in a soprano clef, and the Altus part is written in an alto clef. The score consists of five measures. Below the Cantus staff, red numbers indicate the intervals between notes: 5, 6, 5, 6, 5, 3, Rest, 10, 5, 3, 5, 3, 5, 3, Rest, 6, 5, 3. A '5' is also written above the final note of the Cantus staff.

1. Intervallic Analysis



2. Analysis “by hand”

1. Intervallic Analysis

Analysis “by hand”:

- Encourages good familiarity with corpus
- Effective but labor intensive
- Typically applied to one piece or a small corpus

2. Analysis “by hand”

1. *Intervallic Analysis*

2. *Analysis “by hand”*



3. **Automated Analysis**

1. Intervallic Analysis

2. Analysis “by hand”

3. Automated Analysis

Automated Analysis:

- Makes large corpus studies possible
- Allows for discernment of trends over time, genre, composer, or other large-scale classifications of music
- Forced us to reevaluate all of our assumptions and be aware of the finer points of our analytical approach
- Automation changed our scope, but not our fundamental approach

1. Intervallic Analysis

2. Analysis “by hand”

3. Automated Analysis



4. Integral Analysis

Integral Analysis:

1. Intervallic Analysis

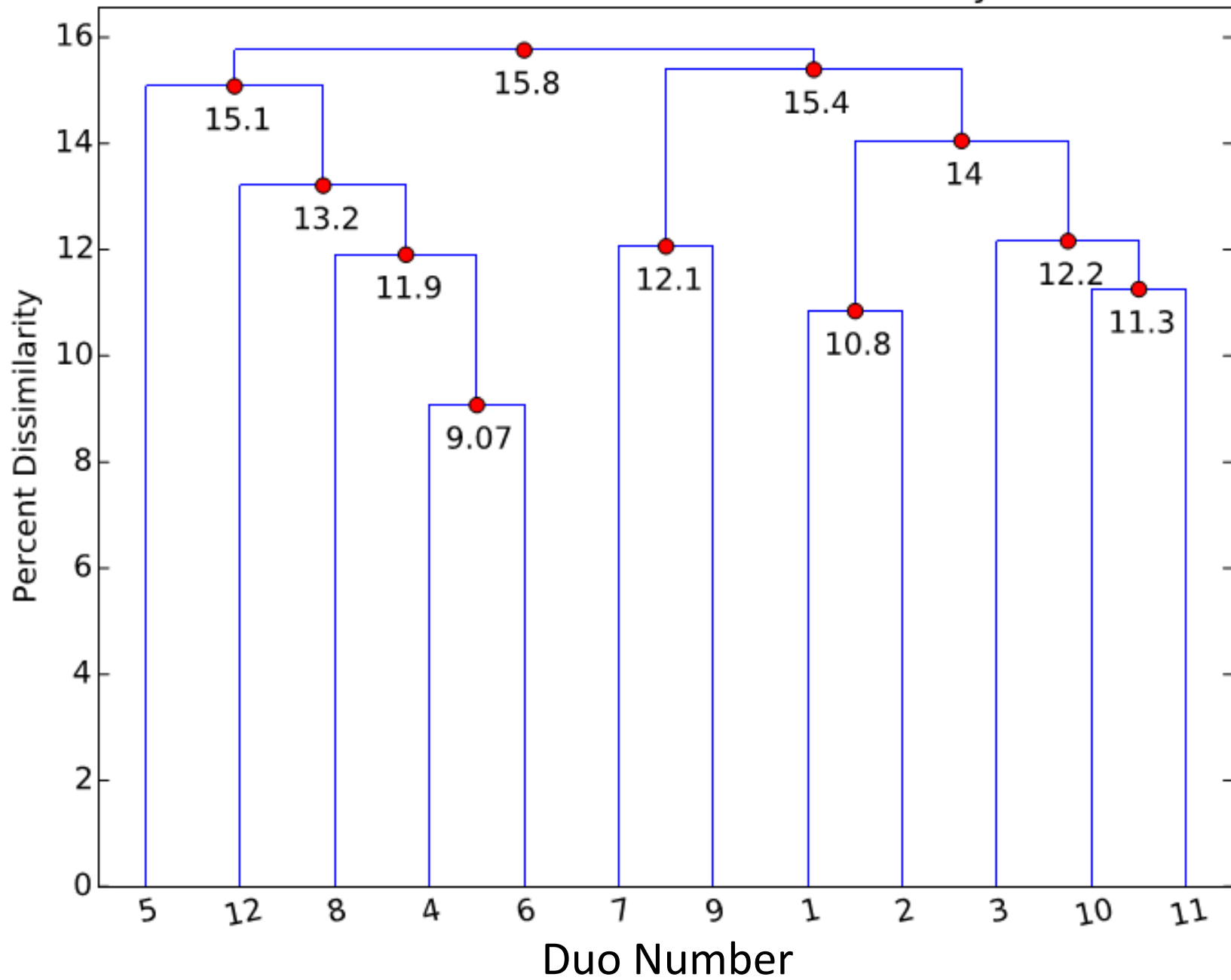
2. Analysis “by hand”

3. Automated Analysis

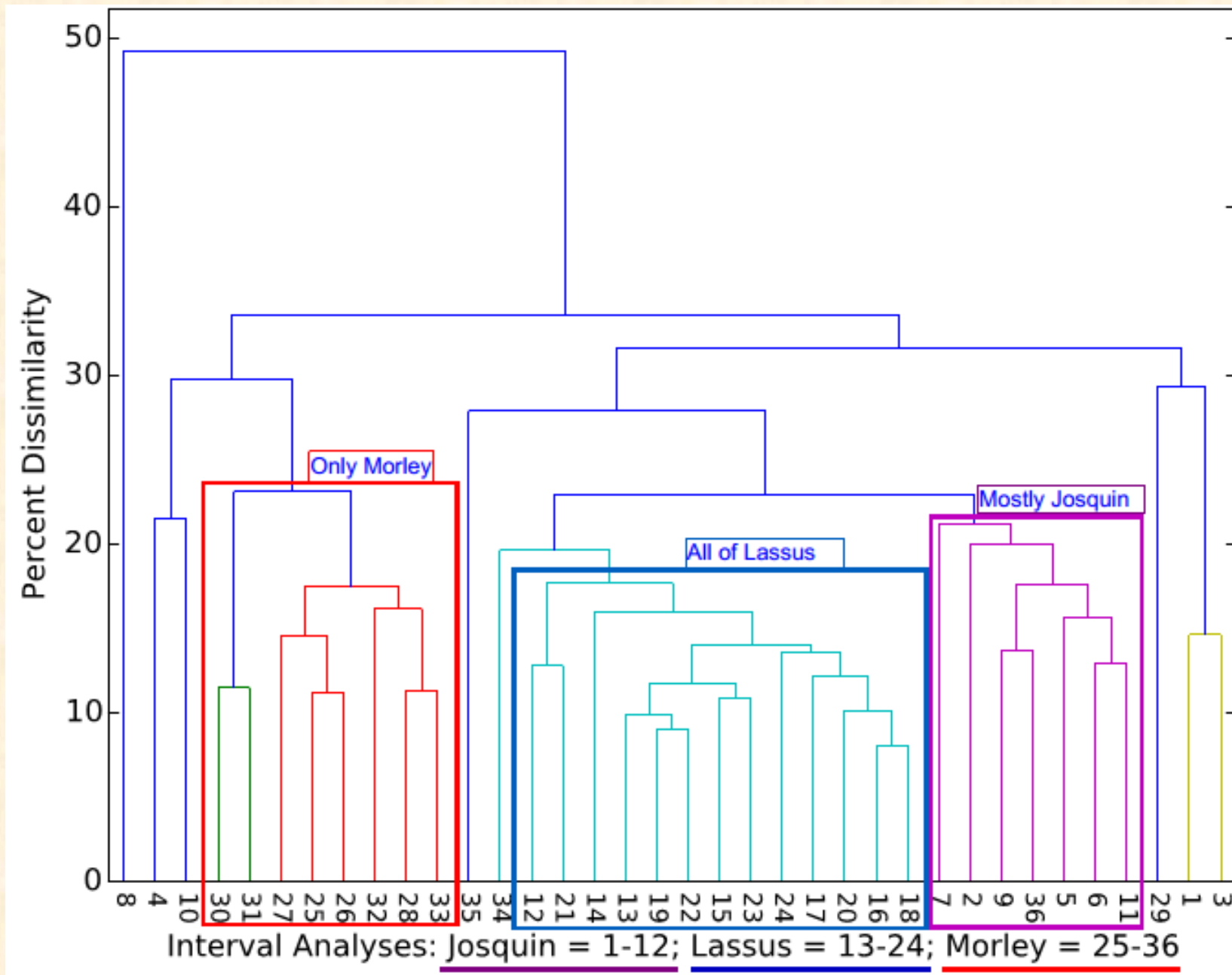
4. Integral Analysis

- Allows for the comparison of entire analysis profiles between pieces providing a similarity score for each pair
- Addresses selective analysis problem in a new way
- Lends itself to several useful visual representations of data

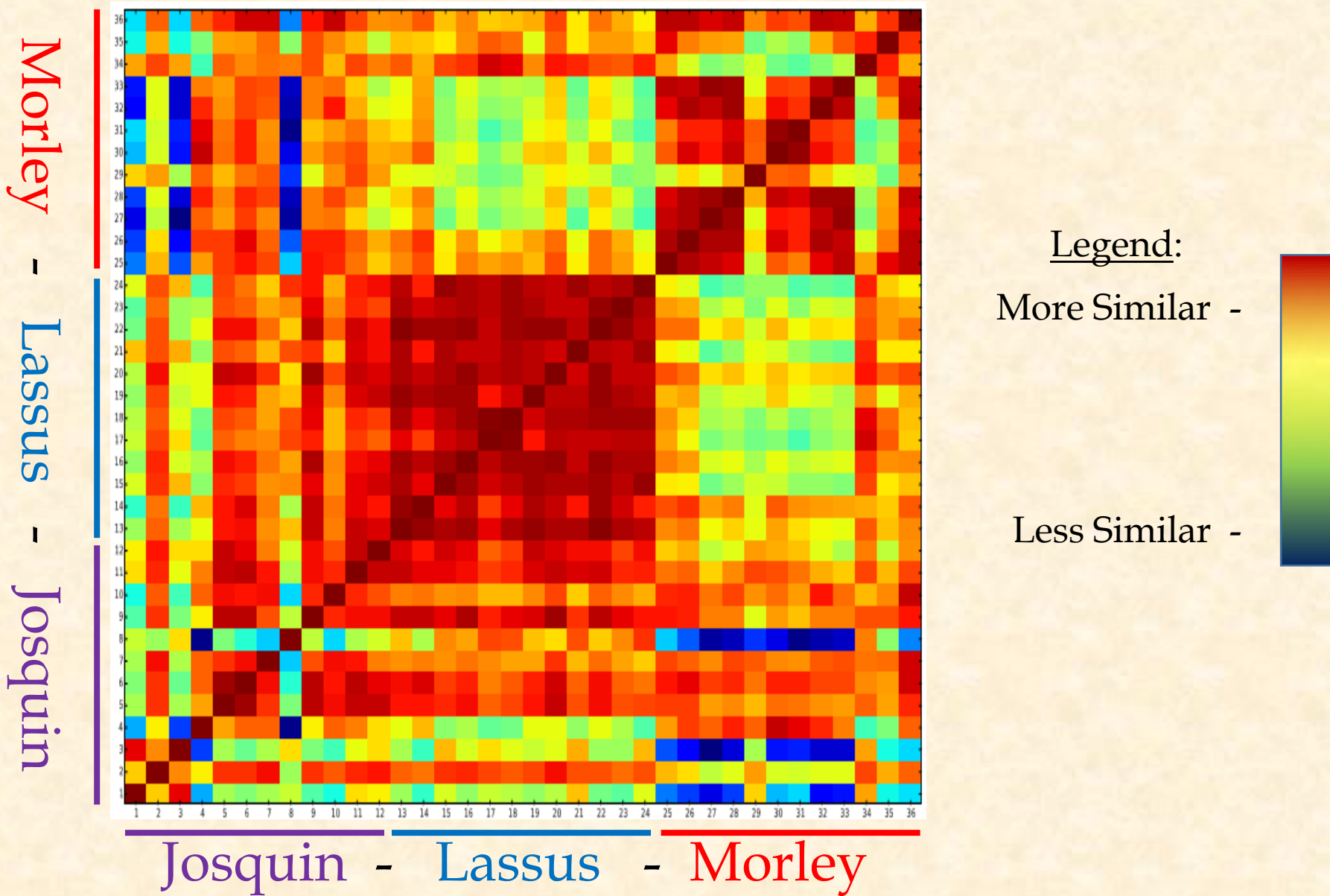
Lassus Duet Intervallic Dissimilarity



Josquin, Lassus, and Morley Duet Intervallic Dissimilarity Dendrogram



Josquin, Lassus, and Morley Duet Intervallic Dissimilarity Heat Map



New Directions with Integral Intervallic Analysis

- Reveal latent structure in corpora
- Create expected analysis profiles for composers, genres, time periods, etc.
- Inform questions of uncertain attributions
- Quantify the intervallic differences in compositions in 2 versus 3 or more voices

Thank You!

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