The Jazz Harmony Treebank

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Harmonic analyses of 150 Jazz

Highlights

- Relations between chords are analyzed
- prolongations & preparations
 - aspects of musical form Tree analyses encoded in **JSON** format

standards

- Data available on github https://github.com/DCMLab/JazzHarmonyTreebank
- Free tree annotation webapp online https://dcmlab.github.io/tree-annotation-code/
- Example: Summertime

E7*

Train & evaluate hierarchical models

Use Cases

- Music-analytical discussions
- Music-theory education
- Corpus studies about the grammar of

Jazz harmony

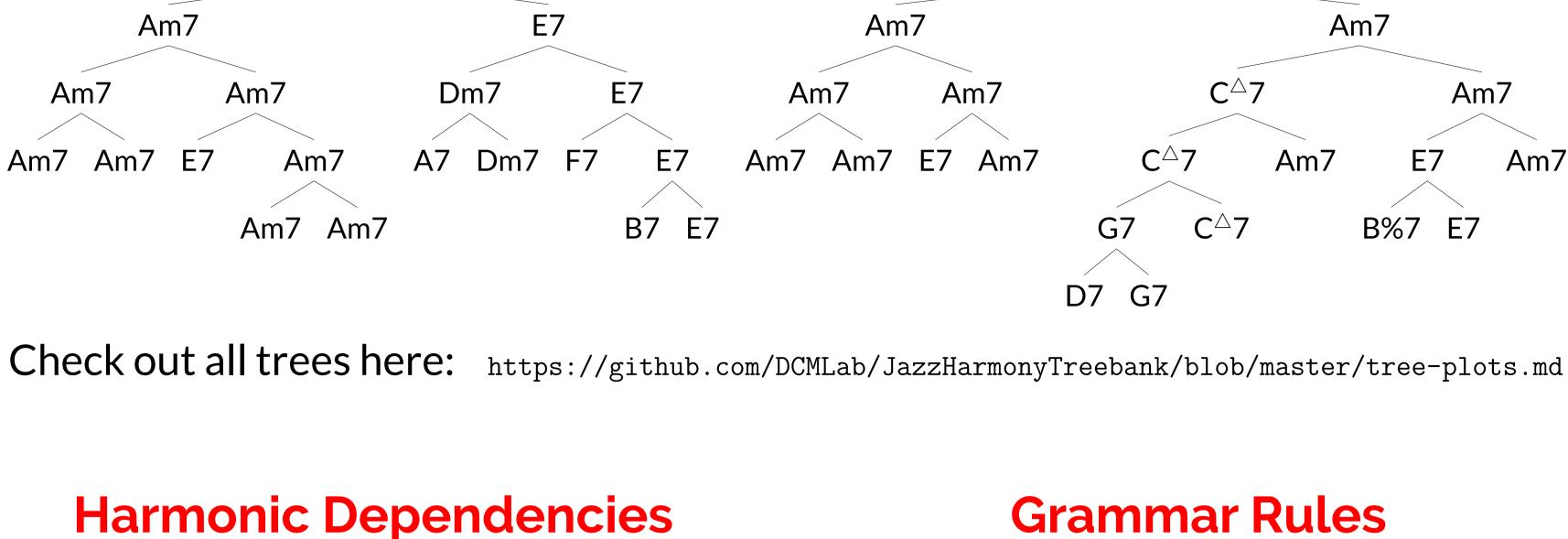
webapp

- Creation of hierarchical analyses using the open-source tree-annotation

Am7

E7 Am7

Am7



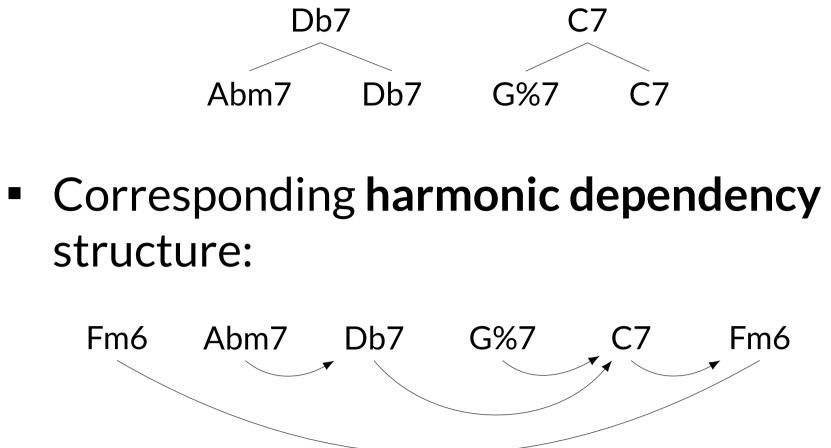
Fm6

Fm6

Part of the **tree analysis** of *Birk's*

Fm6 Fm6 **C7**

Works:

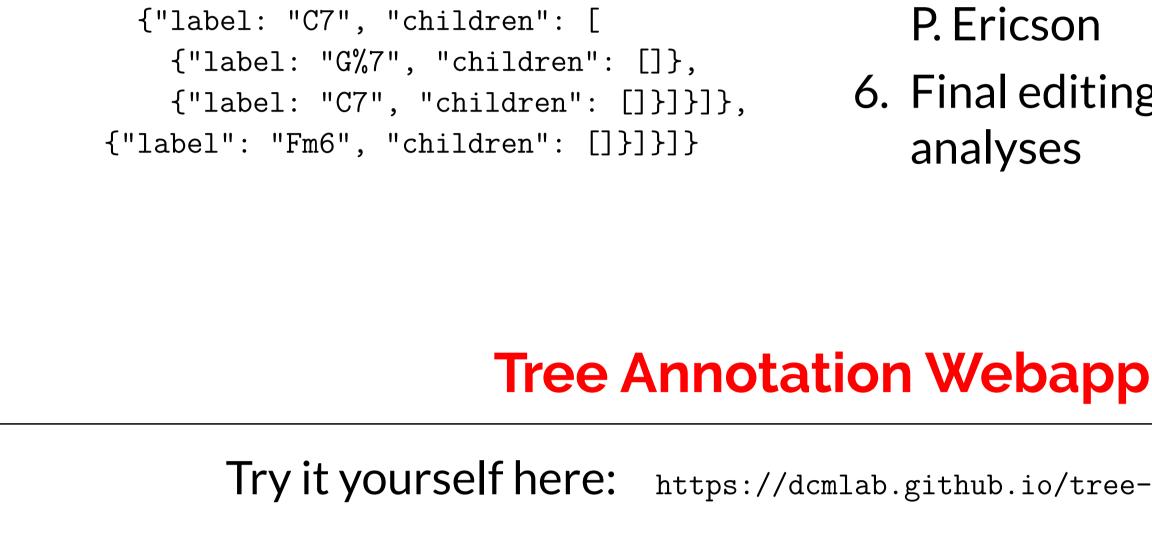


{"label": "Fm6", "children": []}, {"label": "Fm6", "children": [{"label": "C7", "children": [

constituent:

{"label": Fm6, "children": [

In **JSON** format:



Input

{"label": "Db7", "children": [

{"label": "Abm7", "children": []},

{"label": "Db7", "children": []}]},

Tree Annotation

Output

Preview

functionally equivalent chord Y $X \longrightarrow XY$ for any chord X and a

• $X \longrightarrow YX$ for any chord X and a

functionally equivalent chord Y

Strong prolongations

Weak prolongations

Preparations

• $X \longrightarrow X X$ for any chord X

- $X \longrightarrow YX$ for any chord X and a chord Ythat prepares *X*

P. Ericson

iRealPro collection

Annotation Procedure

preferring short tunes 3. Deletion of final turnarounds

2. Selection of 150 Jazz standards by

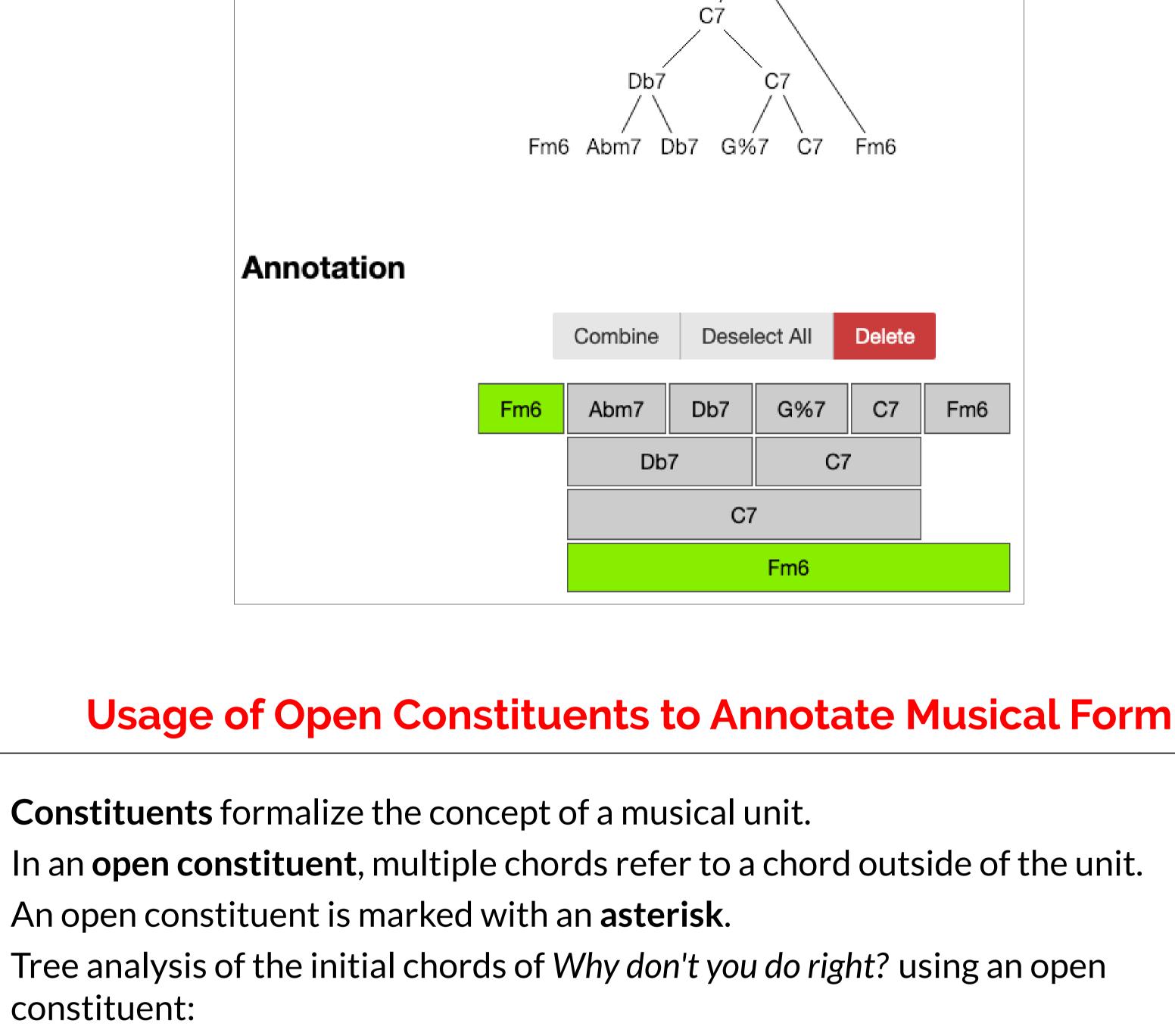
4. Initial analyses by D. Harasim 5. Review of analyses by C. Finkensiep &

1. Start from chord sequences of

- 6. Final editing & creation of alternative analyses
- Try it yourself here: https://dcmlab.github.io/tree-annotation-code/

Help

Fm6



B%7/C Bb7 Corresponding harmonic dependency structure:

Bb7

Dm7

Bb7

Bb7

A7*

B%7/C

Dm7

A7

A7

Dm7

A7

A7

Dm7

Dm7

Analysed

2000

Total

-1

Analysed



Dm7

• Tree analysis with resolved open constituent:

Dm7

D_m7

Jazz standards by year Total

1920

1940

1960

year of composition

Jazz standards by chord seq. length (> 100 chords omitted)

chord sequence length

Annotated turnaround lengths (pos. vals) & implicit tonics (neg. vals)

1980

40

30

10

35

30

25

20

15

10

100

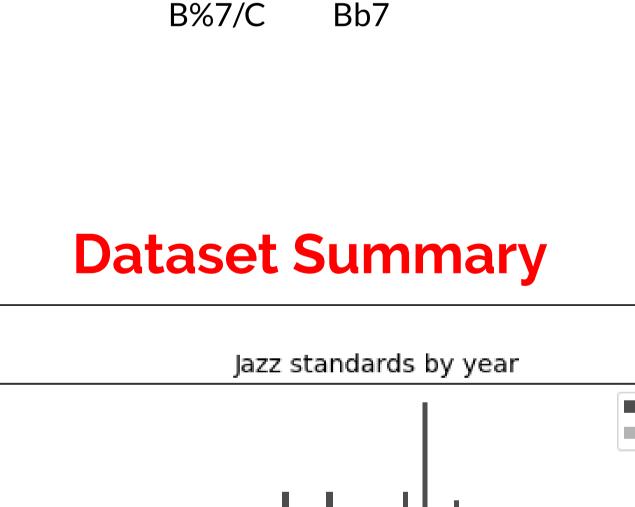
80

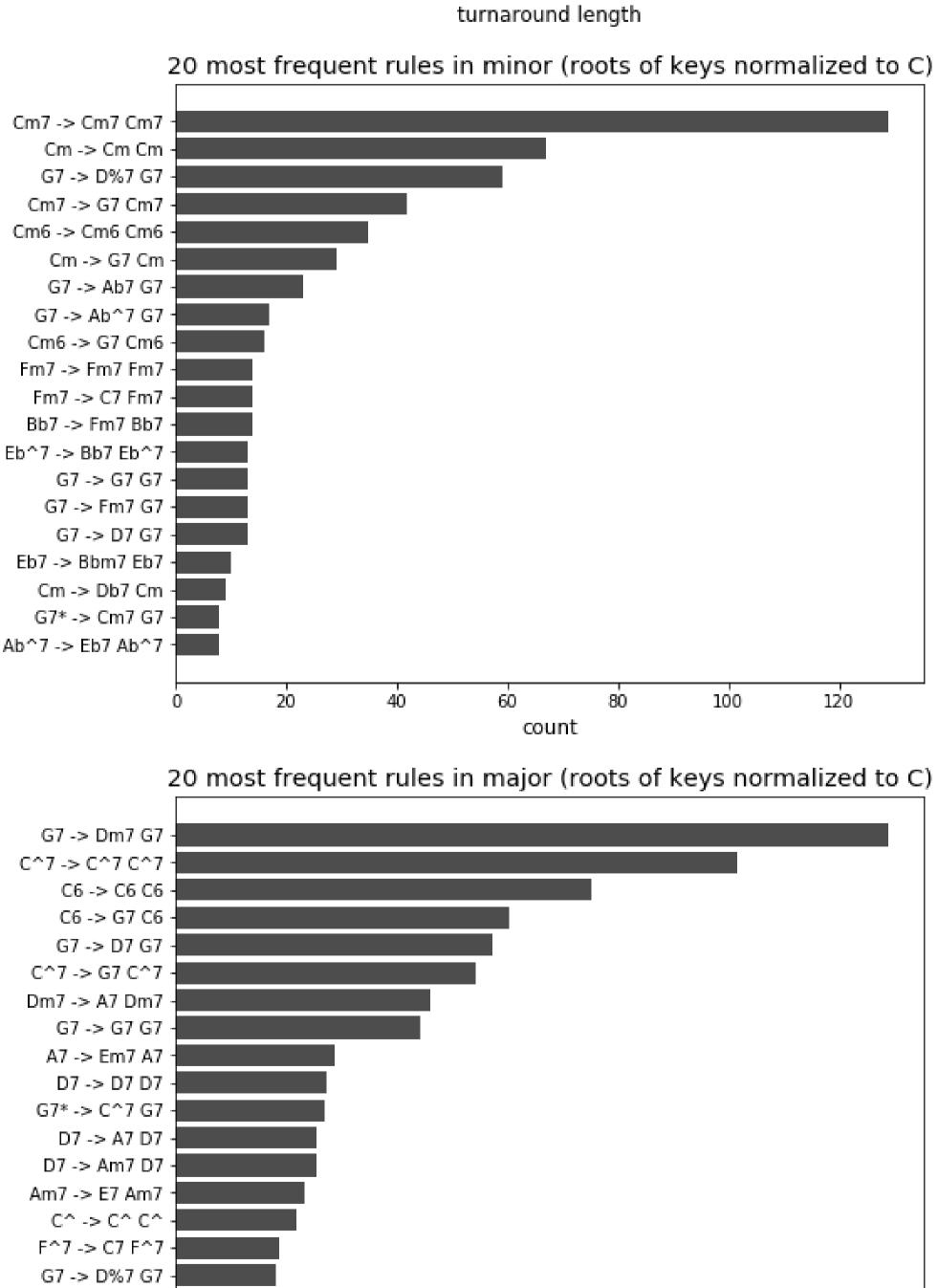
20

count

count

1900





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Cm -> Db7 Cm G7* -> Cm7 G7 Ab^7 -> Eb7 Ab^7 G7 -> Dm7 G7 C^7 -> C^7 C^7 C6 -> C6 C6 C6 -> G7 C6 G7 -> D7 G7 C^7 -> G7 C^7 Dm7 -> A7 Dm7 G7 -> G7 G7 A7 -> Em7 A7 D7 -> D7 D7 G7* -> C^7 G7 D7 -> A7 D7 D7 -> Am7 D7 Am7 -> E7 Am7 C^ -> C^ C^ F^7 -> C7 F^7 -G7 -> D%7 G7 C6 -> C^7 C6 E7 -> B%7 E7 Dm7 -> Dm7 Dm7 50 100 150 200 250 0 count







fruitful discussions.

