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Pro Drop and the Morphological Structure of Inflection

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1. Introduction

Many Romance languages have full argumental pro drop (null subjects) but the Germanic languages do not.

(1) Gianni ha detto che ha telefonato *Italian*
Gianni has said that has.3SG telephoned
'Gianni said that he called'

(2) *John said that has telephoned. *English*

1. Introduction

Traditional question: What causes this contrast?

Traditional answer: It's the richness of inflection.

Traditional problem: It's hard to make this precise.

1. Introduction

	English	Italian
1SG	talk-Ø	parl-o
2SG	talk-Ø	parl-i
3SG	talk-s	parl-a
1PL	talk-Ø	parl-iamo
2PL	talk-Ø	parl-ate
3PL	talk-Ø	parl-ano

English has two distinct forms, whereas Italian has six.

1. Introduction

	English	Italian
1SG	talk-Ø	parl-o
2SG	talk-Ø	parl-i
3SG	**talk-s**	**parl-a**
1PL	talk-Ø	parl-iamo
2PL	talk-Ø	parl-ate
3PL	talk-Ø	parl-ano

English *–s* is able to identify the missing subject to the same degree as *–a* in Italian.

1. Introduction

A paradigmatic/parameter approach (Rizzi 1982, Jaeggli & Safir 1989, Tamburelli 2006, many others):

- Italian is rich **overall** and therefore it has pro drop across the board.

- English is poor **overall** and therefore it lacks pro drop across the board.

1. Introduction

Arguments against such a paradigmatic approach:

1. The existence of partial pro-drop varieties (Finnish, Bavarian German, etc.) calls into question an all-or-nothing approach.
2. The paradigm is epiphenomenal (Bobaljik 2003), making the approach hard to define.
3. “Rich” and “poor” are hard to define.

1. Introduction

	Romanian	
	cânta (‘to sing’)	
	Present	Past (imperfect)
1SG	cânt	**cântam**
2SG	cânți	cântai
3SG	**cântă**	cânta
1PL	cântăm	**cântam**
2PL	cântați	cântați
3PL	**cântă**	cântau

Icelandic	
heyra (‘to hear’)	
Present	Past
heyri	**heyrði**
heyrir	heyrðir
heyrir	**heyrði**
heyrjum	heyrðum
heyrið	heyrðuð
heyra	heyrðu

1. Introduction

Contextual approach:

Look per context if the agreement information is informative enough for an empty subject.

Problem:

Massive overgeneration (see Eng. *talks* versus It. *parla*)

1. Introduction

Question:

The paradigmatic approach undergenerates, whereas the contextual approach overgenerates. What do we do?

Our answer:

Adopt a contextual approach and tackle the overgeneration problem.

2. Our proposal

1. Linguistic ingredient: *Overspecification

The agreement morpheme licensing an empty subject cannot also encode tense features.

2. Acquisitional ingredient: *Homonyms

The child will prefer an analysis that treats similar cells in the paradigm as syncretic over one that treats them as homonyms.

2. Our proposal

1: Linguisic ingredient: *Overspecification

The agreement morpheme licensing an empty subject cannot also encode tense features.

Context	Subject	Morpheme (on V)	Status	Pro drop
1	[plural, speaker]	[plural, speaker]	Specification	Yes
2	[plural, speaker]	[plural]	Underspecification	No
3	[plural, speaker]	[plural, speaker, **past**]	**Overspecification**	No
4	[plural, speaker]	[plural, past]	Under- and overspecification	No

2.1 Our proposal: *overspecification

Italian:

parl	*a*	*v*	*o*
ROOT	TH	IMPERF	1SG

English:

**talk*	*ed*	*s*
ROOT	PST	3SG

2.1 Our proposal: *overspecification

Italian:

parl	*a*	*v*	*o*
ROOT	TH	IMPERF	1SG

English:

**talk*	*ed*
ROOT	PST
	s
	3SG

Complementary distribution of *–s* and *–ed*

2.1 Our proposal: *overspecification

Italian:

parl	*a*	*v*	*o*
ROOT	TH	IMPERF	1SG

Bi-morphemic / Split-IP (AgrP + TP)

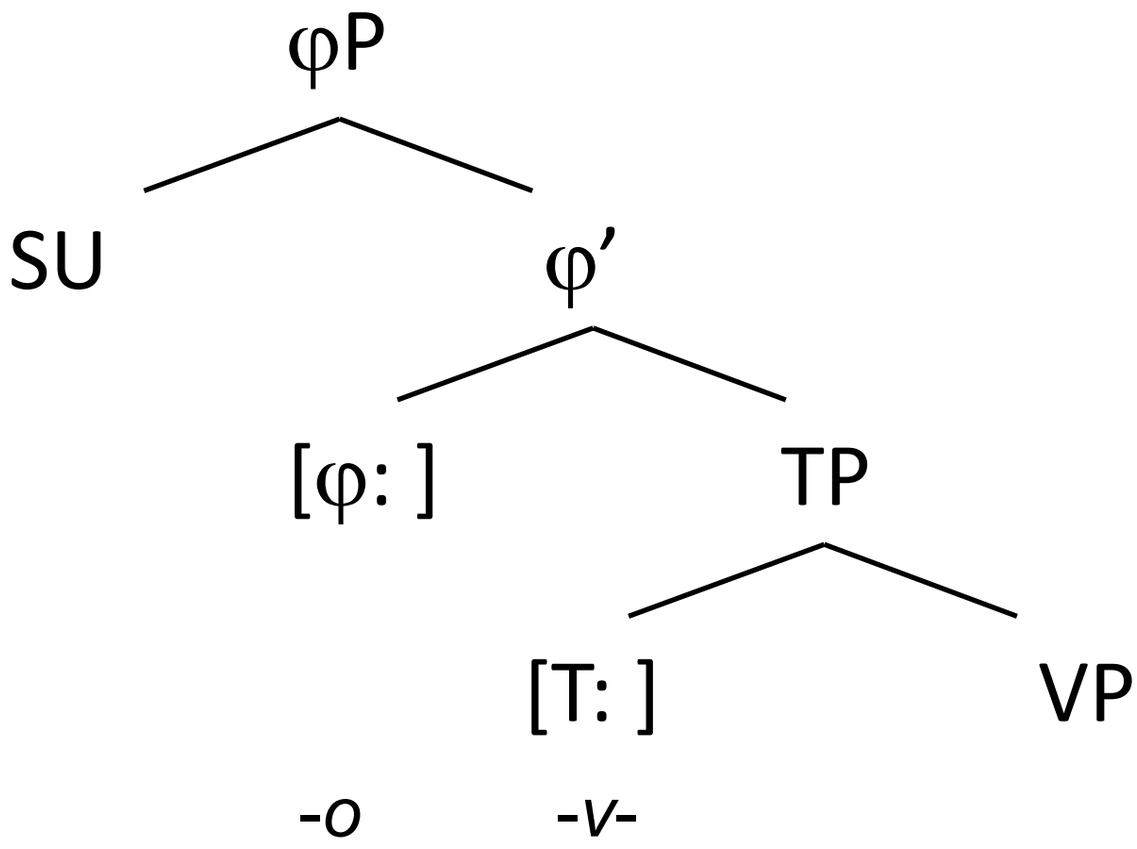
English:

*talk	*ed
ROOT	PST
	s
	3SG

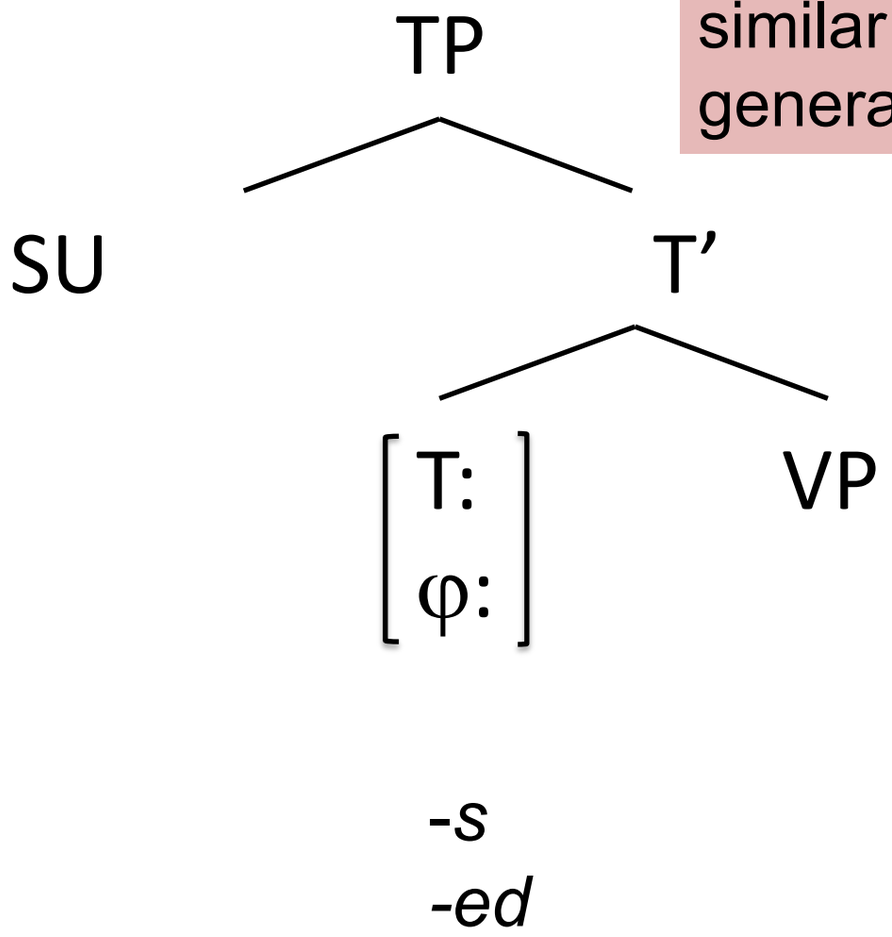
Mono-morphemic / Unsplit-IP (TP)

2.1 Our proposal: *overspecification

Italian



English



See Andres Saab 2008, 2023 for a similar generalization.

(after Bobaljik & Thráinsson 1998)

2.1 Our proposal: *overspecification

The correlation between bi-morphemicity and pro drop is not obvious.

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazier-**te**
2SG	spazierst	spazier-**te**-st
3SG	spaziert	spazier-**te**
1PL	spazieren	spazier-**te**-n
2PL	spaziert	spazier-**te**-t
3PL	spazieren	spazier-**te**-n

Icelandic	
heyra (‘to hear’)	
Present	Past
heyri	heyr-**ði**
heyrir	heyr-**ði**-r
heyrir	heyr-**ði**
heyrjum	heyr-**ðu**-m
heyrið	heyr-**ðu**-ð
heyra	heyr-**ðu**

2.2 Our proposal: *homonyms

Wrong question:

How do you decide that a language is bi- or mono-morphemic?

Right question:

How does a child decide whether the language is bi-or mono-morphemic?

2.2 Our proposal: *homonyms

Acquisitional steps:

1. Postulate spell-out rules for agreement (present tense) on the basis of overt morpho-phonological contrasts. These rules generate the featural content of the underlying morphemes;
2. On encountering the past/imperfect tense, try to segment a tense form using the agreement rules already postulated;
3. Try to analyze the agreement intransparencies by postulating impoverishment, allomorphy or underspecification.
4. On the basis of 3, decide on a bi- or mono-morphemic analysis.

2.2 Our proposal: *homonyms

Acquisitional steps:

1. Postulate spell-out rules for agreement (present tense) on the basic of morpho-phonological contrasts;
2. On encountering the past/imperfect tense, try to segment a tense form using the agreement rules already postulated;
3. **Try to analyze the agreement intransparencies by postulating impoverishment, allomorphy or underspecification.**
4. On the basis of 3, decide on a bi- or mono-morphemic analysis.

2.2 Our proposal: *homonyms

Bimorphemic analysis:

Form:	**Homonymous analysis:**		
/x/	$/x/_1$	>	Analysis 1
	$/x/_2$	>	Analysis 2

Monomorphemic analysis:

Form:	**Syncretic analysis:**		
/x/	/x/	>	Analysis

2.2 Our proposal: *homonyms

Bimorphemic analysis:

Form:	**Homonymous analysis:**		
/x/	$/x/_1$	>	Analysis 1
	$/x/_2$	>	Analysis 2

Violation of Economy

Monomorphemic analysis:

Form:	**Syncretic analysis:**		
/x/	/x/	>	Analysis

2. Our proposal

For unmarked features, see Sauerland 2002, 2008, Heim 2008, Kratzer 2009.

For 3rd person as the non-person, see Forschheimer 1953; Benveniste 1971; Harley & Ritter 2002; Preminger 2014

Some assumptions:

1. Null subjects are licenced in syntax, not at PF.
2. Agreement features have to be acquired through contrasting forms in the paradigm: no feature borrowing/copying from the pronominal system.
3. We will use privative features. By default, singular = absence of plural, present = absence of past. The 3rd person is unmarked (the "non-person"):

   3SG → [φ:]

4. The child is not internally driven to maintain a bimorphemic analysis, i.e. a monomorphemic analysis is available at all times.

English

3. Non-pro drop languages

English		
('to walk')		
	present	past
1SG	talk-Ø	talk-ed
2SG	talk-Ø	talk-ed
3SG	talk-s	talk-ed
1PL	talk-Ø	talk-ed
2PL	talk-Ø	talk-e
3PL	talk-Ø	talk-ed

Bimorphemic analysis 1 (Nevins 2007)

Agreement:

-*s* <> [φ: -participant, singular]

-Ø <> [φ:]

Tense:

-*ed* <> [T: past]

-Ø <> [T:]

This analysis predicts **talkeds*.

- Solution 1 (impoverishment): [-partipant] → -Ø / [T: past]

3. Non-pro drop languages

English		
('to walk')		
	present	past
1SG	talk-Ø	talk-ed
2SG	talk-Ø	talk-ed
3SG	talk-s	talk-ed
1PL	talk-Ø	talk-ed
2PL	talk-Ø	talk-e
3PL	talk-Ø	talk-ed

Bimorphemic analysis 1 (Nevins 2007)

Agreement:

-*s* <> [φ: -participant, singular]

-Ø <> [φ:]

Tense:

-*ed* <> [T: past]

-Ø <> [T:]

This analysis predicts **talkeds*.

- Solution 1 (impoverishment): [-partipant] → -Ø / [T: past]

ISSUE

- The feature [-participant] can only be postulated in the presence of another form spelling out [+participant], but such a form is crucially lacking.
- This constitutes an impossible analysis.

3. Non-pro drop languages

English		
(‘to walk’)		
	present	past
1SG	talk-Ø	talk-ed
2SG	talk-Ø	talk-ed
3SG	talk-s	talk-ed
1PL	talk-Ø	talk-ed
2PL	talk-Ø	talk-e
3PL	talk-Ø	talk-ed

Bimorphemic analysis 2:

Agreement:

-Ø <> [φ: participant]

-Ø <> [φ: plural]

-s <> [φ:]

Tense:

-ed <> [T: past]

-Ø <> [T:]

3. Non-pro drop languages

English		
('to walk')		
	present	past
1SG	talk-Ø	talk-ed
2SG	talk-Ø	talk-ed
3SG	talk-s	talk-ed
1PL	talk-Ø	talk-ed
2PL	talk-Ø	talk-e
3PL	talk-Ø	talk-ed

Bimorphemic analysis 2:

Agreement:

-Ø <> [φ: participant]

-Ø <> [φ: plural]

-s <> [φ:]

Tense:

-ed <> [T: past]

-Ø <> [T:]

This analysis predicts **talkeds*.

- Solution 1 (impoverishment): unavailable.
- Solution 2 (allomorphy):

  -Ø <> [φ:] / [T: past]

3. Non-pro drop languages

English		
('to walk')		
	present	past
1SG	talk-Ø	talk-ed
2SG	talk-Ø	talk-ed
3SG	talk-s	talk-ed
1PL	talk-Ø	talk-ed
2PL	talk-Ø	talk-e
3PL	talk-Ø	talk-ed

Bimorphemic analysis:

Agreement:

-Ø <> [φ: participant]

-Ø <> [φ: plural]

-s <> [φ:]

Tense:

-ed <> [T: past]

-Ø <> [T:]

ISSUE

- Postulating a null allomorph presupposes that the bimorphemic analysis is correct but the child will first have to find morphological evidence supporting that.
- In fact, the morphological evidence goes against the bimorphemic analysis: no overt tense and agreement forms ever co-occur.

3. Non-pro drop languages

English		
(‘to walk’)		
	present	past
1SG	talk-Ø	talk-ed
2SG	talk-Ø	talk-ed
3SG	talk-s	talk-ed
1PL	talk-Ø	talk-ed
2PL	talk-Ø	talk-e
3PL	talk-Ø	talk-ed

Monomorphemic analysis:

Tense/Agreement:

-Ø <> [T:], [φ: participant]

-Ø <> [T:], [φ: plural]

-s <> [T:], [φ:]

-ed <> [T: past], [φ:]

- The *–s* does not reappear in the past tense because it competes directly with *–ed*.
- If these forms can compete, they must target a morpheme that encodes both tense and agreement.
- By extension, this must be true for the null forms, as they also compete with *–s* (and *–ed*).

3. Non-pro drop languages

Conclusion for English:

1. The agreement intransparency (no –*s* in the past tense) can be accounted for by postulating a null allomorph but that presupposes that there is evidence for a bi-morphemic analysis to begin with.
2. Assuming that –*s* and –*ed* are in direct competition is supported by the morphological evidence and this in turn supports the monomorphemic analysis.

Icelandic

3. Non-pro drop languages

	The -*ar* class (að mála ‘to paint’)		The -*ir* class (að keyra ‘to drive’)		The -*ur* class (að velja ‘to choose’)	
	Present	Past	Present	Past	Present	past
1SG	mála	málaði	keyri	keyrði	vel	valdi
2SG	málar	málaðir	keyrir	keyrðir	velur	valdir
3SG	málar	málaði	keyrir	keyrði	velur	valdi
1PL	málum	máluðum	keyrum	keyrðum	veljum	völdum
2PL	málið	máluðuð	keyrið	keyrðuð	veljið	völduð
3PL	mála	máluðu	keyra	keyrðu	velja	völdu

3. Non-pro drop languages

	The -*ar* class (að mála ‘to paint’)		The -*ir* class (að keyra ‘to drive’)		The -*ur* class (að velja ‘to choose’)	
	Present	Past	Present	Past	Present	past
1SG	mála	málaði	keyri	keyrði	vel	valdi
2SG	málar	málaðir	keyrir	keyrðir	velur	valdir
3SG	málar	málaði	keyrir	keyrði	velur	valdi
1PL	málum	máluðum	keyrum	keyrðum	veljum	völdum
2PL	málið	máluðuð	keyrið	keyrðuð	veljið	völduð
3PL	mála	máluðu	keyra	keyrðu	velja	völdu

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

Bi-morphemic analysis of the singular:

Agreement:

-Ø <> [φ: speaker, sg.]

-r <> [φ:]

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

Bi-morphemic analysis of the singular:

Agreement:

-Ø <> [φ: speaker, sg.]

-r <> [φ:]

Tense:

-ði <> [T: past]/ [φ: singular]

-Ø <> [T: (present)]

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

Bi-morphemic analysis of the singular:

Agreement:

-Ø <> [φ: speaker, sg.]

-r <> [φ:]

Tense:

-ði <> [T: past]/ [φ: singular]

-Ø <> [T: (present)]

ISSUE 1

The –*r* does not reappear in the 3SG past tense.

- Solution 1 (impoverishment): not available
- Solution 2 (allomorphy):

  -Ø <> [φ:] / [T: past]

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

Bi-morphemic analysis of the singular:

Agreement: *Tense:*

-Ø <> [φ: speaker, sg.]

-r <> [φ:]

-Ø <> [φ:] / [T: past]

ISSUE 2

The *–r* does reappear in the 2SG past. To maintain a bi-morphemic analysis, the 2SG-3SG syncretism must be abandoned in favour of two *–r* homonyms:

-r <> [φ: addressee]

-r <> [φ:]

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

Bi-morphemic analysis of the singular:

Agreement: *Tense:*

-Ø <> [φ: speaker, sg.]

-r <> [φ:]

-Ø <> [φ:] / [T: past]

ISSUE 3

In the past, Icelandic displays a 1SG-3SG similarity.

3. Non-pro drop languages

	The -*ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

By postulating a null allomorph for the 3SG cell in the past tense, the analysis moves away from a syncretic analysis.

→ *-ði* + -Ø <> [φ: speaker, singular]

→ *-ði* + -Ø <> [φ:] / [T: past]

3. Non-pro drop languages

	The -*ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

By postulating a null allomorph for the 3SG cell in the past tense, the analysis moves away from a syncretic analysis.

→ *-ði* + -Ø <> [φ: speaker, singular]

→ *-ði* + -Ø <> [φ:] / [T: past]

Conclusion:

The bimorphemic analysis must condone another homonym pair: a violation of economy.

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

It is in principle possible to make the 1SG and 3SG past cells syncretic in a bimorphemic analysis, with the help of impoverishment.

→ *-ði* + -Ø <> [φ: speaker, singular]

→ *-ði* + -Ø <> [φ:] / [T: past]

Impoverishment rule:

[speaker] → Ø / [T: past], [φ: singular]

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

It is in principle possible to make the 1SG and 3SG past cells syncretic in a bimorphemic analysis, with the help of impoverishment.

→ *-ði* ~~-Ø <> [φ: speaker, singular]~~

→ *-ði* ← -Ø <> [φ:] / [T: past]

Impoverishment rule:

[speaker] → Ø / [T: past], [φ: singular]

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

It is in principle possible to make the 1SG and 3SG past cells syncretic in a bimorphemic analysis, with the help of impoverishment.

→ *-ði* ~~-Ø <> [φ: speaker, singular]~~

→ *-ði* ← -Ø <> [φ:] / [T: past]

But this is a solution after the fact: you cannot avoid an economy violation by complicating the grammar first.

3. Non-pro drop languages

	Past tense of irregular verbs		
	fara ‘to leave’	geta ‘can’	vera ‘to be’
1SG	fór	gat	var
2SG	fórst	gast	varst
3SG	fór	gat	var

- Independent evidence for the hypothesis that the 1SG and 3SG cells are not accidentally homonymous comes from irregular verbs.
- This makes the 1SG-3SG similarity a system-wide property of Icelandic.

3. Non-pro drop languages

	The *-ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

Monomorphemic analysis of the singular:

Tense/Agreement:

-Ø <> [T: present], [φ: speaker]

-r <> [T: present], [φ:]

-ði <> [T: past], [φ:]

-ðir <> [T: past], [φ: addressee]

3. Non-pro drop languages

	The -*ar* class (að mála ‘to paint’)	
	Present	Past
1SG	mála	málaði
2SG	málar	málaðir
3SG	málar	málaði
1PL	málum	máluðum
2PL	málið	máluðuð
3PL	mála	máluðu

Monomorphemic analysis of the singular:

Tense/Agreement:

-Ø <> [T: present], [φ: speaker]

-*r* <> [T: present], [φ:]

-*ði* <> [T: past], [φ:]

-*ðir* <> [T: past], [φ: addressee]

- The –*r* does not reappear in the 3SG past tense because –*r* competes directly with – *ði.*
- Both similarities are analyzed syncretically by underspecification.

3. Non-pro drop languages

Conclusion for Icelandic:

1. The bimorphemic analysis must condone two homonym pairs, which constitutes two violations of Economy.
2. The monomorphemic analysis circumvents these violations.

Standard German

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

- Standard shares with Icelandic (and in fact English) that the 3SG form does not reappear in the past tense.

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

- Standard German shares with Icelandic (and in fact English) that the 3SG form does not reappear in the past tense.
- And it shares with Icelandic that the past tense shows a similarity between 1SG and 3SG.

3. Non-pro drop languages

Standard German irregular verbs			
	gehen ‘to go’	fliegen ‘to fly’	sein ‘to be’
1SG	ging	flog	war
2SG	gingst	flogst	warst
3SG	ging	flog	war

:

- The 1SG-3SG past is not an accidental case of homonymy.
- 1SG-3SG similarity is system-wide.

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

Bimorphemic analysis:

Agreement:

-e <> [φ: speaker]

-st <> [φ: addressee]

-t <> [φ:] / [T: past]

-en <> [φ: plural]

-t <> [φ: plural, addressee]

-Ø <> [φ:] / [T: past]

Tense:

-te <> [T: past]

-Ø <> [T:]

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

Bi-morphemic analysis:

Agreement:

-e <> [φ: speaker]

-st <> [φ: addressee]

-t <> [φ:] / [T: past]

-en <> [φ: plural]

-t <> [φ: plural, addressee]

-Ø <> [φ:] / [T: past]

Tense:

-te <> [T: past]

-Ø <> [T:]

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

Bi-morphemic analysis:

Agreement:

-e <> [φ: speaker]

-st <> [φ: addressee]

-t <> [φ:] / [T: past]

-en <> [φ: plural]

-t <> [φ: plural, addressee]

-Ø <> [φ:] / [T: past]

Tense:

-te <> [T: past]

-Ø <> [T:]

ISSUE 2

1SG-3SG past similarity not treated as syncretic:

1SG/past: spazier + te + e

3SG/past: spazier + te + Ø

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

Mono-morphemic analysis:

Tense/Agreement:

-e <> [T:], [φ: speaker]

-st <> [T:], [φ: addressee]

-t <> [T:], [φ:]

-en <> [T:], [φ: plural]

-te <> [T: past], [φ:]

-test <> [T: past], [φ: addressee]

-ten <> [T: past], [φ: plural]

-tet <> [T: past], [φ; addressee, plural]

- 1SG-3SG past syncretism is captured by underspecification.
- Economy favors the monomorphemic analysis.

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

Bimorphemic analysis:

Agreement:

-e <> [φ: speaker]

-st <> [φ: addressee]

-t <> [φ:] / [T: past]

-en <> [φ: plural]

-t <> [φ: plural, addressee]

-Ø <> [φ:] / [T: past]

Tense:

-te <> [T: past]

-Ø <> [T:]

- Impoverishment needed for syncretic analysis:

  [speaker] → Ø / [T: past]

3. Non-pro drop languages

	Standard German	
	spazieren (‘to walk’)	
	Present	Past
1SG	spaziere	spazierte
2SG	spazierst	spaziertest
3SG	spaziert	spazierte
1PL	spazieren	spazierten
2PL	spaziert	spaziertet
3PL	spazieren	spazierten

Bi-morphemic analysis:

Agreement:

-e <> [φ: speaker]

-st <> [φ: addressee]

-t <> [φ:] / [T: past]

-en <> [φ: plural]

-t <> [φ: plural, addressee]

-Ø <> [φ:] / [T: past]

Tense:

-te <> [T: past]

-Ø <> [T:]

- This is again a solution after the fact.
- You cannot avoid an economy violation by complicating the grammar further.

3. Non-pro drop languages

Conclusion for Standard German:

1. The bimorphemic analysis needs to condone one homonym pair that can be avoided under a monomorphemic analysis.
2. The 3SG – 2PL homonym pair (which is *–t*) needs to be condoned by either analysis and is therefore not decisive.

3. Non-pro drop languages

	3SG Present	3SG Past	Syncretism in the Past
Icelandic	*-r*	-Ø	1-3
Standard German	*-t*	-Ø	1-3
English	*-s*	-Ø	1-2-3
Faroese	*-r*	-Ø	1-2-3
Dutch	*-t*	-Ø	1-2-3

- This analysis naturally extends to all languages with this pattern.
- This happens to be all Germanic languages with agreement.

Standard French

3. Non-pro drop languages

	First conjugation (*-er* verbs)		Second conjugation (*-ir* verbs)	
	present	imparfait	present	imparfait
1SG	demande /dəmɑ̃d(ə)/	demandais /dəmɑ̃dɛ/	choisis /ʃwazi/	choisissais /ʃwazisɛ/
2SG	demandes /dəmɑ̃d(ə)/	demandais /dəmɑ̃dɛ/	choisis /ʃwazi/	choisissais /ʃwazisɛ/
3SG	demande /dəmɑ̃d(ə)/	demandait /dəmɑ̃dɛ/	choisit /ʃwazi/	choisissait /ʃwazisɛ/
1PL	demandons /dəmɑ̃dɔ̃/	demandions /dəmɑ̃diɔ̃/	choisissons /ʃwazisɔ̃/	choisissions /ʃwazisjɔ̃/
2PL	demandez /dəmɑ̃de/	demandiez /dəmɑ̃die/	choisissez /ʃwazise/	choisissiez /ʃwazisje/
3PL	demandent /dəmɑ̃d(ə)/	demandaient /dəmɑ̃dɛ/	choisissent /ʃwazis/	choisissaient /ʃwazisɛ/

3. Non-pro drop languages

	First conjugation (*-er* verbs)		Second conjugation (*-ir* verbs)	
	present	imperfect	present	imperfect
1SG	/dəmɑ̃d(ə)/	/dəmɑ̃dɛ/	/ʃwazi/	/ʃwazisɛ/
2SG	/dəmɑ̃d(ə)/	/dəmɑ̃dɛ/	/ʃwazi/	/ʃwazisɛ/
3SG	/dəmɑ̃d(ə)/	/dəmɑ̃dɛ/	/ʃwazi/	/ʃwazisɛ/
1PL	/dəmɑ̃dɔ̃/	/dəmɑ̃diɔ̃/	/ʃwazisɔ̃/	/ʃwazisiɔ̃/
2PL	/dəmɑ̃de/	/dəmɑ̃die/	/ʃwazise/	/ʃwazisie/
3PL	/dəmɑ̃d(ə)/	/dəmɑ̃dɛ/	/ʃwazis/	/ʃwazisɛ/

- Around 80-90% of French verbs are in the first conjugation.

3. Non-pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

- We have specific forms for the 1PL and 2PL cells and one form (schwa) for the rest.
- Evidence for the presence of the schwa comes from the pronunciation of the root-final /d/.

3. Non-pro drop languages

a.	grand /gʁɑ̃/	a’.	grande /gʁɑ̃d(ə)/
	big.masc		big.fem
b.	bruissant /bʁɥisɑ̃/	b’.	bruissante /bʁɥisɑ̃t(ə)/
	rustling.part.masc		rustling.part.fem

Presence of the schwa triggers the pronunciation of the root-final obstruent (cf. Dell 1985 for details).

3. Non-pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

Bi-morphemic analysis:

Agreement:

-/ɔ̃/ <> [φ: plural, speaker]

-/e/ <> [φ: plural, addressee]

-/(ə)/ <> [φ:]

Tense:

-/ɛ/ <> [T: $past_{IMPERFECT}$]

-Ø <> [T:]

3. Non-pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

Bi-morphemic analysis:

Agreement:

-/ɔ̃/ <> [φ: plural, speaker]

-/e/ <> [φ: plural, addressee]

-/(ə)/ <> [φ:]

Tense:

-/ɛ/ <> [T: $past_{IMPERFECT}$]

-Ø <> [T:]

ISSUE 1

There is no evidence for a schwa ending in the past.

Solution: a null allomorph:

-Ø <> [φ:] / [T: $past_{Imperfect}$]

3. Non-pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

Bi-morphemic analysis:

Agreement:

-/ɔ̃/ <> [φ: plural, speaker]

-/e/ <> [φ: plural, addressee]

-/(ə)/ <> [φ:]

-Ø <> [φ:] / [T: $past_{IMPERFECT}$]

Tense:

-/ɛ/ <> [T: $past_{IMPERFECT}$]

-Ø <> [T:]

ISSUE 2

Imperfect marker -/ɛ/ does not appear across agreement cells.

Solution: an -/i/ allomorph:

-/i/ <> [T: $past_{IMPERFECT}$] / [φ: plural, participant]

3. Non-pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

Bi-morphemic analysis:

Past tense:

-/ɛ/ <> [T: $past_{IMPERFECT}$]

-/i/ <> [T: $past_{IMPERFECT}$] / [φ: plural, participant]

From a linguistic perspective, it makes sense to take -/ɛ/ as the default imperfect marker and –/i/ as the allomorph:

- because -/ɛ/ appears in most past tense cells.
- because -/ɛ/ appears in cells that together do not form a natural class: the singular cells plus 3PL.

3. Non-pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

Bi-morphemic analysis:

Tense:

-/ɛ/ <> ?

-/i/ <> [T: $past_{IMPERFECT}$]

From an acquisitional perspective, it makes more sense to take -/i/ as the default imperfect marker:

- It is only the 1PL and 2PL past tense cells that provide unambiguous evidence for a bi-morphemic analysis.
- The -/i/ will therefore be the first separate past tense marker that the child can hypothesize.
- The consequence is that the allomorph to the -/i/ cannot be a single -/ɛ/.

3. Non-pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

Bi-morphemic analysis:

Past tense:

-/ɛ/ <> [T: $past_{IMPERFECT}$] / [φ: singular]

-/ɛ/ <> [T: $past_{IMPERFECT}$] / [φ: plural, -participant]

-/i/ <> [T: $past_{IMPERFECT}$]

Consequences:

- The bimorphemic analysis creates an homonym pair.
- These homonyms can be avoided under a monomorphemic analysis.

4. Pro drop languages

	First conjugation (*-er* verbs)	
	present	imperfect
1SG	/dəmãd(ə)/	/dəmãdɛ/
2SG	/dəmãd(ə)/	/dəmãdɛ/
3SG	/dəmãd(ə)/	/dəmãdɛ/
1PL	/dəmãdɔ̃/	/dəmãdiɔ̃/
2PL	/dəmãde/	/dəmãdie/
3PL	/dəmãd(ə)/	/dəmãdɛ/

Monomorphemic analysis of *Agreement/Tense:*

-/ɔ̃/ <> [T: (present)],[φ: plural, speaker]

-/e/ <> [T: (present)], [φ: plural, addressee]

-/(ə)/ <> [T: (present)], [φ:]

-/iɔ̃/ <> [T: $past_{IMPERFECT}$], [φ: plural, speaker]

-/ie/ <> [T: $past_{IMPERFECT}$], [φ: plural, addressee]

-/ɛ/ <> [T: $past_{IMPERFECT}$], [φ:]

3. Non-pro drop languages

Conclusion for Standard French:

1. The bi-morphemic analysis of Standard French hits a stage that requires postulation of a homonym pair for -/ɛ/.
2. These homonyms are avoided under a monomorphemic analysis.

Italian & Spanish

4. Pro drop languages

	Spanish	
	amar (‘to love’)	
	Present	Past (imperfect)
1SG	amo	amaba
2SG	amas	amabas
3SG	ama	amaba
1PL	amamos	amábamos
2PL	amáis	amabais
3PL	aman	amaban

Italian	
amare (‘to love’)	
Present	Past (imperfect)
amo	amavo
ami	amavi
ama	amava
amiamo	amavamo
amate	amavate
amano	amavano

4. Pro drop languages

In the imperfect tense, there is a theme vowel right-adjacent to the tense marker (cf. Oltra-Massuet 1999 and Arregi 2000 for Spanish, Calabrese 2015, 2019 for Italian).

Imperfect tense:

Spanish		stem	TH-1	$T_{IMPERFECT}$	TH-2	Agr
	1PL	am	a	b	a	mos
Italian		stem	TH-1	$T_{IMPERFECT}$	TH-2	Agr
	1PL	am	a	v	a	mo

4. Pro drop languages

In the imperfect tense, there is a theme vowel right-adjacent to the tense marker (cf. Oltra-Massuet 1999 and Arregi 2000 for Spanish, Calabrese 2015, 2019 for Italian).

Imperfect tense:

Spanish		stem	TH-1	$T_{IMPERFECT}$	TH-2	Agr
	1PL	am	a	b	a	mos
Italian		stem	TH-1	$T_{IMPERFECT}$	TH-2	Agr
	1PL	am	a	v	a	mo

This theme vowel provides clear evidence for a bi-morphemic analysis in Spanish and Italian.

4. Pro drop languages

	Spanish	
	amar (‘to love’)	
	Present	Past (imperfect)
1SG	amo	amaba
2SG	amas	amabas
3SG	ama	amaba
1PL	amamos	amábamos
2PL	amáis	amabais
3PL	aman	amaban

Italian	
amare (‘to love’)	
Present	Past (imperfect)
amo	amavo
ami	amavi
ama	amava
amiamo	amavamo
amate	amavate
amano	amavano

4. Pro drop languages

	Spanish	
	amar (‘to love’)	
	Present	Past (imperf.)
1SG	amo	amaba-Ø
2SG	amas	amabas
3SG	ama-Ø	amaba-Ø
1PL	amamos	amábamos
2PL	amáis	amabais
3PL	aman	amaban

- In the imperfect, the 1SG and 3SG become similar.
- This can be captured with impoverishment.

Agreement:

-o <> [φ: speaker, sg.]

-s <> [φ: addressee, sg.]

-Ø <> [φ:]

Tense:

-b <> [T: past]

-Ø <> [T: present]

Impoverishment:

[speaker] → Ø / [T: past], [φ: singular]

4. Pro drop languages

The intransparency in Italian can be captured with a context-sensitive rule:

Solution 1:

-iamo <> [φ: plural, speaker]

-mo <> [φ: plural, speaker] / [T: $past_{IMPERFECT}$]

Solution 2 (Calabrese 2019):

-a <> TH / Conjugation 1

-ja <> TH/ [φ: plural, speaker] / [T: present]

Italian	
amare (‘to love’)	
Present	Past (imperfect)
amo	amavo
ami	amavi
ama	amava
amiamo	amavamo
amate	amavate
amano	amavano

4. Pro drop languages

Conclusion for Spanish and Italian:

1. The intransparencies in the imperfect can be captured with an impoverishment (Spanish) and context-sensitive (Italian) rule. No homonyms are created in the process.
2. What provides a strong argument for bi-morphemicity in these languages is the theme vowel separating the agreement and imperfect marker:

Spanish		stem	TH-1	$T_{IMPERFECT}$	TH-2	Agr
	1PL	am	a	b	a	mos
Italian		stem	TH-1	$T_{IMPERFECT}$	TH-2	Agr
	1PL	am	a	v	a	mo

Romanian

4. Pro drop languages

	First conjugation a cânta (‘to sing)		Fourth conjugation a fugi (‘to run‘)	
	Present	Past (imperf.)	Present	Past (imperf.)
1SG	cânt	cântam	fug	fugeam
2SG	cânți	cântai	fugi	fugeai
3SG	cântă	cânta	fuge	fugea
1PL	cântăm	cântam	fugim	fugeam
2PL	cântați	cântați	fugiți	fugeați
3PL	cântă	cântau	fug	fugeau

4. Pro drop languages

	First conjugation a cânta (‘to sing)		Fourth conjugation a fugi (‘to run‘)	
	Present	Past (imperf.)	Present	Past (imperf.)
1SG	cânt	cânt**a**m	fug	fuge**a**m
2SG	cânți	cânt**a**i	fugi	fuge**a**i
3SG	cântă	cânt**a**	fuge	fuge**a**
1PL	cântăm	cânt**a**m	fugim	fuge**a**m
2PL	cânt**a**ți	cânt**a**ți	fugiți	fuge**a**ți
3PL	cântă	cânt**a**u	fug	fuge**a**u

- Imperfect tense is expressed by vowel –*a*, which occurs throughout conjugations (Dindelegan 2012).
- This is also the theme vowel in the first conjugation, making it harder to disentangle the inflectional material, compared to Spanish and Italian (but see Chitoran 2002).
- There are three intransparencies between agreement in the present and imperfect tense.

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Intransparencies:

- The 1SG imperfect is *cântam* instead of the expected *cânta*.
- The 3SG imperfect is *cânta* instead of the expected *cântaă*.
- The 3PL imperfect is *cântau* instead of the expected *cântaă*.

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Intransparencies:

- The 1SG imperfect is *cântam* instead of the expected *cânta*.
- The 3SG imperfect is *cânta* instead of the expected *cântaă*.
- The 3PL imperfect is *cântau* instead of the expected *cântaă*.
- At the same time, the analysis must try to capture two similarities as syncretic: 3SG and 3PL in the present and 1SG and 1PL in the imperfect.

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Intransparencies:

- The 1SG imperfect is *cântam* instead of the expected *cânta*.
- The 3SG imperfect is *cânta* instead of the expected *cântaă*.
- The 3PL imperfect is *cântau* instead of the expected *cântaă*.
- At the same time, the analysis must try to capture two similarities as syncretic: 3SG and 3PL in the present and 1SG and 1PL in the imperfect.

Analysis:

A bimorphemic analysis can capture these properties with underspecification, impoverishment and context-sensitivity.
Bottom line: No homonyms are created in the process.

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Bi-morphemic analysis:

Agreement:

-Ø <> [φ: speaker, singular]
-i <> [φ: addressee]
-ă <> [φ:]
-m <> [φ: speaker]
-ți <> [φ: addressee, plural]

Tense:

-a <> [T: $past_{IMPERFECT}$]
-Ø <> [T: present]

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Bi-morphemic analysis:

Agreement:

-Ø <> [φ: speaker, singular]
-i <> [φ: addressee]
-ă <> [φ:]
-m <> [φ: speaker]
-ți <> [φ: addressee, plural]

Tense:

-a <> [T: $past_{IMPERFECT}$]
-Ø <> [T: present]

The 3SG-3PL similarity is captured as syncretic by underspecification.

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Bi-morphemic analysis:

Agreement:

-Ø <> [φ: speaker, singular]
-i <> [φ: addressee]
-ă <> [φ:]
-m <> [φ: speaker]
-ți <> [φ: addressee, plural]
-u <> [φ: plural] / [T: $past_{IMPERFECT}$]

Tense:

-a <> [T: $past_{IMPERFECT}$]
-Ø <> [T: present]

Impoverishment:

[singular] → Ø / [T: past]

The analysis captures the 1SG/1PL similarity and creates no homonyms.

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Bi-morphemic analysis:

Agreement:

-Ø <> [φ: speaker, singular]
-i <> [φ: addressee]
-ă <> [φ:]
-m <> [φ: speaker]
-ți <> [φ: addressee, plural]

Tense:

-a <> [T: $past_{IMPERFECT}$]
-Ø <> [T: present]

Context-sensitive rule:

-Ø <> [φ:] / [T: $past_{IMPERFECT}$]

This rules creates no homonyms in the imperfect.

4. Pro drop languages

	First conjugation a cânta (‘to sing)	
	Present	Past (imperf.)
1SG	cânt	cântam
2SG	cânți	cântai
3SG	cântă	cânta
1PL	cântăm	cântam
2PL	cântați	cântați
3PL	cântă	cântau

Bi-morphemic analysis:

Agreement:

-Ø <> [φ: speaker, singular]
-i <> [φ: addressee]
-ă <> [φ:]
-m <> [φ: speaker]
-ți <> [φ: addressee, plural]

Tense:

-a <> [T: $past_{IMPERFECT}$]
-Ø <> [T: present]

Context-sensitive rule:

-u <> [φ: plural] / [T: $past_{IMPERFECT}$]

No homonyms are created by this rule.

4. Pro drop languages

Conclusion for Romanian:

1. Romanian shows three intransparencies between the present tense and the imperfect in the first conjugation:
   - The one in the 3PL slots can be remedied by postulating a context-sensitive rule;
   - The one in the 1SG slots can be remedied by an impoverishment rule;
   - The one in the 3SG slots can be remedied by postulating a null allomorph.
2. Neither of these rules creates a homonym pair. The number of intransparencies is irrelevant.

6. Discussion

(At least) two points require further discussion.

1. Partial pro drop:

How can this phenomenon arise under our proposal?

2. Featural overspecification:

Why does overspecification leads to loss of pro drop? Why doesn't the grammar simply ignore the tense features on the head of the unsplit IP?

6. Discussion: Partial pro drop

How can a partial pro drop language arise? We only have a partial answer…

1. It is the hallmark of a contextual approach to null subjects that it provides a natural way of accounting for different contexts behaving differently.
2. In our proposal, pro drop can arise in certain but not all environments if those contexts provide specific evidence for bimorphemicity.
3. One such piece of evidence is complementizer agreement.

6. Discussion: Partial pro drop

1. In Frisian and Bavarian null subjects are claimed to occur only in contexts that have complementizer agreement (Rosenkvist 2009:163).

6. Discussion: Partial pro drop

2SG contexts are the most popular partial pro drop environments:

1 a. Kumm-st (du) noch Minga, dann muas-st *pro* me bsuacha
Come.2SG (you) to Munich, then must.2SG me visit
'If you come to Munich, you must visit me'.
b. Ob-st (du) noch Minga kumm-st, …
if.2SG (you) to Munich come.2SG
'If you come to Munich, ...' (Bavarian, Bayer 1984)

2 a. Miskien moatst (do) my helpe
Perhaps must.2SG (you) me help
'Perhaps you should help me.'
b. Ik denk datst (do) my helpe moatst
I think that.2SG me help must
'I think that you should help me.' (Frisian, De Haan 1984)

6. Discussion: Partial pro drop

3 a. Fahr-ma (mia) aaf Minga?
drive.1PL (we) to Munich
'Do we drive to Munich?'

b. das-ma (mia) aau Minga fahrn
that.1PL (we) to Munich go.1PL (Weiss 2005)

4. Ob-ts (es/ihr) noch Minga kumm-ts,…
whether.2PL (you.PL) to Munich come.2PL
'Whether you come to Munich, …'

(Bavarian, Bayer 1984)

6. Discussion: Partial pro drop

1. In Frisian and Bavarian null subjects are claimed to occur only in contexts that have complementizer agreement (Rosenkvist 2009:163).
2. The forms of the complementizer and verbal agreement are essentially the same (2SG –*st* or –*s*, 1pl –*ma*, 2PL -*ts*.).
3. Now, here a bimorphemic rather than a monomorphemic analysis provides a way of avoiding a homonym pair.

6. Discussion: Partial pro drop

Monomorphemic analysis of 2SG context:

COMP -*st* <> [φ: addressee, singular]

Verbal -*st* <> [T:], [φ: addressee, singular]

Bimorphemic analysis of 2SG context:

COMP/verbal -*st* <> [φ: addressee, singular]

-0 <> [T:]/V[φ: addressee, singular]

6. Discussion: Partial pro drop

Monomorphemic analysis of 2SG context:

COMP *-st* <> [φ: addressee, singular]

Verbal *-st* <> [T:], [φ: addressee, singular]

Creates a homonym pair.

Bimorphemic analysis of 2SG context:

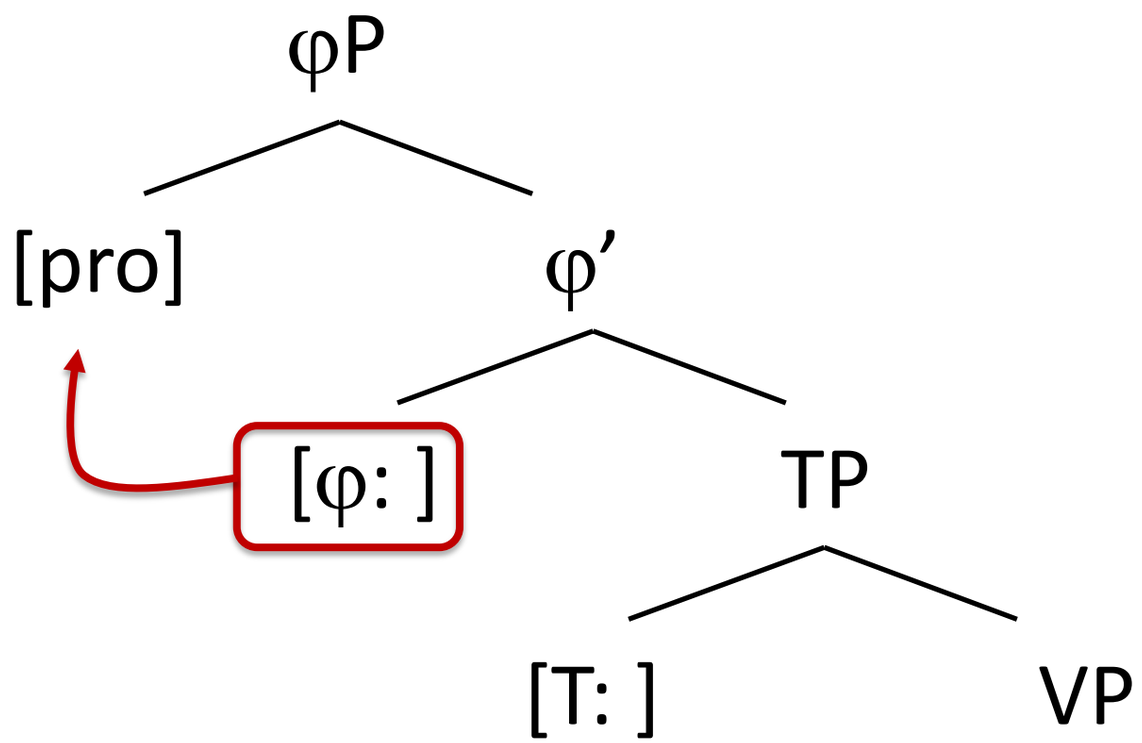
COMP/verbal *-st* <> [φ: addressee, singular]

-0 <> [T:]/V[φ: addressee, singular]

Does not creates a homonym pair.

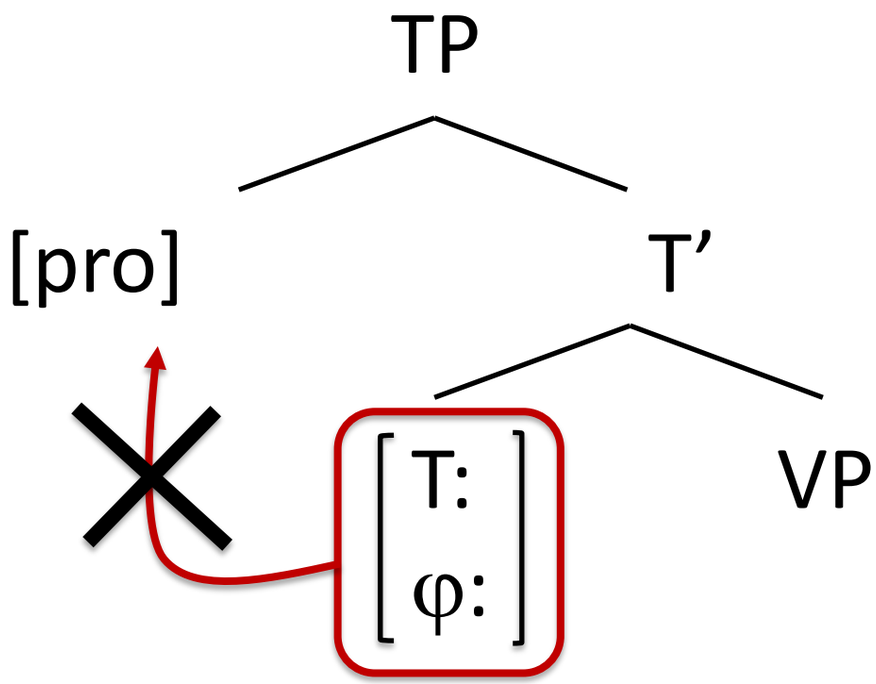
6. Discussion: *Overspecification

Italian



LICENSING

English



NO LICENSING

6. Discussion: *Overspecification

Consequence of our proposal: Mono-morphemic expression of tense and agreement creates an overspecification problem for pro drop licensing.

- ***Featural underspecification***: The unpronounced subject can only be retrieved if its featural content is expressed somewhere else in the clause.
- ***Featural overspecification***: Less straightforward.

6. Discussion: *Overspecification

Three approaches to pro drop.

6. Discussion: *Overspecification

1. Licensing of pro approach (Rizzi 1982 and many others):

The lexical *pro* subject and the agreement marker should stand in a feature-sharing relation. Then it needs to be prevented that any tense features would end up on *pro* as well. By ensuring that the agreement marker lacks any tense features itself, this is straightforwardly guaranteed.

Note that the ban on overspecification must be stipulated as part of the licensing mechanism.

6. Discussion: *Overspecification

2. The *Agr=pro* approach (Borer 1986; Barbosa 2009 a.o.).

The agreement marker needs to take over some properties that are canonically attributed to the subject such as EPP satisfaction (cf. Alexiadou & Anagnostopoulou 1995), theta role absorption. The featural properties of the agreement marker should be similar to that of subjects. If pronouns are void of (semantically active) tense features, so should agreement markers be. This requires a separate agreement morpheme.

6. Discussion: *Overspecification

3. The DP-ellipsis approach (see Holmberg 2005, 2010 and Holmberg & Roberts 2010, Roberts 2010 and Saab 2023 for recent proposals):

We know that ellipsis must be licensed by a formal head and/or an "identical antecedent". If tense and agreement features together make up the morpheme, the identity requirement is not met (Saab 2023).

The attractive property is that the formal properties of ellipsis licensing are independently justified.

6. Discussion: *Overspecification

Conclusion:

Irrespective of one's perspective on pro drop, the generalization that featurally overspecified agreement morphemes cannot license null subject can be made to fit in with the basics tennets of these proposals, although the *pro* approach requires a stipulation.

7. Further research

1. More languages, more languages!

   But we want ”deep typology”, not a cursory look at inflectional systems.

2. Develop a more detailed approach to the acquisition of morphological systems.

   Point of friction: a language with non-overt subjects that looks mono-morphemic. Then what happens *exactly*?

3. Language change (in interaction with language variation and acquisition).

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