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Does French have theme vowels?



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## 1. Introduction

# 1. Introduction

- Compared with other Romance languages the morphological structure of inflected forms is less “transparent” in French.
- For instance, there are no nominal class markers in the classical Romance sense and nominal plural is not expounded (at least not in isolation, cf. liaison).

Sp. *chic-a-s* [tʃik-a-s]      vs.      Fr. *filles* [fij]

- One central question with respect to verbal inflection is whether or not French still has Theme Vowels (ThV).

Sp. *cant-a-s* [kant-a-s]      vs.      Fr. *chantes* [ʃät]

- Does French have ThVs?
  - (i) yes, albeit not in the Spanish, Italian or Catalan way;
  - (ii) no, what seems to be a ThV is either part of the stem or part of the ending.
- We will discuss these two possibilities and try to find an answer to the question.

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# 1. Introduction

Based on the form of the infinitive, Modern French verbs are traditionally divided into three conjugation classes (CC):

1 <sup>st</sup> CC	2 <sup>nd</sup> CC	3 <sup>rd</sup> CC
<ul style="list-style-type: none"> <li>○ infinitive in <b>-er</b> [-e<sup>r</sup>], e.g. <i>aimer</i> [ɛme] (exception: <i>aller</i>)</li> <li>○ productive</li> <li>○ 90% of all French verbs</li> <li>○ Contains mainly regular verbs, i.e. verbs have one single stem for all tense forms.</li> <li>○ Only a few verbs show stem allomorphy (e.g. <i>lever</i> [lɛ.ve<sup>r</sup>] vs. <i>lève</i> [lɛv]) which count as phonologically predictable changes (cf. Meunier &amp; Marslen-Wilson 2004).</li> </ul> <p>➔ The unmarked CC</p>	<ul style="list-style-type: none"> <li>○ Infinitive in <b>-ir</b> [-ir].</li> <li>○ Verbs have a short and a long or extended stem: <i>fini-</i> [fini] vs. <i>fini-ss-</i> [fini<sup>s</sup>]</li> <li>○ Fully regular (according to Gertner 1973:19 even more regular than the 1<sup>st</sup> CC).</li> <li>○ 2,8% of all French verbs</li> <li>○ Is generally considered to be no longer productive.</li> </ul> <p>➔ More marked than 1<sup>st</sup> CC</p>	<ul style="list-style-type: none"> <li>○ Infinitive endings: <i>romp-<b>re</b></i> ‘to break’, <i>pein-<b>dre</b></i> ‘to paint’, <i>voul-<b>oir</b></i> ‘want to’, <i>dorm-<b>ir</b></i> ‘to sleep’ (without -ss-extension) <i>all-<b>er</b></i> ‘to go’</li> <li>○ Many irregular verbs:           <ul style="list-style-type: none"> <li>(i) stem<sub>irreg</sub> + ending<sub>reg</sub> e.g. <i>mourir</i> ‘to die’</li> <li>(ii) whole form is affected from the irregularity (suppletion) e.g. <i>être</i> vs. <i>sommes</i></li> </ul> </li> <li>○ Unproductive</li> </ul> <p>➔ Marked CC</p>

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# 1. Introduction

Dubois (1966) turns away from the diachronically motivated classification along the form of the infinitive.

He proposes instead a classification based on the number of stems.

- One stem: *chanter* (*chant-*)
- Two stems: *écrire* (*écri-, écriv-*)
- Three stems: *plaindre* (*plain-, plaign-, plaind-*)
- Four stems: *connaître* (*connai-, connaiss-, connaît-, conn(u)-*)
- Five stems: *vouloir* (*veu-, voul-, veul-, voud-, veuill-*)
- Six stems: *pouvoir* (*peu-, pouv-, peuv-, puiss-, pour-, p(u)-*)

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# 1. Introduction

## Research questions concerning the French conjugation we are interested in

- Are French verbs segmentable? If yes, into how many constituents?
- Does French have Theme Vowels (ThVs)?
- And if so, which form does the French theme “vowel” – or maybe better, theme extension – have?
- Which verbal form should be considered to define Conjugation Classes (CC)? The infinitive or other forms of the paradigm?
- How does the hierarchical organization of the CC system look like in French?
- Does French have thematic and athematic CC or are all CC thematic allowing athematic forms (cf. e.g. Spanish)?

## Preview of our ideas

- Based on the paradigm (not the infinitive!) we will show that French has thematic and athematic conjugation classes.
- The hierarchical organization of the CC system in French is more complex than in the other Romance languages.
- Thematic: I *aimer*, IIa *finir*; athematic: IIb *partir*, III *vendre* and IV residue
- ThV are thus not verbalizers (cf. Kayne 2016, Fábregas 2017), but ornamental morphemes (cf. Oltra-Massuet 1999).

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# 1. Introduction

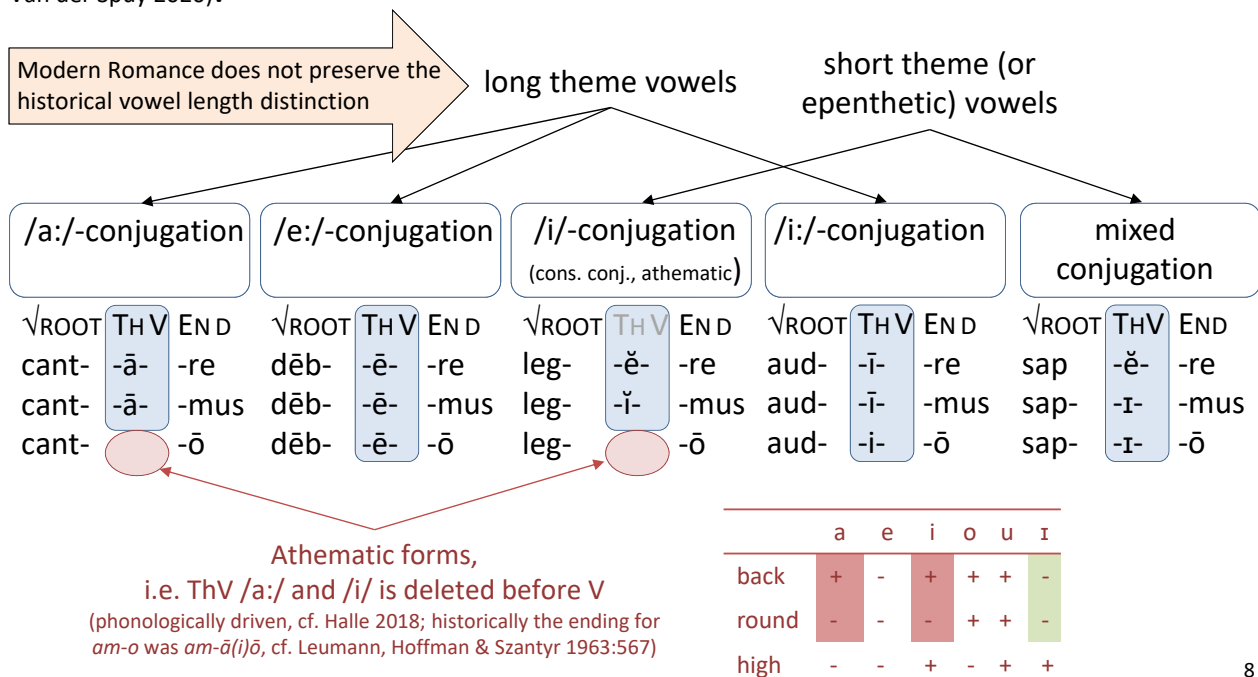
## Outline of the talk

1. Introduction
- 2. Romance conjugation classes**
  - 2.1 From Latin to Romance
  - 2.2 Challenges with respect to French conjugation classes
3. Psycholinguistics evidence for French theme vowels?
4. A mixed system: Thematic and athematic conjugation classes
  - 4.1 Proposal for an analysis (work in progress)
  - 4.2 Theoretical considerations
5. Conclusions

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## 2. Romance conjugation classes

In Latin, verbs are classed into **four** or **five** conjugations distinguished by theme vowels (ThVs) which appear between the root and the inflectional ending (Halle 2018, Van der Spuy 2020).



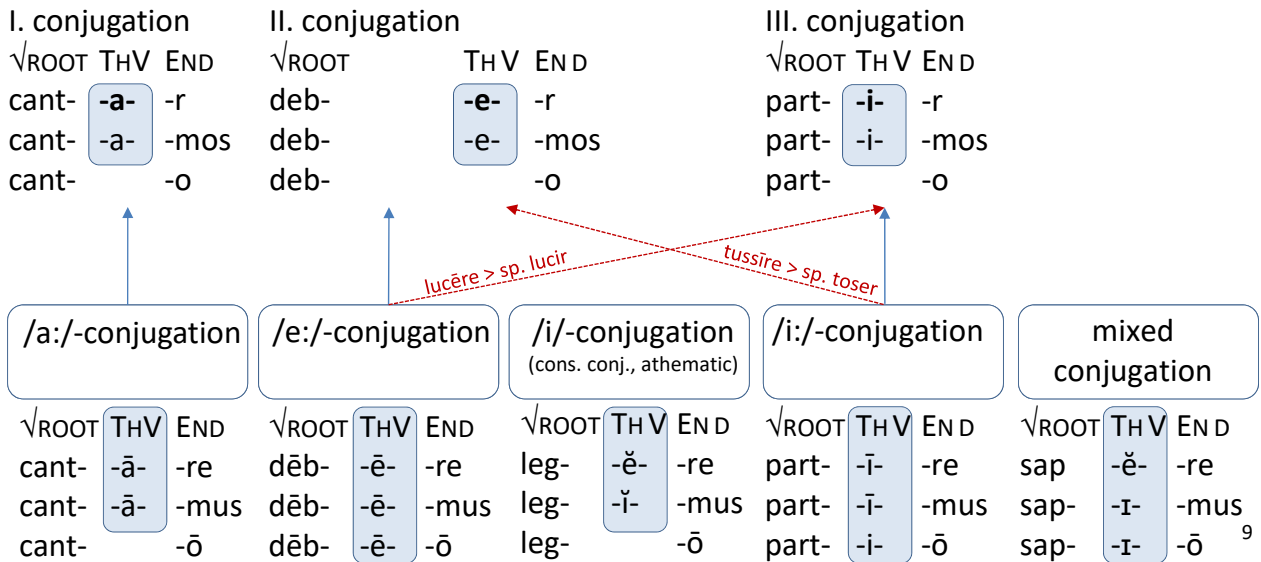
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## 2.1 From Latin to Romance

Obviously, the loss of phonemic vowel length directly impinged on the evolution of the conjugation classes of the Romance languages.

All Romance languages have reduced the Latin conjugation class system, albeit with different results.

**SPANISH** (ThV is stressed in the Infinitive)

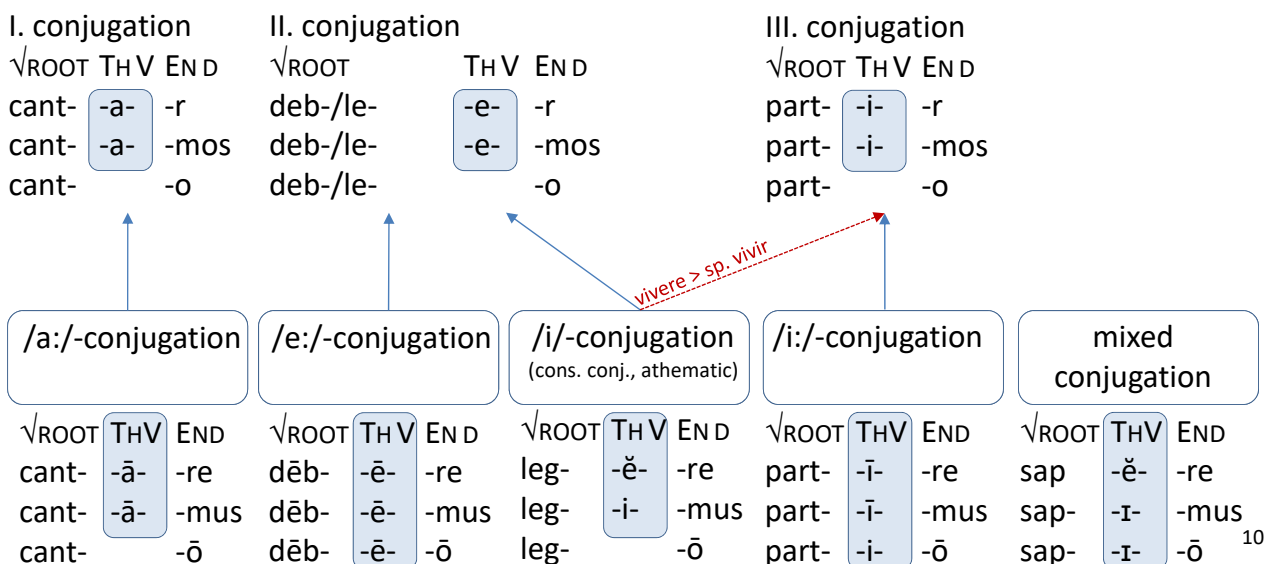


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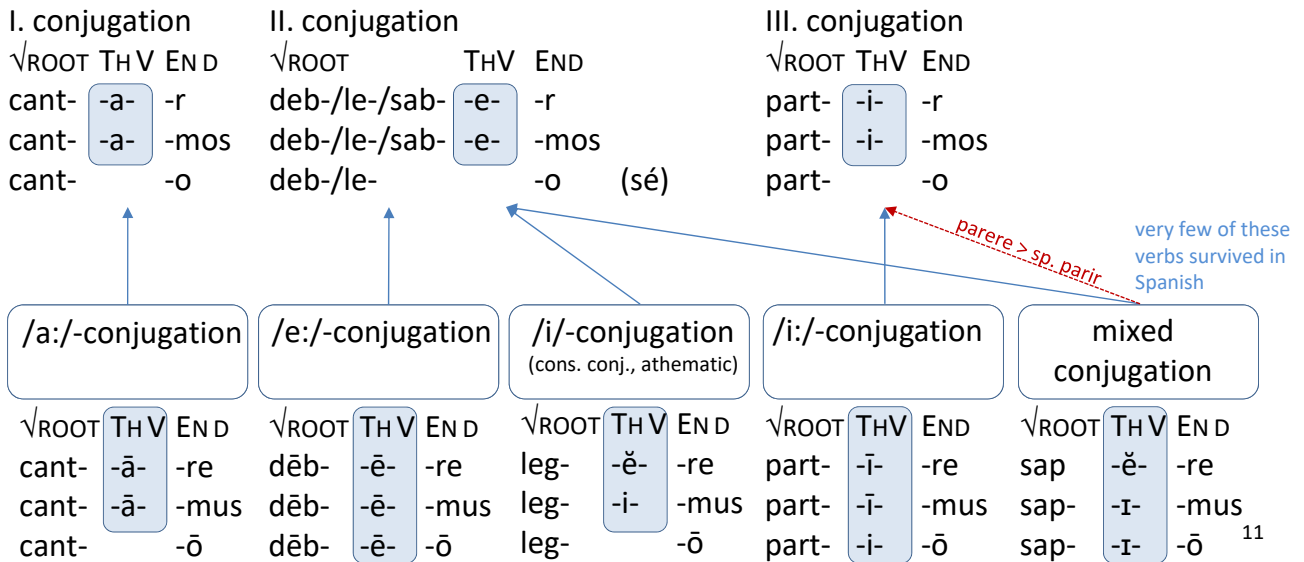
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Obviously, the loss of phonemic vowel length directly impinged on the evolution of the conjugation classes of the Romance languages.

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In Spanish, all CC are thematic, though they admit athematic verbal forms.

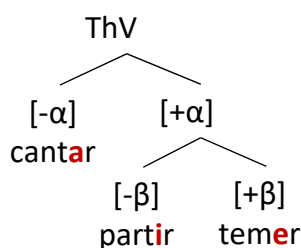
### SPANISH



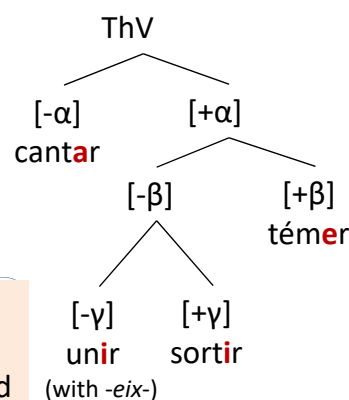
## 2.1 From Latin to Romance

- Despite many diachronic and synchronic difference, Spanish, Catalan and Italian have clearly preserved thematic conjugation systems.
- Additionally, in all these languages the respective conjugation classes are not equally productive, not equally regular and they also have different sizes.
- What is more, conjugation class oppositions may be neutralized.
- Oltra-Massuet (1999, 2000) argues that theme vowels are bundles of subatomic abstract features organized in a markedness hierarchy or feature geometry:

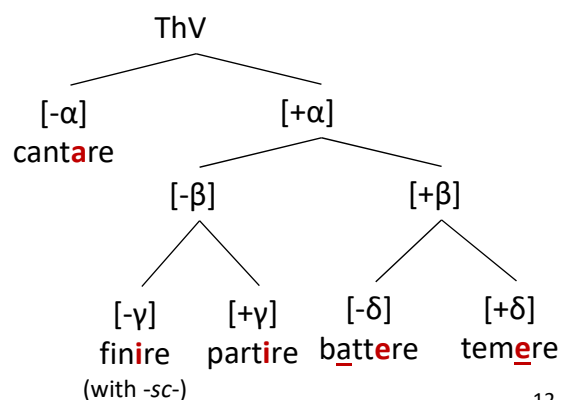
### SPANISH



### CATALAN (Oltra Massuet 2000:287)



### ITALIAN (based on Napoli & Vogel 1990)



#### Similarities

- Theme Vowels: -a, -e, -i
- a-conjugation unmarked

## 2.1 From Latin to Romance

- In French, ThVs, in contrast, have developed very differently.
- Infinitive forms:

	French	diverging proposals	general rule (not exceptionless)
Lat. am-ā-re >	aimer	[ɛm-e- <sup>r</sup> ] or [ɛm-e <sup>r</sup> ]	Latin -ā- developed to -e-
Lat. sent-ī-re >	sentir	[sǎnt-i-r] or [sǎnt-ir]	Latin -ī- “remained” -i-
Lat. val-ē-re >	valoir	[val-wa-r] or [val-war]	ē diphthongizes to [wa] (“thematic diphthong”)
Lat. scrib-ě-re >	écrire	[ekri-r]	ě (or rather /i/) is “lost” (= athematic)

(cf. a.o. Foley 1979: 135)

- Finite forms:

	aimer		sentir		valoir		écrire	
1sg	aime	[ɛm]	sens	[sǎn- <sup>r</sup> ]	vaux	[vo- <sup>r</sup> ]	écris	[ekri- <sup>r</sup> ]
1pl	aimons	[ɛm- <sup>ʒ</sup> ]	sentons	[sǎnt- <sup>ʒ</sup> ]	valons	[val- <sup>ʒ</sup> ]	écrivons	[ekriv- <sup>ʒ</sup> ]

- Many finite forms are, at least superficially, **athematic**.
- Are we dealing with athematic forms or athematic conjugation classes?
- Which verbal forms are indicative for theme vowels and conjugation classes? Is it really the infinitive?

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## 2.2 Challenges with respect to French CC

- There is no consensus at all in the literature with respect to the suffixes of the infinitive.
- There are several proposals and up to 6 “different” endings are assumed (cf. El Fenne 1994:109 as well as Paradis & El Fenne 1992):

authors	proposed suffixes					
Michaut (1934), Dupuis (1935), Larousse (1936), Grevisse (1969)	-er	-ir <sup>1</sup>	-ir <sup>2</sup>	-oir	-re <sup>1</sup>	-re <sup>2</sup>
Schane (1968)	-e	-ir <sup>1</sup>	-ir <sup>2</sup>	-r <sup>1</sup>	-r <sup>2</sup>	-r <sup>3</sup>
<b>(i)</b> Paradis & El Fenne (1992)	-e <sup>r</sup>	-r	-ir	-oir	-tr/dr	
<b>(ii)</b> Csécsy (1968), Martinet (1969)	-e	-r <sup>1</sup>	-r <sup>2</sup>	-r <sup>3</sup>	-r <sup>4</sup>	
Van den Eynde & Blanche-Benveniste (1970)	-er	-r <sup>1</sup>	-r <sup>2</sup>	-r <sup>3</sup>	-r <sup>4</sup>	-r <sup>5</sup>
Pinchon & Coute (1981), Plénat (1981)	-e	-r <sup>1</sup>	-r <sup>2</sup>	-r <sup>3</sup>	-r <sup>4</sup>	-r <sup>5</sup>

- How come? The “outcome” of the former Lat. theme vowels is
  - (i)** either attributed to the verb ending
  - (ii)** or it is added to the root (i.e. root + ThV) to form a stem (or it is seen as part of a non-divisible stem)

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## 2.2 Challenges with respect to French CC

- Those who assume that the Theme Vowel is part of the stem (or theme) have proposed a “twofold” distinction for the infinitive (e.g. Martinet 1969, Van den Eynde & Blanche-Benveniste 1970, Pinchon & Coute 1981, Plénat 1981):

Classification based on the infinitive ending (IS = inflectional suffix)				
	stem		IS	
a.	[εm-	(-ə-)*	-e]	1 <sup>st</sup> CC, <i>aimer</i> (with Theme Vowel)
b.	[fin-	-i-	-r]	2 <sup>nd</sup> CC, <i>finir</i> (with ThV and Th-extension)
c.	[part-	-i-	-r]	3 <sup>rd</sup> CC, <i>partir</i> (with Theme Vowel)
d.	[di-		-r]	3 <sup>rd</sup> CC, <i>dire</i> (athematic)
e.	[ku-	-d-	-r]	3 <sup>rd</sup> CC, <i>coudre</i> (Theme Consonant)
f.	[vul-	-wa-	-r]	3 <sup>rd</sup> CC, <i>vouloir</i> (Theme Diphthong)

- 1<sup>st</sup> CC has the infinitive ending [-e] (or [-eʀ])
- [-r] = elsewhere

\* Schwa is, at least, assumed in the singular forms of the present indicative as well as in the future and conditional.

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## 2.2 Challenges with respect to French CC

- In this approaches, the verb stem is generally further segmented into  $\sqrt{\text{ROOT}}$  and theme vowel.
- Those who maintain this segmentation have to explain, among other things, which theme vowel is combined with which  $\sqrt{\text{ROOT}}$ .

Classification based on the infinitive ending (IS = inflectional suffix)				
	stem		IS	
a.	[εm-	(-ə-)	-e]	1 <sup>st</sup> CC, <i>aimer</i> (with Theme Vowel)
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f.	[vul-	-wa-	-r]	3 <sup>rd</sup> CC, <i>vouloir</i> (Theme Diphthong)

- Standardly, verbs of the 1<sup>st</sup>, the 2<sup>nd</sup> and some of the 3<sup>rd</sup> conjugation are considered to be **thematic** in many traditional works.
- Whereas other 3<sup>rd</sup> CC verbs (e.g. *dire*, *vivre*) are analyzed as **athematic**.
- Evidence for assuming a ThV for the 1<sup>st</sup> CC: [ə] prevents deletion of root final consonants.

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## 2.2 Challenges with respect to French CC

- Evidence for assuming a ThV for the 1<sup>st</sup> CC: [ə] prevents deletion of root final consonants.

### Athematic verbs (e.g. *vivre*)

√	φ <sub>1PL</sub>	√	φ <sub>2SG</sub>	√	φ
<i>viv-</i>	<i>-ons</i>	<i>vi-</i>	<i>-s</i>	<i>*viv-</i>	<i>-s</i>
<i>viv</i>	<b>ʒ</b>	<i>vi</i>	(z)	<i>viv</i>	(z)
	↓		↓		
	[vi.vʒ]		[vi]		*[viv]

The stem final consonant of athematic *viv(re)* (3<sup>rd</sup> CC) is maintained before V, but is deleted before a following consonant (*tu vis* [vi-(z)] 'I live' not *\*tu vivs* [viv-(z)]).

### Thematic verbs (e.g. *arriver*)

√	φ <sub>1PL</sub>	√	ThV	φ <sub>2SG</sub>	√	φ
<i>arriv-</i>	<i>-ons</i>	<i>arriv-</i>	<i>-e-</i>	<i>-s</i>	<i>*arri-</i>	<i>-s</i>
<i>aʁiv</i>	<b>ʒ</b>	<i>aʁiv</i>	<b>ə</b>	(z)	<i>aʁi</i>	(z)
	↓		↓			
	[a.ʁi.vʒ]		[a.ʁiv]			*[a.ʁi(z)]

The stem final consonant of thematic *arriv(er)* is not deleted: *tu arrives* [aʁiv-(z)] 'you<sub>sg</sub> arrive' not *\*tu arri* [aʁi-(z)]. The theme vowel [ə], which does not surface, blocks consonant deletion (cf. /aʁiv+(ə)+(z)/).

Alternative analyses for the C/∅ alternation:  
 (a) different stems (see below) and  
 (b) consonant epenthesis

## 2.2 Challenges with respect to French CC

- What is the relation between Conjugation Class and ThV?

Classification based on the infinitive ending (IS = inflectional suffix)			
	stem	IS	
a.	[ɛm- (-ə-)]	-e]	1 <sup>st</sup> CC, <i>aimer</i> (with Theme Vowel)
b.	[fin- -i-]	-r]	2 <sup>nd</sup> CC, <i>finir</i> (with Th-extension)
c.	[par <sup>t</sup> - -i-]	-r]	3 <sup>rd</sup> CC, <i>partir</i> (with Theme Vowel)
d.	[di <sup>z</sup> -	-r]	3 <sup>rd</sup> CC, <i>dire</i> (athematic)
e.	[ku <sup>z</sup> - -d-	-r]	3 <sup>rd</sup> CC, <i>coudre</i> (Theme Consonant)
f.	[vul- -wa-	-r]	3 <sup>rd</sup> CC, <i>vouloir</i> (Theme Diphthong)

- 1st CC has the Theme Vowel [ə];
- 2nd CC has the Theme Vowel [i] which is extended in some forms by -ss-;
- 3rd CC is completely heterogeneous, i.e. subclasses or special (readjustment) rules have to be assumed.

## 2.2 Challenges with respect to French CC

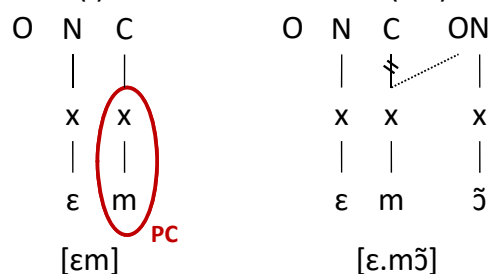
- In contrast, El Fenne (2020) a.o. assign what may be analyzed as theme vowel to a non-segmentable stem and/or to the ending.
- She proposes in the first place a classification based on whether or not the verb stem ends in a **permanent consonant** (PC) or in a **floating consonant** (FC).

### Stems with PC

Stem final permanent consonants are never affected from consonant deletion, i.e. irrespective of the following element, they are phonetically realized.

#### Example:

*aime* '(I) love' vs. *aimons* '(we) love'

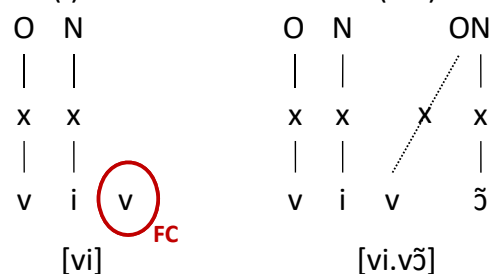


### Stems with FC

Stem final floating consonants (annotated as superscript consonants) are realized only if they can be linked with the onset position of a following vocalic element.

#### Example:

*vis* '(I) live' vs. *vivons* '(we) live'



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## 2.2 Challenges with respect to French CC

### Distribution and productivity of the CC

Conjugation Class	Number of verbs	Percent	Productivity
<b>AIMER</b>	<b>11.294</b>	<b>94%</b>	<b>highly productive</b>
subclass with stem ending PC	10.807	90%	<i>zoomer, budgéter</i> etc. (Bescherelle 2019: 151)
subclass with stem ending V	487	4%	
<b>FINIR</b>	<b>331</b>	<b>2,8%</b>	<b>only a few recent newcomers</b>
All of them ending in FC [S]			<i>alunir atterrir, amerrir</i> (Bescherelle 2019: 151)
<b>PARTIR</b>	<b>86</b>	<b>0,8%</b>	<b>not productive</b>
subclass with stem ending PC	30	0,3%	<i>cueillir</i>
subclass with stem ending FC	56	0,5%	
<b>OTHERS</b>	<b>289</b>	<b>2,4%</b>	<b>not productive</b>
<i>vendre / croître / coudre ...</i>	143	1,2%	
<i>dire ...</i>	125	1%	
<i>pouvoir, vouloir ...</i>	21	0,2%	
<b>SUM</b>	<b>12.000</b>	<b>100%</b>	

(based on Paradis & El Fenne 1995:198-199, with numbers from Bescherelle 1985)

## 2.2 Challenges with respect to French CC

- How does this assumption affect the conjugation classes?

(2) Twofold classification based on the verb stem (El Fenne 1994, 2020)			
	stem	IS	
a.	[εm-	-e <sup>r</sup> ]	aimer (PC)
b.	[fini <sup>s</sup> -	-r]	finir (FC)
c.	[par <sup>t</sup> -	-ir]	partir (FC)
d.	[di <sup>z</sup> -	-r]	dire (FC)
e.	[ku <sup>z</sup> -	-Tr]	coudre (FC)
f.	[vu <sup>l</sup> -	-war]	vouloir (FC)

- 1<sup>st</sup> conjugation verbs have a stem final permanent consonant.
- All other verbs (exception: vocalic endings) have (with maybe minor exceptions) stem final floating consonants.
- This classification with respect to the verb stems goes hand in hand with a complication of the inf. endings: El Fenne (2020) assumes 6 endings for the infinitive.
- Problem:**  
From her analysis, it is not clear how the stems are combined with the corresponding endings.  
Probably she has to assume special (readjustment) rules that are as complex as the ones in the analysis mentioned before.

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## 2.2 Challenges with respect to French CC

- In sum, both approaches have, in our opinion, the same basic problem: How is the combination root-ThV or stem-ending explained?

Others				El Fenne (1994, 2020)			
	stem	IS		stem	IS		
a.	[εm-	(-ə-)	-e]	a.	[εm-	-e <sup>r</sup> ]	aimer (PC)
b.	[fin-	-i-	-r]	b.	[fini <sup>s</sup> -	-r]	finir (FC)
c.	[par <sup>t</sup> -	-i-	-r]	c.	[par <sup>t</sup> -	-ir]	partir (FC)
d.	[di <sup>z</sup> -	-r]	-r]	d.	[di <sup>z</sup> -	-r]	dire (FC)
e.	[ku <sup>z</sup> -	-d-	-r]	e.	[ku <sup>z</sup> -	-Tr]	coudre (FC)
f.	[vu <sup>l</sup> -	-wa-	-r]	f.	[vu <sup>l</sup> -	-war]	vouloir (FC)

- There are, however, important differences with respect to the segmentation.
- In more traditional approaches, the stem is further segmented into root and ThV (or Th-diphthong or ThC), whereas it is considered to be one single unit in the proposal of El Fenne (2020).
- What we might analyze as ThV, is either part of the stem (cf. *fini-r*) or part of the ending (cf. *dorm-ir*) in her proposal.
- Is there evidence for a fine-grained segmentation or are French verbs only segmentable in stem and ending?

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- 3. Psycholinguistics evidence for French theme vowels?**
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## 3. Psycholinguistics evidence for theme vowels

- There are several psycholinguistic studies on how stems and conjugation classes are mentally represented and processed in French.
- Meunier & Marslen-Wilson (2004) show, e.g., that regular verbs, verbs with morphophonologically predictable allomorphy and even idiosyncratic verbs are decomposed for lexical access, i. e. word recognition seems to be morpheme based.
- Furthermore, Estivalet & Meunier (2015a/b, 2016) show that stems that contain a ThV are **fully decomposed into root and ThV**.
- If they are right, their results are (may be) a central argument against El Fenne (1994, 2020) since she does neither assume ThV nor decomposable stems.

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### 3. Psycholinguistics evidence for theme vowels

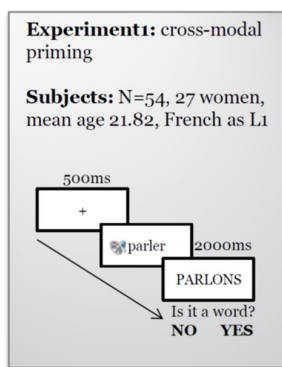
- o Estivalet & Meunier (2015a/b, 2016) conducted two priming experiments.

#### Cross-modal priming experiment

- (i) a fixation point was displayed on the center of the screen;
- (ii) an auditory prime was played;
- (iii) a visual target was displayed.

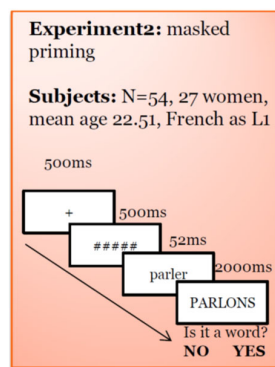
#### Masked priming experiment

- (i) a fixation point was displayed;
- (ii) visual mask with 10 hash marks was displayed;
- (iii) visual prime was displayed;
- (iv) the visual target was displayed on the center of the screen.



(Estivalet & Meunier 2015)

**Basic assumption:**  
The response (or reaction) with respect to the target is (positively or negatively) influenced by the prime.



(Estivalet & Meunier 2015)

### 3. Psycholinguistics evidence for theme vowels

- o Estivalet & Meunier (2015 a/b, 2016) considered three different conditions in their experiments:

Type	Prime	Target	Priming prediction
(1) identity	<i>parlons</i>	<i>parlons</i>	full priming with identical prime
(2) control	<i>aimer</i>	<i>parlons</i>	no priming with different verb.INF
(3) test	<i>parler</i>	<i>parlons</i>	full, partial or no priming?

- o They tested 6 verb types:

Verb type	Control	Test	Identity	Target
(1) 1st eE	<i>peser</i>	<i>lever</i>	<i>lèvent</i>	LEVENT
(2) 1st [-er]	<i>aimer</i>	<i>parler</i>	<i>parlons</i>	PARLONS
(3) 3rd [-ir]	<i>ouvrir</i>	<i>dormir</i>	<i>dormons</i>	DORMONS
(4) 3rd [-dre]	<i>prendre</i>	<i>vendre</i>	<i>vendons</i>	VENDONS
(5) 3rd [-ire]	<i>construire</i>	<i>écrire</i>	<i>écrivons</i>	ÉCRIVONS
(6) 3rd [-indre]	<i>paindre</i>	<i>joindre</i>	<i>joignons</i>	JOIGNONS

### 3. Psycholinguistics evidence for theme vowels

- Estivalet & Meunier (2015a/b, 2016) considered three different conditions in their experiments:

Type	Prime	Target	Priming prediction
(1) identity	<i>parlons</i>	<i>parlons</i>	full priming with identical prime
(2) control	<i>aimer</i>	<i>parlons</i>	no priming with different infinitive
(3) test	<i>parler</i>	<i>parlons</i>	full, partial or no priming?

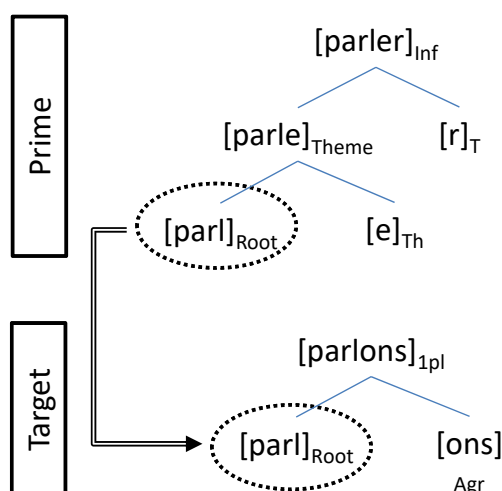
E&M postulate three hypothesis for the test condition (RT = *Reaction Time*):

- (a) If there is no priming (i.e. same RT for control and test), the verb is not decomposed (i.e. whole-word recognition).
- (b) If there is full priming (i.e. same RT for identity and test), the verb is completely decomposed into  $\sqrt{\text{V}} + \text{ThV} + \text{T} + \varphi$
- (c) If there is partial priming (i.e. difference in RT between identity and control), the verb is partially decomposed **stem** + T +  $\varphi$

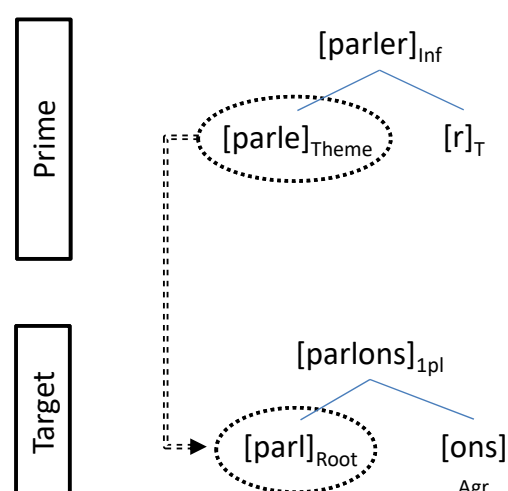
27

### 3. Psycholinguistics evidence for theme vowels

- (b) If there is **full priming** (i.e. same RT for identity and test), the verb is **completely** decomposed into  $\sqrt{\text{V}} + \text{ThV} + \text{T} + \varphi$



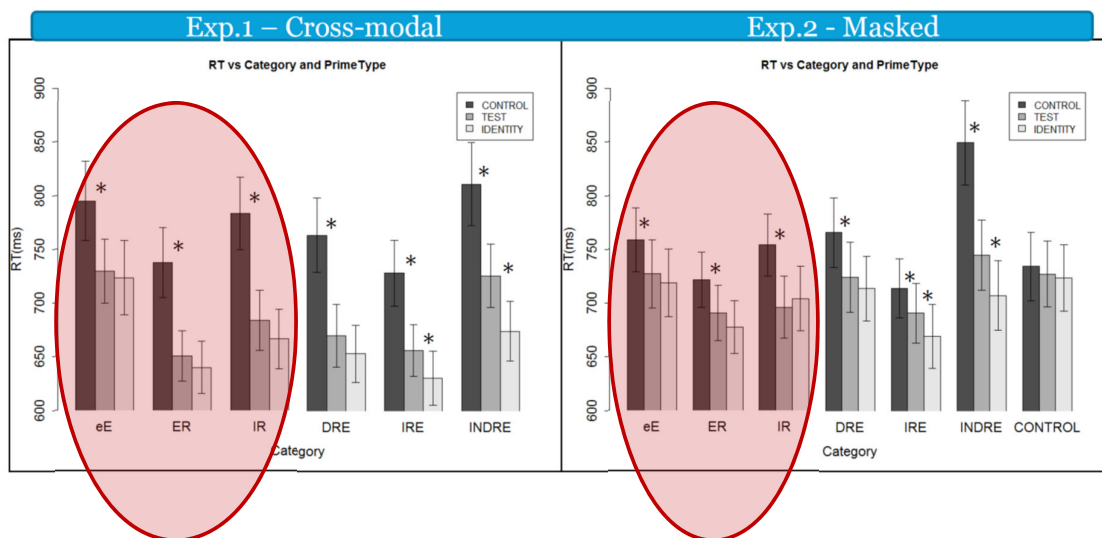
- (c) If there is **partial priming** (i.e. RT between identity and control), the verb is **partially** decomposed **stem** + T +  $\varphi$



28

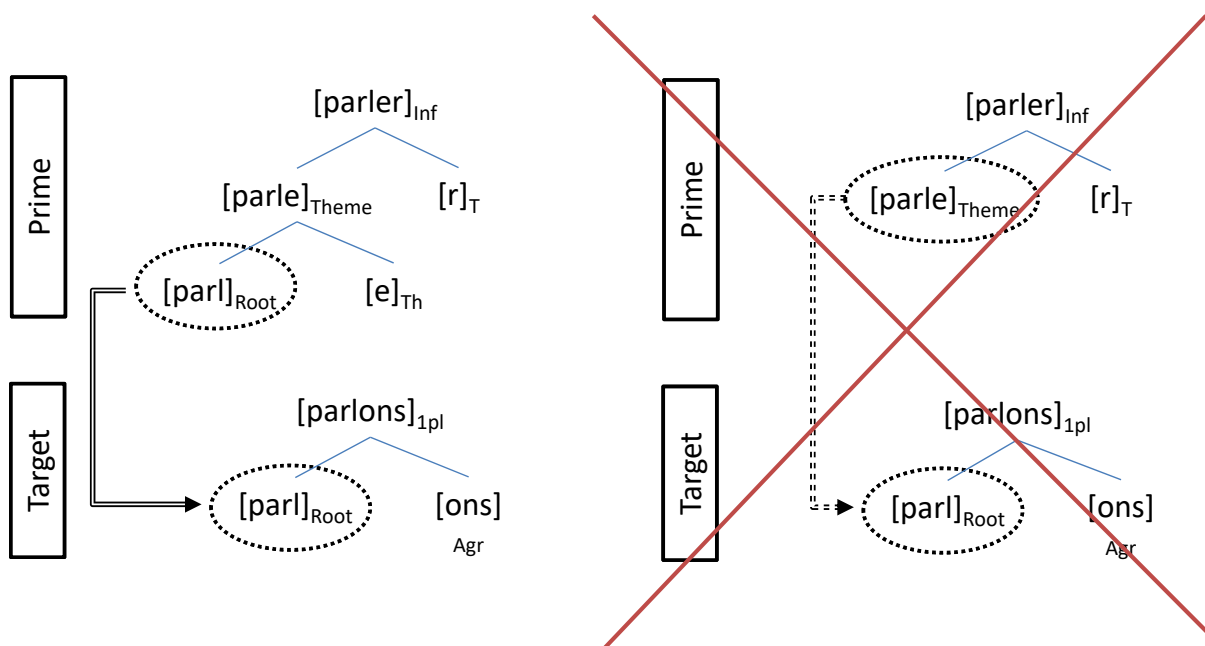
### 3. Psycholinguistics evidence for theme vowels

- Results given in Estivalet & Meunier (2015a)

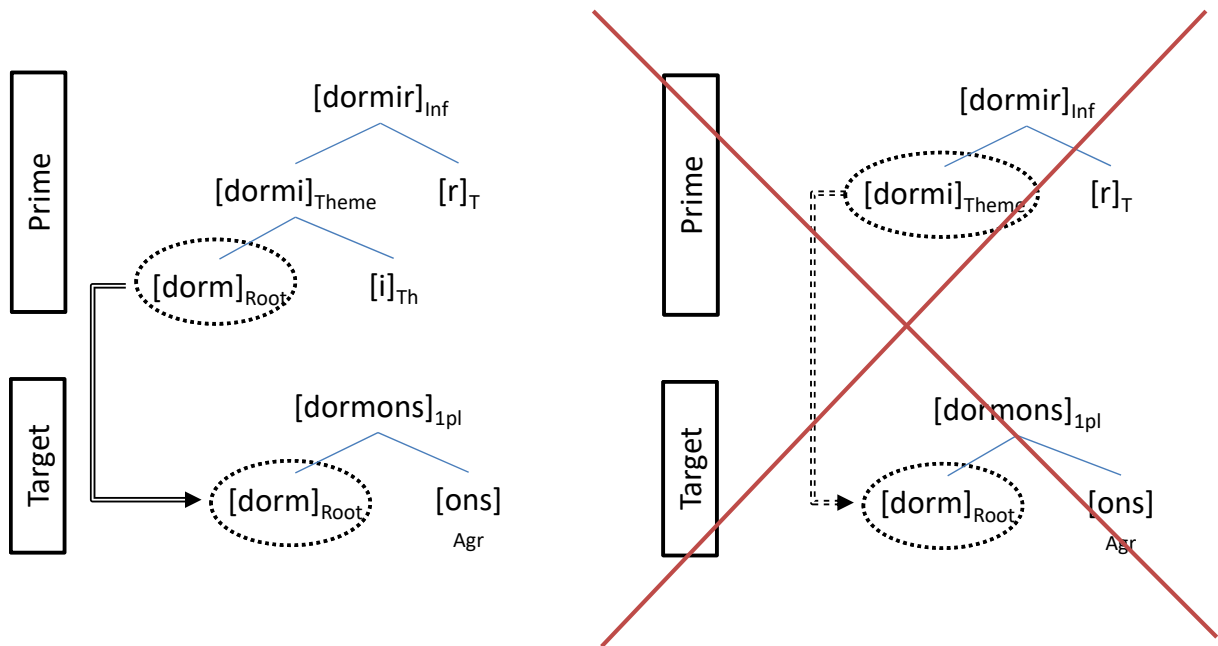


significant difference between the control and test conditions,  
 no difference between the test and identity conditions  
 ➔ targets are fully primed, i.e.  $\checkmark + ThV + T + \varphi$

### 3. Psycholinguistics evidence for theme vowels



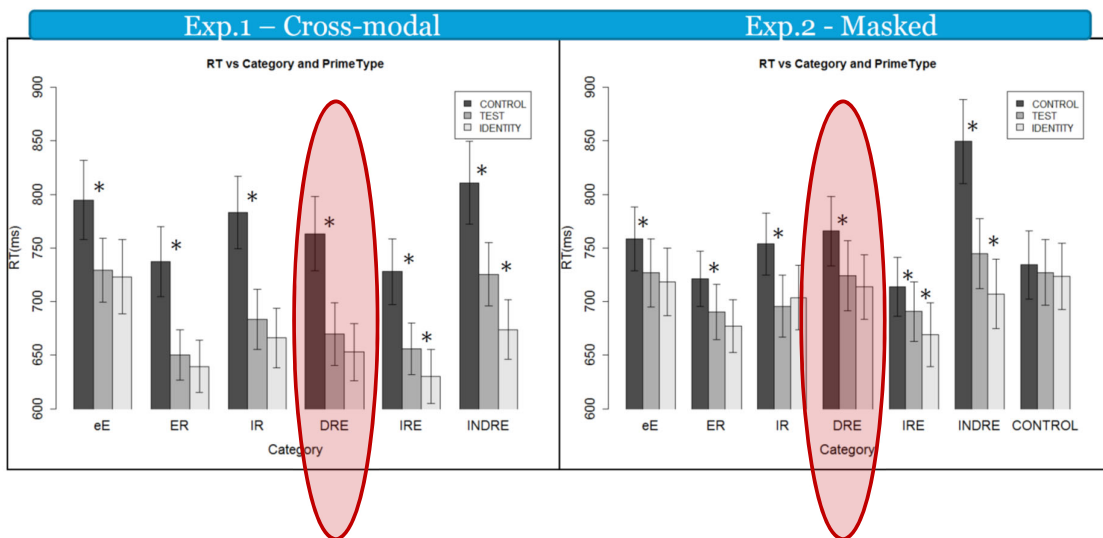
### 3. Psycholinguistics evidence for theme vowels



skip

### 3. Psycholinguistics evidence for theme vowels

- Results given in Estivalet & Meunier (2015a)

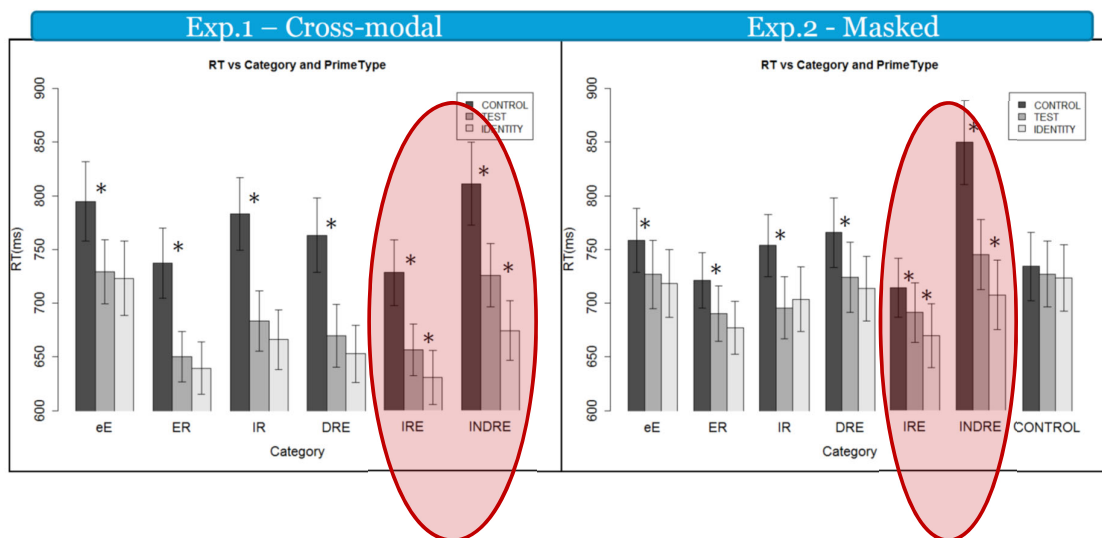


significant difference between the control and test conditions,  
 no significant difference between the test and identity conditions  
 ➔ targets are fully primed, but they have no Theme vowels



### 3. Psycholinguistics evidence for theme vowels

- Results given in Estivalet & Meunier (2015a)

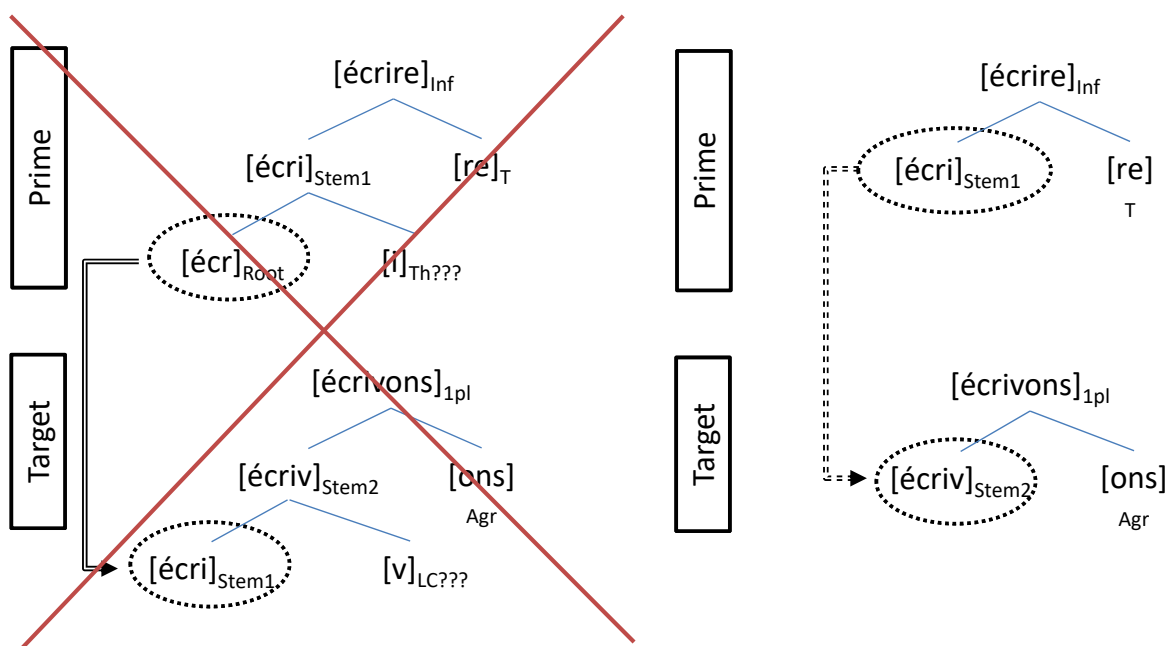


significant difference between the control and test conditions,  
also significant difference between the test and identity  
conditions

➡ Partial priming, i.e. **stem** + T + φ

33

### 3. Psycholinguistics evidence for theme vowels



34

### 3. Psycholinguistics evidence for theme vowels

- Based on these findings, Estivalet & Meunier (2015, 2016)) assume “a root-based system for French verbal processing, with the inflected verbs decomposed into stem and inflectional suffixes and the stem decomposed into root and Th, if available [...]”.

“Our results showed differences in priming effects depending on stem formation with root and Th combination in the first class verbs in [-er] and the third class verbs in [-ir] on one side, and allomorphic processes in the third class verbs in [-ire] and the third class verbs in [-indre] on the other side. We observed full priming for verbs that have stems formed by a root and Th combination, but the Th is not present when the stem is merged with vocalic inflectional suffixes [...]. We observed partial priming for verbs that do not have Th but that contain allomorphic stems according to the suffix with which the stem is merged, implying that these verbs may have different but linked stem representations activated in the prime and target or that they have abstract representations processed by morphological rules.” (Estivalet & Meunier 2016:10).

- first class verbs in [-er], e.g. *aimer, parler* ⇒ targets are fully primed, i.e.  $\sqrt{\text{ + ThV}} + \text{T} + \varphi$
- third class verbs in [-ir], e.g. *dormir, sentir* ⇒ targets are fully primed, i.e.  $\sqrt{\text{ + ThV}} + \text{T} + \varphi$
- third class verbs in [-dre] , e.g. *prendre* ⇒ targets are fully primed, but  $\sqrt{\text{ + T}} + \varphi$
- third class verbs in [-ire] and [-indre] , e.g. *écrire* ⇒ partial priming, i.e.  $\text{stem} + \text{T} + \varphi$   
⇒ Second class verbs in [-ir], e.g. *finir* were not tested.

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#### Outline of the talk

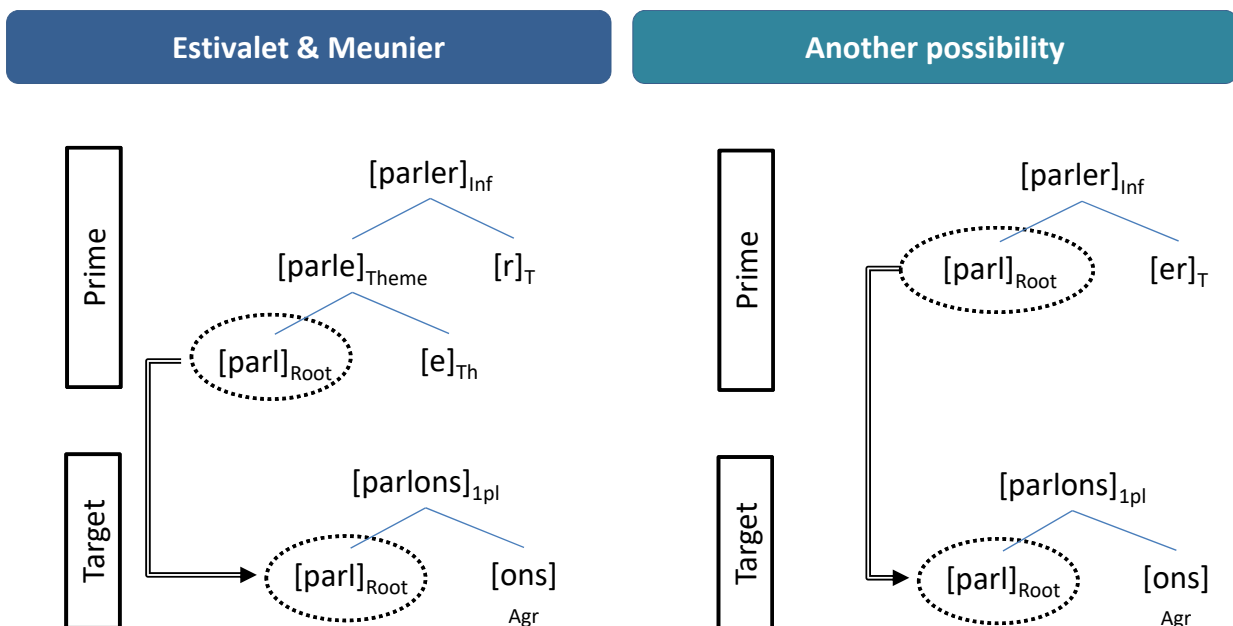
1. Introduction
2. Romance conjugation classes
  - 2.1 From Latin to Romance
  - 2.2 Challenges with respect to French conjugation classes
3. Psycholinguistics evidence for French theme vowels?
4. **A mixed system: Thematic and athematic conjugation classes**
  - 4.1 Proposal for an analysis (work in progress)
  - 4.2 Theoretical considerations
5. Conclusions

## 4. A mixed system: Thematic and athematic conjugation classes

- The findings of Estivalet & Meunier (2015a/b, 2016) suggests that French has thematic (*parler, dormir*) and athematic conjugation (*écrire, vendre*) or rather root-based inflection ( $\sqrt{\text{dorm}} + i + r$ ) and stem-based inflection (*écriv-ons*).
- First, we took this as a clear argument against the analysis of El Fenne (2020) since she avoids to postulate theme vowels and as such a thematic conjugation for French.
- But, the observed priming effects observed by Estivalet & Meunier (2015a/b, 2016) may also be due to other segmentations of the prime which may be compatible with El Fenne's analysis.
- That is, the arguments for theme vowels is not as clear as we hoped it would be.
- And, unfortunately, the second class (e.g. *finir* with the theme extension -ss-) was not tested.

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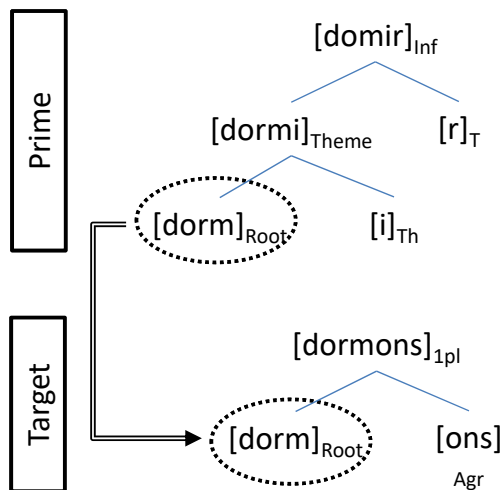
## 4. A mixed system: Thematic and athematic conjugation classes



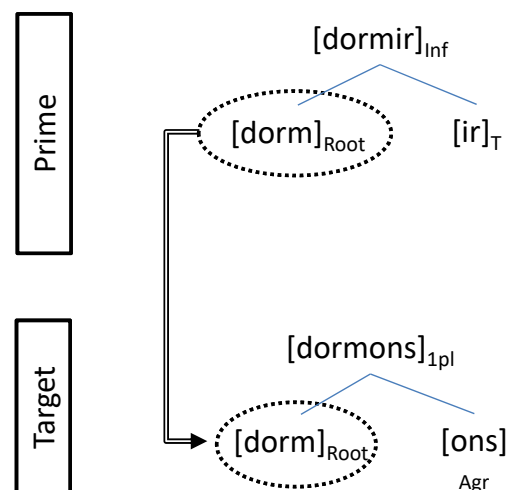
38

## 4. A mixed system: Thematic and athematic conjugation classes

### Estivalet & Meunier



### Another possibility



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## 4. A mixed system: Thematic and athematic conjugation classes

- We will nevertheless maintain the idea of a thematic and an athematic conjugation for French.
- Our analysis unifies assumptions of the more traditional analysis with some aspects put forward by El Fenne.
- It is restricted, for the moment, to four verb types: *aimer*, *finir*, *partir* and *vendre*.
- We have, thus, excluded irregular verbs.

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# French: Verbal paradigms

AIMER	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	aime	aime	aimais	aimerai	aimerais	aimai	aimasse
2SG	aimes	aimes	aimais	aimeras	aimeras	aimas	aimasses
3SG	aime	aime	aimait	aimera	aimerait	aima	aimât
1PL	aimons	aimions	aimions	aimerons	aimerions	aimâmes	aimassions
2PL	aimiez	aimiez	aimiez	aimerez	aimeriez	aimâtes	aimassiez
3PL	aiment	aiment	aimaient	aimeront	aimeraient	aimèrent	aimassent
FINIR	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	finis	finisse	finissais	finirai	finirais	finis	finisse
2SG	finis	finisses	finissais	finiras	finiras	finis	finisses
3SG	finit	finisse	finissait	finira	finirait	finit	finît
1PL	finissons	finissions	finissions	finirons	finirions	finîmes	finissions
2PL	finissez	finissiez	finissiez	finirez	finiriez	finîtes	finissiez
3PL	finissent	finissent	finissaient	finiront	finiraient	finirent	finissent
PARTIR	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	pars	parte	partais	partirai	partirais	partis	partisse
2SG	pars	partes	partais	partiras	partiras	partis	partisses
3SG	part	parte	partait	partira	partirait	partit	partît
1PL	partons	partions	partions	partirons	partirions	partîmes	partissions
2PL	partez	partiez	partiez	partirez	partiriez	partîtes	partissiez
3PL	partent	partent	partaient	partiront	partiraient	partirent	partissent
VENDRE	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	vends	vende	vendais	vendrai	vendrais	vendis	vendisse
2SG	vends	vendes	vendais	vendras	vendras	vendis	vendisses
3SG	vend	vende	vendait	vendra	vendrait	vendit	vendît
1PL	vendons	vendions	vendions	vendrons	vendrions	vendîmes	vendissions
2PL	vendez	vendiez	vendiez	vendrez	vendriez	vendîtes	vendissiez
3PL	vendent	vendent	vendaient	vendront	vendraient	vendirent	vendissent

athematic

41

# French: Verbal paradigms

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Without the assumption of THVs we cannot explain CC neutralization.

CC neutralization

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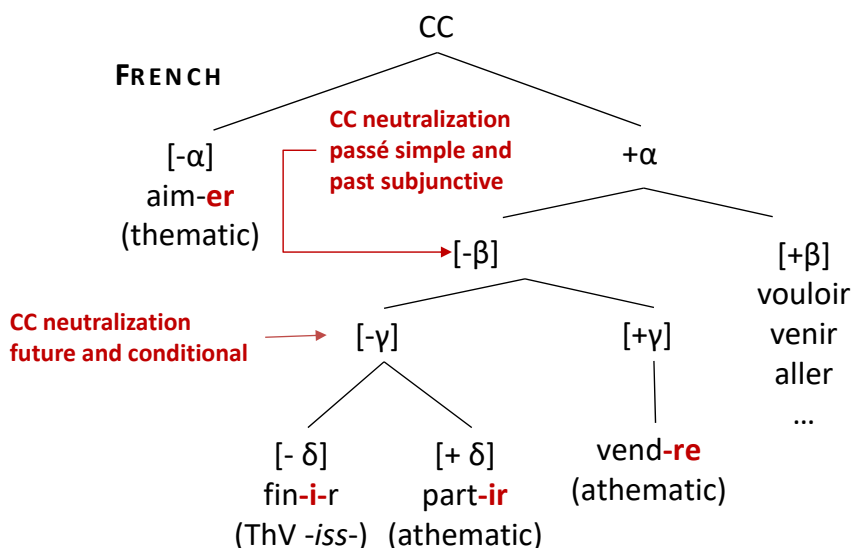
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3PL	vendent	vendent	vendaient	vendront	vendraient	vendirent	vendissent

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## 4.1 Proposal for an analysis (work in progress)

- Even though the assumption of diacritics has been criticized, we follow Oltra-Massuet (1999) and assume that also in French the conjugation classes are hierarchically structured along diacritic features.
- The respective features allows us to understand the neutralizations of the conjugation classes.



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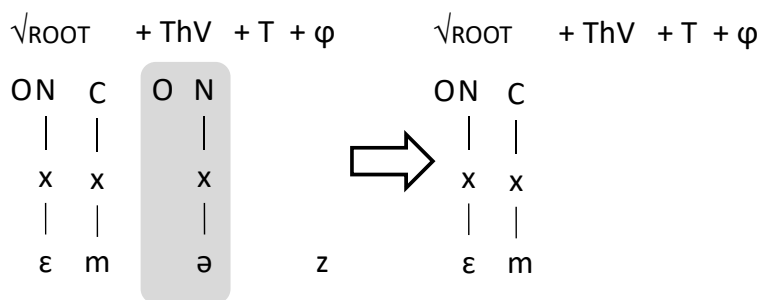
# 4.1 Proposal for an analysis (work in progress)

- We follow El Fenne (2020) in assuming that verbs of 1<sup>st</sup> CC has stem final permanent consonants (PC).
- All other verbs (or CC) have (with minor exceptions) stem final floating consonants (or end in V).
- However, we do not follow her proposal with respect to the segmentation and the assumption of different stems (or bases) for finite forms.
- We assume that verbs like *aimer* and verbs like *finir* are thematic, i.e. ThV attaches to the root to form a stem (or theme).
- *Partir* as well as *vendre* are instead athematic.

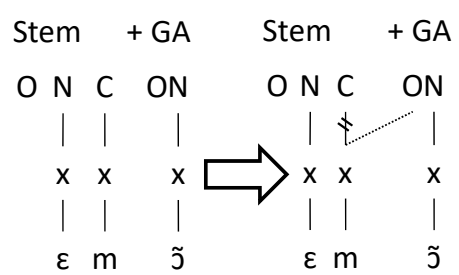
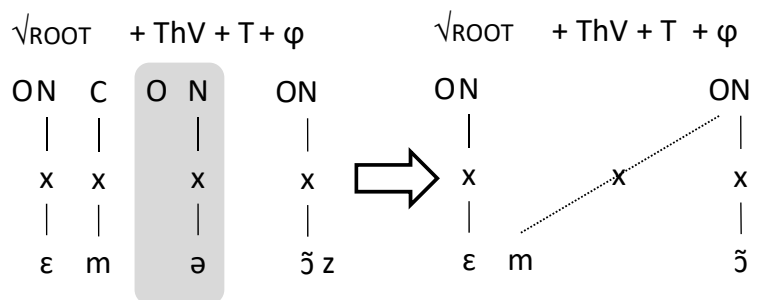
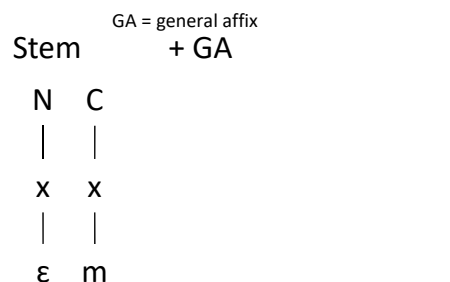
## 4.1 Proposal for an analysis: 2. sg/pl. pres.

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### Our analysis



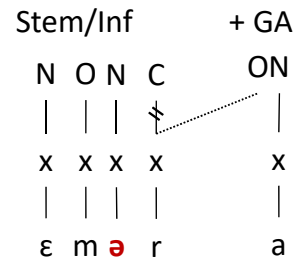
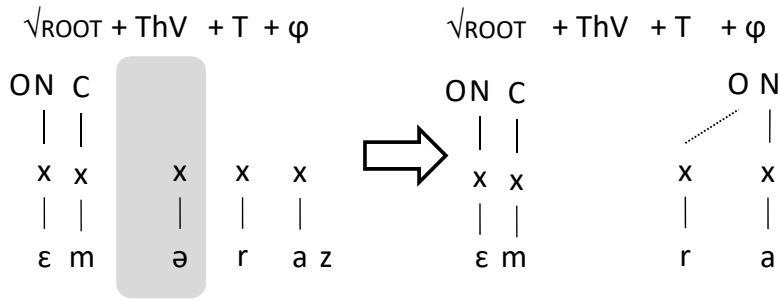
### El Fenne (2020)



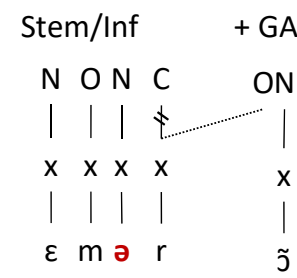
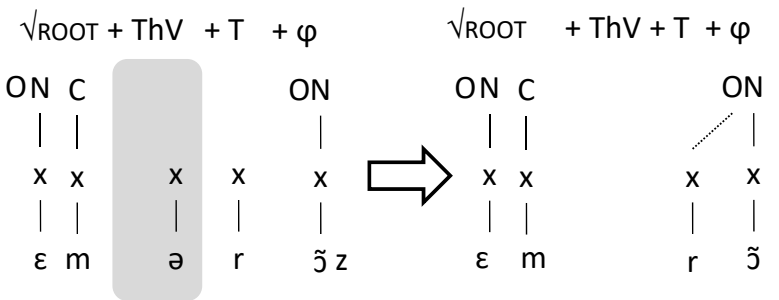
# 4.1 Proposal for an analysis: 2sg/pl fut.

## Our analysis

## El Fenne (2020)



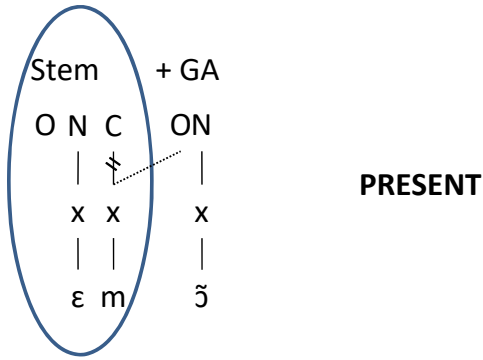
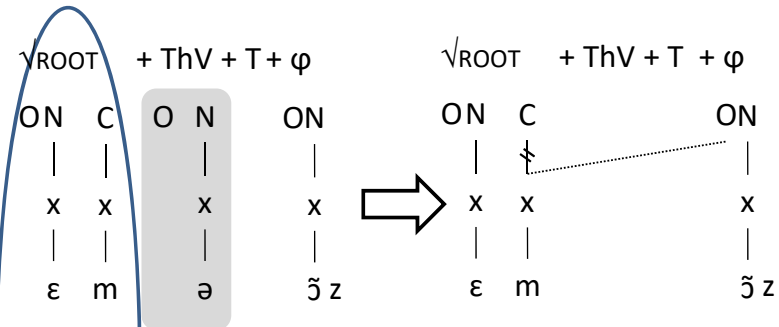
(NB: The infinitive is [εmɛ'])



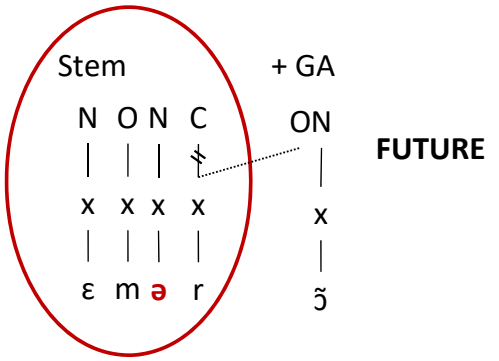
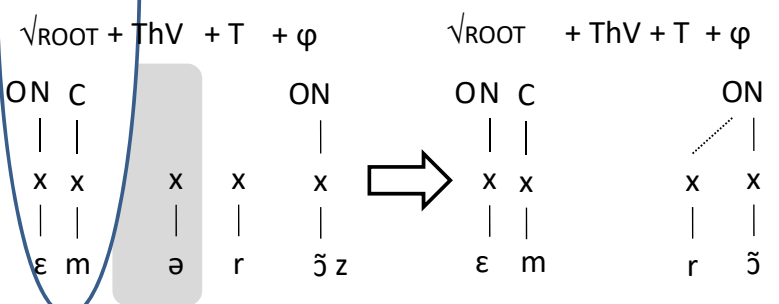
# 4.1 Proposal for an analysis: pres. vs. fut.

## Our analysis

## El Fenne (2020)



PRESENT

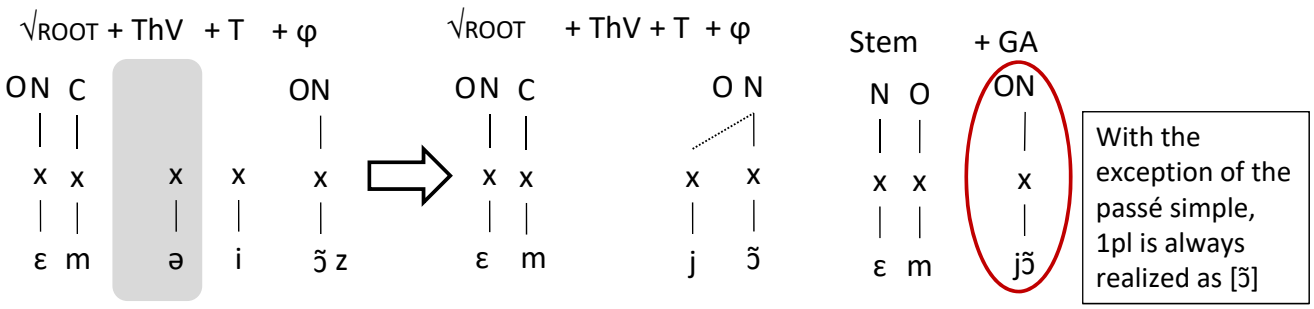
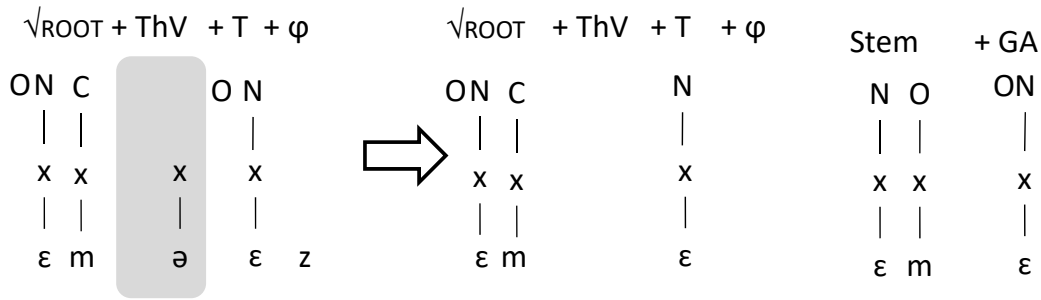


FUTURE



# 4.1 Proposal for an analysis: 2sg/pl impf.

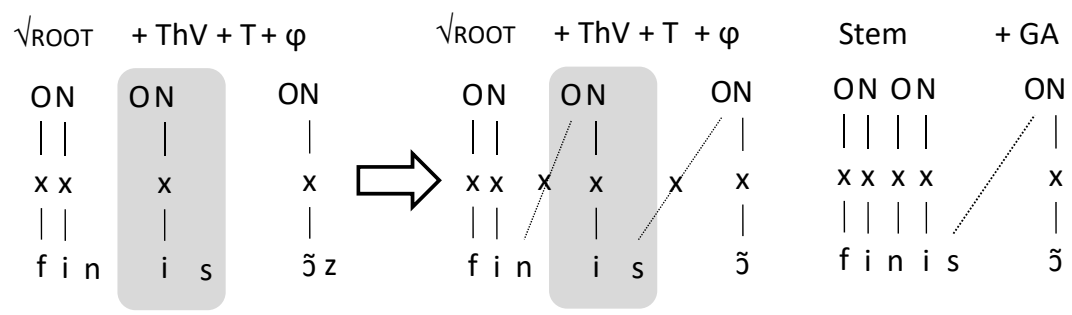
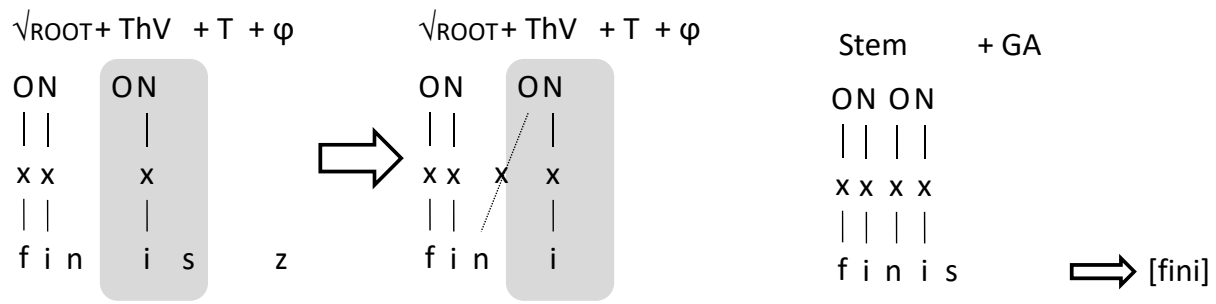
**Our analysis** **El Fenne (2020)**



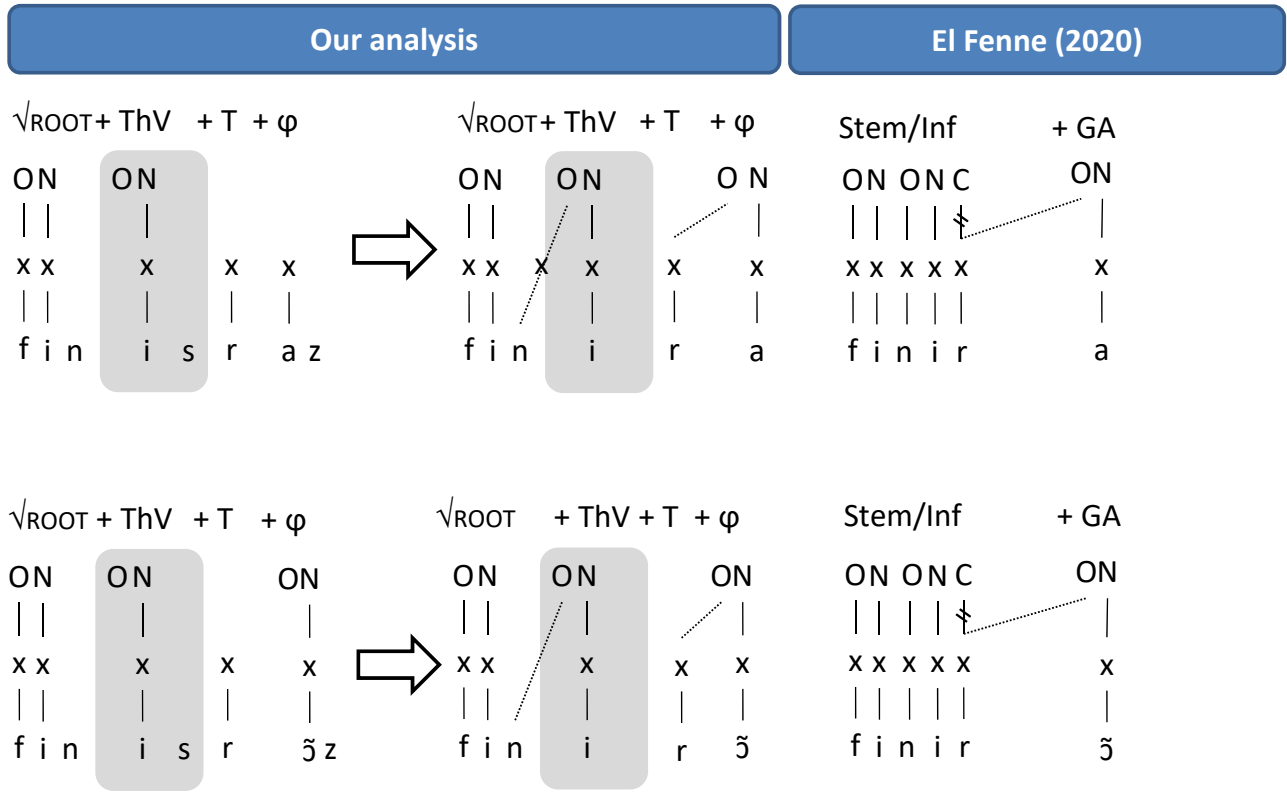
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# 4.1 Proposal for an analysis: 2sg/pl pres. ind.

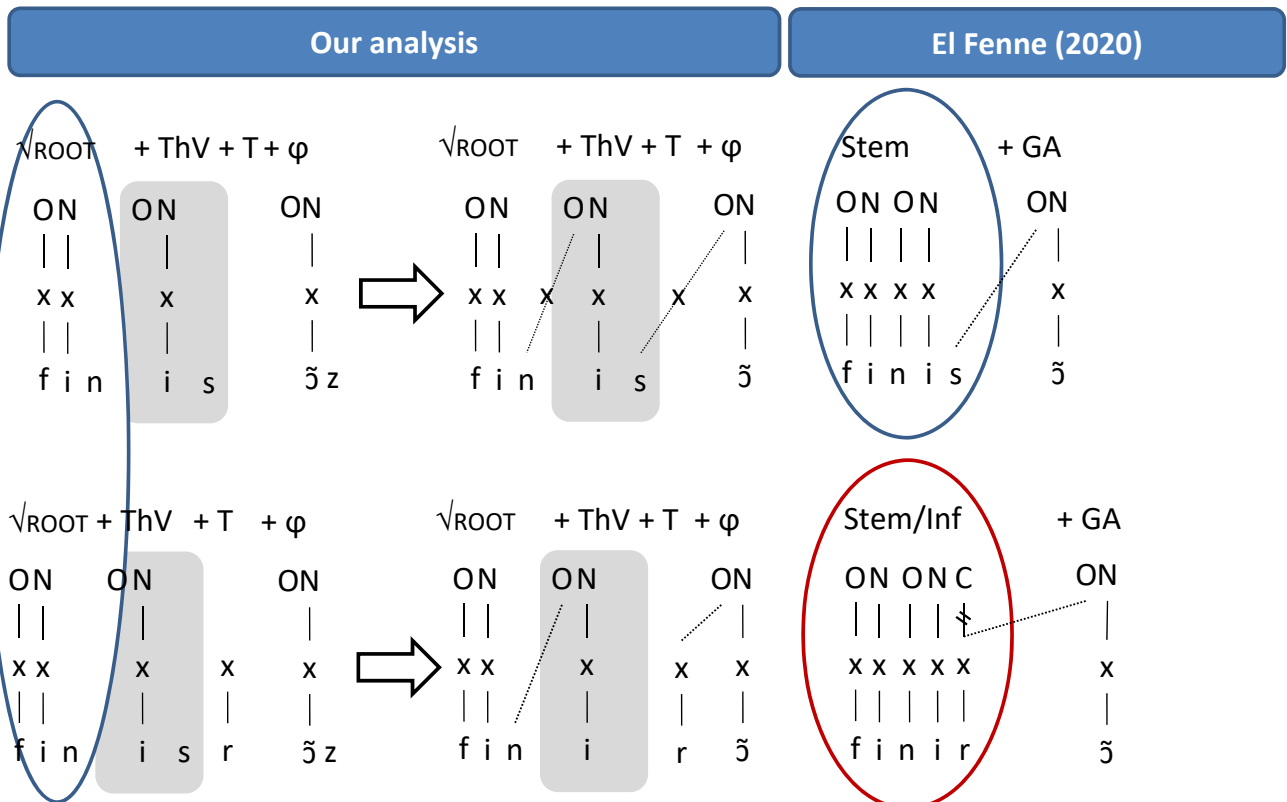
**Our analysis** **El Fenne (2020)**



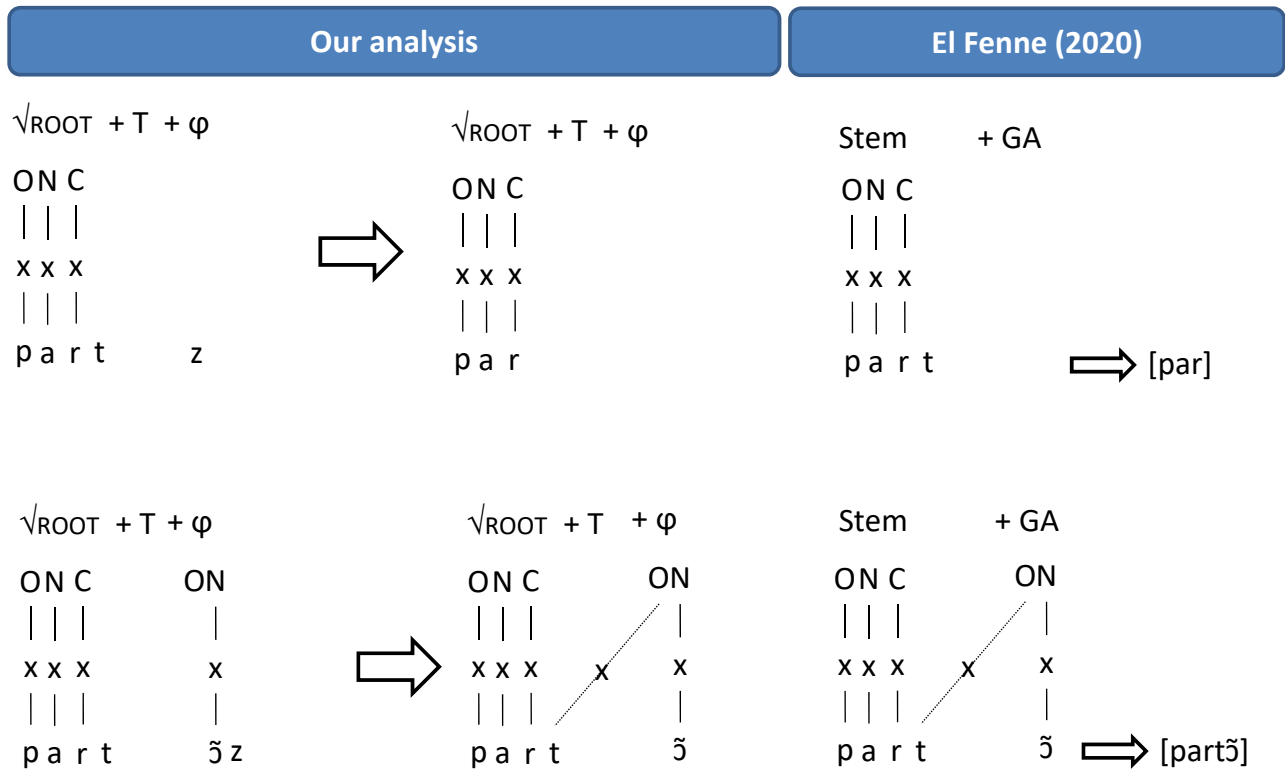
# 4.1 Proposal for an analysis: 2sg/pl fut.



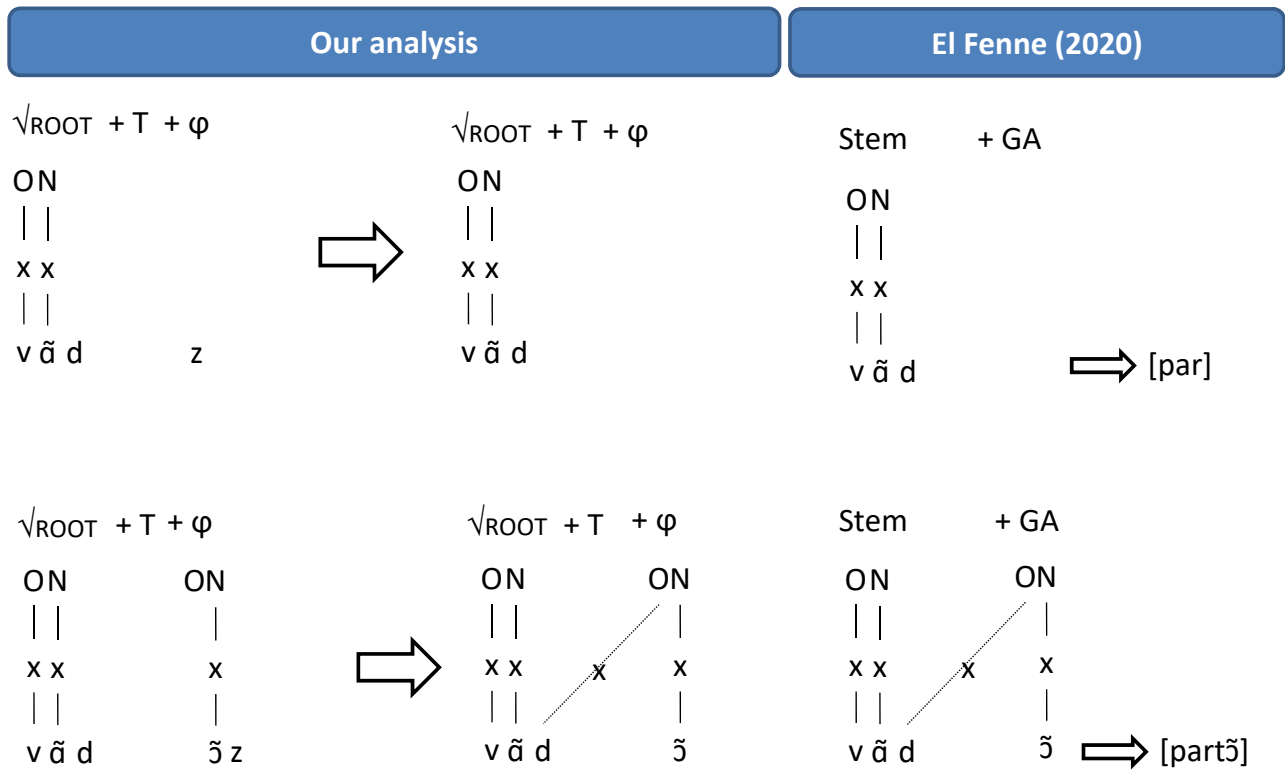
# 4.1 Proposal for an analysis: pres. vs. fut.



# 4.1 Proposal for an analysis: 2sg/pl pres. ind.



# 4.1 Proposal for an analysis: 2sg/pl pres. ind.



## 4.2 Theoretical considerations

- Theme vowels are not verbalizers. They are stem extensions that can – depending on CC and/or grammatical context – appear between the root and inflectional endings.
- They are indicators for CC. If they were verbalizers, all CC should have Theme vowels (or theme extensions).
- French has a kind of strong and weak inflection (comparable to the Germanic languages).
- Conjugation classes can be neutralized (e.g. in the future/conditional and the passé simple / past conjunctive in French).
- CC are hierarchically structured.

Interesting point for our analysis on suppletion:

- There seems to be a relation between athematicity and irregularity in French.

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## 5. Conclusions

- Are French verbs segmentable? If yes, into how many constituents?
  - Yes, French verbs are segmentable also in more than two constituents
- Does French have Theme Vowels (ThVs)?
  - Yes, French has theme vowels, at least in the 1<sup>st</sup> and 2<sup>nd</sup> CC
- And if so, which form does the French theme “vowel” – or maybe better, theme extension, have?
  - Depending on the CC and grammatical context the theme element is [ə], [i<sup>s</sup>] or [a].
- Which verbal form should be considered to define Conjugation Classes (CC)? The infinitive or other forms of the paradigm?
  - In French, the infinitive is a particular non-finite form, whereas ThVs are best identified in the future, conditional, passé simple, past subjunctive and – for the first two CC, present tense.
- How does the hierarchical organization of the CC system look like in French?
  - The hierarchical organization of the CC system in French is more complex than in the other Romance languages.
- Does French have thematic and athematic CC or are all CC thematic allowing athematic forms (cf. e.g. Spanish)?
  - French has thematic and athematic CC, but neutralization leads to thematic forms also in athematic CC.

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Does French has theme vowels?

Thank you for your attention!



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# French: Verbal paradigms

AIMER	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	[ɛm(ə)]	[ɛm(ə)]	[ɛ.'mɛʔ]	[ɛ.mə.'rɛ]	[ɛ.mə.'rɛʔ]	[ɛ.'mɛ]	[ɛ.'mas(ə)]
2SG	[ɛm(ə)ʔ]	[ɛm(ə)ʔ]	[ɛ.'mɛʔ]	[ɛ.mə.'raʔ]	[ɛ.mə.'raʔ]	[ɛ.'maʔ]	[ɛ.'mas(ə)ʔ]
3SG	[ɛm(ə)]	[ɛm(ə)]	[ɛ.'mɛʔ]	[ɛ.mə.'ra]	[ɛ.mə.'rɛʔ]	[ɛ.'ma]	[ɛ.'maʔ]
1PL	[ɛ.'mɔʔ]	[ɛ.'mjɔʔ]	[ɛ.'mjɔʔ]	[ɛ.mə.'rɔʔ]	[ɛ.mə.'rjɔʔ]	[ɛ.'mam(ə)ʔ]	[ɛ.ma.'sjɔʔ]
2PL	[ɛ.'mɛʔ]	[ɛ.'mjeʔ]	[ɛ.'mjeʔ]	[ɛ.mə.'rɛʔ]	[ɛ.mə.'rjeʔ]	[ɛ.'mat(ə)ʔ]	[ɛ.ma.'sjeʔ]
3PL	[ɛm(ə)ʔ]	[ɛm(ə)ʔ]	[ɛ.'mɛ(ə)ʔ]	[ɛ.mə.'rɔʔ]	[ɛ.mə.'rɛ(ə)ʔ]	[ɛ.'mɛr(ə)ʔ]	[ɛ.'mas(ə)ʔ]

FINIR	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	[fi.'niʔ]	[fi.'nis(ə)]	[fi.ni.'sɛʔ]	[fi.ni.'rɛ]	[fi.ni.'rɛʔ]	[fi.'niʔ]	[fi.'nis(ə)]
2SG	[fi.'niʔ]	[fi.'nis(ə)ʔ]	[fi.ni.'sɛʔ]	[fi.ni.'raʔ]	[fi.ni.'raʔ]	[fi.'niʔ]	[fi.'nis(ə)ʔ]
3SG	[fi.'niʔ]	[fi.'nis(ə)]	[fi.ni.'sɛʔ]	[fi.ni.'ra]	[fi.ni.'rɛʔ]	[fi.'niʔ]	[fi.'niʔ]
1PL	[fi.ni.'sɔʔ]	[fi.ni.'sjɔʔ]	[fi.ni.'sjɔʔ]	[fi.ni.'rɔʔ]	[fi.ni.'rjɔʔ]	[fi.'niʔm(ə)ʔ]	[fi.ni.'sjɔʔ]
2PL	[fi.ni.'sɛʔ]	[fi.ni.'sjeʔ]	[fi.ni.'sjeʔ]	[fi.ni.'rɛʔ]	[fi.ni.'rjeʔ]	[fi.'niʔt(ə)ʔ]	[fi.ni.'sjeʔ]
3PL	[fi.'nis(ə)ʔ]	[fi.'nis(ə)ʔ]	[fi.ni.'sɛ(ə)ʔ]	[fi.ni.'rɔʔ]	[fi.ni.'rɛ(ə)ʔ]	[fi.'nir(ə)ʔ]	[fi.'nis(ə)ʔ]

PARTIR	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	[par. <sup>tɛ</sup> ]	[part(ə)]	[par.'tɛʔ]	[par.ti.'rɛ]	[par.ti.'rɛʔ]	[par.'tiʔ]	[par.'tis(ə)]
2SG	[par. <sup>tɛ</sup> ]	[part(ə)ʔ]	[par.'tɛʔ]	[par.ti.'raʔ]	[par.ti.'raʔ]	[par.'tiʔ]	[par.'tis(ə)ʔ]
3SG	[par. <sup>tɛ</sup> ]	[part(ə)]	[par.'tɛʔ]	[par.ti.'ra]	[par.ti.'rɛʔ]	[par.'tiʔ]	[par.'tiʔ]
1PL	[par.'tɔʔ]	[par.'tjɔʔ]	[par.'tjɔʔ]	[par.ti.'rɔʔ]	[par.ti.'rjɔʔ]	[par.'tim(ə)]	[par.ti.'sjɔʔ]
2PL	[par.'tɛʔ]	[par.'tjeʔ]	[par.'tjeʔ]	[par.ti.'rɛʔ]	[par.ti.'rjeʔ]	[par.'tit(ə)]	[par.ti.'sjeʔ]
3PL	[part(ə)ʔ]	[part(ə)ʔ]	[par.'tɛ(ə)ʔ]	[par.ti.'rɔʔ]	[par.ti.'rɛ(ə)ʔ]	[par.'tir(ə)]	[par.'tis(ə)ʔ]

VENDRE	Present indicative	Present subjunctive	Past tense	Future	Conditional	Passé simple	Past subjunctive
1SG	[vã. <sup>dɛ</sup> ]	[vãd(ə)]	[vã.'dɛʔ]	[vã.'drɛ]	[vã.'drɛʔ]	[vã.'diʔ]	[vã.'dis(ə)]
2SG	[vã. <sup>dɛ</sup> ]	[vãd(ə)ʔ]	[vã.'dɛʔ]	[vã.'draʔ]	[vã.'draʔ]	[vã.'diʔ]	[vã.'dis(ə)ʔ]
3SG	[vã. <sup>d</sup> ]	[vãd(ə)]	[vã.'dɛʔ]	[vã.'dra]	[vã.'drɛʔ]	[vã.'diʔ]	[vã.'diʔ]
1PL	[vã.'dɔʔ]	[vã.'djɔʔ]	[vã.'djɔʔ]	[vã.'drɔʔ]	[vã.'drjɔʔ]	[vã.'dim(ə)]	[vã.di.'sjɔʔ]
2PL	[vã.'dɛʔ]	[vã.'djeʔ]	[vã.'djeʔ]	[vã.'dreʔ]	[vã.'drjeʔ]	[vã.'dit(ə)]	[vã.di.'sjeʔ]
3PL	[vãd(ə)ʔ]	[vãd(ə)ʔ]	[vã.'dɛ(ə)ʔ]	[vã.'drɔʔ]	[vã.'drɛ(ə)ʔ]	[vã.'dir(ə)]	[vã.'dis(ə)ʔ]

Common feature: athematic

## 2.2 Challenges with respect to French CC

- What is more, for finite forms, El Fenne (2020) proposes a segmentation into two elements.
- For this, she has to assume further stems and cumulative inflectional endings for Tense and  $\varphi$ .

- **The present indicative and the imperfect indicative:**

	stem	+	GAF (= general affix)	
e.g.	[ɛm]/[fini]	--		(pres. ind. 2sg)
	[ɛm]/[finis]	[ʔ]		(pres. ind. 2pl)
	[ɛm]/[finis]	[ɛ]		(impf. ind. 2sg)
	[ɛm]/[finis]	[jɔʔ]		(impf. Ind. 2pl)

- **Future and Conditional:**

	infinitive	+	GAF	
e.g.	[ɛmər]/[finir]	[a]		(future 2sg)
	[ɛmər]/[finir]	[ʔ]		(future 2pl)
	[ɛmər]/[finir]	[ɛ]		(cond. 2sg)
	[ɛmər]/[finir]	[jɔʔ]		(cond. 2pl)

- **Present Subjunctive:**

	3pl ind.pres	+	GAF	
	[ɛm]/[finis]	---		(pres. subj. 2sg)
	[ɛm]/[finis]	[jɔʔ]		(pres. subj. 2pl)