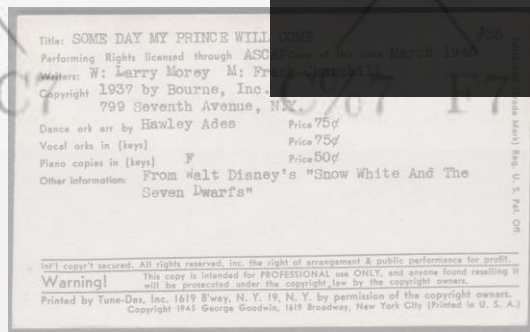


# Analyse et essai de reconstruction de structures arborescentes des grilles de jazz

Patrice THIBAUD, Mathieu GIRAUD



## Which of These Worries Are Yours?

CAN'T FAKE REQUESTS. (*Can't remember pick up or release*)

CAN'T PLAY REQUESTS. (*Not up on your tunes*)

CAN'T FIND PUBLISHERS OF TUNES YOU WANT.

DON'T KNOW IF TUNES ARE ASCAP, BMI, SESAC, etc.

MUST WADE THROUGH FILES OF MUSIC TO ARRANGE A PROGRAM.

MUST DRAG STACKS OF ORKS & PROS WHERE EVER YOU WORK.

WISH YOU COULD GET ADVANCE INFO ON NEW TUNES.

*These Problems Are Simply, Quickly and Completely Solved by*

# TUNE-DEX

*(The Trade Encyclic Music Reference Index)*

If you can show proof of your professional activity in the entertainment field, you can subscribe to this helpful service, at the cost of only a few cents a day. Tune-Dex cards, only 3"x5", detail complete information about each tune—publisher, address, orchestrator, keys, prices, copyright info, etc. and a chorded lead sheet of the chorus.

**FREE**—*Samples of Tune-Dex cards and information.*

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# SOME DAY MY PRINCE WILL COME

Valse moderato

Musical score for the song "Some Day My Prince Will Come". The score is written in treble clef with a key signature of one sharp (F#) and a 2/4 time signature. The tempo is marked "Valse moderato". The lyrics are: "SOME DAY MY PRINCE WILL COME, Some day I'll find my love, And how thrill-ing that mo- ment will be, When the Prince of my dreams comes to me. He'll whis- per 'I love you,' And steal a kiss or two, Though he's far a- way, I'll find my love some day, Some day when my dreams come true." The score includes various chords such as F, A+, Bb, D7, Gm, C7, Ddim, Gm7, F, A7, and Adim. The copyright notice at the bottom reads "Copyright 1937 by Bourne, Inc., N.Y."

Title: SOME DAY MY PRINCE WILL COME #35

Performing Rights licensed through ASCAP Date of this issue March 1945

Writers: W: Larry Morey M: Frank Churchill

Copyright 1937 by Bourne, Inc.

799 Seventh Avenue, N.Y.

Dance ork arr by Hawley Ades Price 75¢

Vocal orks in (keys) Price 75¢

Piano copies in (keys) F Price 50¢

Other information: From Walt Disney's "Snow White And The Seven Dwarfs"

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Copyright 1945 George Goodwin, 1619 Broadway, New York City (Printed in U. S. A.)

TUNEDEX (Trade Mark) Reg. U. S. Pat. Off.

## Grilles et structures arborescentes



## Corpus

- des *Tune-dex* aux *Real Books*
- ... aux forums spécialisés
- *Shanahan et Broze (2013)*
- 1160 morceaux / 50 ans

```
!!!OTL: Birk's Works
!!!COM: Gillespie, Dizzy
!!!ODT: 1956
**jazz
*M4/4
*f:
1F:min6
=
2Gh7
2C7b9
=
1F:min6
```

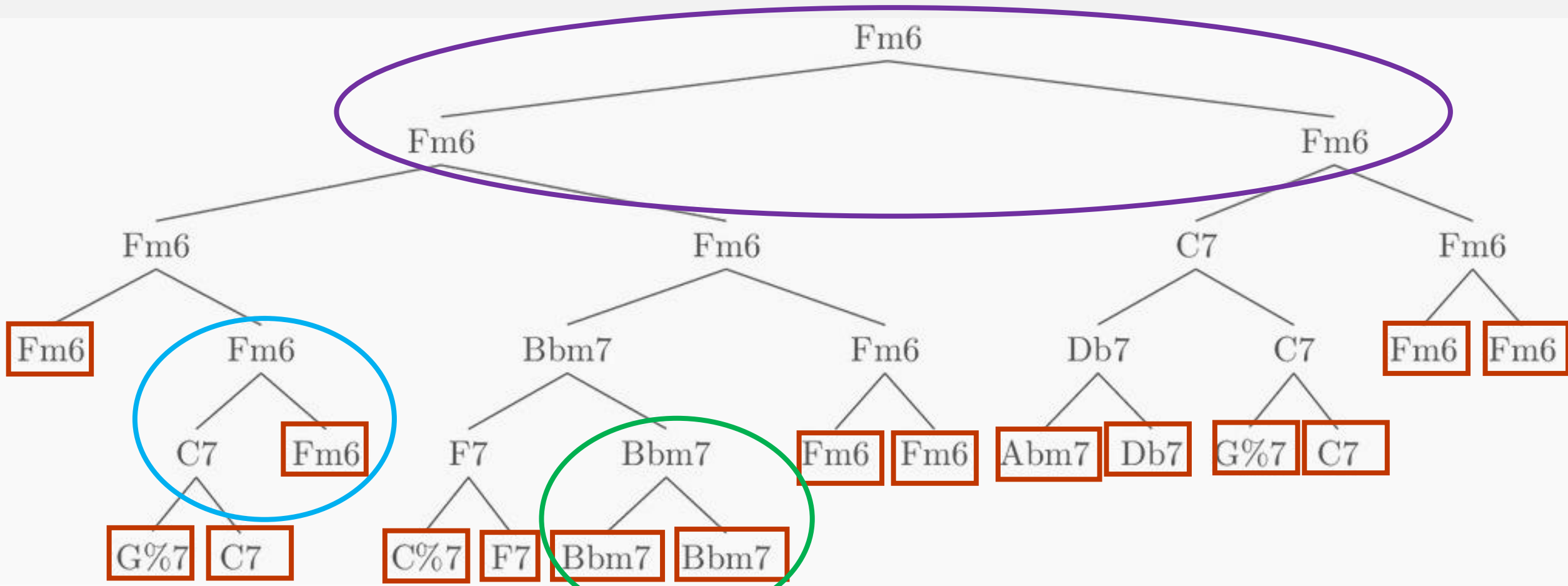


Birk's Works  
(Up Tempo Swing)

Birk's Works		Dizzy Gillespie	
$\frac{4}{4}$   $F_{m6}$	$G_{\emptyset 7}$   $C_{7b9}$   $F_{m6}$	$C_{\emptyset 7}$   $F_{7b9}$	
$B^b_{m7}$	$\%$	$F_{m6}$	$\%$
$A^b_{m7}$   $D^b_7$	$G_{\emptyset 7}$   $C_{7b9}$   $F_{m6}$	$\%$	

**BIRKS  
WORKS  
BIRKS  
WORKS**

**The  
Verve  
Big-Band  
Sessions**

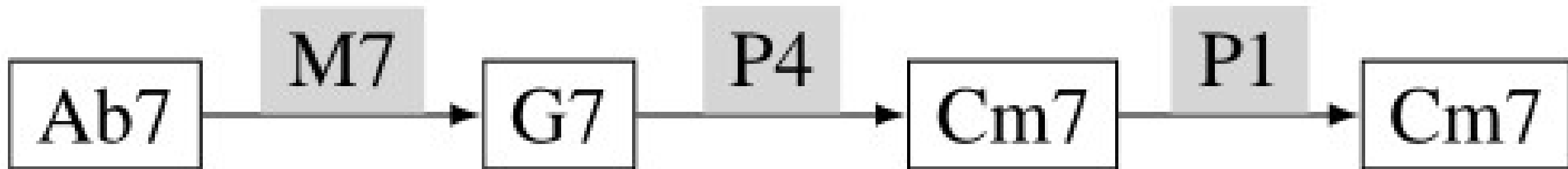


$\frac{4}{4} F_{m6}$  |  $G_{\emptyset 7} C_{7b9} F_{m6}$  |  $C_{\emptyset 7} F_{7b9} B_{m7}^b$  |  $\% F_{m6}$  |  $\% A_{m7}^b D_7^b$  |  $G_{\emptyset 7} C_{7b9} F_{m6}$  |  $\%$

## JHT : Jazz Harmony Treebank

- *Harasim, Rohrmeier et al. (ISMIR 2020)*
- 150 grilles arborescentes
- analyse humaine
- Format JSON

```
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  { "label": "Fm6", "children": [
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      { "label": "Db7", "children": [
        { "label": "Abm7", "children": [] },
        { "label": "Db7", "children": [] } ] } ],
    { "label": "C7", "children": [
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      { "label": "C7", "children": [] } ] } ] } ],
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```



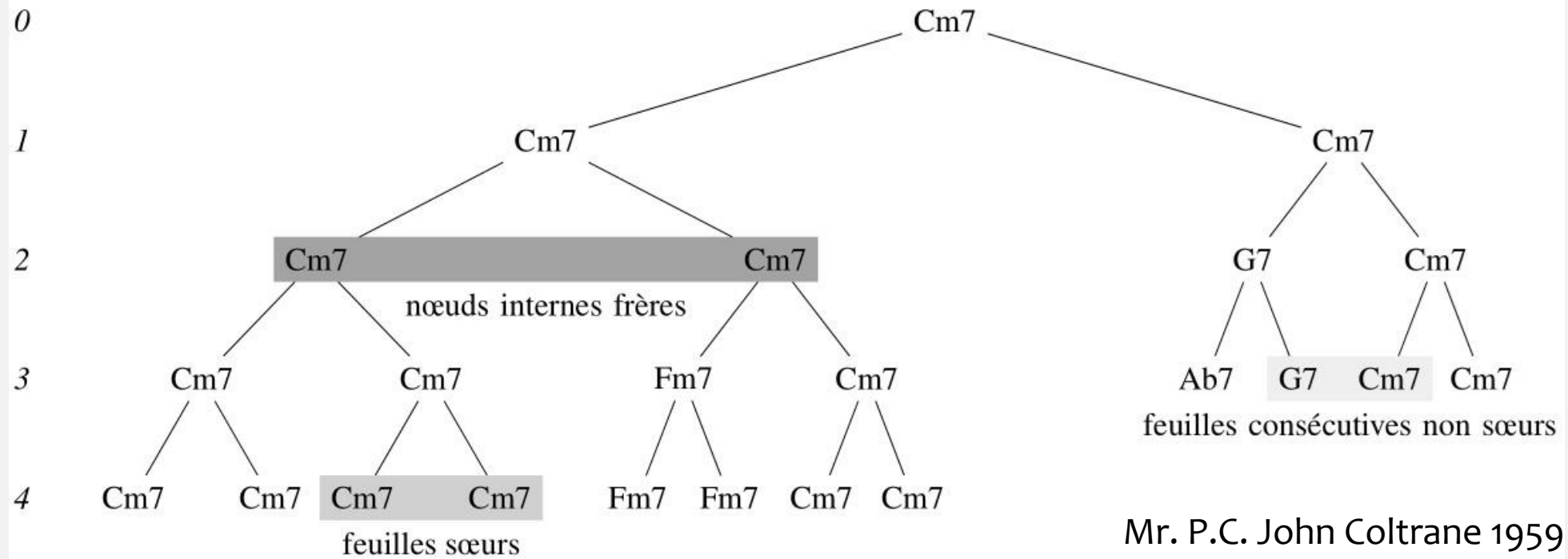
JOHN COLTRANE GIANT STEPS



Progressions d'accords et arbres



# Mouvements harmoniques



- *Feuilles de l'arbre et grille*

- P1 consécutifs fréquents
- Cycle de quintes

- *Nœuds internes et structure à plus haut niveau*

- Prolongations fortes des P1
- Tonique : racine de l'arbre

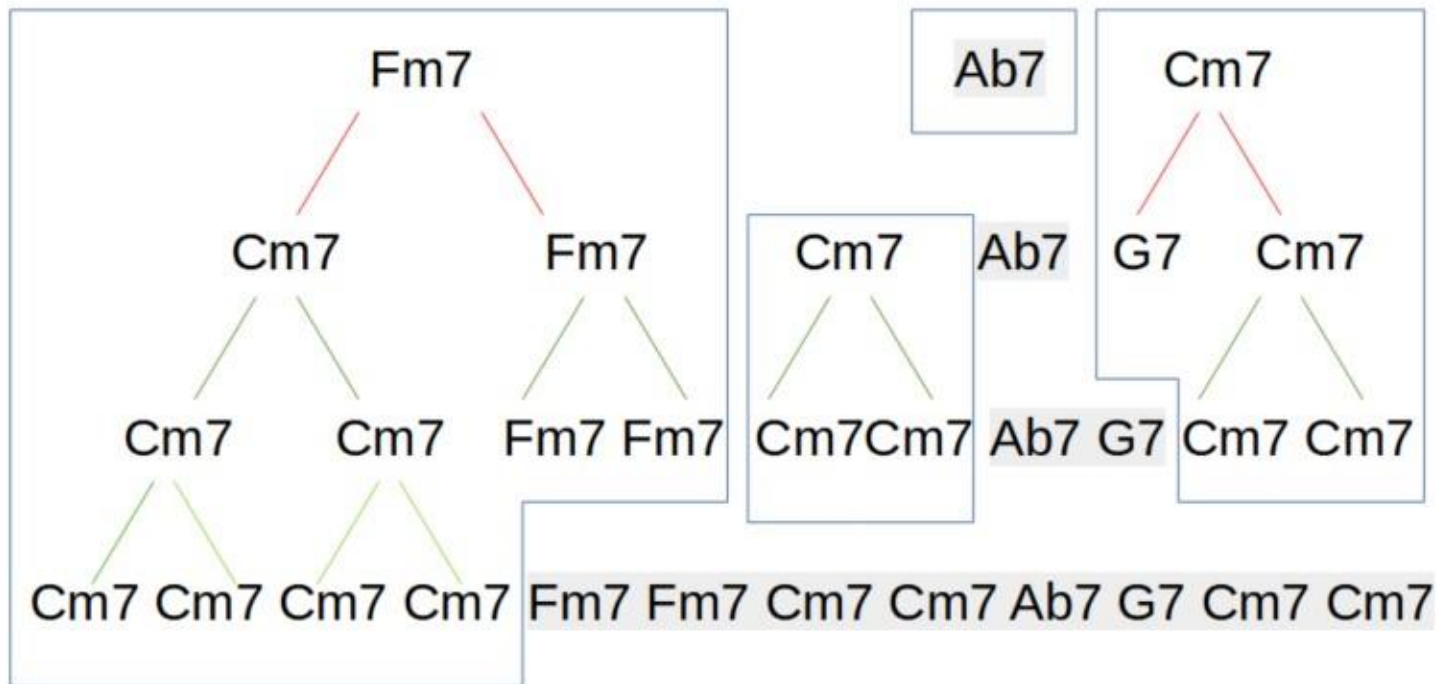
intervalles	P1	P4	M7
feuilles consécutives	24.0	<b>44.0</b>	5.8
feuilles sœurs	<b>43.5</b>	<b>43.0</b>	5.6
nœuds internes frères	33.5	<b>46.5</b>	6.0
profondeur 1	<b>90.0</b>	4.7	–
profondeur 2	<b>49.6</b>	<b>37.6</b>	1.8
profondeur 3	<b>43.1</b>	<b>33.4</b>	6.2
profondeur $\geq 4$	27.5	<b>51.7</b>	6.7



.....

P4

P1\*



- Entrées : grille / scénario
- Sortie : arbre complet ou sous-arbres

- scénario 1 : P1\*, P4, P1\*
- scénario 2 : P1\*, P4, P1\*, P4, P1\*, [P5, M2, M6], P1\*
- scénario 3 : P1\*, P4, M7, P1\*, P4, [P5, M2, M6], P1\*, P4, P1\*
- scénario 4 : P1\*, P4, M7, P1\*, P4, [P5, M2, M6], OTHERS, P1\*, P4, P1\*

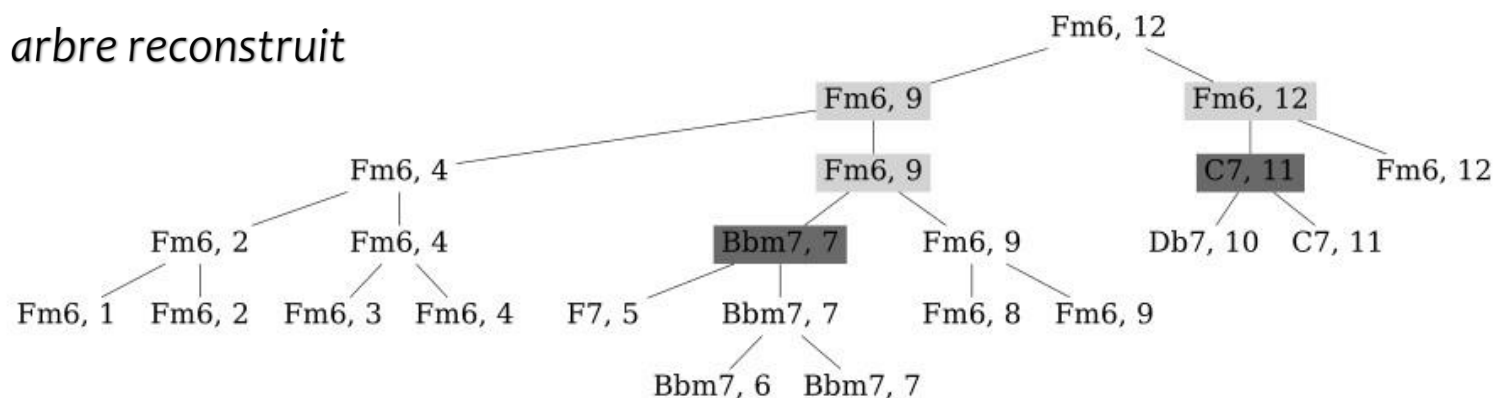
# Vers une reconstruction ...

## Evaluation

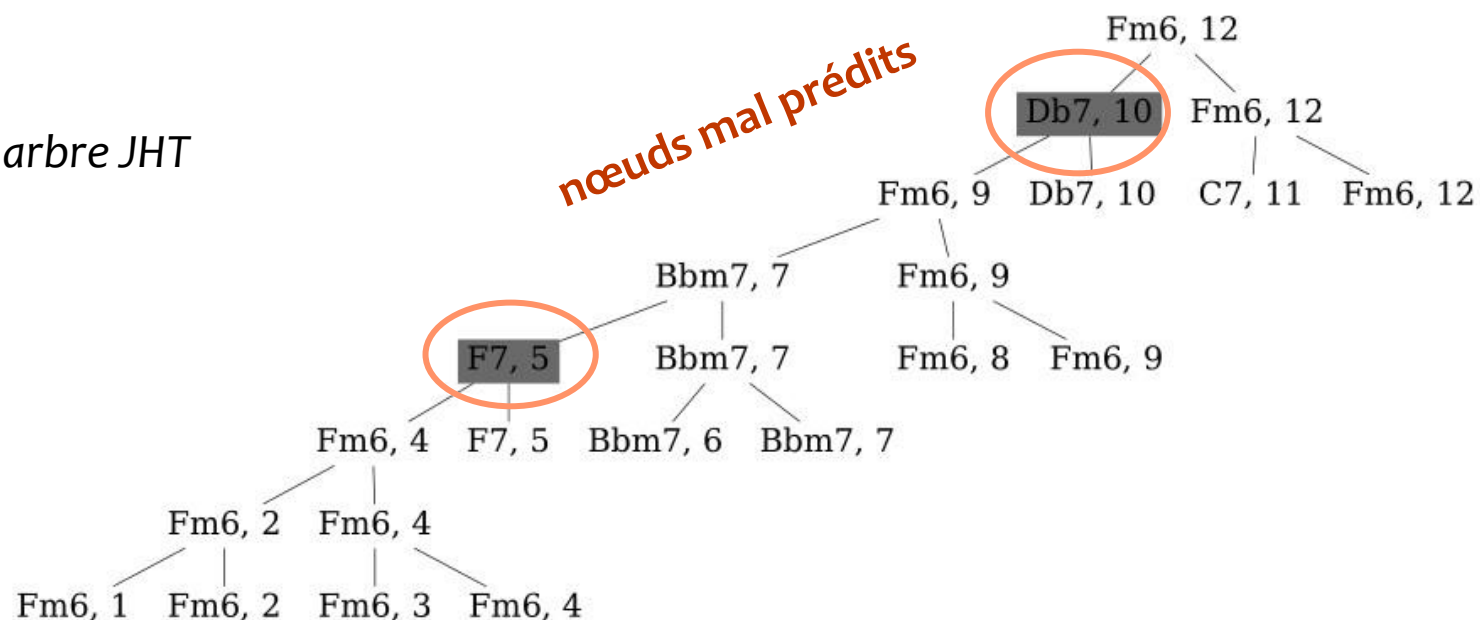
- Comparaison avec JHT
- Remontée des positions des feuilles
- Nœuds bien/mal prédits

scénario	precision moyenne	sensitivité moyenne
1	0.78	0.56
2	0.72	0.60
3	0.72	0.64
4	0.69	0.68

arbre reconstruit



arbre JHT



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Perspectives

Fm6, 4

Fm6, 9

Fm6, 12

Fm6, 9

Fm6, 9

Db7

Fm6, 8

Fm6, 9

Bbm7, 6

Bbm7, 7