

**Andrea Calabrese**

***Sic itur ad astra/Cosi'si ascende alle stelle:*  
On the Latin passive morpheme /-r/  
and its morphosyntactic similarity with Romance SI**

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# Introduction

Latin synthetic passive forms display a suffixal /r/ that is apparently added to the AGR endings, as a comparison of the passive forms with their active counterparts in the case of the Present 1 and 3 singular readily indicates:

Passive

1sg. *am-o-r/mon-e-o-r/aud-i-o-r*

3sg. *am-a-t-[u]-r/mon-e-t-[u]-r/aud-i-t-[u]-r*

(where [u] is epenthetic)

Active

*am-o/mon-e-o/aud-i-o* ‘love/warn/hear’

*am-a-t/mon-e-t/aud-i-t*

The idea that the morphology of the Latin passive should be analyzed as containing a morpheme /r/ that is added to the personal desinences is standard in the traditional analyses of these forms (cf. Meillet 1964, Ernout&Thomas1951, Embick 2000).

# Theoretical Problem

The positioning of this voice morpheme to the periphery of AGR, however, violates the basic generalizations of the positioning of verbal functional elements according to which Voice should have a very low position in the extended projection of the verb close to  $v^0$  and probably lower than  $Asp^0$  (Cinque 1999).

This unexpected positioning has been recently investigated by Embick (2000), Zyman and Kalivoda (2019).

An alternative analysis based on the close similarity between the morpho-syntactic distribution of the Latin passive morpheme /r/ and the Romance clitic SI.

Note:

Latin /r/-forms are not restricted to the passive as in *superāmur a bestis* Cic., Fi 2.11 ‘We are surpassed by the animals’, but have also other uses:

They appear in **reflexive** (*Epamīnōndas exercebātur plūrimum currendo et luctando* "E. was training himself a lot by running and wrestling" and **anticausative** (intransitives in the causative/inchoative alternation) constructions (*alius os amnis aperitur* ‘another mouth of the river opens up’; *cantando rumpitur anguis* Verg. Buc 8, 71 “the snake blows out by singing spells” and they can also have an **impersonal** use (*Sic itur ad astra* Verg. ‘thus one goes to the stars’; *quom caletur* (Plaut, Capt 80) ‘when one is warm/ when it is warm’(Ernout&Thomas1951); *vītam vīvitur* ‘one lives the life" (Wackernagel 1926); *precārio adeitur* ( Corp Inscr. Lat., I, 1215 ‘one enters on request).

## Romance SI-verbal constructions

The same range of uses is a characteristic feature of Romance SI-verbal constructions:

- i) reflexive: *Gianni si lava spesso/si è lavato* ‘G. washes himself often/ washed himself yesterday’;
- ii) impersonal *Qui si va allo sbaraglio* ‘one is risking everything here’ *Si suda molto in questo posto* ‘One is sweating a lot in this place’; *Quest’autunno si è mangiato molte mele* ‘this fall, people ate many apples’; *Quest’autunno le si è mangiate spesso* ‘this fall, people ate them often’;
- iii) passive: *Le mele si mangiano in autunno* ‘the apples are eaten in the fall’; *le mele si sono mangiate in autunno* ‘the apples were eaten in the fall’;
- iv) anticausative: *la macchina si rompe spesso/ si e’ rotta ieri* ‘The car breaks often/ broke yesterday’;

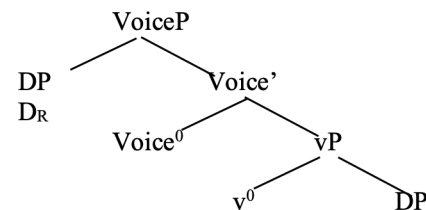
# Proposal

The parallelism between Latin /-r-/ and Romance SI-constructions → they share the same properties!

/-r-/, like SI, is a reflexive- like the element R that, as in Schäfer's (2008) analysis, can be merged in the internal argument position of transitive and unaccusative verbs but can also appear as the Spec of VoiceP in impersonal and passive constructions based on unergatives and transitive verbs.

# Proposal

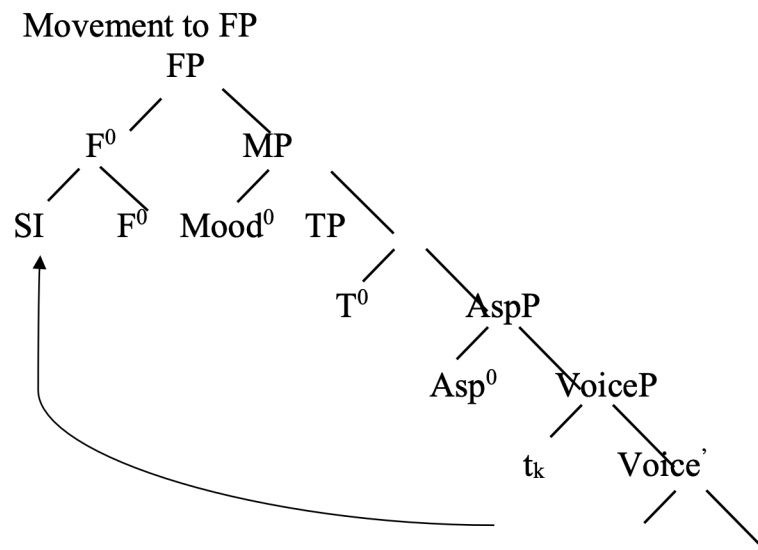
If they are not bound by a c-commanding antecedent, they are assigned an arb interpretation, as in impersonal uses. In passive constructions, they lose argumental status, don't need to have reference, and a theta-role.



# Proposal

Both /SI-/ and /-r/- are clitic elements.

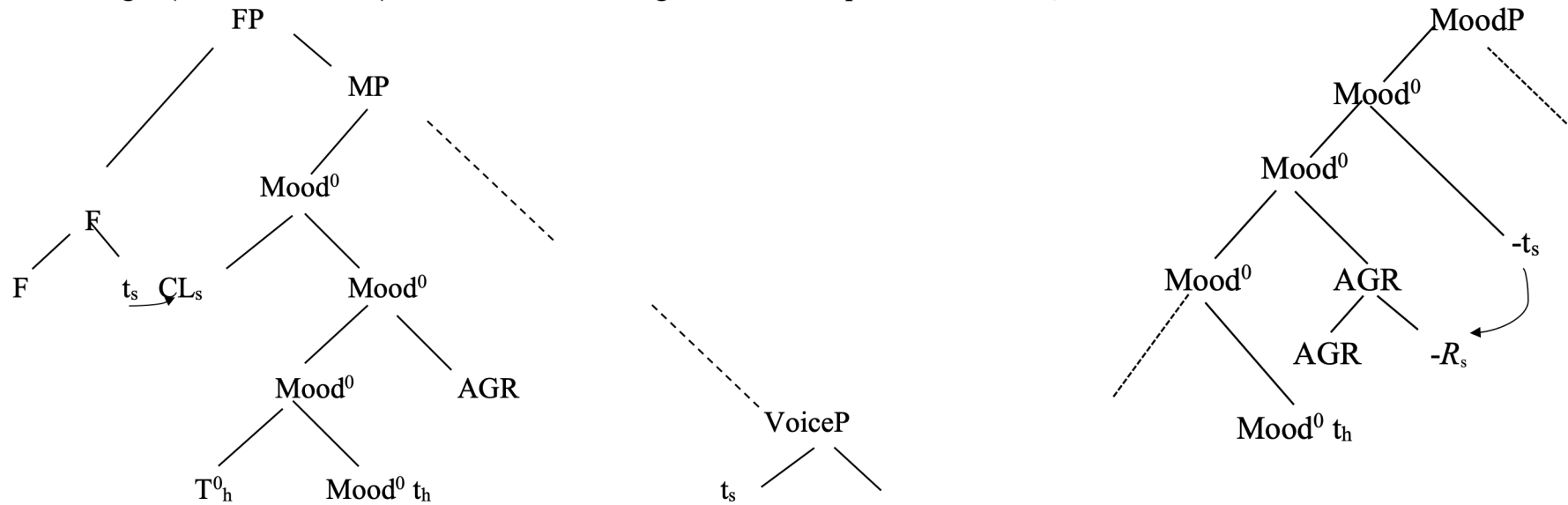
Assuming that “cliticization” involves first moving to a dedicated landing site in FP (Uriegarrega 1995) and then m-merger (true cliticization, Marantz 1988), they thus first move to FP (2) from their position in Spec of VoiceP (or other argumental positions); from this position, they are then m-merged with the verbal complex  $X^0$  (3). Romance SI stops here.



# Proposal

The Latin /-r/ undergoes a further morphological operation that adjoins R to AGR (4). This will account for the relevant constructions in Romance and Latin.

M-merger (true “cliticization”) after head-mvt forming verbal X<sup>0</sup> complex      AGR-adjunction



# Latin Passive forms

In Latin a periphrastic participle construction for the passive, as in the canonical passive of languages such as Italian and English, is found only in the *perfectum* but not in the *īnfectum* forms of which a sample is given below (indicative):

	‘praise’	‘warn’	‘hear’
Present:	<i>am-o-r</i> <i>am-a-ris</i> <i>am-a-tur</i> <i>am-ā-mur</i> <i>am-ā-mini</i> <i>am-a-ntur</i>	<i>mon-e-or</i> <i>mon-e-ris</i> <i>mon-e-tur</i> <i>mon-ē-mur</i> <i>mon-ē -mini</i> <i>mon-e-ntur</i>	<i>aud-i-or</i> <i>aud-i-ris</i> <i>aud-i-tur</i> <i>aud-ī-mur</i> <i>aud-ī-mini</i> <i>aud-i-untur</i>
Imperfect:	<i>am- ā-ba-r</i> <i>am- ā -ba-ris</i> <i>am- ā-ba-tur</i> <i>am-ā-ba-mur</i> <i>am-ā-ba-mini</i> <i>am- ā -ba-ntur</i>	<i>mon- ē -ba-r</i> <i>mon- ē-ba-ris</i> <i>mon- ē-ba-tur</i> <i>mon- ē-ba-mur</i> <i>mon- ēba-mini</i> <i>mon- ē -ba-ntur</i>	<i>aud-iē-ba-r</i> <i>aud-iē-ba-ris</i> <i>aud-iē-ba-tur</i> <i>aud-iē-bā -mur</i> <i>aud-iē-bā -mini</i> <i>aud-iē-ba-ntur</i>
Perfect:	<i>am- ā -t-us sum</i> <i>am- ā -t-us es</i> <i>etc.</i>	<i>mon-i-t-us sum</i> <i>mon-i-t-us es</i>	<i>aud- ī -t-us sum</i> <i>aud- ī -t-us es</i>

# Active counterparts

A comparison of the passive forms in with their active counterpart forms readily indicates that they are formed by adding a suffixal /-r/ to the AGR ending:

Present:	<i>am-o</i> <i>am-a-s</i> <i>am-a-t</i> <i>am-ā-mus</i> <i>am-ā-tis</i> <i>am-a-nt</i>	<i>mon-e-o</i> <i>mon-e-s</i> <i>mon-e-t</i> <i>mon-ē-mus</i> <i>mon- ē -tis</i> <i>mon-e-nt</i>	<i>aud-i-o</i> <i>aud-i-s</i> <i>aud-i-t</i> <i>aud-ī-mus</i> <i>aud-ī-tis</i> <i>aud-i-unt</i>
Imperfect:	<i>am- ā-ba-m</i> <i>am- ā -ba-s</i> <i>am- ā-ba-t</i> <i>am-ā-ba-mus</i> <i>am-ā-ba-tis</i> <i>am-a-ba-nt</i>	<i>mon- ē -ba-m</i> <i>mon- ē-ba-s</i> <i>mon- ē-ba-t</i> <i>mon- ē-ba-mus</i> <i>mon- ē-ba-tis</i> <i>mon- ē-ba-nt</i>	<i>aud-iē-ba-m</i> <i>aud-iē-ba-s</i> <i>aud-iē-ba-t</i> <i>aud-iē-bā -mus</i> <i>aud-iē-bā -tis</i> <i>aud-iē-ba-nt</i>
Perfect:	<i>am- ā-v-i</i> etc.	<i>mon-u-i</i>	<i>aud-i-v-i</i>

# Composition of Passive endings

In fact, treating the passive endings as indivisible units, which are specified contextually to instantiate agreement features when [+passive] is present would fail to account for the fact that the majority of the passive endings include components that are found in active AGR as well.

/-(o)r /	<--> 1sg	/ [+pass] ___
/-ris/	<--> 2sg	/ [+pass] ___
/-tur /	<--> 3sg	/ [+pass] ___
etc.		

In fact, the idea that the morphology of the Latin passive should be analyzed as containing a morpheme /-r-/ that is added to the personal desinences is standard in the traditional analyses of these forms (cf. Meillet 1964, Ernout&Thomas1972, Embick 2000):

## Passive and active

1sg. passive	-(o)-r;	cf. active -ō
2sg. passive	-r-i-s;	cf. active -s
3sg. passive	-t-u-r;	cf. active -t
1pl. passive	-mu-r;	cf. active -mus
2pl. passive	-mini;	no active counterpart
3pl. passive	-nt-u-r;	f. active -nt

# Composition of Passive endings

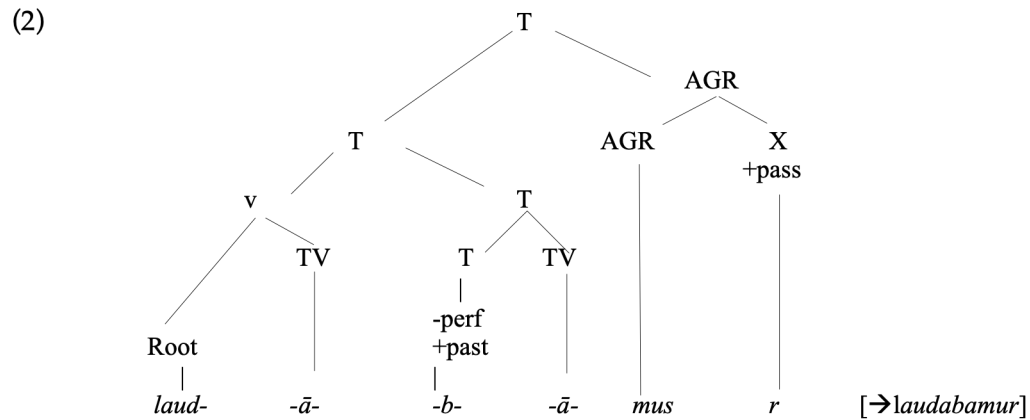
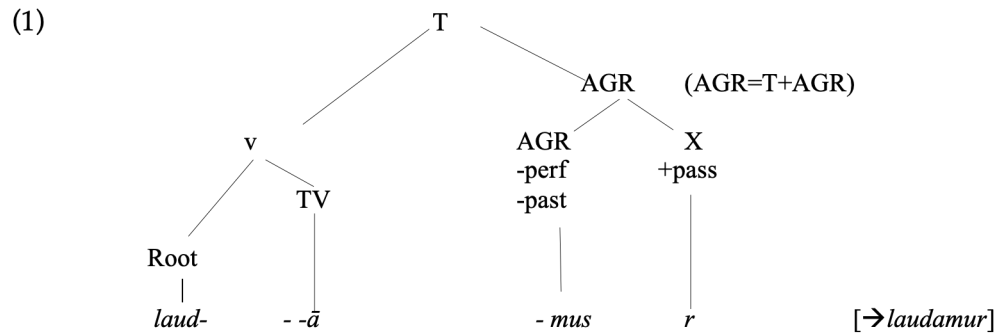
In addition to the VIs needed for the active endings, and the VI insertion the exponent /r/, some further morpho-phonological adjustments are needed to account for the surface shape of the endings in these forms:

- i) a rule of epenthesis inserting [u]:  $a-t-r \rightarrow atur$ ,  $a-nt \rightarrow antur$ , etc.;
- ii) a rule deleting [s] before [r]:  $-amus-r \rightarrow -amur$ .
- ii) a special VI for the 2<sup>nd</sup> plural [-mini]

In the case of the 2<sup>nd</sup> sg. where we have a basic  $a-r-s$ , one could assume a metathesis operation switching /r/ and /s/:  $a-s-r \rightarrow a-r-(i)s$ , or, assuming the archaic form /-re/, we could resort to fission introducing the default marker of the 2sg. /-s/.

# The morphosyntactic structure of Latin passive (First approximation)

Given this segmentation and given what assumed before about the morphosyntactic structure of Latin verbal forms, one can assume that the passive marker /-r/ is attached to the AGR head as proposed in Embick (2000)



What is the X node in these structures? Is it voice? How can voice be positioned there? An answer to these questions will be provided below.

# Other uses of Latin r-forms

Latin r-forms are not restricted to the passive as in , but have also other uses: they appear in reflexive and anticausative (intransitives in the causative/inchoative alternation) construction (cf. ) and they can also have an impersonal use (see ).

Passive uses of Latin r-forms are listed below:

*dabitur tibi amphora* Plut., Caes. 121

An amphora will be given to you

*iam lepidus vocor* Ter., Ad. 911

I am said to be fascinating

*Maerore conficior* Caes. De B.G. 2.175.

The Latin counterpart of a by-phrase appear as a simple ablative with inanimate nouns and with *ab* + the ablative with animate nouns as in the following example (see Ernout & Thomas (1972) on the complements of passive forms)

I am knocked down by the sadness

*superāmur ā bestis* Cic., Fi 2.11

We are surpassed by the animals

# Reflexive and anticausative use of Latin r-forms

We can see the reflexive and anticausative use of Latin r-forms in examples like those in (1):

- (1) a. Reflexive:  
*lavor* 'I wash myself',  
*tergor* 'I dry myself',  
*purgātur* "he justifies himself-,"  
*Epamīnōndas exercebātur plūrimū currendo et luctando*  
"E. was training himself a lot by running and wrestling".
- b. Anticausative:  
*alius os amnis aperitur* 'another mouth of the river opens up'  
*cantando rumpitur anguis* Verg. Buc 8, 71  
the snake blows out by singing spells

# The impersonal use

The impersonal use of the medio-passive is very common in Latin (Ernout&Thomas 1972, Wackernagel 1926)

<i>Sic itur ad astra</i>	‘thus one goes to the stars’
<i>turbātur agris</i>	‘there are some troubles in the countryside’,
<i>dicitur</i>	‘it is said’.
<i>invidētur mihi</i>	‘people envy me’
<i>non parcitur labōri</i>	‘one should not save work’
<i>quom caletur</i>	(Plaut , Capt 80) ‘when one is warm, when it is warm’;
<i>facile nūbitur</i>	(id. Pers., 386) ‘one marries easily’
<i>precārio adeitur</i>	( Corp Inscr. Lat., I, 1215 ‘one enters on request’
<i>vītam vīvitur</i>	‘one lives the life Ennius Fragm 100" (Wackernagel 1926: 146)

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# Romance SI

The same range of uses is a characteristic aspect of Romance SI-verbal constructions, as one can see in the following examples from Italian, a parallelism that commonly pointed out in traditional Italian grammars of Latin (e.g. Bettini, Fabbri & Salvioni 2004).

## **Reflexive:**

*Gianni si lava spesso/si e lavato* ‘G. washes himself often/ washed himself yesterday’

## **Anticausative:**

*la macchina si rompe spesso/ si e’ rotta ieri* ‘The car breaks often/ broke yesterday’

## **Impersonal**

*Qui si va allo sbaraglio*

‘the act of risking everything is performed now’

*Si suda molto in questo posto*

‘One sweats a lot in this place’

*Si ha caldo qui*

‘one is warm here’

*Ci si sposa facilmente in Nevada*

‘one marries easily in Nevada’

*Quest’autunno si e’ mangiato molte mele*

‘this fall, people ate many apples’

*Quest’autunno le si e’ mangiate spesso*

‘this fall, people ate them often’

## **Passive**

*Le mele si mangiano in autunno*

‘the apples are eaten in the fall’

*le mele si sono mangiate in autunno*

‘the apples were eaten in the fall’

# Romance SI

Note:

like in Latin *itur* ‘one is going’, *caletur* ‘one is warm’ SI-impersonal forms can appear also with unaccusative verbs :

*si va a Roma su questa strada*’

‘one goes to Rome on this road’

*si parte presto in estate*

‘one leaves early in Summer’

*Si suda qui*

‘One sweats here’

*Si ha caldo qui*

‘one is warm here’

In Italian also with passives:

*Si è trattati male in quel ristorante.* ‘One is treated poorly in that restaurant’

## A difference between Italian SI-constructions and Latin /r/- morphology.

Agreements in SI-constructions appears always in 3<sup>rd</sup> Person, although it can vary in number, as discussed below. This is not the case of the Latin /r/-forms that can appear with all possible person, and number, contrasts.

Putting aside impersonal uses which are typically 3<sup>rd</sup> person both in Italian and Latin (cf. ) the difference is striking in the passive, and reflexive, uses of these forms. In fact, whereas passive SI is compatible only with 3<sup>rd</sup> person subjects, despite the fact that different person objects can appear in the impersonal use , no such restriction is found in Latin, as in their reflexive counterparts.

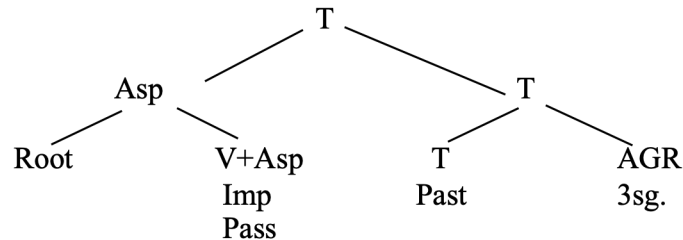
<i>si combatte qui</i> <i>pugnatur</i>	‘people are fighting here’	<i>si e’ combattuto qui</i> <i>pugnatum est</i>	‘people were fighting here’	
<i>li si loda</i>	<i>one praises them’</i>	<i>I studenti si lodano</i>	<i>‘the students are praised’</i>	<i>laudantur</i>
<i>mi si loda</i>	<i>me’</i>	<i>*Io si lodo</i>	<i>I am praised</i>	<i>laudor</i>
<i>ti si loda</i>	<i>you’</i>	<i>*tu si lodi</i>	<i>you are praised</i>	<i>laudaris</i>
<i>ci si loda</i>	<i>us’</i>	<i>*noi si lodiamo</i>	<i>we are praised</i>	<i>laudamur</i>
<i>vi si loda</i>	<i>you’</i>	<i>*voi si lodate</i>	<i>you(pl) are praised</i>	<i>laudamini</i>

Any analysis that assumes a similarity between Italian SI-constructions and Latin medio-passive /r/ -forms must account for this striking difference.

# Previous accounts: Embick (2000)

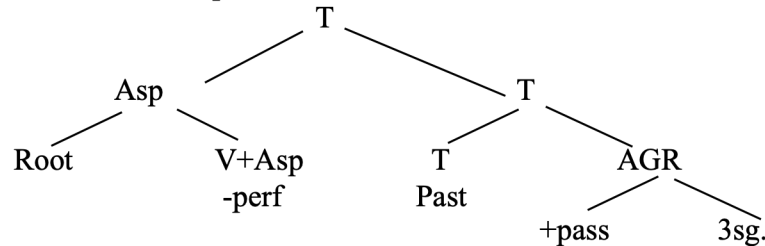
Embick (2000), whose main focus is, however, an investigation of deponency and passive periphrastic morphology in Latin, accounts for the position of the passive /-r/ morpheme in this language by means of two operations: first, the [pass] feature which is located in a fused Asp+V node is separated from this node through the process of Fission; and, second, it is adjoined to Agr, via Morphological Merger (see below). The modified structure, following the relevant operations, is shown in (22):

(1)



(2)

Structure after operations



The two obligatory morphological operations (one instance of Fission and one of Morphological Merger) are posited exclusively to handle the peripheral position of /-r/-element in passive forms, and cannot motivate independently.

## **Previous accounts: Embick (2000)**

Furthermore, Embick's analysis requires that fission and morphological merger apply to the configuration in (1). Such configuration is unfortunately no longer available in the model adopted here where morphological structure is built cyclically from inside out.

Once the computation reaches Aspect in (1), all the functional nodes above it are still present, and there is no way that the feature [+passive] can directly merge with AGR.

Thus, this operation must be done cyclically node by node by applying merge and fission to each of them until AGR is reached. It is obvious that such scenario would be extremely complex, and stipulatory.

# Previous accounts: Zyman and Kalivoda (2019)

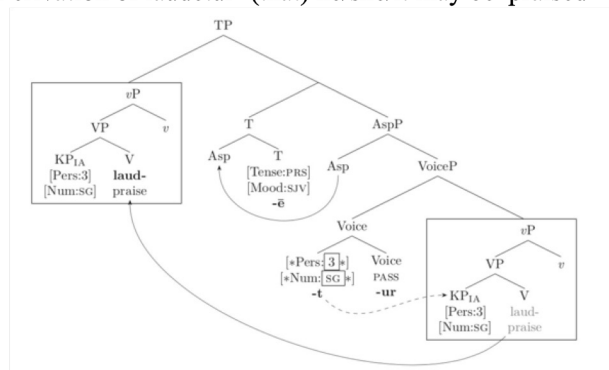
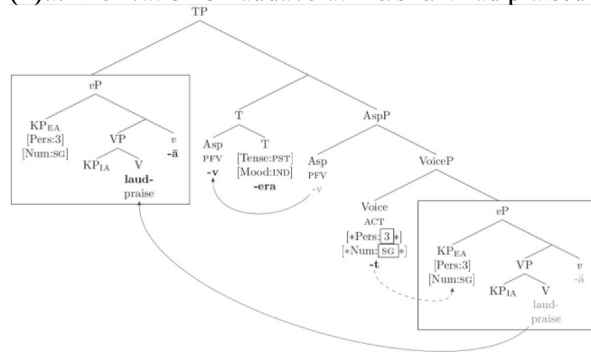
Another account for the positioning of the voice morpheme is proposed by Zyman and Kalivoda (2019). They develop an analysis on which all Latin finite verbs, whether mirroring or anti-mirroring, share the same derivation, involving one step of head movement (Asp to T) and one step of XP-movement (vP-movement to [Spec,TP]). It is the phrasal movement that gives rise to apparent violations of the mirror principle.

It is shown before in the derivation both of the active indicative pluperfect form *laud-ā-v-era-t* and in the passive subjunctive present form *laud-ē-t-ur* (here I am assuming the morphological segmentation assumed by Zyman and Kalivoda, which is quite different from the one I assume before)

(3) a. *laud-ā-v-era-t*  
 praise-th-pfv-pst-3sg  
 ‘he/she/it had praised’

b. *laud-ē-t-ur*  
 praise-prs.sjv-3sg-pass  
 ‘(that) he/she/it may be praised’

(4)a. Derivation of *laudāverat* ‘he/she/it had praised’ b. Derivation of *laudētur* ‘(that) he/she/it may be praised’



## Previous accounts: Zyman and Kalivoda (2019)

As shown in (4)a) and b), on the one hand vP undergoes phrasal movement to [Spec,TP], and it thereby comes to precede the T head  $-\bar{e}$ , which is assumed to expone both subjunctive Mood and present Tense; on the other hand, Asp undergoes head movement to T.

Crucially, vP's phrasal movement to [Spec,TP], and Asp head movement are part of the operations leading to verbal word formation in Latin.

Furthermore, both in (4)a), as in (4)b), voice probes to value its  $\varphi$ -features and gets the values it seeks from the structurally closest KP/DP.

A tight connection is assumed to exist in the Latin verb word between the exponence of Voice proper (active vs. passive/nonactive) and the exponence of  $\varphi$ -features.

Then in their analysis, VoicePASS undergoes postsyntactic fission, the result of which is shown in (40)b) so that there are separate exponents for the  $\varphi$ -features (-t) and Voice proper (-ur).

In the mirroring form laud- $\bar{a}$ -v-*era*-t 'he/she/it had praised', VoiceACT is not expounded separately from the  $\varphi$ -features, so by hypothesis there is no Fission

# Previous accounts: Zyman and Kalivoda (2019)

This analysis requires a certain number of stipulations

- i) The vP-movement to [Spec,TP], which even if it plays a key role in deriving the morpheme orders in anti-mirroring and mirroring forms alike, is needed only to get the anti-mirroring position of passive voice.
- ii) A further stipulation involves the claim that like the  $\phi$ -feature-probes, the AGR node is morphologically realized on Voice. Now, AGR node in most other languages like English, or Italian, is morphologically realized on T. And even in Latin, it could also be assigned to T (or Mood) without any issues in active forms. So, the move is needed only to account for the peripheral positioning for the passive /r/- element in terms of their theory. Note that this move is not even enough in so far as also fission is required to account for the proper position of this element with respect to AGR, as in Embick's account.
- iii) It is also unclear why head-movement should be restricted just to Asp and not apply also to Voice. Obviously if Voice moves, all the explanation falls apart. This seems to be another stipulation regarding Voice in addition to that of how AGR is morphologically realized there.

# Previous accounts: Zyman and Kalivoda (2019)

Other problems:

The analysis requires that Latin verbal forms are not complex heads. They are not even syntactic constituents, but can instead be considered “reflexes of linearly contiguous series of morphemes suspended across potentially vast regions of syntactic space” (Zyman and Kalivoda 2019: XX), which are assembled by the prosody from syntactic terminals, on the basis of phonological properties of the exponents of those terminals (Julien 2002, Svenonius 2018, Myler 2017).

But this is contrary to the actual evidence that requires the presence of a morphological component, with dedicated operations, before phonological spell out, and subsequently the presence of word-like units, i.e., complex heads, before vocabulary insertion, and other morpho-phonological and phonological operations (Calabrese 2019, 2021).

This is needed for example to account for the properties of root suppletion (Bobaljik 2012), ornamental morphology and syncretism (Calabrese 2019, 2021); the properties of tonal and vowel harmony domains (Thornton 2020), the properties of the interaction between vowel harmony, stress and other phonological processes (Fenger 2020).

# Previous accounts: Zyman and Kalivoda (2019)

Other problems:

In any case, there is another aspect of the absence of the notion of a complex head in Zyman and Kalivoda's analysis, that is even more problematic: the fact that in their account V and Asp are not structurally close to one another in any sense, as they also point out: V is within the vP in [Spec,TP], and Asp is a subconstituent of the complex T head.

The analysis is therefore incompatible with the hypothesis that  $\alpha$  cannot trigger allomorphy on  $\beta$  if they are separated by a maximal projection boundary (Bobaljik 2012: 13) or by the boundary of any non-minimal (non-X0) projection, even an intermediate projection (Bobaljik & Harley 2017: 150).

The fact, however, is that allomorphic interactions appear to be possible only in the same morphological word as a complex head where no non-minimal (non-X0) is present. They never cross the XP phrase boundary (Bobaljik (2012)(see also Thornton (2016, 2020).

For example, Thornton observes that root suppletion is restricted to synthetic verbal forms as in English I went where the past tense can determine root suppletion. It never occurs in periphrastic constructions; so, in I did go. The past tense in AUX cannot influence the selection of the suppletive form of the verb root in the lower XP piece. At the best of my knowledge, there is no language that allows root suppletion such as an hypothetical\*I did went or any type of morpho-phonological interaction across XP boundaries, (see above section XX).

This is contrary to what one observes in Latin where Root-Asp morpho-phonological interactions including suppletion are extremely common (cf. Embick 2000, Embick and Halle 2004, Calabrese 2021). This is a major problem for Zyman and Kalivoda's analysis.

# My analysis

The parallelism with Romance SI constructions and Latin /r/-forms is striking.

In Calabrese (1986), I proposed an account based on this parallelism, which tried to connect the reflexive and the passive uses of these constructions through their impersonal ones.

I update it in Calabrese (2019) adopting Schäfer 2008, Embick 2004a;, Alexiadou et al. 2015 and Distributed Morphology (Halle and Marantz (1993)).

# A theory of Voice

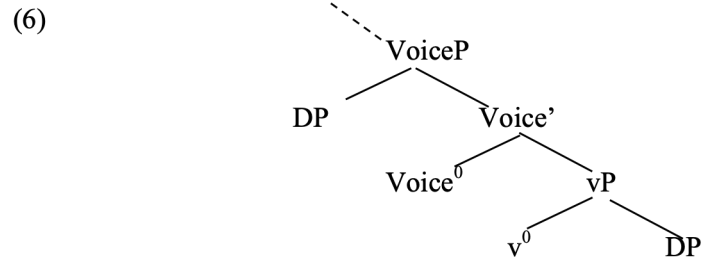
Here I will adopt the main lines of Schäfer (2008, 2016), Alexiadou et al. (2015) with the crucial difference that the impersonal uses of SI-constructions are considered to be a fundamental nexus towards the other uses of these constructions.

I will do that by using though a simpler, more intuitive approach grounded in earlier syntactic models which I prefer, and does not rely on the complex minimalist idiom used by those linguists, hoping that my simplification does not lead to theoretical mishaps which obviously would be only due to my own misunderstanding of the basic issues.

The analysis I propose, which is closer to the theory proposed in Schäfer (2008) more than the more complex one proposed in Schäfer (2016), uses the two main ingredients of Schäfer's (2008) analysis in (5)

It thus adopts the split voiceP -vP structure as in (6) with the presence of a Spec VoiceP determined by (5a) and the presence of a theta role by (5b):

- (5) a. Syntactic transitivity: Voice has a DP in its specifier.
- b. Thematic transitivity: Voice introduces a  $\theta$ -role.



# A theory of Voice

The thematic active Voice is present in all active verbs (unergatives and transitives, including SE-reflexive verbs). It contains a DP merged in Spec,VoiceP, i.e., the external argument. It also can come with different Theta-roles (agent, causer, holder ...), which are assigned to this DP (Kratzer 1996; Schäfer 2008, Alexiadou et al. 2015; Wood 2014, 2015a, b; a.o.).

A thematic passive Voice does not have a Spec,VoiceP, as Schäfer (2008a) assumes, following Kratzer 1996. Along the lines of what I proposed in (1986), here I will also assume that the absence of the Spec,VoiceP is the output of the operation in (1), which is associated with the feature [+passive]. Thus, the absence of the Spec,VoiceP is accounted through a derivational step instead of doing it representationally by means of a special Voice feature as in Schäfer's framework.

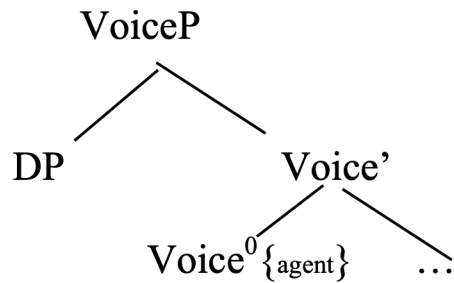
In removing the argumental status of the Spec, VoiceP, it makes it syntactically void. In this case, then, the agent theta role may be parametrically a) deleted/suppressed or b) simply discharged. If it is discharged, it can be picked up by a by-phrase.

(7) Suppress argumental status of Spec of VoiceP

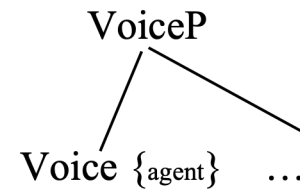
# A theory of Voice

Therefore, only the two structure below are assumed in the analysis here:

(8) a. thematic active Voice:



b. thematic passive Voice:



The application of a similar operation to passivizing SI forms in Italian will account for the difference between them and the periphrastic participial passive forms.

# A theory of Voice

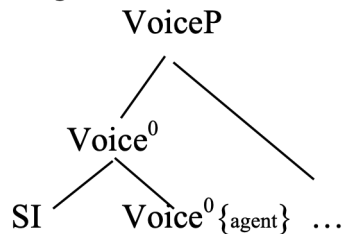
In particular, I propose that whereas referential expressions can occur only in an argumental position, non-referential ones, like SI, can lose argumental status by means of the operation in (9), a parametric option that can apply when the anaphoric element SI is in Spec, VoiceP:

- (9) Suppress the argumental status of Spec of VoiceP if it contains a non-referential element

When SI is no longer in SpecVoiceP, and has lost argumental status, it is adjoined as a morpho-syntactic ornamental node to the Voice head (a similar move is proposed in Pinzin (2015)).

This is a non-argumental position; however, the element there can still be assigned agent theta role, with the further parametric options of deleting or discharging it.

- (10) Non-argumental Voice:



This is the basic machinery that is required to account for all of the uses of SI-constructions in Italian.

# SI

Let see how that can be done, beginning with reflexive SI.

As standard, I assume that SI forms in Romance are anaphoric pronominal elements devoid of Phi-features and reference.

They get them from the antecedent they are coindexed with. If a c-commanding antecedent binds them, they transmit to it the theta-role they saturate in the argument position they are merged with.

These are reflexive forms.

I follow Schäfer (2008) in assuming that SI-reflexive verbs have the structure in (11): I assume that the Voice head is assigned the feature [+R] (reflexive) when one of these elements is merged as one of its arguments.

(11) [TP T [VoiceP DP<sub>AGENT</sub> Voice<sub>+R</sub> [vP V SI<sub>PATIENT</sub> ]]] (SI-reflexive)

They are syntactically transitive with the nominative DP being the external argument (agent) and the SE-reflexive being the internal argument (patient), the latter being semantically bound by the former.

# SI

Remember that I am assuming that at the syntactic level before vocabulary insertion anaphors are purely abstract fully unspecified, and therefore non-referential, nominal, or D, elements, e.g. [ ]<sub>D</sub>. to acquire a reference, they need to get coindexed, otherwise they get an Arb interpretation (Yule,1982, Jaeggli 1986, Lebeaux 1984; and Manzini,1983, Cinque 1986, on the arb interpretation of SI, see also D'Alessandro (2007)).

Their exponence is then established once they receive their features from their antecedent, or through the Arb interpretation procedure.

In Italian I assume the VI in for these elements once they receive their features (I use the feature [direct] to distinguish subject [-] from complement [+] pronouns).

In this list, /ci/ is the least specified complement exponent given its status as an elsewhere item in the Italian clitic system (Pescarini (2010) SI can be a subject or complement but always in 3<sup>rd</sup> person ([-participant]):

(12)	vi	<-->	[+ direct, +participant, +plural] <sub>D</sub>	2 <sup>nd</sup> Plural
	mi	<-->	[+ direct, +participant, +author] <sub>D</sub>	1 <sup>st</sup> Singular
	ti	<-->	[+ direct, +participant] <sub>D</sub>	2 <sup>nd</sup> Singular
	ci	<-->	[+ direct] <sub>D</sub>	1 <sup>st</sup> Plural, Locative
	si	<-->	[-participant] <sub>D</sub>	SI

Under the Arb interpretation (see below), [ ]<sub>D</sub> receives the feature [-participant], which means that SI is inserted in this case. Other languages may opt for different exponents such as French *on*, German *man*, English *one*, etc..

# SI

Crucially, anaphoric pronominal element can also merge to the spec position of VoiceP and saturates its theta-role as in the sentence in (13), whose embedded clause has the structure in (14) (Schäfer 2008):

(13) Mario spesso si vede corteggiare Sandra nei suoi sogni.  
'M. often sees himself courting S in his dreams'

(14) [TP T [VoiceP SI Voice<sub>+R</sub> [vP v DP<sub>THEME</sub> ]]]

I assume that the structure in (14) is also present in impersonal and passive SI constructions based on unergatives and transitive verbs, as explained below.

# SI

Crucially, if one of these anaphoric elements is in an argumental position, but is not bound by a c-commanding antecedent, it is assigned an arb interpretation as mentioned above. This is the impersonal SI (Note that verbal agreement is 3sg in this case):

(15) Quest'autunno le si e' mangiate spesso, le mele  
'this fall, people ate them often, the apples

si e' lavorato molto in questi mesi  
'one worked a lot during these months'

I assume that the detail of Arb interpretation are established by special language-specific rules perhaps even applying at different stages of the derivation.

(see below for more discussion where I account for the special paradoxical properties of impersonal SI with respect to agreement: verbal agreement is in 3sg, while adjectival (and therefore participial) agreement appears as Masculine plural (cf. si e' allegri in questa casa 'one is happy in this house' or si e' lodati spesso in quella classe 'one is often praised in that class').

# SI

Differently than Schäfer, I assume that the step of merging SI in the spec position of VoiceP, and assigning it an impersonal interpretation is crucial for the setting of the other steps leading to anticausative and passive constructions, seeing this as a series of derivational steps.

It is known that one of the properties of impersonal constructions is the demotion of the semantic prominence of agent (cf. [Myhill 1997](#); [Siewierska 2008](#)).

As D'Alessandro (2007) states, these constructions are “used when the intention of the speaker is to remain vague about the exact identity of the subject”, or better I would say, of the agent. Who implements the agency does not really matter. I assume that this is the initial steps that leads eventually to the full suppression of the agency.

So, whereas Schäfer assumes the following implication among type of SI-constructions, where the reflexive one may lead directly to the anticausative one: SI reflexive >SI-anticausative>SI-middle>SI-passive, I assume that the impersonal SI is fully part of this implication: **SI reflexive>SI-impersonal>SI-anticausative>SI-middle>SI-passive** (with parametrical choices dealing with the presence of by-phrases in passive and the compatibility of the SI element only with the 3rd person, or with all persons.

# SI

Note that, as expected from its reflexive use, the SI pronominal element can also be merged to any type of argumental position, and specifically can also be merged in the internal object position of unaccusative verbs and of passive verbs:

(16) [TP T [VoiceP Voice<sub>+R</sub> [vP v SI<sub>THEME</sub> ]]]

<i>si va/si e' andati</i>	'one goes/one has gone'
<i>si parte/si e' partiti</i>	'one leaves/one has left'
<i>si arriva/ si e' arrivati</i>	'one arrives/one has arrived'

*si e' invitati spesso in quella casa*  
'one is often invited in that house'

Then, the sentence will be locally searched to look for a c-commanding antecedent that can bind it. If there is no such antecedent, as obviously in this case, it then acquires arb interpretation.

# SI

As discussed above a further parametric option can occur when the anaphoric element SI is in Spec, VoiceP. Specifically rule (9) repeated here can apply and the SI in Spec of VoiceP loses argumental status, and is adjoined to Voice<sup>0</sup>.

(17) Suppress argumental status of Spec of VoiceP if it contains a non-referential element

When this occurs, SI can no longer characterize the external argument, albeit it may still have arb interpretation, as in the case of true impersonals.

This is the interpretation characterizing the sentence in (18). Note that the internal object triggers verbal and adjectival agreement, and that the impersonal interpretation is required if the purpose clause is present:

(18) *Quest'autunno si sono spesso mangiate mele (per migliorare la salute)*  
'this fall, people ate them often, the apples

# SI

However, as mentioned above, further options are possible: the agent theta role may be parametrically a) deleted or b) simply discharged. If the first option is selected, we have an agent-less passive SI. This is option selected in standard Italian where a by-phrase is incompatible with the passive SI constructions.

- (19) *Quest'autunno le mele si sono mangiate spesso (\*da tutti noi)*  
'this fall, people ate them often, the apples

Purpose clauses are impossible in the case of the sentences in (20) under the passive interpretation:

- (20) *Quest'autunno, le mele si sono mangiate spesso (\*per migliorare la salute)*  
'this fall, people ate them often, the apples

As expected, the difference between a sentence with passivizing SI and a canonical passive regards the implied presence of an agent. So, compare (21) a) and b):

- (21) a. *Quest'autunno, le mele si sono mangiate spesso*  
'this fall, people ate them often, the apples  
b. *Quest'autunno, le mele sono state mangiate spesso*

In the case of (58)a) attention is focused on the act of eating apples regardless of the agent: the act of eating apples was performed regardless of who did it. In the case of (58)b), the agent, although missing, is presupposed or implied: it could be *da tutti noi* 'by all of us/', or *da Carlo* 'by Carlo',

# SI

If it is discharged, the agent theta role can be picked up by a by-phrase. As mentioned above, this second option is not selected in Italian, however, it is by Romanian as shown in (from Cornilescu & Nicolae (2015:323/321/327) and Spanish (from MacDonald and Maddox ( : ), under the special condition discussed by Otero 1986, de Miguel 1992, Mendikoetxea 1999, Sánchez-López 2002)

- (22) a. *Vesela se spală de el*  
dishes se<sub>Pass</sub> wash by him  
'Dishes are washed by him.'
- b. *Esta obra se escribió por un autor totalmente desconocido.*  
This work se<sub>Pass</sub> wrote by an author totally unknown  
'This work was written by a totally unknown author.'

## Agreement and Case assignment properties of verb arguments.

I follow Bobaljik's (2008) theory of agreement, according to which agreement tracks morphological case.

It is enough to say here that **in a nominative–accusative system, the controller of agreement on the finite-verbal complex (T+V) is the highest NP that is assigned nominative case in the clause directly dominating the verbal complex.**

In Bobaljik's theory, morphological cases are assigned according to Marantz (1991). Marantz proposes that there are three primary types of morphological case: (i) lexical (including quirky) case assigned idiosyncratically by particular lexical items, (ii) unmarked case (conventionally called nominative for nominative-accusative languages and absolutive for ergative languages), and (iii) “dependent”-case.

## Agreement and Case assignment properties of verb arguments.

Dependent case is assigned only when more than one NP in a single domain is eligible to receive m-case from the case-assignment rules. For nominative-accusative languages, the dependent case is accusative, and is assigned to the lower NP in the domain, while for ergative languages, the dependent case is ergative, which is assigned to the higher NP.

Simplifying a little bit, I adapt Schäfer's 2008's formulation of the Case algorithm for a nominative-accusative language as in (see also Alexiadou et al. 2015)

- (23) The Case algorithm
- a. **A DP is realized at PF with dependent Case (ACC) if a different argumental DP is in the Spec of VoiceP.**
  - b. **A DP that is not realized with dependent Case appears with default Case (NOM).**
  - c. **Inherent/lexical Case takes precedence over default and dependent Case.**

# Parametric choices in SI-constructions

The consequences of these assumptions for SI are the following:

If SI is in Spec, VoiceP and is argumental, it receive nominative case and is the controller of Agreement.

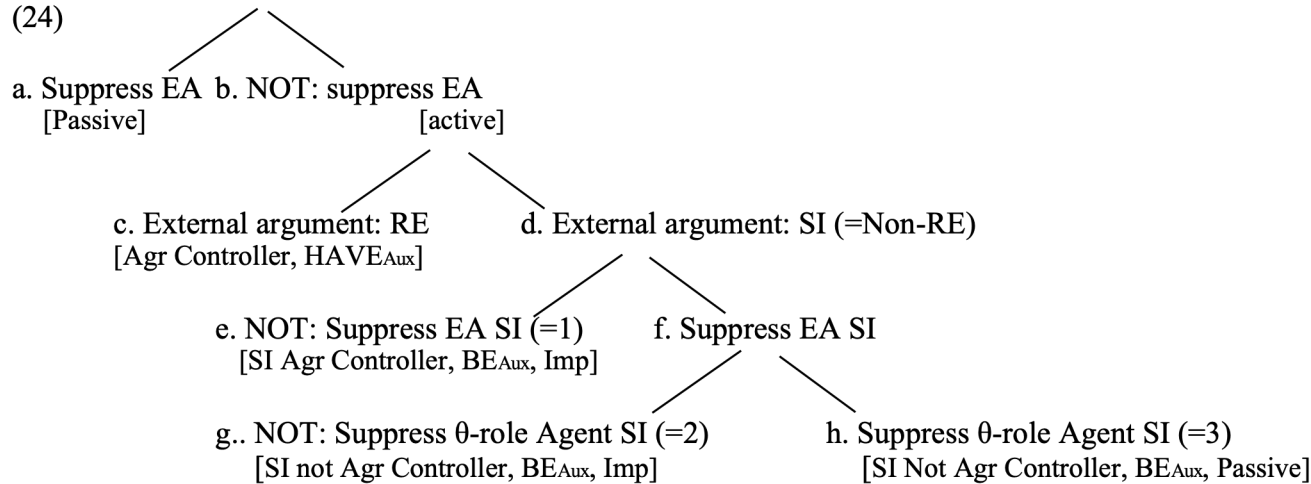
If the SI in spec of VoiceP becomes non-argumental, the object DP is assigned nominative case. This is the DP that then control verb agreement.

A passive interpretation is furthermore generated if the non-argumental SI in spec of VoiceP loses the agent role.

# Parametric choices in SI-constructions

The different parametric steps found when SI is the Spec, VoiceP are illustrated below (EA=External Argument, RE=Referential Expression, [ ]<sub>D</sub> = non-referential expression):

(24)



- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <i>si e' mangiato mele/si e' rotto sedie</i><br/>'one has eaten apples/ one has broken chairs'</li> <li>2. <i>si sono mangiate le mele/si sono rotte sedie</i></li> <li>3. <i>le mele si sono mangiate/le sedie si sono rotte</i><br/>'apples are eaten/ chairs are broken'</li> </ol> | <p>(Impersonal agentive)</p> <p>(Impersonal agentive)</p> <p>Anticausative/Passive)</p> |
|--|---|

As observed by Schafer (2008) the anticausative interpretation of Si is characteristic of transitive verbs with internal causation like OPEN, BREAK.

# The different interpretations of si-constructions with transitive verbs with internal causation like OPEN, BREAK.

Many factors, including, for example, the aspectual properties of the sentence, appear to play a role in the selection of the anticausative, middle or passive interpretation, a topic that cannot be addressed here

- (25) a. *Carlo ha rotto il vaso questa notte*  
'C. broke the car'
- b. Anticausative:  
*I vasi si sono rotti questa notte*  
the vases broke last night
- (26) a. Impersonal:  
*Ieri, li si e' rotti questa notte*  
Yesterday SI has broken
- Ieri, si sono rotti quei vasi per far spazio in giardino*  
Yesterday SI have broken those cars to avenge that insult
- \*Ieri, quei vasi si sono rotti per far spazio in giardino*
- b. Middle  
*I vasi si rompono facilmente*  
the vases breaks easily
- c. Passive  
*I vasi si rompono con un martello*  
'the vases are broken with a hammer'

# A problem to solve

Before turning to SI-cliticization, let us consider the contrast in :

- (27)
- |    |                                       |                           |
|----|---------------------------------------|---------------------------|
| a. | <i>si e' mangiata la torta</i>        | 'one has eaten the cake'  |
| b. | <i>e' stata mangiata la torta</i>     | 'the cake has been eaten' |
| c. | <i>*si e' stata mangiata la torta</i> |                           |
|    |                                       |                           |
| a. | <i>si sono lodati</i>                 | 'one has praised them'    |
| b. | <i>sono stati lodati</i>              | 'they were praised'       |
| c. | <i>*si sono stati lodati</i>          |                           |

The issue is why(27 c) and c) are unacceptable.

The periphrastic construction AUX BE + stat-CM+ Past participle can only be passive. Therefore, they are characterized by the operation in (XX) . Therefore, there is no position where SI could have merged: nor in Spec, VoiceP (because of ) nor any other. The presence of SI is, therefore, unlicensed and excluded.

# Cross-linguistic typological variation

I am assuming the implication: SI reflexive>SI-impersonal>SI-anticausative>SI-middle>SI-passive (with parametrical choices dealing with the presence of by-phrases in passive and the compatibility of the SI element only with the 3rd person, or with all persons)

Crucially basing myself on Schäfer (2016), but reinterpreting his work according to what proposed earlier, I hypothesize that in Italian, as in the other Romance languages, where one finds SI reflexive/ SI-impersonal / SI-anticausative/ SI-middle/ SI-passive, all of the parametric options are implemented with the further restriction that the Theta-role is not discharged so that no by-phrases are allowed with SI-passives. Romanian allows this option.

However, in all these languages, the presence of SI requires 3<sup>rd</sup> person. Scandinavian, East-Slavic, Bulgarian are like Romanian with the further possibility that SI can appear with all persons.

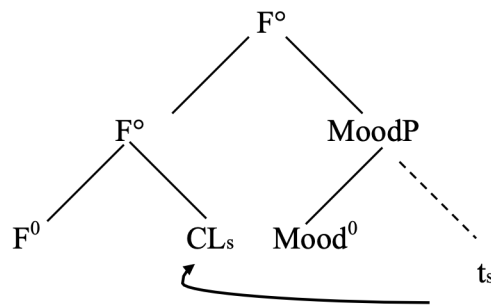
In the case of Polish which has SI reflexive/ SI-impersonal /SI-anticausative/ SI-middle but no SI passive, I assume that EA suppression in h) is allowed only with transitives with internal causation, but not with the remaining transitives, i.e., there is a lexical restriction on this process.

German and Dutch are like Polish, but do not have impersonal SI-construction. I propose that this is due to the fact that the impersonal [ ]<sub>D</sub> element has a specialized exponent, e.g. German *man*, French *on*, English *one*, etc. which bleeds the insertion of SI during vocabulary insertion.

# SI-cliticization

Let us consider the clitic properties of SI. Following Uriagereka (1995) I assume that clitics move to the left-periphery – high in the inflectional domain – to the head of a functional project, which he refers to as FP. I will not deal with the details of this movement here.

(25)



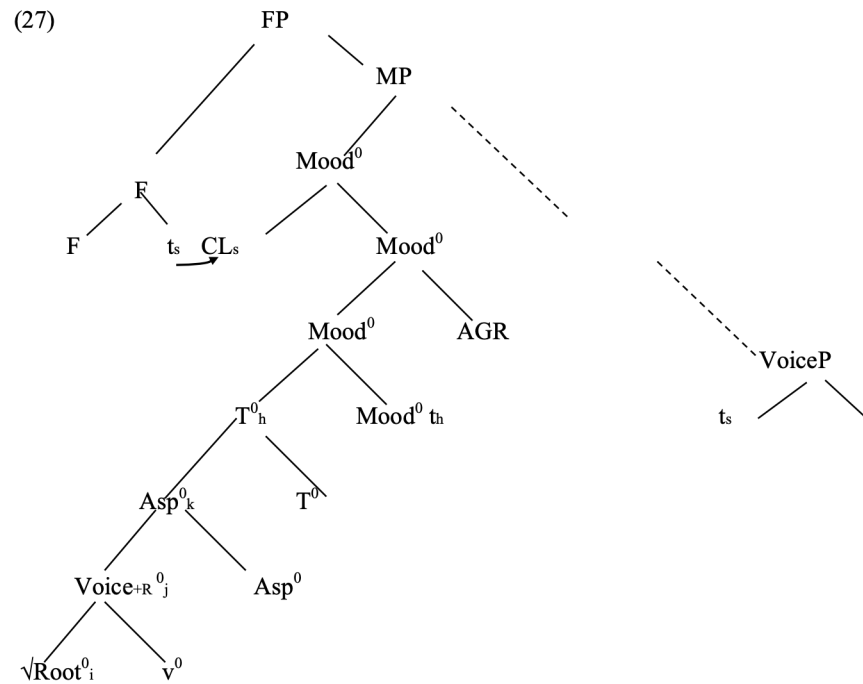
This movement is followed by a morphological operation which m-merges—perhaps an instance of head-lowering— the clitic to its verbal host. So, cliticization involves head movement and m-merge, bracketing a functional head – called clitic – with a host (which may in turn include another clitic).

This is shown in (22). If the building of structure is cyclic, m-merger of the clitic must wait until the verbal  $X^0$  complex, i.e., the verbal word, is generated

(26) Cl ... [T° V] → [Cl V]

# SI-cliticization

Applying these ideas to impersonal and passive SI, we can postulate that it moves from its position in Spec of VoiceP (or other argumental position) to its landing site in FP (see (XX) from where it is the m-merged with the verbal complex  $X^0$ ):

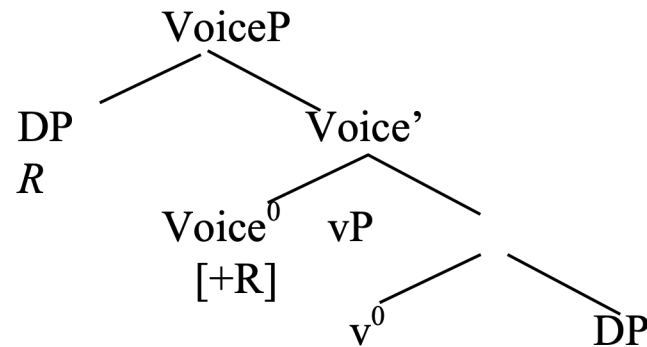


This accounts for the properties of Italian SI.

## Latin /-r-/ forms

Given the the striking parallelism between Latin /-r-/ and Romance SI-constructions, I would like to propose that they share the same properties: /-r-/ is a reflexive- like element *R* that can be generated in Spec of VoiceP as in (28) or in internal argument positions, including the internal object of unaccusative verbs, where it is associated with reflexive, impersonal and passive construction (obviously only with transitive verbs) as discussed with SI above where, as assumed for Italian, the feature [+R] is assigned to Voice<sup>0</sup> in presence of such argumental elements:

(28)

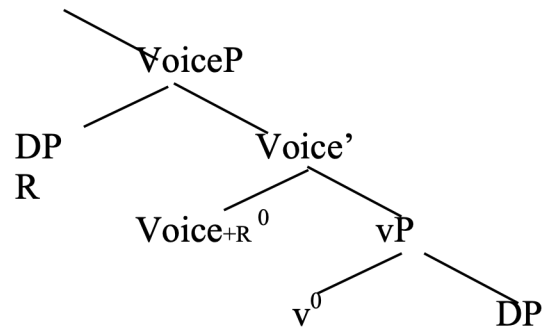


# Latin /-r-/ forms

To account for the fact that in Latin there is no contrast between periphrastic passive construction and impersonal/passive constructions, like in Romance, I assume the rule in (7), repeated here as (29), does not apply. Only 6a) is possible, a matter of parametric choice.

(29) Suppress argumental status of Spec of VoiceP

(30)



# Latin /-r-/ forms

The only strategy for passivization in Latin involves using the SI-like non referential element R.

Latin furthermore selects the option of discharging the Agent theta role saturated by R so that by-phrases are possible with the r-passives as shown again below:

(31) *superamur a bestis* Cic., Fi 2.11  
'We are surpassed by the animals'

*Ferae aut fame aut timore coguntur ad pugnam* Sen.  
'the beasts are forced to the fight by hunger and fear.'

# Latin /-r-/ forms

As for Italian SI, R can appear in different argumental positions. If it appears in an argumental position c-commanded by another DP, it will be a reflexive as in (a):

- (32) Reflexive: [TP T [VoiceP DP<sub>AGENT</sub> Voice<sub>+R</sub> [vP v R<sub>PATIENT</sub> ]]]  
*Epaminondas exercebatur plurimum currendo et luctando*  
"E. was training himself a lot by running and wrestling".

If it is the highest DP in the clause, it will be assigned impersonal interpretation, as discussed for the Italian SI, as in (see ):

- (33) Impersonal: [TP T [VoiceP R Voice<sub>+R</sub> [vP v DP<sub>THEME</sub>]]]/[TP T [VoiceP Voice<sub>+R</sub> [vP v R<sub>THEME</sub> ]]]  
*invidetur praestanti florentique fortunae* (Cic. , de Or. 2, 210)  
'one envies important and flourishing situations'

EA suppression, and subsequent Agent theta-role suppression, will generate a passive interpretation (or an anticausative one with the right verbal roots):

- (34) Passive: [TP T [VoiceP R Voice<sub>+R</sub> [vP v DP<sub>THEME</sub>]]] (with agent suppression)  
*dabitur tibi amphora* Plut., Caes. 121 'An amphora will be given to you'

Anticausative:

*alius os amnis aperitur* 'another mouth of the river opens up'

# A difference between Italian and Latin

It is important at this point to observe that, differently than Italian, impersonal uses of transitive r-forms with accusative objects are unattested at least by classical time according to Ernout & Thomas (1972: 205) with the possible exception of the early Latin example **vitam vivitur** ‘one lives the life. Ennius Fragm 100” quoted by Wackernagel (1926: 146).

If the analysis proposed earlier for Italian is correct, this indicates that by the Classical period, EA suppression must apply systematically so that Latin cannot not have a counterpart of the Italian **li si ama** ‘one loves them’, where I use the clitic to show the assignment of accusative case.

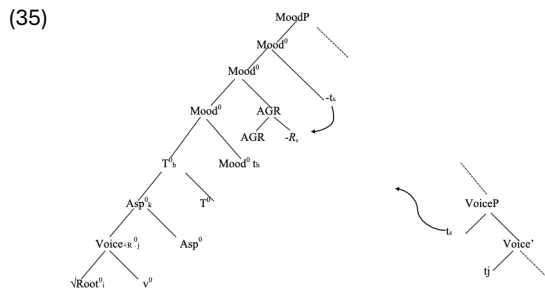
A sentence like **\*amicos amatur** should be impossible in classical Latin, and be systematically replaced by **amici amantur** (Vendryes (1913: )), where the internal argument is assigned nominative case, and triggers verbal agreement as discussed earlier.

It follows that a verb like **amantur** should be ambiguous between an impersonal and a passive interpretation, like the Italian *si amano* which could be both passive and impersonal, putting aside the reflexive interpretation.

- This is precisely what Ernout and Thomas (1972:206) states: “le passif personnel [i.e. the transitive r-form agreeing with the internal argument AC], en effet, n’implique pas nécessairement que le sujet subit l’action. Souvent, il garde la valeur de l’impersonnel, désignant un état ou une action indépendamment de tout sujet détermine, ce qui en fait aussi une expression de l’indéfini: PL. Cas. 121: dabitur tibi amphora “on te donnera une amphore” [.....]. Cette valeur peut être sensible même à une Ire personne: Ter., Ad 911: Iam Lepidus vocor “voici qu’on m’appelle charmant”.

# The further operation affecting /-r/ wrt Italian /SI/

I also propose that as in Italian, R is moved to F<sup>0</sup> from where it is then merged with the verbal form. The characteristic property of Latin /-r/ is a further merger operation that adjoins R to AGR as shown in (35):



This element must have undergone cliticization, specifically encliticization, given the surface position of the /r/-element.

One can assume that this element underwent the movement in (25) and the subsequent cliticization in (26), as Italian SI.

Encliticization which is independently necessary in Latin to account for the behavior of enclitics such as the conjunction -que, disjunction -ve, postpositions such as -cum 'with', -propter 'because of, etc. could be captured by an operation of metathesis, which reverses the order of morphological element (see Halle & Harris 2005 for a possible implementation (cf. also Marantz 1989; Embick and Noyer 2001) (e.g., & [X Y Z → [X=& Y Z in the case of the conjunction -que).

A further diachronic step was the morphological integration of this enclitic element into the preceding verbal form as a suffixal element, a common diachronic development. This is exactly what (35) does by means of head lowering.

Hence, the clitic element becomes affixal part of the inflectional ending, which includes AGR. So, one can assume that the analysis I proposed for Latin must be correct at least from the point of view of its diachronic development. However, here I am supposing that it still part of the synchronic morpho-syntax of Latin, and thus an account for the surface position of Latin /-r/ (and for its SI-like properties) can be achieved.

## The further operation affecting /-r/ wrt Italian /SI/

It is to note that the traditional historical reconstruction of the Latin medio-passive /-r/ assumes that it originates from an ancient reflexive element (Claflin 1927) or from a similar nominal suffix (Hrozný 1917, Marstrander 1919) (see also Vendryes (1914), Wackernagel (1926), Meillet 1964, Ernout & Thomas (1972), Jasanoff (1977)).

Note that all of the operations involving the Latin /-r/ with the exception of the step in (35) are independently motivated in terms of the parallel we see with Romance SI-constructions, and the similar constructions we find in Germanic and Slavic languages. In all of them we see an original reflexive element that eventually becomes the characteristic element of impersonal, anticausative and medio-passive constructions. As for (35), it can be solidly grounded in what we independently know about the grammaticalization of enclitics as suffixal elements, and their consequent behavior. It follows that an account for all of the properties of Latin /r-/ forms but also for the positioning of this voice morpheme to the periphery of AGR can be readily and adequately achieved.

## IE medio-passive

It is to observe that also Classical Greek medio-passive, as well known, has the same range of uses of Latin /r/-forms (Schwizer 1959):a)

It can be used with a reflexive meaning *κλιναμενος σταθμῶ* 'he leaned himself against the jamb, *λοῦσθαι ποταμοῖο ροῆσι* 'to wash themselves at the sides of the river, *ἐνδύομαι* 'I clothe myself'; b) It can be used with a reflexive benefactive middle reading; for example see the contrast between the active *φέρω*, which means "I bring", and the medio-passive *φερομαι*, which means "I bring for myself= I win"; or between the active *λουω τους ποδας*, which means "I wash the feet of others", and the medio-passive *λουομαι τους ποδας*, which means "I wash the feet to myself= I wash my feet"; c) It can be used with a passive meaning: *γαμεισθαι* 'to be married (Wackernage 1926), *ὁ παις παιδευεται* 'the boy is being trained'; d) it can also be used with impersonal meaning (data from Wackernagel 1926): *ου παιωνιζεται* 'one does not sing any paean here, *ωθειται* 'one drinks', *λεγεται* 'one says', *δεδοκται* 'one teaches'.

Sihler (1995:472) (see also Lehman (1973) proposes that the Proto-Indo-European middle endings, from which the Greek endings derive ( cf Meillet 1964 ) are derived from the active ending by adding an element /\*-o-/ at least in some person (e.g. 2nd \*-s-o-3rd \*-t-o, Greek *-(σ)οι, -τοι* where /-i/ is a temporally deictic element, the so called *hic-et-nunc*-particle (Ringe 2006:32)(see (Sihler (1995:476) on the development of the other Greek endings *-(σ)αι, ται*).

I would like to speculate that the same analysis I proposed for Latin /-r/ could be maintained for Greek (and PIE) /-o-/. As a matter of facts, Sihler (1995: 472) reconstructs an original PIE medio-passive /\*-o-r/, whose /-r/ part is preserved in Italic (and therefore in Latin), as well as in Celtic, Tocharian and Anatolian. the /-o/ part was preserved in the other IE languages. One could speculate that this /\*-o-r/ was originally a reflexive, and developed as outlined above for Latin. Crucially, I would also like to assume that the same analysis holds synchronically in a language like Greek.

The issue obviously cannot be fully addressed here, and just remains food for thought for future research.

# Peculiarities of SI agreement with respect to Latin r-morphology.

Note at first that Latin /r/ behaves perfectly in terms of Schäfer's (2008) framework, at least in the re-interpretation of it given in this paper, in essentially being a purely abstract, fully unspecified, non-referential expression that can be merged both into internal or external argument positions, triggering a reflexive interpretation if c-commanded by a higher antecedent, otherwise an impersonal or passive interpretation, depending on whether EA suppression, and the subsequent agent Theta role removal, occur (with the anticausative interpretation due to the nature of the verb).

In being fully unspecified for person and number it is compatible with any subject.

This is not the case with Si-constructions. The presence of SI always requires a 3<sup>rd</sup> person verbal agreement, although number may be determined by the internal argument.

As for adjectival (and hence participial) agreement it is associated with the features [+masculine, +plural]. In the case of the passive interpretation, the subject can only be 3<sup>rd</sup> person. Other persons are excluded:

Impersonal

*li si lava/li si e' lavati*

*'one washes them/one has washed them'*

Impersonal

*le mele, le si e' lavate*

the apple, them SI is washed

Passive

*le mele si sono lavate*

the apple si are washed'

(cf. Lat. *lavantur*)

*mi si lava/mi si e' lavato*

*me SI washes/me SI is washed*

*\*io si lavo/\*Io si sono lavato*

etc. (cf.)

(cf. Lat. *lavor*)

# Peculiarities of SI agreement with respect to Latin r-morphology.

A possible explanation of the just observed pattern includes the following assumptions:

- 1) The diagram in (24) implies a series of derivational steps so that merger of a non-referential expression—what eventually gets the exponent SI in Italian—into spec VoiceP precedes EA suppression, which on its turn precedes agent theta-role suppression.
- 2) Verbal agreement applies cyclically when Spec Voice is reached, and may reapply after EA suppression.
- 3) The exponent SI is specified for the feature [-Participant] in the VI list of non-referential expressions. It is however unspecified for number as shown by the fact that it co-occurs with both singular and plural antecedent (cf. *lui si lava/loro si lavano* ‘he washes himself/they wash themselves’).
- 4) The featural properties of [ ]<sub>D</sub>, and of SI after VI insertion, are assigned by special rules. In parallel with the phonological allomorphy rules of later PF and the allosemantic rules of CI-interface proposed by Marantz (2009) (and see also Schäfer (2016) with regard to SI), one can assume that there are also pure morphological, or better morpho-syntactic allomorphy rules that contextually assign morphological/morpho-syntactic features to morphemes.

# Peculiarities of SI agreement with respect to Latin r-morphology

One can then assume the following derivation:

Let us start with the merging of the non-referential expression [ ]<sub>D</sub> in Spec VoiceP. The element [ ]<sub>D</sub> expression does not have an antecedent in the VoiceP domain. A default morpho-syntactic allomorphy rule then assigns it the “impersonal” features: [-participant, -plural] i.e, 3rd person singular. VI insertion then applies. The [-participant] exponent SI is, therefore, inserted.

Let us assume that at this point the feature [-participant] in the morpho-syntactic representation of the verbal form is bound by the presence of SI, and that bound features cannot be overridden. Cyclic verbal agreement applies when Spec Voice P is reached but it will crucially be sensitive to the features bound by the exponent present there. In this case the verbal AGR will appear as 3rd Singular, EA suppression may only apply at this point but only after SI insertion at Spec VoiceP. The internal argument being the highest NP is assigned nominative and therefore must now become the trigger of verbal agreement. However, the feature [-part] was already assigned to verbal AGR, and cannot be overridden, although feature matching is allowed.

The only feature that can be overridden is the number one, which is unspecified for SI and therefore not bound by it. Therefore, verbal AGR can acquire the feature [+plural] of the internal argument, feature matching in the case of person is allowed.

(36)      si mangia mele qui/ le mele si mangiano spesso qui                    ‘one eats apples here/the apples are eaten here’  
          /\* le mele si mangia spesso qui

# Peculiarities of SI agreement with respect to Latin r-morphology

If the internal argument is [+participant], first or second person, a featural clash will occur between the features required by agreement and the features bound by the presence of SI. Therefore, SI-passive forms like those in (76) will be impossible.

At AspP, after the cyclic insertion of the exponent SI in the lower cycle, a new rule of featural interpretation applies. This rule is of the allosemantic type and has access to aspectual information about the event; it leads to the generic inclusive or purely generic interpretation of SI discussed by Cinque (1988), and Alexiadou and D'Alessandro (2003), which are assigned according to aspectual features: a generic interpretation inclusive of the 1st person, if aspect is perfective, otherwise a generic interpretation when Aspect is imperfective, or under other special circumstances discussed by Cinque (1988), and Alexiadou and D'Alessandro (2003).

Crucially at this point SI is assigned the features [+plural, +masculine] which although are unable to override the number (and person) features established at VoiceP for verbal agreement can be used to determine agreement in outer positions like for participial and adjectival forms, therefore: *si e' allegri in questa casa* 'one is happy in this house' or *si e' lodati spesso in quella classe* 'one is often praised in that class', *spesso non si e' facili con se stessi* 'often one is not easy with himself/herself'. This cyclic derivational approach to SI interpretation and agreement solve the paradoxical aspects of SI-agreement properties.

Crucially, Latin /r/ is fully featurally unspecified, as mentioned above; hence no features of verbal AGR are bound. They, therefore, can be readily overridden. So, Latin /r/-passive forms can appear with all persons.

# Periphrastic passive constructions

Latin passive is periphrastic in the perfect.

*am- ā -t-us sum*

*mon-i-t-us sum*

*aud- ī -t-us sum*

*am- ā -t-us es*

*mon-i-t-us es*

*aud- ī -t-us es*

*etc.*

# **A brief analysis of periphrastic constructions**

If verbal synthetic forms are due to the cyclic application of head movement which is able to convert the extended functional projection of a verb into a single complex  $X^0$  (i.e., a single word involving a root plus affixes), one can plausibly assume that, in contrast, periphrastic verbal forms — in which similar verbal extended functional projections are broken into different complex  $X^0$  (i.e. different words, auxiliaries and other verbal morphological pieces) — are due to the failure of the application of this operation to certain functional heads.

In fact, this approach to periphrasis formation, which was at first formulated in Embick (2000), has been more recently fully developed by Bjorkman (2011), Pietraszko (2016), Fenger (2018, 2020) and Calabrese (2019).

# A brief analysis of periphrastic constructions

In Bjorkman and Pietraszko's works, the failure of functional heads to combine with the verb is due to the action of certain nodes (or better the feature complexes of those nodes) as interveners (Rizzi 1990) in syntactic processes — such as Agree — that lead to head movement (In Bjorkman's system this is done via a version of Agree (Chomsky 2000, 2001), namely Upward Agree (see Merchant 2011, a.o.); in Pietraszko's system this happens through a type of selection, similar to cyclic agree (Béjar & Rezac 2009)).

For example, the v-complex may not raise to Tense because (marked) aspect features intervene for the tense feature to be agreed with and checked.

In Calabrese's model, in contrast, the failure of head movement is formalized in terms of morphological filters disallowing combinations of functional head features: movement is blocked if such combination may be generated.

Fenger proposes that head movement may be blocked by phasal boundaries such as that between the verbal thematic complex which include Aspect and the higher T-C complex (see Bošković 2014, Wurmbrand 2017) — some form of phasal extension would be required to account for the cases where movement crosses these boundaries.

••An obvious advantage of such approaches over purely lexical ones that assume that periphrastic formation is just due to paradigmatic gaps (see Kiparsky 2004 for example) is that the periphrastic structure, and the subsequent formation of auxiliaries, follows the hierarchical functional structure: it is expected that when there is a higher and lower head, the lower head will end up on the verb, whereas the higher head ends up on the auxiliary.

# A brief analysis of periphrastic constructions

What matters here is that periphrasis is the result of blocking of head movement.

A simple way of implementing this, without taking a stand with respect with above mentioned theories, is to propose that head movement from one head position in the extended functional verb projection to the one directly higher up may be parametrized with a parameter allowing or not allowing movement from this position.

If higher up movement is blocked, the complex  $X^0$  head that was cyclically constructed up to that point remains stuck there.

This leads to a periphrastic formation in which the extended functional projection is split in at least two  $X^0$  complexes-words: a lower one, i.e, the blocked  $X^0$  complex, and a higher one including the higher functional heads of the projection. The head movement parameters may have their deeper grounds in the theories mentioned above, but choosing what they are will not be an issue here.

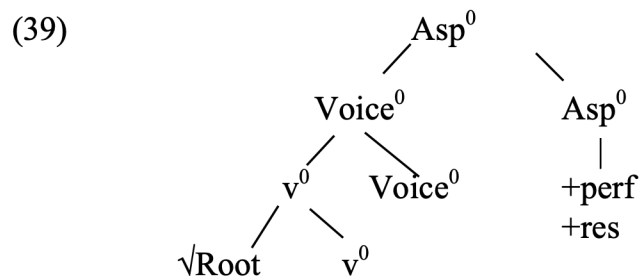
Consider the derivation of the periphrastic construction in , i.e., of an Italian periphrastic perfect form:

- (37)     *siete*                    *andati*                    *a*                    *casa*  
         be-PRS-2PL            go-PTCP-MPL            to                    home  
         ‘We went home’



# A brief analysis of periphrastic constructions

Now, the lower part of the structure in (38) contains a tenseless, moodless verbal  $\text{Asp}^0$  constituent

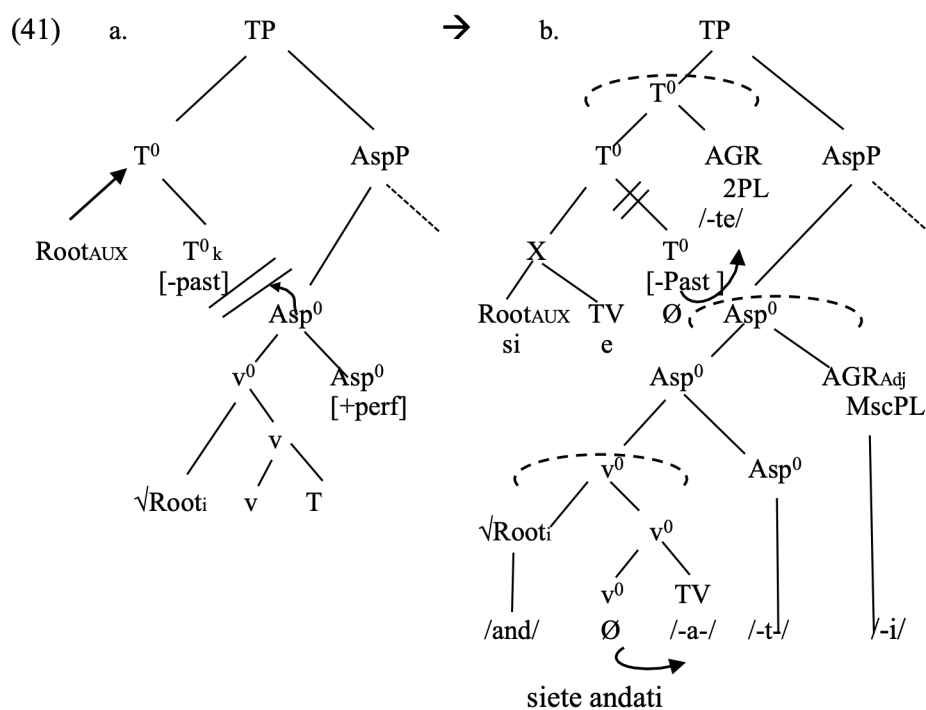


Characteristically, verbal forms of this type, especially in the Indo-European languages, have adjectival properties, specifically the agreement morphology typical of adjectives. One must account for the appearance of these adjectival morphology. In Calabrese (2020), I assumed that this is due to the type of AGR that is inserted in the verbal m-word. AGR is inserted in absence of inherent Phi features, which are found only in nouns:  $\text{AGR}_v$  requires person and number features,  $\text{AGR}_{\text{Adj}}$  requires gender and number features (and case features in languages with overt morphological case). The rule for AGR insertion proposed in that work is the following:

- (40) Adjoin AGR to the highest  $X^0$  of a Complex  $X^0$  included in the extended projection of  $V^0$
- where AGR is adjectival if the highest  $X^0$  is  $\text{Asp}^0$   
Otherwise:
  - verbal.

# A brief analysis of periphrastic constructions

We can now derive the surface forms. Blocking and Aux-insertion are shown in (41a). The outcome with further operations of AGR insertion, pruning, etc. is shown in (41b):

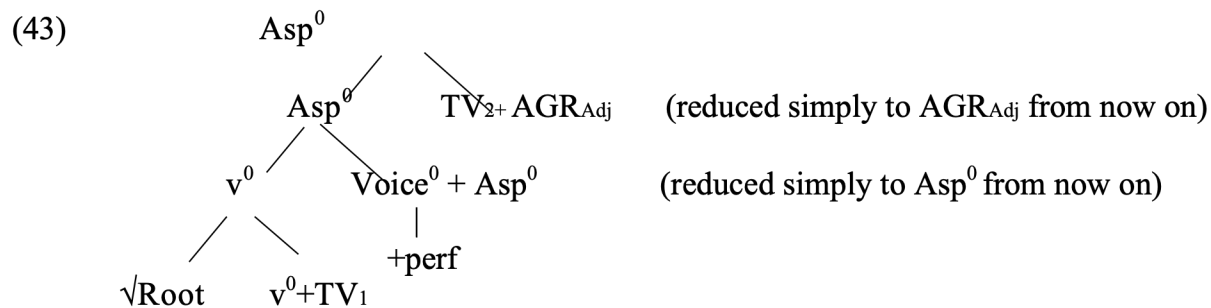


# A brief analysis of periphrastic constructions

Finally, we need to deal with the surface shape of these complex underlying syntactic structures, specifically for the surface absence of the  $v^0$  and  $\text{voice}^0$  nodes.

Assuming the VIs in (42) cyclic application of pruning will then generate the structure in (43)

- (42)
- a.  $\emptyset$   $\leftrightarrow$   $v^0$
  - b.  $\emptyset$   $\leftrightarrow$   $\text{Voice}^0$
  - c.  $\emptyset$   $\leftrightarrow$   $\text{TV}_2 / \text{AGR}_{\text{Adj}}$



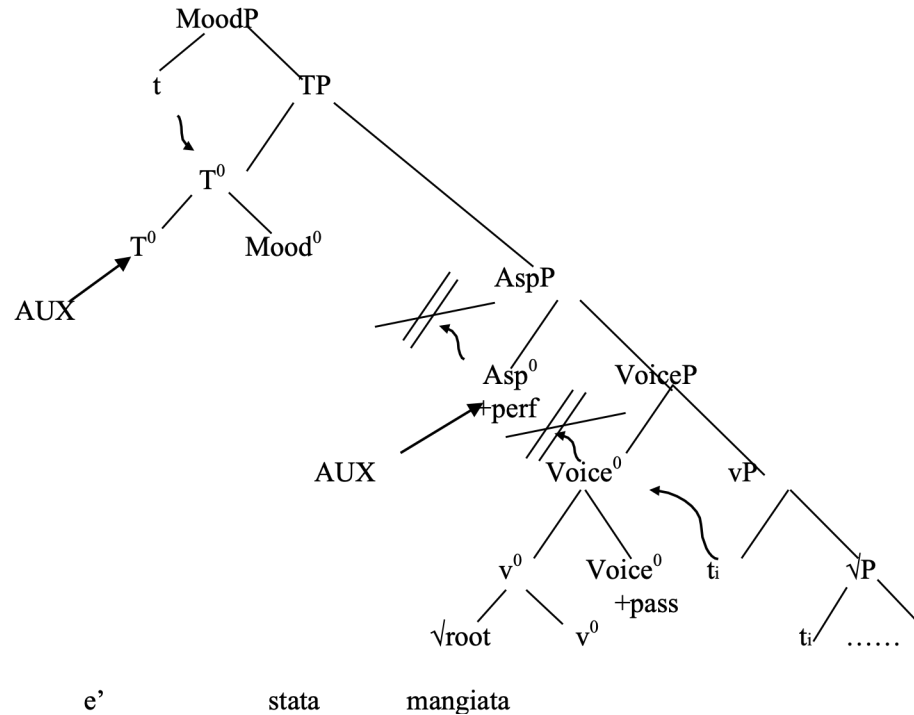




# Passive periphrastic morphology

Furthermore, the analysis of the perfect and passive participle forms just proposed predicts a perfect passive structure with two participles: one for the ASP that does not merge with T and the other for the low voice. This prediction is correct (cf. *la torta e' stata mangiata* 'the cake was eaten') (see also Ippolito (1999), as illustrated by the tree in (47) (before the insertion of TV and AGR elements and pruning operations):

(47)



# Latin periphrastic perfect passive constructions

As mentioned above, in Latin verbal morphology, a periphrastic participial construction is found in the case of the passive perfect.

(49) *Regina ā milite interfecta est.*  
"The queen was killed by the soldier."

*Rex ad proelium est ā servīs portātus.*  
"The king was carried to the battle by his slaves."

*Numquam enim ā Pomponiā nostrā certior sum factus esse cui dare litterās possem.* (Cicero, Ad Atticum 1.5)  
"For I was never made aware by our Pomponia that there was someone to whom I could give a letter."

# Latin periphrastic r-constructions: reflexive uses

Note that also reflexive verbs and impersonal uses of these constructions pattern with the passive ones in displaying a periphrastic formations:

(50) Reflexive periphrastic forms:

<i>sed quoniam in balneis lavar lautus sum,</i>	Varro, On Lat. Language 15
since in baths (we say) “I wash myself”, I have washed myself”	
<i>et eamst indutus</i>	Ter. Eun. 4, 4, 40
and put them (clothes) on himself	
<i>sed neque ungento unctus sum</i>	Jer. Vulg. Dan 10.....
neither anointed myself with oil	
<i>unctus est, accubuit</i>	Cic. Att. 136, 1

# Latin periphrastic r-constructions: Impersonal uses

(51) Impersonal periphrastic forms (cf. Deckman 1920):

*ventum est*

‘people left’

*pugnatum est acriter* (Liv.)

‘People fought hard’

*et dictum est vere*

‘One said the truth’

*iussum est*

‘it was ordered’

Along the line of the analysis proposed above for Italian periphrastic formation as involving blocking of head movement, the fact that periphrasis is found in both reflexive verbs and impersonal ones, as well truly passive ones, indicates that it is the feature [+R] of Voice<sup>0</sup> (=Italian [+passive]) that plays a role in head movement blocking.

# Latin periphrastic r-constructions

Note furthermore that differently than in the Italian periphrastic passive where aspectual contrasts can be found in addition to temporal ones, in Latin the auxiliary displays only temporal contrasts (putting aside future and subjunctive contrasts):

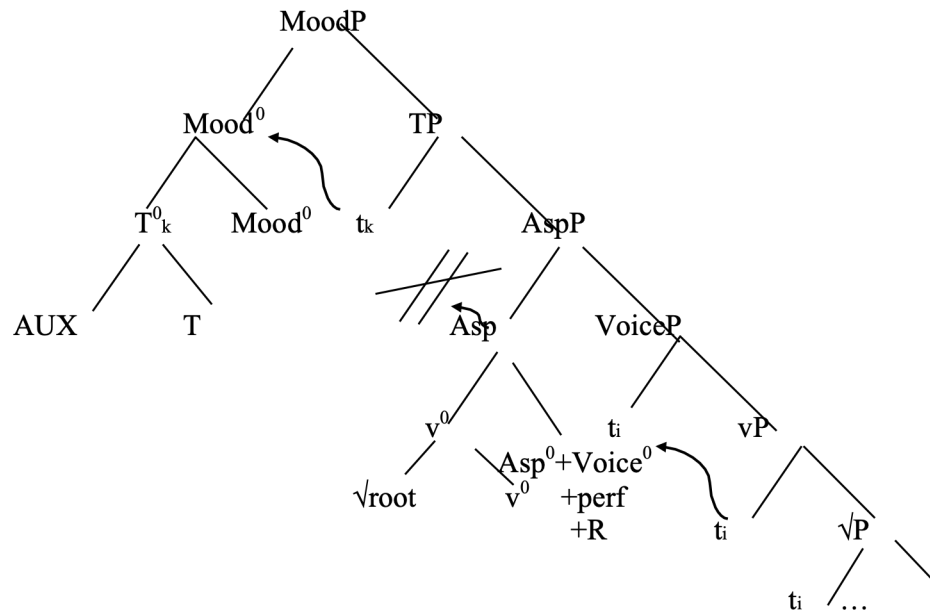
- (52) a. Italian: *Maria e' mangiata* 'Mary is loved'  
*era* was being  
*fu* was  
*e' stata* has been  
*era stata* had been
- b. Latin: *Maria amata est* 'Mary was/has been loved'  
*erat* had been  
*\*fuit*

This indicates that in Latin differently than in Italian,  $Asp^0$  has not moved to the auxiliary complex including  $T^0$ . In terms of the theory developed here, this difference between Latin and Italian is that the verb movement stops in a higher position as in ( ) so that the Latin participle includes  $Asp^0$  differently than in Italian. The participle must include Aspectual [+perfect] features.

# Latin periphrastic r-constructions: derivation

So, the Periphrastic passive in Latin can be derived as follows:

(53)

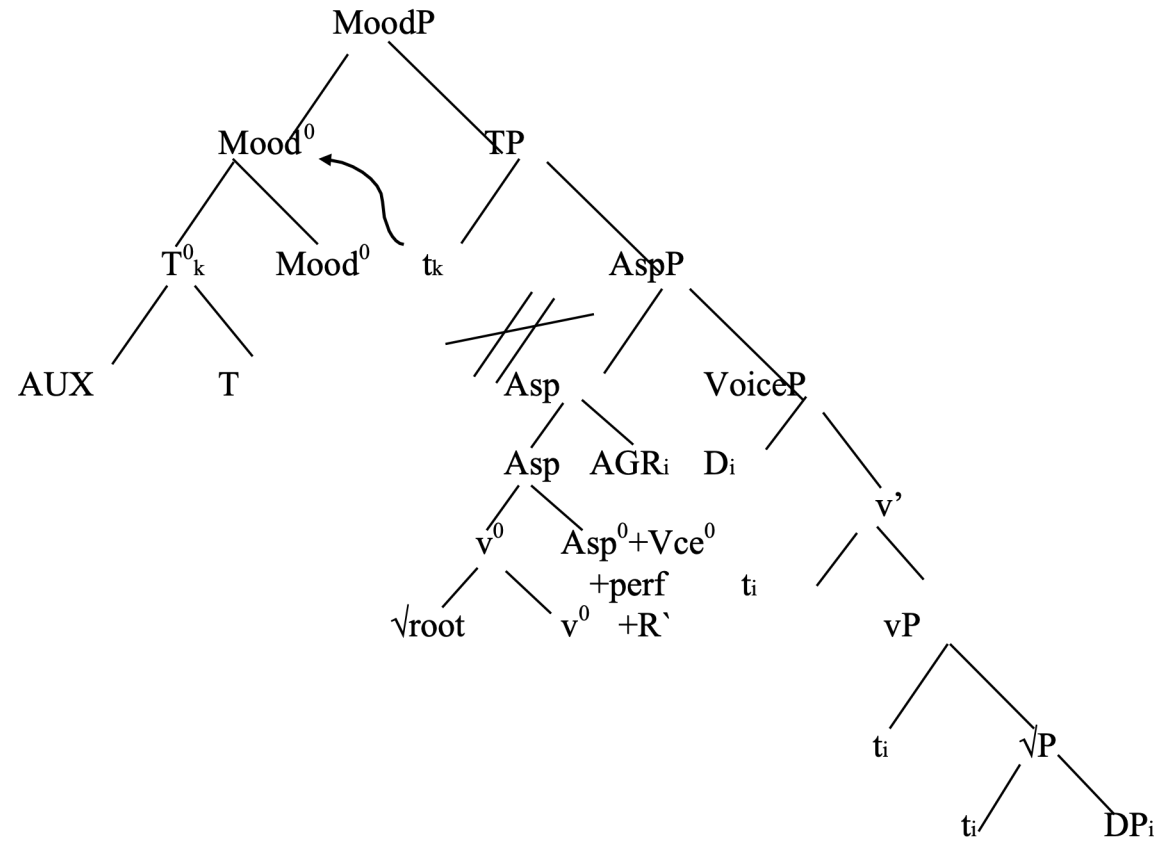


It is to note that impersonal passive like the Italian form in (i) are impossible in Latin insofar as a single strategy of impersonalization/passivization is possible in Latin: R insertion + obligatory EA suppression

(54) Si e' lodati  
si e' stati lodati

# Latin periphrastic r-constructions: derivation

(55)



# Absence of an /-r/ in periphrastic formations.

Note that given what proposed earlier concerning the /-r/ element, one would potentially expect the presence of an /-r/ also in periphrastic formations. However, forms such as those in (56) are just unthinkable in Latin

- (56) a. \*Laudati-r sumus/\* Laudatu-r est  
b. \*Laudati sumur/\*Laudatus estur

Their absence is however readily accounted for if one consider that the feature [+R] is overtly realized in the participle exponent /t/. But then [-r] element in in Spec VoiceP cannot longer cliticize in a higher syntactic position in so far as the participial /-t-/ acts as an intervener blocking a chain between this element and a trace/copy in the the lower verbal phrase, a clear instance of relativized minimality (Rizzi (1990):

- (57) \*\*[ R<sub>i</sub> [AspP /-t-/ [VoiceP t<sub>i</sub> ]]  
{ +R }  
{ +perf }

The R-element is then bound to remain in the lower phrase where it does not have any clicization site. I assume that in this case it is deleted.

# Conclusions

As standardly assumed (cf. Meillet 1964, Ernout&Thomas1951, Embick 2000), Latin synthetic passive forms display a suffixal /-r/ that is added to the active AGR endings,,: am-o-r/ am-a-t-[u]-r/ etc. ‘love-PASS.1sg/3sg.’ The positioning of this voice morpheme to the periphery of AGR, however, violates the mirror principle, according to which the positioning of verbal functional elements in verbal should be parallel to the positioning of functional heads in the syntax: it is assumed that Voice is close to v, and lower to Asp. This is not what is observed in Latin verbal forms.

Main proposal:

An account of this positioning based on the close similarity between the morpho-syntactic distribution of the Latin passive morpheme /-r/ and the Romance clitic SI. They both share the same properties: /-r-/ is a reflexive- like element, which, like SI, can be generated in Spec of VoiceP or in vP-internal argumental position.

If it appears in an argumental position c-commanded by another DP, it will be reflexive.

If it is the highest DP in the clause, it will be assigned an impersonal interpretation.

# Conclusions

A parametric EA suppression and subsequent Agent theta-role suppression may apply to SI//r/ elements when in Spec VoiceP.

If they apply, a passive interpretation (or an anticausative one with the right verbal roots) will be generated. Crucially, I assume that an impersonal SI//r/ element plays a derivational fundamental role in the account so that the following implicature for the uses of these forms/constructions can be established: reflexive>impersonal>anticausative/passive. An impersonal step at least abstractly must be considered to get to the anticausative and passive interpretations.

Furthermore, like Italian SI, which is a clitic element, /r/ is moved to a left periphery  $F_0$  position from where it is then merged, i.e. cliticized, with the verbal form. The characteristic property of Latin /-r/ is a further merger operation that adjoins R to AGR, thus accounting for its positioning to the periphery of the verbal forms.

The absence of a parametric choice simply suppressing the EA, so that Passive forms can be generated only contextually through the insertion of /r/ element in Spec VoiceP accounts for why in Latin there is no contrast between periphrastic passive construction and impersonal/passive constructions, like in Romance. The only strategy for passivization in Latin involves using a SI like non referential element. Latin furthermore selects the option of discharging the Agent theta role saturated by R so that by-phrases are possible with the r-passives.

# Conclusions

All of the operations involving the Latin /r/ are independently motivated.

On the one hand, they are grounded on the obvious parallel we see between the Latin /r/ constructions and Romance SI-constructions, as well as the similar constructions we find in Germanic and Slavic languages.

In all of them we see an original reflexive element that eventually becomes the characteristic element of impersonal, anticausative and medio-passive constructions.

In this regard, it was also noted that that Latin /r/ behaves perfectly in terms of the theoretical framework developed here in essentially being a purely abstract, fully unspecified, non-referential expression that can be merged both into internal or external argument positions, triggering a reflexive interpretation if c-commanded by a higher antecedent, otherwise an impersonal or passive interpretation, depending on whether EA or agent Theta role suppression occur (with the anticausative interpretation due to the nature of the verb). In being fully unspecified for person and number it is compatible with any subject. In being fully featurally unspecified, and therefore not bounding features of verbal AGR, Latin /r/-passive forms can appear with all persons differently than SI-constructions.

On the other hand, the further step that is needed to account for the Latin /r/-constructions—the final morphological merger of /r/ with the AGR ending—is fully grounded in what we know about the morphological evolution of clitic, and especially enclitic, elements, and assuming a synchronic operation of head-lowering, or morphological merger, for the the clitic /r/ is clearly a plausible theoretical move.

# Conclusions

The article also accounted for the Latin periphrastic perfect passive forms as involving blocking of head movement as also proposed for the Italian periphrastic counterparts. The fact that periphrasis is found in both reflexive verbs and impersonal ones, as well truly passive ones, indicates that it is the feature [+R] of Voice<sub>0</sub> (=Italian [+passive]) that plays a role in head movement blocking.

The analysis presented here is consistent with the traditional historical reconstruction of the Latin medio-passive /-r/ as originating from an ancient reflexive element, and could potentially provide novel ways to account for the behavior medio-passives in other Indo-European languages.