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ON THE ITALIAN THIRD STEM AND ITS LONG HISTORY

Edinburgh Theoretical Historical Linguistics Summer School 2026,
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THE MODEL

Overarching theoretical goal:
All possible significant generalizations from word forms must be extracted under the assumption that the relation between syntax and phonology is as transparent as possible.

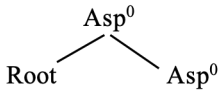
Specific objective: to unpack all the information contained in word forms and to derive it morpho-syntactically and phonologically as much as possible.

Stem allomorphy must be accounted for in terms of simple and motivated morpho-syntactic structures, standard morphological segmentation, morphemes (vocabulary items), morphophonological and phonological rules.

A crucial idea

The presence of a morphological spell out component where morphological repairs triggered by abstract "morphomic" constraints can insert "ornamental" pieces accounting for the interface beween abstract syntactico-semantic structures and surface PF constructions.

(1) Adjectival (stative)participles



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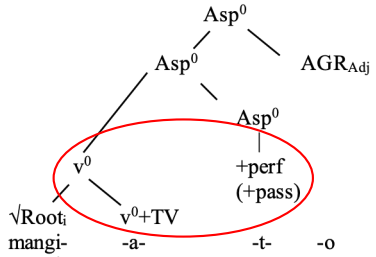
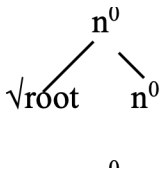


mangi-	-a-	-t-	-o	'eaten' (perfect participle)
mangi-	-a-	-t-	-o	'eaten' (passive participle)
ammal-	-a-	-t-	-o	'sick' (stative adjective)

(2) Nominalizations



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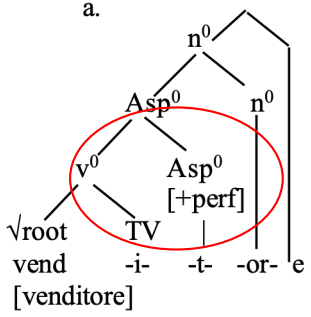
a.



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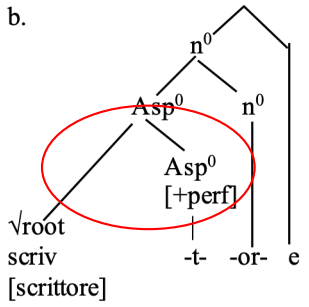


Vogel (1995), following Aronoff (1994)
The Italian third stem

(3)

Infinitive	lavor-a-re	ammal-a-re	batt-e-re	pun-i-re		apr-i-re	scriv-e-re
	divid-e-re						
Past part	lavor-a-t-o	ammal-a-t-o	batt-u-t-o	pun-i-t-o	aper-t-o	scrit-t-o[3]	divi-s-o[4]
Pass. Part.	lavor-a-t-o	--	batt-u-t-o	pun-i-t-o	aper-t-o	scri-t-to	divi-s-o
Stative Adj.	lavor-a-t-o	ammal-a-t-o	---	--	aper-t-o	--	--
Event N	lavor-a-z-ion-e	--	--	pun-i-z-ion-e[2]	---	(de)scri-z-ion-e	divi-s-ion-e
Agent N	lavor-a-t-or-e	--	batt-i-t-or-e[1]	pun-i-t-or-e		--	scrit-t-or-e
	divi-s-or-e						
Result N	lavor-a-t-ur-a	ammal-a-t-ur-a	batt-i-t-ur-a	--	aper-t-ur-a	scrit-t-ur-a	--
Result N	lavor-a-t-a	--	batt-u-t-a	--	--	scrit-t-a	--
	‘work’	‘be sick’	‘beat’	‘punish’	‘open’	‘write’	‘divide’

1. TV –u- is replaced by –i- in nominalizations

2. Affrication: /t/→ [ts]/__ i

3.Assimilation: /v/→[t]/--t

4. Coronal deletion: [+coronal]→ Ø/ __ s

Morphomic stems

According to Vogel (and Aronoff):

There is no semantic connection at all between these word -formation patterns; the *–t-* (or *-s-*) has no meaning common to all these cases, but it is simply an "empty morph" similar to the TVs.

According to traditional morphological models, the simplest rule for constructing a form such as *cacciatore* 'opening' in a sentence such as that in (4) involves adding the future suffix *-ore* to the participle stem *cacciat-*.

(4) Carlo diventera' un bravo cacciatore di orsi
C. will become a good bear hunter.

The problem is that the stem *cacciat-* in (4) does not have the passive or perfect meaning usually associated with the verbal participle.

In the terms of Aronoff (1994), however, **the participial stem has no inherent features but is simply, a stem-form made available by the verb and it is this stem which happens to be input to rules deriving the participles and the nominalizations in (3)**.

Morphomic stems

Aronoff (1994) concludes that cases like this require morpho-syntactic and morpho-phonological derivations to be separated and for there to be entities called **morphomes** which mediate between the two, in particular**, morphomic stem forms where stem is "a sound form to which a given affix is attached or upon which a given non--affixal realization rule operates**." (Aronoff 2012)

Stems do not have functional meaning: they are just "part of the abstract and unmotivated morphological machinery of the language" They are independent parts of the morphological system of the language. (Aronoff 1994: 57- 58).

The majority of morphologists have liked this solution, and adopted the idea that the pieces of morphology can, when required, operate autonomously and without regard to the semantic material they signify, and that the values of complex morphological forms are therefore not necessarily constructed according to strict compositionality.

Embick and Halle (2005):

According to Embick and Halle (2005), **listed stems render opaque the relation between syntactico-semantic structures and phonological forms**. **An approach that introduces suppletive stems makes the weakest possible predictions concerning sound/meaning relationships**.

Consider the role that morphosyntactic derivations play in the construction of phonological forms: syntactico- semantically, there is a clear sense in which one object can be said to be 'derived from' another: if structure S contains structure S' as a subcomponent—i.e. is built additively on S'—then S is derived from S'. iI would be desirable for the connection in form to be as motivated as possible. This is the strongest hypothesis because it grounds the similarities in forms in the syntactico-semantic structure.

This is incompatible with the notion of listed stem where all internal stem structure is opaque and arbitrary.

Goal of this lecture

If the goal of morpho-syntax is to unpack all the information contained in a stem form and derive it morpho-syntactically and phonologically as much as possible, then stem allomorphy must be accounted for differently.

Goal here: Building on Halle and Embick (2005) and Remberger (2012), I will show how the so-called third "participial" stem can be derived by simple morphological repairs in what can be called an instance of abstract morphomics, a function of morphological spell out.

Nota bene: I will not discuss Burzio's (1998) and Steriade's (2018) analyses of Italian and Latin third stem which resort to Output-Output Similarity Correspondences, i.e., to Magics (see Frazer (1898)). Cf. Calabrese (2019) for an extensive critique of both analyses.

Plan of lecture

1. **Brief critical assessment of Embick and Halle (2005) based on Italian perfect and participial system.**

2. **Derivation of the surface morphology of Italian perfect participle.**

3. **An account of the surface convergence among perfect and passive participle forms: and introduction to ornamental morphology as a repair.**

4. **On the surface convergence between adjectival stative participles and the other participles.**

5. **Nominalizations and ornamental participle morphology.**

6. **History of the Latin third stem:**
    1. **PIE verbal structure, derived verbal stems and the development of thematic vowels in Latin.**

    2. **The historical development of the PIE adjectival passive suffix *-tó- and the development of the Latin third stem.**

    3. **Nominalizations in Latin and the historical development of the PIE agentive and action/result nominal suffixes *-tér/tor, *-ti-/*-tu-, into Latin.**

    4. **The supine and the future participle.**

Embick (2000), Embick and Halle (2005)

Embick and Halle (2005), following Embick (2000), propose that **all of the constructions characterizing the so-called participial third stem in Latin share the presence of an Asp^0 node** (See Marantz 1997, Alexiadou 2001, and related work for nominalizations). The same can be proposed for Italian.

Furthermore, they assume **featural underspecification of vocabulary items accounts for the distributional properties of the "third" stem**:

(5) $[\ ]_{Asp} \rightarrow$ /s/ in the context of root^{s}

$[\ ]_{Asp} \rightarrow$ /t/

Problems with Embick (2000), Embick and Halle (2005)

The radically underspecified exponents /-t-/-s-/ proposed by Embick and Halle (2005) are problematic in so far as radical underspecification is **characteristically stipulative and opportunistic** (See Calabrese (2005).

More importantly, however, the proposal that the exponent /-s-/ is underspecified is **empirically inadequate** when seen in the context of Italian verbal morphology, to which I now briefly turn.

Exponents of Italian perfects

The **regular exponent** of the Italian perfect is /-Ø/. Regular perfect forms are thematic:

(6) a. [[[ ]$_{Root}$ TV -Ø-]$_{T}$0 AGR] where Italian T^{0} includes also Asp^{0} feature due to pruning and upward feature docking (see Calabrese (2019))

b. *Imperfect*	*Perfect*	*(Imperfect is always regular)*
am-a-v-o	am-a-i	'love-Imperf/Perf-1sg.'
batt-e-v-o	batt-e-i	'beat-Imperf/Perf-1sg.'
part-i-v-o	part-i-i	'leave-Imperf/Perf-1sg.'

The **irregular exponents** are 1) /-s-/ and 2) /-X-/ (triggering gemination and rounding). Irregular perfect forms are athematic.

(7) a. [[[ ]$_{Root}$ -s-]$_{T}$0 AGR]

b. *Imperfect*	*Perfect*	*Gloss*
val-e-v-o	val-s-i	'be worth-Imperf/Perf-1sg.'
eccell-e-v-o	eccel-s-i	'excel-Imperf/Perf-1sg'
corr-e-v-o	cor-s-i	'run-Imperf/Perf-1sg.'

(8)a. [[[ ]$_{Root}$ -X^{w}-]$_{T}$0 AGR] (triggering gemination and rounding, rounding deleted if consonant is coronal)

b. *Imperfect*	*Perfect*	*Gloss*
notʃ-e-v-a	*nokk^{w}-i*	'harm-Imperf/Perf-1sg.'
tatʃ-e-v-a	*takk^{w}-i*	'be silent-Imperf/Perf-1sg.'
vɛn-i-v-a	*vɛnn-i*	'come-Imperf/Perf-1sg.'

/-Ø-/ can also appear in irregular athematic forms:

(9) a. [[[ ]$_{Root}$ -Ø-]$_{T}$0 AGR]

b. *Imperfect*	*Perfect*	*Gloss*
fatʃeva	*fetʃ-i*	'do-Imperf/Perf-1sg.''
vedeva	*vid-i*	'see-Imperf/Perf-1sg.'

Exponents of Italian past participle

Regular past participles

The regular exponent of the Italian past participle is /-t-/. Regular perfect forms are thematic:

(10)	*Past Participle*		*Imperfect/perfect*	
	am-a-t-o	'love-PP'	amavo/amai	
	batt-u-t-o	'keep-PP'	tenevo/tenei	(special TV for II conj. PP is -u-)
	part-i-t-o	'leave	partivo/partii	

Irregular past participles

Irregular forms can display either /-t-/ or /-s-/. Irregular perfect forms are athematic:

(11)	*Past Participle*		*Imperfect/perfect*
	spor-t-o /spordʒ-t-o/	'lean out-PP'	sporgevo/sporsi
	spen-t-o /spendʒ-t-o/	'turn off-PP'	spengevo/spensi
	tol-t-o /toʎʎ-t-o/	'take away-PP'	toglievo/tolsi

(12)			
	val-s-o	be worth-PP'	valevo/valsi
	eccel-s-o	'excel-PP	eccellevo/eccelsi
	cor-s-o	'run-PP'	correvo/corsi

Distribution of PP exponents

The distribution of the two exponents of the irregular participle **cannot be predicted in phonological terms** since both exponents can occur in the same phonological environment:

(13)	*/t/*		*vs.*	*/s/*	
	afflitto	'afflict-PP' (cf. affliggevo)		affisso	'affix-PP' (cf. affiggevo)
	sporto	'lean-PP' (cf. sporgevo)		sparso	'spread-PP' (cf. (spargevo)

Morphological generalizations:

1. All roots that are **athematic in the past participle** are also **athematic in the Perfect**. The reverse does not hold. Thus, there are roots that are athematic in the Perfect but not in the Past Participle. For example, all the athematic roots that take the geminating exponent in (8) are systematically thematic in the past participle. The thematic vowel in this case is /-u-/ as in the regular forms of the /-e-/ conjugation:

(14)	cadevo	caddi	caduto	'fall'
	venivo	venni	venuto	'come'
	tacere	tacqui	taciuto	'be silent'
	nuocevo	nocqui	nociuto	'harm'

The few athematic roots that have the exponent Ø in the perfect such as *feci, vidi* have an athematic past participle with /-t-/ (the /s/ of *visto* is due to a special MP rule)

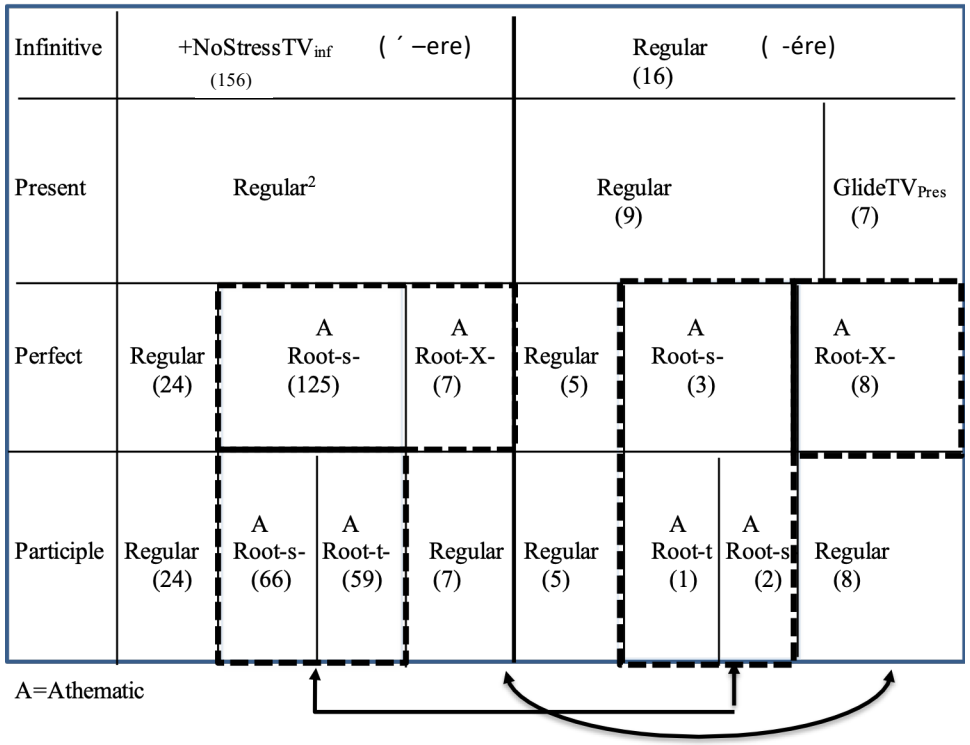
(15)	facevo	feci	fatto
	vedevo	vidi	visto

2. **If we exclude the roots in (14) and (15), we can postulate that if a root is athematic in the past participle, regardless of whether the exponent of the PP is /–t-/ or /–s-/, then it will have /–s- /as the exponent of the Perfect** (cf. Vogel (1994), Calabrese (2015)):

(16)	valere	'to be worth'	PP:valso /Perf. valsi	'I was worth,
	scuotere	'shake'	PP: scosso/Perf. scossi	'I shook

Specifically, if a root takes /s/ in the Past Participle, one predicts that it will take /s/ also in the Perfect. Simply, the roots that take /-s-/ in the Past Participle are a subset of those taking /-s-/ in the perfect.

Correlation between perfect and particle forms in Italian



Problems with Embick's (2000), Embick and Halle's (2004) theory as applied to Italian

In his discussion of Latin verbal morphology, Embick (2000) (see also Embick and Halle (2004), proposes that **the presence of the same exponent in both perfect and past participle forms is a simple issue of accidental homonymy**. In his analysis, /s/ is on one hand the elsewhere realization of the aspect node as in (17) , and at the same time the realization of +perfect Aspect as in (18) :

(17) a. $[\ ]_{Asp}$ → /s/ / in the context of root^{s}
b. $[\ ]_{Asp}$ → /t/

(18) a. $[+perf]_{Asp}$ → /s/ / in the context of root^{s}
b. $[+perf\ ]_{Asp}$ → /v/

However, **this cannot be correct for Italian (and also Latin) given the striking overlap in the same insertion context of the perfect and the participle /s/ before the same designated set of roots. The presence of /-s-/ as an exponent of past participle aspect predicts that /s/ will be the exponent of the perfect**. This generalization requires an essential unity between the perfect and the participial /-s-/.

A solution simply adopting underspecification is untenable

Problems with Embick's (2000), Embick and Halle's (2004) theory as applied to Italian

A solution simply adopting underspecification is untenable for Italian

1. There is reason to believe that the elsewhere exponent of T^0 is actually /Ø/ that is found not only in the present but also as exponent of regular perfect forms and some irregular ones as shown above (cf. (9)).

2. There is then the issue of the insertion context, in so far as /-s-/ appears both in T^0 and in ASP^0. Because of the logic of underspecification, the categorial specification of this VI must be underspecified as follows

   (19) [ ] → /-s-/ in the context of root^s

   But then in the case of the participle, this VI would always be overridden by that inserting /t/ since this must be specified as applying only in the participle forms:

   (20) $[\ ]_{Asp\bar{X}}$ → /t/ (where with $Asp^{\bar{X}}$ I indicate that Asp is the highest functional node in the verbal extended projection in the Complex X^0)

Perfect and participial VIs

To account for the distribution of /s/ , this item must compete at the same time with the other exponent of the perfect and the /t/ of the participle (both the passive and perfect ones). This can be achieved by assuming that **/-s-/ insertion is triggered by the presence of the feature [+perfect] regardless of whether or not Aspect is fused with T**, as in (21a-b). I formulate this formally by not mentioning Asp^0 or T^0 in (21c). Thus, the VIs in can be proposed for Italian:

(21) Vocabulary Items for Perfect Tense:

a. i. $[+perfect]_T \rightarrow$ /-X-/ / ___ / $Root^L$ ____ ($Root^L$ = nok, tak, dʒak, etc.)

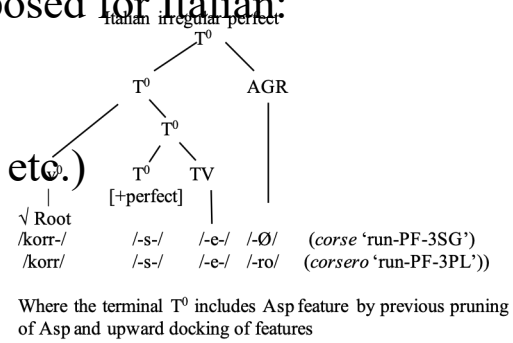
+cons

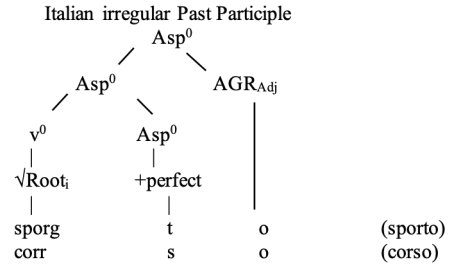
Labial

[+round]

b. $[\ \ ]_{Asp}^{\bar{X}}$ → /-t-/ (where with Asp^X I indicate that Asp is the highest functional node in the verbal extended projection in the Complex X^0)

c. [+perf] → /-s-/ / $Root^S$ ____ ($Root^S$= scriv, muov, etc.)





Remberger (2012):

Remberger (2012) proposes an analysis alternative to Embick's (2000), Embick and Halle's (2005) one, which does not rely on underspecification.

Under this proposal, the characterizing heads of the Latin third stem constructions can be unified to a kind of nominal aspect n/Asp with no specific tense value or temporal semantics, meaning something like "concerned/affected". In this sense, the the Latin third stem constructions can be thought of as "deverbal nominal elements".

Assuming that adjectives can be characterized by the features [+N, +V], whereas Nouns are specified as [+N, -V], Remberger proposes that participles can be characterized as having the feature [+N],

The following VI can be proposed:

(22) /-s-/ <--> $[+N]_{Asp^0}$ / $Root^{s}$ ____

/-t-/ <--> $[+N]_{Asp^0}$

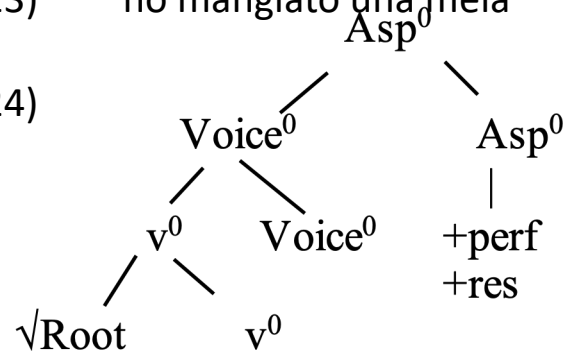
Remberger, however, faces the same problem of Embick's (2000), Embick and Halle's (2005) one. It cannot account for the distribution of the exponent /-s-/ in perfect and participle forms in Italian (and Latin).

THE ITALIAN PERFECT PARTICIPLES: BASIC STRUCTURE

In Calabrese (2019), following Embick (2004), I proposed that the participle in Italian periphrastic perfect constructions as in has the basic structure in (24) . It is essentially a tenseless, moodless verbal form:

(23) ho mangiato una mela

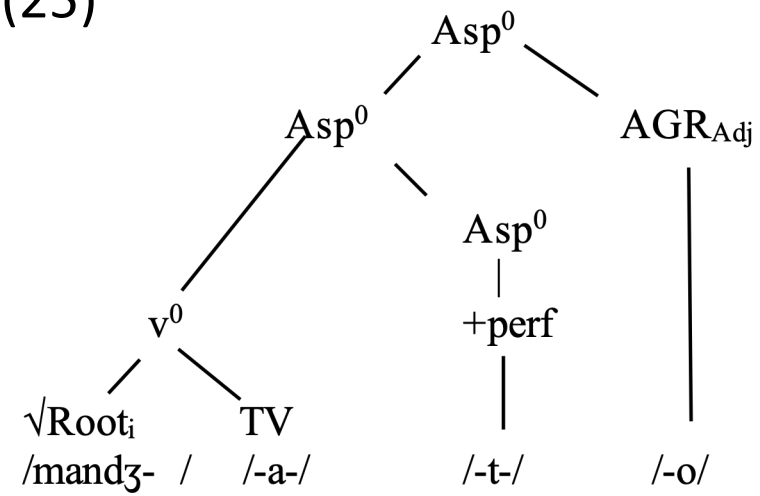
(24)



THE ITALIAN PERFECT PARTICIPLES: SURFACE STRUCTURE

The surface structure as in (25) is derived by inserting ornamental morphological pieces (AGR and TV) and by the application of pruning operations:

(25)



AGR-insertion

Characteristically, participial forms, 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. For now, I will assume 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**: AGR_V probes for person and number features, AGR_{Adj} probes for gender and number features (and case features in languages with overt morphological case). One can then hypothesize that **AGR_V is inserted only when there is T in the same m-word, otherwise AGR_{Adj} is inserted, i.e., AGR_{Adj} is the default AGR** (I assume that only nouns can carry inherent Phi-features):

(26) Given a MP unit U not including inherent Phi-features, (MP unit =Complex X^0)

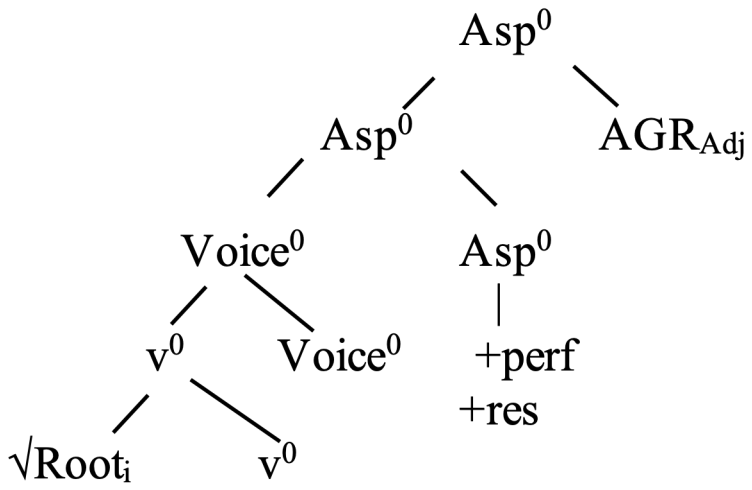
a. Adjoin AGR_V to its highest X^0 if U contains T^0

Otherwise:

b. Adjoin AGR_{Adj} to its highest X^0.

AGR-insertion

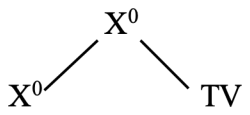
(27)



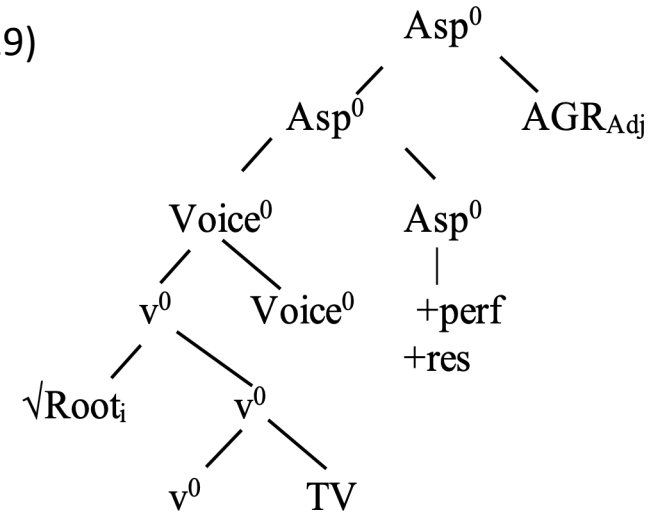
TV-Insertion

Cyclic application to v^0 of the Thematic vowel insertion rule (28) (Oltra-Massuet & Arregi 2005) generates (29):

(28) $X^0 \rightarrow$



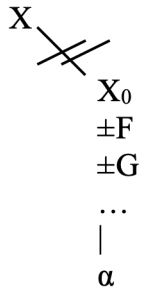
(29)



Pruning of null exponents

In Calabrese (2019) following Christopoulos (2018), I propose that terminal nodes with phonologically non-overt exponent are pruned.

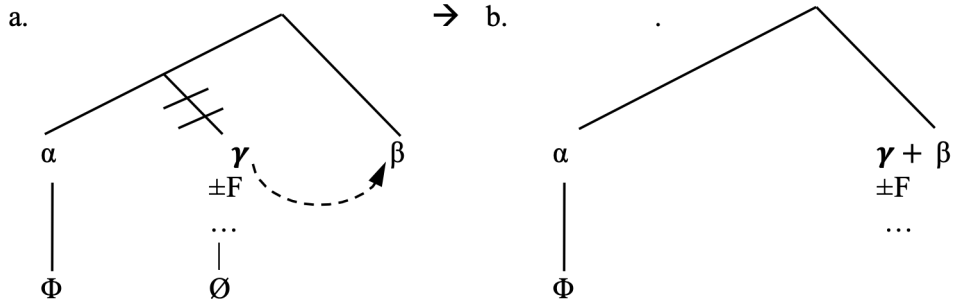
(30)



if X is a terminal node containing the features [±F, ±G, …] and α is a null exponent

The pruned node is not deleted; it becomes floating and is merged with an adjacent higher terminal node, if there is one. This results into the fusion of the two terminal nodes:

(31)



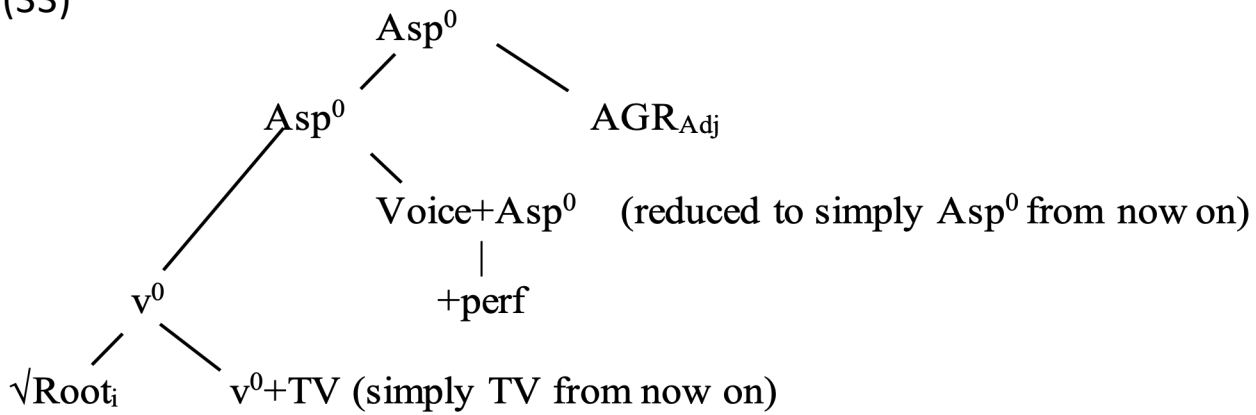
Where Φ, Ø are exponents, Ø is phonologically empty.

Pruning of null exponents:

Assuming the VIs in (32), cyclic application of pruning will generate the structure in (33)

(32) a. v^0 → Ø (elsewhere cases)
b. $Voice^0$ → Ø

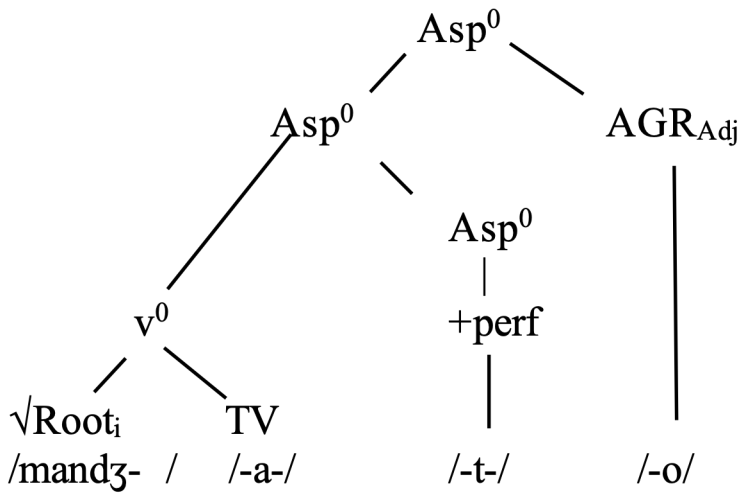
(33)



The surface structure

This structure accounts for the surface shape of past participle (see where full exponency is assigned to all pieces:

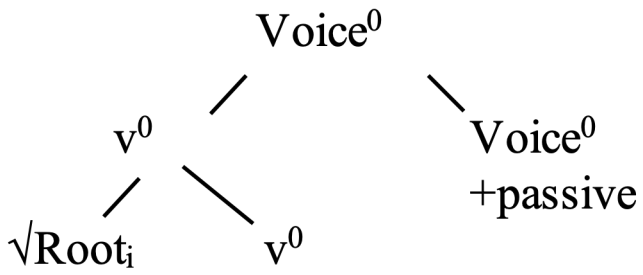
(34)



Passive participles

Given the analysis of periphrastic constructions in Calabrese (2019), passive participles have the basic structure in (35)

(35)



Italian Passive participles

Remember that there is evidence for the structures in (25) and (35).
The auxiliary in active perfect participle constructions displays only tense distinctions (see (36a) as expected given the structure in (25). The auxiliary in the passive construction in contrast displays the full range of the distinction generated by the combination of tense and aspect features (see (36b). This expected given (35) .

(36)a.	Mario	ha aveva	mangiato	la mela	'Mario	has had	eaten the apple
b.	La mela	e' era fu e' stata era stata	mangiata		'The apple	is was being was has been had been	eaten'

Morphological identity between perfect and passive participle

Given the structures in (25) and (35), **there should be two different morphological types of participle: the passive one and the perfect one**. As a matter of facts, **however, these two participles are always morphologically realized in the same way in Italian despite their obvious diathetical and aspectual differences**. Consider the sentences in (37a)-b). In (37a) the event occurred in the past, and is completed at the time of the utterance (perfective). In (37b) it is occurring in the present, and it is not completed (imperfective). However, in both sentences, the auxiliary is in present tense, so the their temporal and aspectual differences must somehow reside in the participle, which however are morphologically identical.

(37) a. Carlo ha mangiato il gelato 'Carlo ate/has eaten the ice cream'
b. Il gelato e' mangiato proprio ora da Carlo 'The ice cream is being eaten just now by Carlo'

I assume that **this surface convergence among perfect and passive participle forms is not due to trivial accidental homonymy but that it has a principled (morphological) reason**.

Historical digression: Latin participles

Latin participles realized both perfect and passive morphology where the passive feature could be syntactically motivated as in the case of the transitive verbs but also be assigned morphologically as in the case of the deponent verbs which were syntactically active (Ernout 1953, Embick 2000).

(38)

Perfect passive (transitive verbs)	Perfect active (deponent verbs)
laudātus est 's/he was praised	*consectātus est* ''s/he hunted down
equi cūrāti (Liv.) 'Horses that were taken care of'	*confessus reus* (Fedro) 'the accused that has confessed'

In so far as they were both perfect and passive, the auxiliary component of the passive perfect periphrasis realized only temporal distinctions (cf. the Italian examples in (39b)(putting again aside future and subjunctive contrasts):

(39)

a..Latin: *Maria amata est* 'Mary was/has been loved'
erat had been
**fuit*

b. Maria e' amata 'Maria is loved'
era was being
fu was
e' stata has been
era stata had been

From Latin to Romance passive participles

The major change affecting these constructions in Late Latin/early Romance was a shift by which tense and aspect distinctions were realized in the auxiliary part of the periphrastic construction, as can be seen in the Italian cases in .

When this happened, a transitive verb participle in the context of the auxiliary 'be' acquired only passive meaning (see Calabrese (2019) for a formal analysis of this change). Its "perfect" morphology which is seen in the Italian perfect participle forms was however preserved historically.

How can we model this preservation?

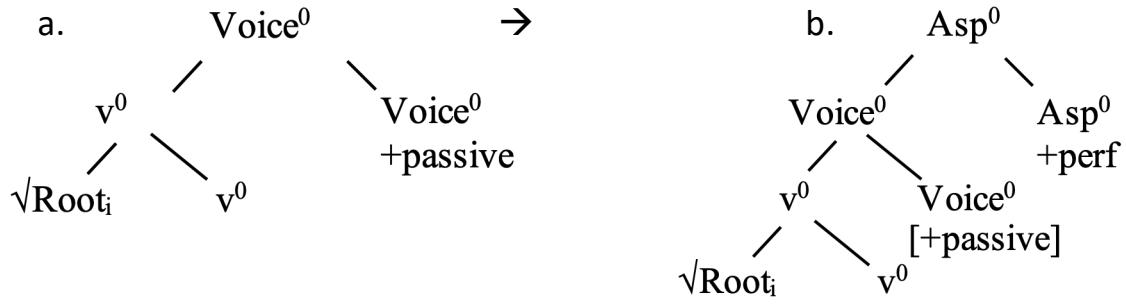
One could propose that once the change described above occurred, the presence of a [+passive] voice node required a [+perfect] Asp node morphologically:

(40) **if [+passive] voice^0 is present in a complex X^0, then also [+perfect] Asp^0 must be present**

Passive participles

The statement in (40) requires that a morphosyntactic structure such as that in (41a) must be converted into that in (41b) in the morphological component

(41) a.



(41b) is morphosyntactically a perfect participle

Adjectival participles

As in other languages, **Italian participle forms may share properties with adjectives as shown by the standard test for the adjectival status of participle forms**(cf. Guasti (1991:330-2), Scalise (1993: 507).:

(42)

a. Adjectival negative prefixation: la legge e' inosservata 'the law is not observed'
(cf. felice 'happy' →infelice 'unhappy')

b. Selection by adjectival selecting verbs: il suo orgoglio sembra ferito 'his pride seems to be wounded'
(cf. Giorgio sembra buono 'G. seems good')

c. Possible use of adjectival degree modifiers and degree suffixes:
Giorgio e' annoiatissimo 'G. is very annoyed' (cf. alto 'high' →altissimo 'very high');
Giorgio e' molto annoiato 'G. is very annoyed' (alto 'high' → moto alto 'very high')

d. Prenominal and postnominal position: la donna amata e' ricomparsa/ L'amata cugina non scrive piu' 'the loved lady reappeared/ the loved cousin no longer no longer writes' (cf. il tavolo grande vs. il grande tavolo 'the big table')

e. Coordination with adjectives: una casa pulita e bella 'a cleaned and beatful house' , un ragazzo buono ed educato 'a good and polite boy' , un paese inquinato e sporco 'a polluted and dirty country', una nazione distrutta ed infelice a destroyed and unhappy nation''

Adjectival passive-Syntactic analyses

The first analyses of adjectival participles—or adjectival passives as they are often traditionally referred to— in the theoretical literature held the view that they are built by lexical operations converting participles into adjectival forms prior to entering the syntax (Wasow 1977; Levin & Rappaport 1986, a.o.).

However, **current approaches to derivational morphology contend that adjectival participles are not built in the lexicon, but in the syntax** (Anagnostopoulou 2003; Embick 2004; McIntyre 2013; Bruening 2014, a.o.).

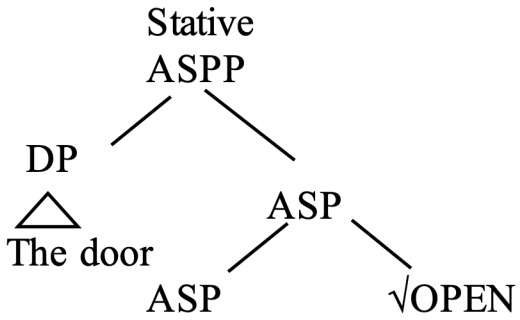
The consensus among syntax-oriented approaches to adjectival passives is **that they have minimally a structure where a verbal root, or another minimal verbal constituent, is selected for by an aspectual or adjectival head** that creates a participial adjective out of the verbal element. (Anagnostopoulou 2003; Embick 2004; McIntyre 2013; Bruening 2014, a.o.).

Embick (2004)

For example, Embick (2004) has argued that **adjectival participles that have a pure stative** interpretation as in (44) have the structure in (45). **in which a functional head, labelled ASP here, is attached to the Roo**t. I will refer to this construction as a **stative participle**

(44) Stative: la porta e' **aperta** =The door is in an open state.

(45)



The assumption is that **eventive interpretation is associated with the presence of *v***, a verbalizing head (cf. Embick 2004, see also Travis (1994), Harley (1995), Kratzer (1996) a.o.). There is no *v* in this structure, encoding the fact that the interpretation of the **Stative does not have an eventive component.**

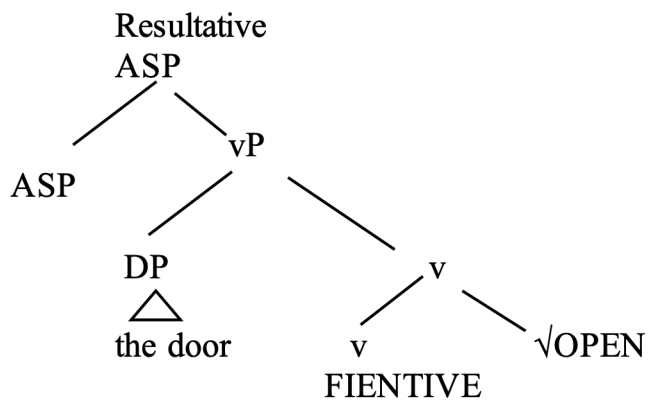
Embick (2004)

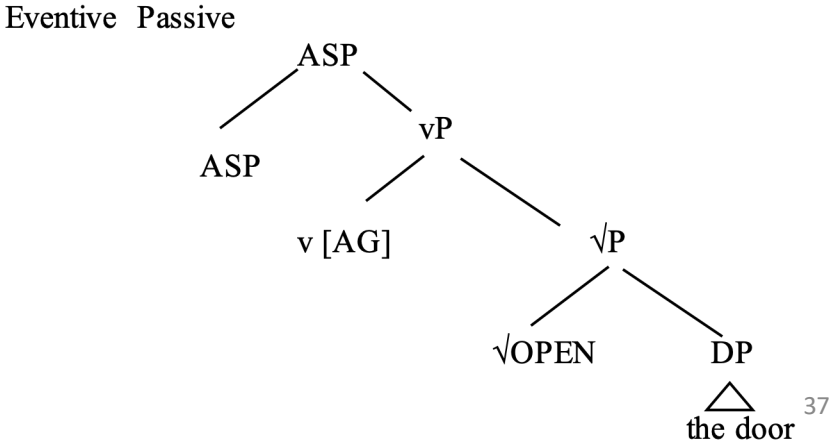
In Embick's (2004) analysis, **resultative and eventive participles** with the interpretations in(46) have the structures in (57). In these structures, the **ASP head attaches to a verbalizing structure, so that ASP is not in a direct relationship to the Root**. In the Resultative participle the *v* is associated with "fientive"semantics (Embick 2004), that is, with a meaning like that associated with become or inchoative interpretation .In Embick's analysis, the feature [AG] (for AGentive) in the Eventive Passive is responsible for the licensing of agentive interpretations, (Kratzer (1994, 1996)):

(46) a. Resultative: la porta e' **aperta** (proprio ora) = The door is in a state of having become open (state resulting from event)

b. Eventive Passive: La porta e' **aperta** da Carlo = Carlo opened the door

(47)





No morphological distinctions between stative and verbal participles

Here I will not be able to deal with the syntactic and semantic detail of the analysis of these structures in Italian. The fact that is of importance for me here is **the total absence of any surface morphological distinctions among these structures in Italian: they all display the same identical participial form** . In particular, **participial forms can have a truly pure stative interpretation and still be morphologically undistinguishable from when they appear in verbal contexts or have truly eventive or resultative intepretations**. Thus, the participle forms in (48), which are both modified by the superlative suffix -issim- and in prenominal (attributive) position, have clear stative interpretations; still they are identical to their counterparts in verbal environments in (49)

(48) uno spaventatissimo bambino ‘a very scared boy’
un appassionatissimo cantante ‘a very passionate singer’
un attesissimo evento ‘ a very expected event’,
una amatissima donna ‘a very loved woman’
dei coloratissimi fiori ‘very colourful flowers’

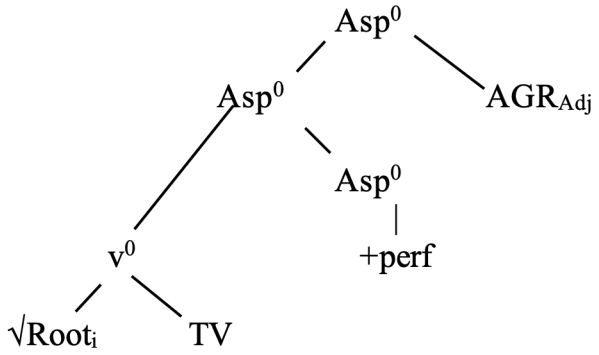
(49) Lo scoppio ha spaventato il bambino/ il bambino e’ stato spaventato dallo scoppio
‘the explosion scared the child/the child was scared by the explosion’
La partita ha appassionato tutti/tutti sono stati appassionati dalla partita
‘the game thrilled everyone/everyone was thrilled by the game’
Ho atteso Carlo per molto tempo/ Carlo e stato atteso per molto tempo
‘I waited for C. for a long time/C. was waited for for a long time’
Ho amato Maria/Maria e’ stata amata
I loved M./M was loved’
I bambini hanno colorato i fiori/i fiori sono stati colorati dai bambini
The children coloured the flowers/the flowers were coloured by the children’

Questions

An obvious question arises once we assume that stative participles are built in in the syntax:

if stative participles have the minimal structure in (45), how do they get the more complex surface morphological structure in (50) (that is assumed for eventive/resultative, and more in general for truly verbal participles?

(50)



Questions

In particular, the issues to address are the following: 1**) How do stative adjectival participles get a TV, the presence of which indicates the presence of a v^0, as discussed above for Italian? 2) How does it get the [+perf] feature despite possible interpretation that do not involve a perfective aspect or even past tense as in (51)** where the implication is that the relevant square is continuously under surveillance:

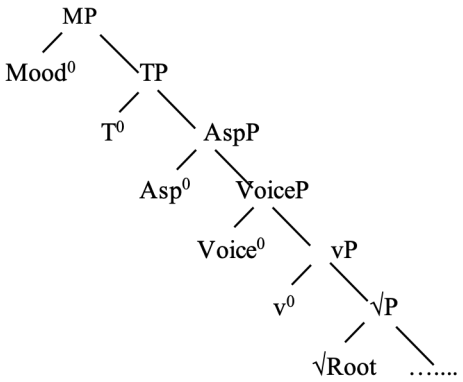
(51) *Da ieri quella sorvegliatissima piazza e' il centro di continue manifestazioni*
'Since yesterday that very watched over square is the focus of continuous rallies'(cf. participle: sorvegliata 'watched over')

A correlation between Asp^0 and v^0

Hypothesis: the presence of a **Asp^0 in a X^0 is morphologically correlated with the presence of a v^0.**

One can assume that this correlation is a generalization word structure shape : the morphological structure characterizing verbal forms where both v^0 and Asp^0 are present is extended to all the words containing Asp^0. It is the purely formal, «morphological» extension of the functional structure characterizing verbal morphology, which is encoded in the functional skeleton proposed by Cinque (1999) in (52) to morphological situations in which either of them is absent in the syntactico-semantic representation.

(52)



One can call it an instance of morphological stereotypization : a contingent correlation becomes formally categorical; the observation that the presence of Asp^0 is often correlated with the presence of v^0 becomes the categorial generalization that the presence of Asp^0 is always formally correlated with the presence of v^0 (a little like the statement : all Italians are criminals)

A correlation between Asp^0 and v^0

This is a morphological structural generalization similar to the one requiring the presence of ornamental morphological pieces such as the thematic vowels

Therefore, a MORPHOMIC structural condition, in the sense that that it is a purely morphological statement (**(m-word=Complex X^0).**

(53) **Given a Complex X^0 U, if ASP^0 is present in U, then also v^0 is present in U.**

On ornamental morphology

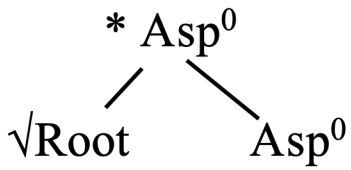
In the same way as there are filters governing combination of morpho-syntactic features (see Calabrese (2019), let us assume that **there are also principles governing relationships between nodes in morpho-syntactic structures**.

In the case under discussion here, a morpho-syntactic node not required by the syntactico-semantic component is inserted in morphological representations. These generalizations leads to the insertion of "ornamental" nodes or features, morphological elements that do not have a functional syntactico-semantic motivation.

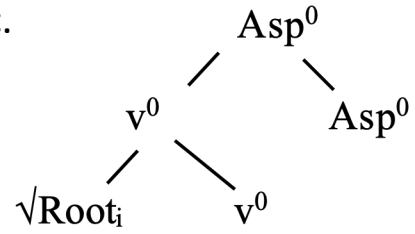
The consequences of (59)

It follows that the structure in (54a) is disallowed in Italian; only that in (54b) is possible:

(54) a. * Asp^0



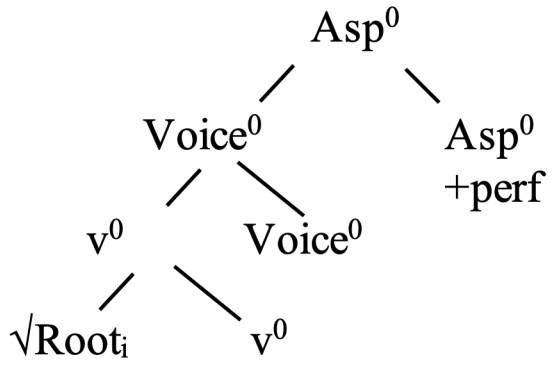
c. Asp^0



Further derivational steps: 1.

Once we assume the presence of the Asp^0 node and that the articulation of the verbal functional skeleton is always the same, also the intermediate Voice node between v^0 and Asp^0 is required as in (55).

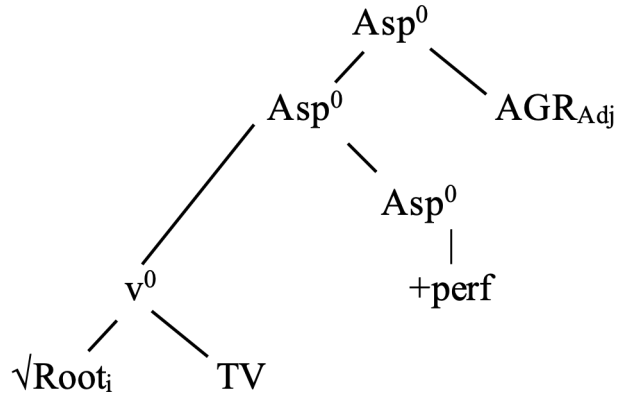
(55)



Further derivational steps: 2.

Insertion of AGR and TV as well as the pruning of null v^0 and null $voice^0$ —remember that voice head is always assigned a zero exponent— will apply to this structure. Therefore, the full resulting structure of the participle will be that in (56) (remember that Asp^0= Voice+Asp^0, and TV= v^0+TV).

(56)



An stative adjectival participle is thus identical to a verbal participle

Also a correlation between v^0 and Asp^0

One could now also assume the inverse of (53)**, if v^0 is present, then also Asp^0 must be present.**

This can again be a stereotypized extension of the functional scheleton in (52), but can also be a morphological generalization grounded on the prototypical relation between tra v^0 as the place where internal aspect is modulated (Aktionsart)(Harley 1995, Travis 2010) and ASP^0 as the place where outer aspect (Viewpoint aspect) (Travis 2010) is modulated. The two nodes prototypically interact in modulating the total aspectual properties characterizing the situation identified by the verbal form.

This prototypical syntactico-semantic relation becomes the base for a pure morphological condition: again **a MORPHOMIC structural condition**, (m-word=Complex X^0).

(57) Given a Complex X^0 U, if ASP^0 is present in U, then also v^0 is present, and viceversa

This could be a pure language-specific development internal to Italian, and actually to Latin as discussed later. However, I would like to assume (57) is **a UG condition on morphological structures that can be active/deactivated on a language specific basis**

The consequences of (57)

A generalization on the morpho-syntactic form of words: in (57), I have assumed that the presence of a structural component may require the presence of another structural component, purely formally, regardless of the syntax and semantics.

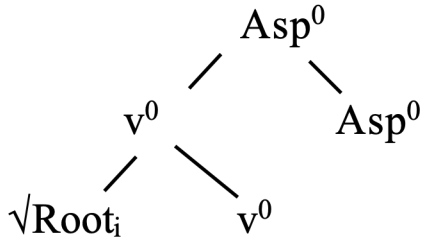
It follows that the structure in (58a) and b) are disallowed in Italian; only that in (58c) is possible:

(58)

a. * Asp^0

b. v^0

c.



[+perfective] as a default feature

1. The feature [+perfect] could also be defined as a default prototypical property of Asp

One could assume that prototypical reference to an eventuality requires that it is temporally bounded: events are prototypically seen as bounded, concluded/countable. The progressive, habitual, or continuous interpretation of the eventuality are prototypically marked. I use the feature [+perfect to indicate this boundness but perhaps [+bounded/+countable eventuality] could be used. I leave the issue open here but see discussion of frequentative verbs in Latin later.

One could then assume a morphological structural condition stating that the default, unmarked specification for ASP^0 is being [+perf] as in (59).

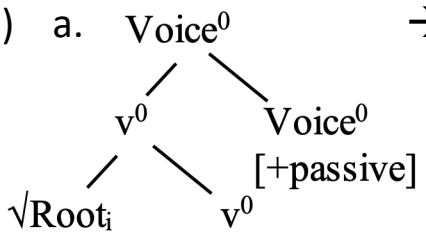
(59) $\emptyset \rightarrow$ [+perf] / [___] $_{ASP}{}^0$

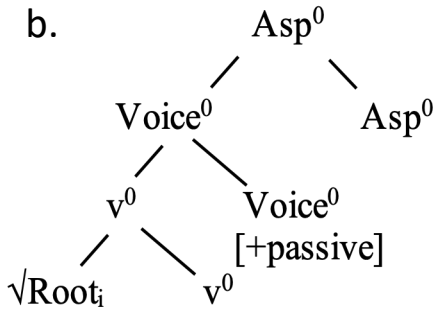
So the inserted Asp can be featureless and receive the feature [+perfect] by the default rule in (44)

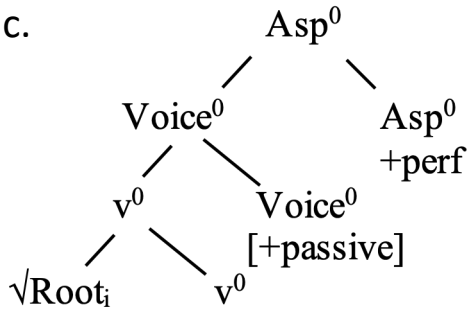
(60) $\emptyset \rightarrow$ Asp

Again on the surface morphology of passive participles

Given (57), Asp^0 is required in this structure, and because of (59) it is assigned the feature [+perfect], as shown in (61):

(61) a. 

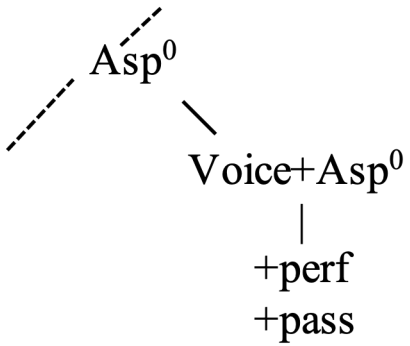
→ b. 

→ c. 

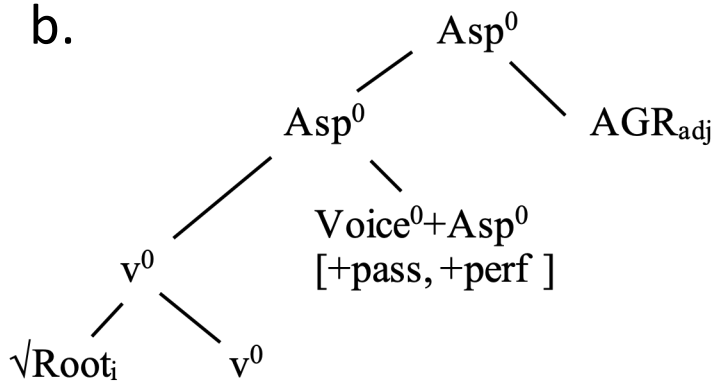
Again on perfect and passive participles

If we assume that as proposed in (32b), the voice head, even if [+passive], is always assigned a zero exponent, null exponent pruning will apply giving (62a). The independent application of AGR insertion results in (62c):

(62) a.



b.

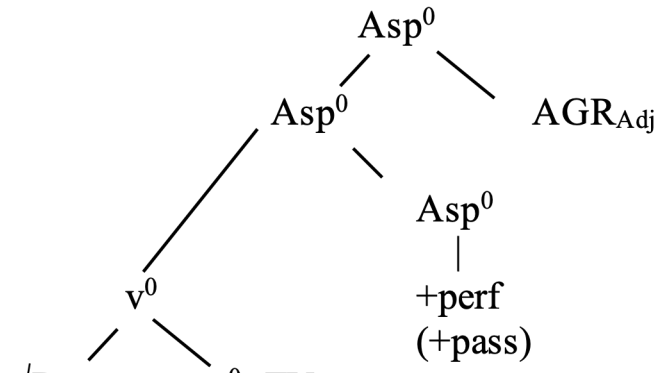


mandʒ-	-a-	-t-	o	(perfect participle)
mandʒ-	-a-	-t-	o	(passive participle)

Morphological convergence

Both the passive participle and the stative adjectival participle then acquires the same structure in (63) as the perfect participle by morphological adjustments. This accounts for the converging surface shape of perfect participles, passive participles and stative adjectival participles. All these forms have the same surface morphosyntactic structure.

(63)



mangi-	-a-	-t-	-o	'eaten' (perfect participle)
mangi-	-a-	-t-	-o	'eaten' (passive participle)
ammal-	-a-	-t-	-o	'sick' (stative adjective)

Morphological repairs

In closing this section, it is important to notice that **morphological repairs induced by morphological structure condition manipulate syntactic structures of passive participles and adjectival verbs and generate "arbitrary"morphological structure**. This structure is not motivated syntactically or semantically but only morphologically because of (59).

Mismatches between syntax/semantic structure and surface morphology are thus created. In this sense, Italian (and also Latin) past participle forms are semantically opaque in so far as they are the outcome of syncretic operations, the just mentioned repair operations, that neutralize the surface contrasts among syntactico-semantic structures that are originally quite different in underlying structure.

Morphological repairs and Morphomics

Note that this “syncretic” participle is what Aronoff (1994) calls the morphomic “third” stem with its arbitrary morpho-syntactic meaning.

In the approach outlined here , **this arbitrary stem form does not to be postulated as a listed, suppletive, morpho-syntactically opaque element. In fact, it is derived morpho-syntactically in a quite simple way**.

NOMINALIZATIONS

As well known, many Italian nominalizations are traditionally analyzed as involving a participial bases, as shown by the fact that irregularity in the participle are carried over in the nominalizations (See Calabrese (2019) for discussion of alternative analyses):

(64)

Nominalization	Infinitive	Regular Participle	
narrazione	*narrare*	*narrato*	'narrate'
competizione	*competere*	competuto	'compete'
punizione	*punire*	punito	'punish'
portatore	*portare*	portato	'bring'
traditore	*tradire*	tradito	'betray'
venditore	*vendere*	venduto	'sell'
battitura	*battere*	battuto	'beat'
spaccatura	*spaccare*	spaccato	'split'
cucitura	*cucire*	cucito	' sow'

Nominalization		Infinitive	Irregular Participle	
assunzione	'assumption'	*assumere*	*assunto*	'assume'
direzione	'direction'	*dirigere*	*diretto*	'direct'
espulsione	'expulsion'	*espellere*	*espulso*	'expell'
scrittore	'writer'	*scrivere*	*scritto*	'write'
distruttore	'destroyer'	*distruggere*	*distrutto*	'destroy'
divisore	'divider'	*dividere*	*diviso*	'divide'
chiusura	'closing'	*chiudere*	*chiuso*	'close'
lettura '	reading'	*leggere*	*letto*	'read'
apertura	'opening'	*aprire*	*aperto*	'open'

Question: why is there a participial base in these nominalizations

Relying on Alexiadou (2001) (see also Ippolito (1999), let us assume that **an aspectual head is actually present in all nominalizations including eventuality-referring roots, i.e., roots referring to states, actions, and events**.

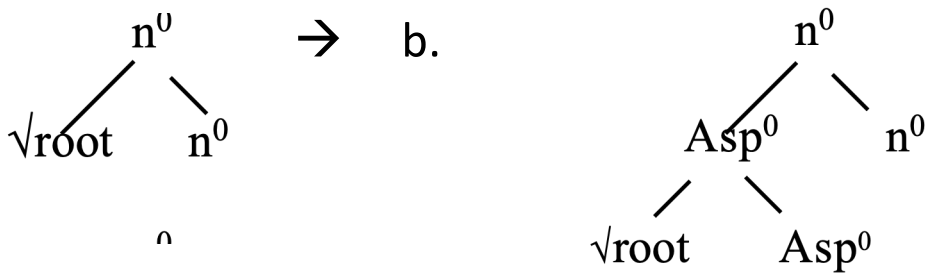
So, the hypothesis is that root denoting eventualities always require an ASP node in which the aspectual feature of the root eventuality are interpreted, or perhaps modulated. It could be part of a truly verbal functional skeleton, or inserted by the rule in (65):

(65) Ø→ASP / √root ___ if √root refers to an eventuality

Effects of (65)

Given the simple nominal structure in (66a) (Marantz 2001, Embick and Marantz 2008), rule (65) changes it into (66b) when containing an eventuality root.

(66) a) → b.



Ornamental morphology again

Now remember that during the discussion of stative participial adjectives, I proposed the morphological condition in (57) , a generalization on the morpho-syntactic form of words whereby the presence of a structural component may require the presence of another structural component, purely formally, regardless of the syntax and semantics :

(57) Given a X^0 complex U, if v^0 is present in U, then also ASP^0 is present, and viceversa.

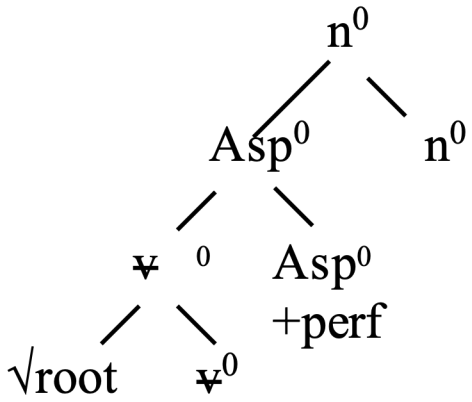
Morphological repairs

Assuming that this condition is active in Italian, the Asp^0 head will require the insertion of a v^0 node. In addition, this Asp^0 is assigned the default [+perfect] specification by (59):

(59) Ø→ [+perf]/ [___]$_{Asp0}$

The structure in (68) will then be generated:

(68)



Morphological convergence

Therefore, verbal participles, **stative adjectives and the bases of nominalizations will eventually converge into the same morphosyntactic structure in (68), due to the effect of (65),(57) and (59)** with the proviso that the v^0 that is inserted in the structure in (68) to satisfy these requirements is obviously semantically empty. What is generated in the complement of n^0 in (68) is a participial structure.

We thus have an immediate account for why participles appear as bases of nominalizations with suffixal /-*ore.-ione, -ura*/. Crucially here Asp^0 is assigned the appropriate participial exponents.

VOCABULARY ITEMS FOR N^0

To account for nominalizations such as those in (64), **we need to assume the VIs for the Asp^0 and n^0 given in (69), where each n^0 has a diacritic index indicating its semantic "flavor",** for example α triggers the "agentive" interpretation of the root eventuality (I will not deal with these flavors here (see Melloni (2017) for discussion of the semantics of nominalizations):

(69)

/-or-/ <-->	n^0_α	vinc-i-t-or-e
/-yon-/<-->	n^0_β	transform-a-z-ion-e
/-ur-/ <-->	n^0_γ	ar-s-ur-a
/-oi-/ <-->	n^0_δ	lav-a-t-oi-o

Surface shape of the participles

The regular forms show the presence of the thematic vowel, irregular ones its absence, as can be see in (72a) and b) below (after pruning of v^0) where the fact that the TV is not inserted due to a root diacritic in perfect forms as discussed in Calabrese (2019) accounts for the presence or absence of the thematic vowel

The following VIs are also needed

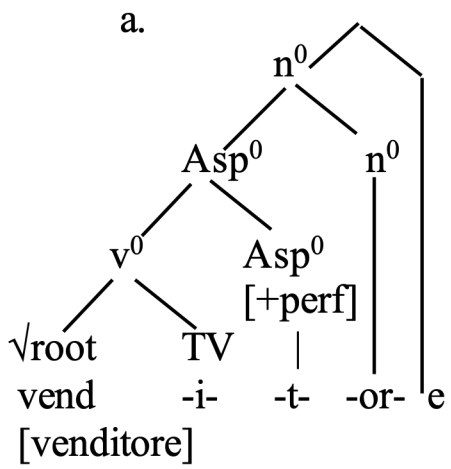
(70) a. [+perf] → /-s-/ / $Root^S$ ____

b. [ ]$_{Asp^X}$ → /-t-/

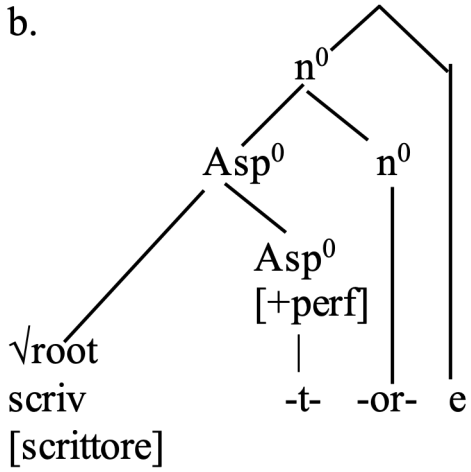
(71) /-or-/ <--> $n^0{}_\alpha$

(72)

a.



b.



DERIVATIONS

The following derivations needs to be assumed:

Syntax:	a.	[[root]	n^0]	b.	[[root$^{Prunv^0}$]	n^0]
Morph.SpellOut:						
Insert Asp^0		[[root] Asp^0]	n^0]		[[[root$^{Prunv^0}$] Asp^0]	n^0]
Insert v^0		[[[[root] v^0] Asp^0]	n^0]		[[[[root$^{Prunv^0}$] v^0] Asp^0]	n^0]
Insert [+perf]		[[[[root] v^0]] Asp^0] [+perf]	n^0]		[[[[root $^{Prunv^0}$] v^0]] Asp^0] [+perf]	n^0]
Prune v^0 (XX):		n/a			[[[root $^{Prunv^0}$]	Asp^0] [+perf] n^0]
Insert TV		[[[[root] v^0 TV]] Asp^0] [+perf]	n^0]		n/a	
Phon.SpellOut:						
Root VI		[[[[vend] v^0 TV]] Asp^0] [+perf]	n^0]		[[[[scriv]	Asp^0] [+perf] n^0]
v^0 VI		[[[[vend] Ø TV]] Asp^0] [+perf]	n^0]		n/a	
Prune Ø		[[[[vend] TV]] Asp^0] [+perf]	n^0]		n/a	
TV VI		[[[vend i]	Asp^0] [+perf] n^0]		n/a	
Asp^0VI		[[vend i	t] n^0]		[[scriv	t] n^0]
C assimilation (XX)		n/a			[[scrit	t] n^0]
n^0 VI		[vend i	t	or-]	[scrit	t	-or]
Class Marker		vend i	t	or- e	scrit	t	-or- e
Output		venditore			scrittore		

A CYCLIC DERIVATION

Pace Burzio (2003), the phonological spell out derivation is cyclic: the construction of the phonological shape of the participle must be done in the inner cycles before the computation of the outer nominal cycle.

-MENT-

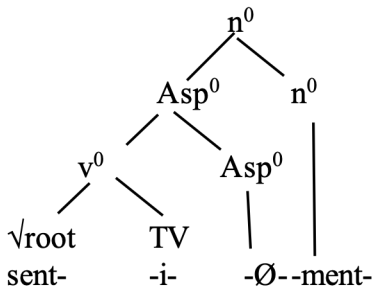
I assume that the **same structure is found in all nominalization, with only changes in Asp^{0}exponency**. If this is correct, we also have **an explanation for the presence of a verbal base with a TV in all other nominalizations**.

(73) Cambiamento ‘change’, movimento ‘movement’, accompagnamento ‘train, suite’ , sentimento ‘feeling’

ASP here displays the exponent /-Ø-/ found in other verbal categories, as in (74):

(74) a. $[\ ]_{Asp} \rightarrow$ /-Ø-/ / ___ $[+X]_n{}^0$
b. $n^0 \rightarrow$ /-ment-/

(75)



SOME MORE NOMINALIZATIONS

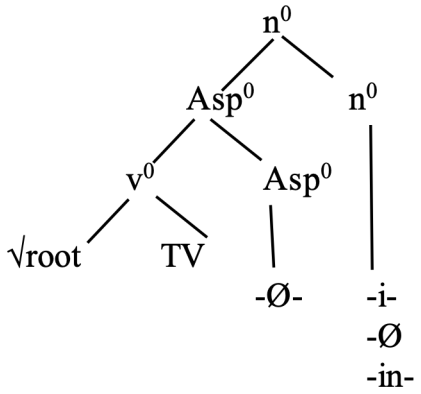
For the nominalizations in (76) I therefore also assume the structure in (53) with the n^0 VI in (77) .

(76) a. borbottio 'grumbling', brontolio 'rumbling', scoppiettio 'crackling', lavorio 'intense activity'
b. canto 'song', lavoro 'work', studio 'study'
c. frullino 'whisk', mulino 'mill'

(77)

a.	n^0	→	/-i-/	lavor-i-o
b.	n^0	→	/Ø/	lavor-o
c.	n^0	→	/-in-/	frull-in-o

(53)



In all of these cases, the suffix is vowel initial and triggers deletion of the thematic vowel as in (78) .

(78)

lavor-a-Ø-i-o	→	lavorio
lavor-a-Ø-Ø- o	→	lavoro
frull-a-Ø-in-o	→	frullino

-NT-

(79) abbondanza, ‘abundance’ credenza ‘belief’, partenza ‘departure’, Speranza ‘hope’

(80) abbond-a-nt-y-a, cred-e-nt-y-a, part-e-nt-y-a, sper-a-nt-y-a (+affrication)

The root – n^0 interactions leads to the insertion of a diacritic requiring the insertion of the feature [-perf] in ASP. The exponent of the present participle is then inserted.

(81) a. [-perf]$_{Asp}$ → /-nt-/ / Root^S ____

b. $n^0{}_z$ → /-y-/ <-->

Overall consequence: every eventuality root, or root merged with Asp^0, will acquire surface verbal morphology—in particular verb classes patterns, which may be participial in some cases but not in other.

On to Latin: Aronoff's (1994) Latin third stem

(82)

Infinitive	vēn-ā-ri	aud-ī-re	del-ē-re	mon-ē-re	jub-e-re	scrib-e-re	cub-e-re
Past part	vēn-ā-t-us	aud-ī-t-us	del-ē-t-us	mon-i-t-us	jus-s-us	scrip-t-us	cub-i-t-us
Fut. Part.							
Event N	vēn-ā-t-iō	aud-ī-t-iō	del-ē-t-iō	mon-i-t-iō	jus-s-iō	scrip-t-iō	cub-i-t-iō
Agent N	vēn-ā-t-or	aud-ī-t-or	del-ē-t-rix	mon-i-t-or	jus-s-or	scrip-t-or	cub-i-t-or
Result N	vēn-ā-t-u-s	aud-ī-t-u-s	del-ē-t-u-s	mon-i-t-u-s	jus-s-u-s	scrip-t-ura	cub-i-t-u-s
	'hunt'	'hear'	'delete'	'warn'	'order'	'write'	'recline'

Historical development of the Romance Participle

The Italian suffixal /-t-/ that appears in past participle forms and related word-formation processes discussed up to now has its historical roots— through Latin— in the PIE adjectival passive suffix **-t-ó-*, and of the PIE agentive and action/result nominal suffixes **-t-ér/t-or, *-t-i-/*-t-u-*.

In this section, I will investigate their historical development of into Latin (and eventually Romance). This will also lead to analysis of the development of past participial forms in Latin, and to an account for their disparate uses in this language.

In order to understand what happened in Latin, however, we need to consider the development of the PIE Verb structure in this language.

The PIE Verb structure

The basic verbal morpho-syntactic structure of PIE verbs in the present system can be observed in the following subjunctive and optative forms from Vedic Sanskrit and Classical Greek (See Calabrese (2019) for a discussion of the realization of Voice in PIE and for an analysis of the fact that Voice and Tense features appear to be marked together the Phi features in AGR):

(101) a. *kr̥ṇuyā́ta* 'make-Imperfective-Optative-Active-2PL Root: kar

[[[[kar]$_{root}$ nau]$_{Aspect}$ yā]$_{Mood}$ ta]$_{Tense+Voice+AGR}$

δεικνύοιτε 'point-Imperfective-Optative-Active-2PL Root: deik

[[[[deik]$_{root}$nü]$_{Aspect}$oi]$_{Mood}$ te]$_{Tense+Voice+AGR}$

b. *kr̥ṇávadhve* 'make-Imperfective-Subjuntive-Middle-2PL

[[[[kar]$_{root}$ nau]$_{Aspect}$ a]$_{Mood}$ dhve]$_{Tense+Voice+AGR}$

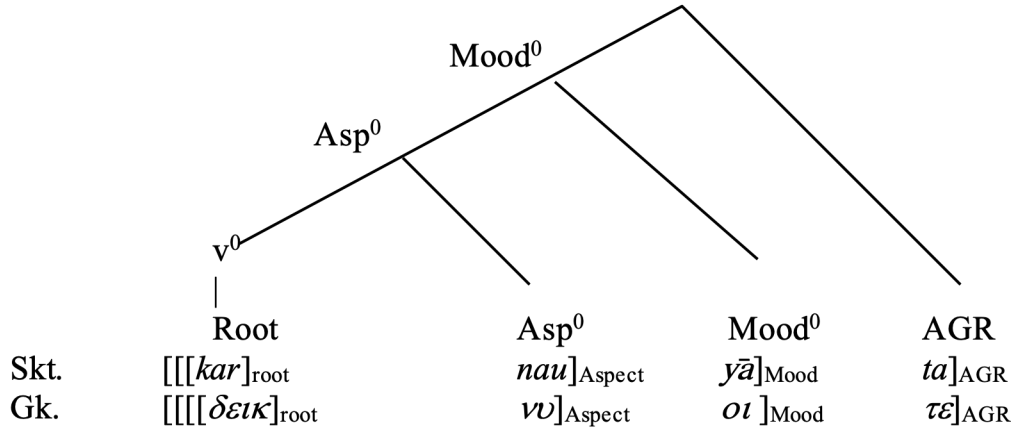
δεικνύητε 'point-Imperfective-Subjuntive-Middle-2PL

[[[[deik]$_{root}$nü]$_{Aspect}$ e:]$_{Mood}$ te]$_{Tense+Voice+AGR}$

The PIE Verb structure

The basic surface morphosyntactic structure of the forms in (101) is that in (102). One can plausibly hypothesize given the structural convergence between Sanskrit and Greek that this **surface** structure can be reconstructed for PIE:

(102)



Present (imperfect) aspect

PIE displays a wide variety of affixes (cf. Ringe (2006), Rix et al. (1986), Szemerenyi (1996)), which traditionally form the different classes of the present and involve root dependent realizations of [-perfect] aspect. Some of these affixes may have had different non-aspectual functional or derivational properties originally in pre-PIE stages, cf. the causative flavor of the ne-affix (Bertocci 2017, Meiser 1993). Such properties can no longer be clearly identified at the PIE stage (see Burrow 1955:302). At this stage, these suffixes can only treated as aspectual markers.

(103)

	Sanskrit	PIE	cf. Greek
[[*bhav*]$_{\text{Root}}$	- *a*]$_{\text{Aspect}}$	*- *e*] $_{\text{Aspect}}$	- *e*]$_{\text{Aspect}}$
[[*raudh*]$_{\text{Root}}$	- *na*]$_{\text{Aspect}}$	*- *ne*] $_{\text{Aspect}}$	- *ne*]$_{\text{Aspect}}$
[[*pas*]$_{\text{Root}}$	- *ya*]$_{\text{Aspect}}$	*- *ye*] $_{\text{Aspect}}$	- *ie*]$_{\text{Aspect}}$
[[*star*]$_{\text{Root}}$	-*nau*]$_{\text{Aspect}}$	*- *new*] $_{\text{Aspect}}$	-*nü*]$_{\text{Aspect}}$
[[*ad*]$_{\text{Root}}$	- *Ø*]$_{\text{Aspect}}$	*- *Ø*] $_{\text{Aspect}}$	- *Ø*]$_{\text{Aspect}}$

The [-perfect] aspect is realized through the different root dependent VI listed below:

(104)

a.	/*-*e*-/	<-->	[-perfect]$_{\text{Aspect}}$ / Root $^{\text{-a-}}$____
b.	/*-*ye*-/	<-->	[-perfect]$_{\text{Aspect}}$ / Root $^{\text{-ya-}}$____
c.	/*-*ne*-/	<-->	[-perfect]$_{\text{Aspect}}$ / Root $^{\text{-na-}}$____
d.	/*-*new*-/	<-->	[-perfect]$_{\text{Aspect}}$ / Root $^{\text{-nau-}}$____
e.	/*-*Ø*-/	<-->	[-perfect]$_{\text{Aspect}}$ / Root $^{\text{-Ø-}}$___

PIE Aorist and perfect forms

(105) a. Root perfects:

**woyd-Ø-* ∼ **wid-Ø-* ‘know’

b. Reduplicated perfects:

**me-món-Ø-* ∼ **me-mn-Ø-* ‘remember’

(106) a. The root aorist with no overt suffixal element:

**gwém-Ø-* ∼ **gwm̥-Ø-* ‘step’

**bhuh$_2$-Ø-* ‘become’

b. The */-s-/* aorist.

**déyk’-s-* ‘point out’

**wég’h-s-* ‘transport’

c. The */-é-/* aorist (traditionally called the thematic aorist)

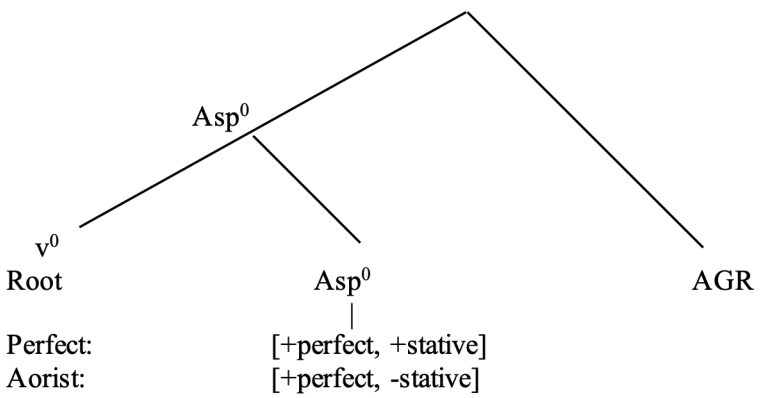
**h$_2$ludh-é-* ‘arrive’

d. Reduplicating aorist

**wé-wk-e-* ‘say’ (root *wek)*

PIE Aorist and perfect form surface structure

(107)



The relevant VIs are given below. Reduplication is due to special MP rules which are not discussed here.

(108)

a. Perfect:

[+Perf. +stat] → /*-Ø-/

b. Aorist:

[+perfect, -stative]	→	/*-Ø-/	/Root^{Ø} ___
[+perfect, -stative]	→	/*-s-/	/Root^{s} ___
[+perfect, -stative]	→	/*-e-/	/Root^{e} ___

PIE derived stems.

To understand the development of the Latin conjugation system, one must consider PIE derived stems. We have derived verbs such as the following (Ringe 2006):

(109) Statives in -eh_1-

*$h_1$rudh-éh_1-	'be red'	< *$h_1$rewdh- 'red'

Factitives in -eh_2-

*néwe-h_2-	'renew'	<*newo 'new'

Causatives and iteratives in *-*éye*- (with *o*-grade root) from basic roots:

*sod-éye-	'seat (someone)'	< *sed 'sit down'
*bhor-éye-	'be carrying around'	< *bher 'carry'

Desideratives in *-*sé* , with and without reduplication Ci from basic roots,

*wéid-se-	'want to see'	<*weyd 'catch sight of'
*k'i-k'l̥-se-	'try to conceal'	<*k'el 'hide'

Denominatives in -*yé*- formed from nominals:

*h_2k'$h_2$ows-yé-	'be sharp-heared	< *$h_2$ek 'sharp' and *k'$h_2$éw-es 'hear'

Factitives in *-*yé*- formed from adjectives:

*pr̥kto-yé-	'frighten'	<*pr̥kto- ' afraid'

PIE derived stems.

Originally verb-forming suffixes were associated with present (imperfect) aspect and were incompatible with other aspectual markers (see Ringe (2006:26-35), Sihler (1995: 494) for discussion and possible historical motivation for this situation). Probably this indicates that the v-node under which these derivatives were inserted and the ASP node were originally fused together (see Calabrese (2019) for discussion).

But evidence from **Vedic Sanskrit (a few cases) and Classical Greek (the regular situation) show that verb-forming derivative suffixes must have been able to co-occur with aspectual suffixes** already in later stages of the Proto-language:

(110) Aorist denominative/Causative in Vedic Sanskrit

pāp -ay-iṣ-	from *pāpa-ya-*	(denominative /-ya-/)	'lead into evil (*pāpa*)'
vyath-ay-is-	from *vyath-aya-*	(causative /-aya-/)	'disturb'
dhvan-ay-is-	from *dhvan-aya-*		'envelope'

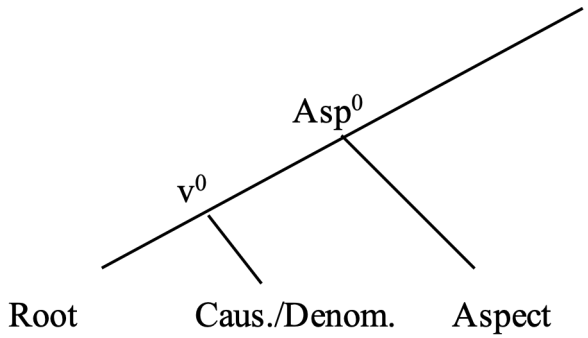
(111) Aorist denominative/Causative in Greek (just stem, no augment)

-οἰϰ-η-σ-	<**woik-eye-se*	'inhabit' Denominative from οἰϰος 'house'
-φορ- η-σ-	<*bhor-eye-se-*	'carry about/wear' Causative from φερω 'bring'

PIE derived stems.

We can then assume that at later stages of proto-language the v node was no longer fused with ASP, and that **these derivatives were independently generated under the v node.** The derived verbs in (110)-(111) had thus the morpho-syntactic structure in(112)(Voice^0 is omitted):

(112)



Derived verbs and the development of TV: the Pre-Latin situation

The **PIE derived verbs discussed above played a major role in the development of Latin Verbal System and formed the bases for the regular verbal conjugations**. In contrast, **the original underived PIE verb forms became a closed, relic class and gave rise to the third irregular conjugation**.

One can in fact assume that **in Pre-Latin, verb-forming derivatives were inserted under the v-node independently of ASP suffixes** as in (112) . Therefore, there could be an overt suffixal piece such as the *-eye-* characteristic of causatives in PIE, the *-ye* of denominatives, the *-eH$_1$-* characteristic of statives, etc., between root and ASP in all forms of the verb.

Derived verbs and the development of TV: the Latin situation

In Latin, however, these overt pieces became the thematic vowels appearing between root and aspect in all forms of the verb, including in the perfect forms (Ernout 1989, Sihler 1995).

Thus, the -*ā*- conjugation developed mostly from denominatives in -*ye*- whose bases were the nominal stems of the -*ā*-(<*-eH_2-) declension: /-*ā*-/ < *-eH_2-*ye*: e.g. *curō* 'cure' (cf. *curā* 'cure').

The -*ē*- conjugation developed mostly from the stative suffix -*ē*-(<*-eH_2-), or from causatives in -**eye*-(with *o*-grade of root): /-*ē*-/<*-eH_1: e.g., *sedeō* 'I am sitting' (<**sed-eH*$_1$- (cf. *sīdo* (**si-sd*-) 'I sit down', /-*ē*-/<*-*eye*: e.g. *moneō* 'I warn' (<*mon-eye*-) (cf. *re-min-isc-or*, root: *men*).

The -ī- conjugation developed mostly from denominatives in -**ye*-, /-ī-/<*-denominative -**ye*: e.g. *fīnio* 'limit' (cf. *fīnis* 'end'). But also original stems in -**ye*-: *venio* 'come' (<*g^w*en-ye*-).

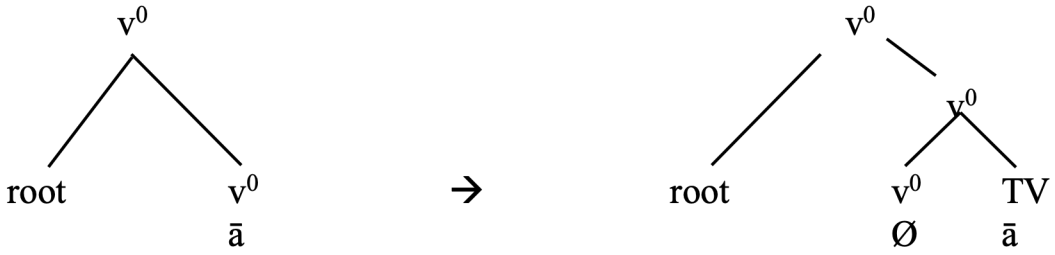
In this way, thematic forms such present, imperfect, and perfect ones such as those in (113) developed:

(113)	*am-ā-mus*	*am-ā-bāmus*	*am-ā-bimus*	*am-ā-vimus*	*am-ā-verāmus*	*am-ā-verimus*	*'love'*
	dēl-ē-mus	*del-ē-bāmus*	*dēl-ē-bimus*	*dēl-ē-vimus*	*dēl-ē-verāmus*	*dēl-ē-verimus*	*'delete'*
	fīn-ī- mus	*fīn-ī-bāmus*	*fīn-ī- bimus*	*fīn-ī-vimus*	*fīn-ī- verāmus*	*fīn-ī- verimus*	*'finish'*
	Pres. Ind.	Imperf. Ind.	Fut. Ind.	Perf. Ind	Pluperf.Ind	Fut.Perf. Ind	

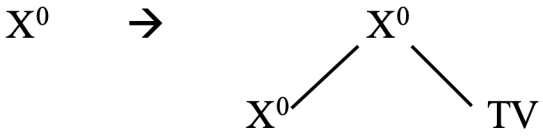
The development of TV in Latin

Assuming that **the thematic vowels were just ornamental morphology, a crucial development in the history of Latin is then the change by which the v^0-forming derivatives such as /-*_eye-_/, /-*_ye-_/, /-*eH_1-/, etc., lost their functional motivation as exponents of v^0 and became purely structural elements representing "ornamental" pieces** as in (114). They were inserted by the rule in (115).

(114)



(115)



Athematic verbs

A thematic vowel was never inserted if there was a root-conditioned exponent in ASP.

(116) Athematic Perfects

dūc-s-īmus	*dūc-s-erāmus*	*dūc-s-erimus*	*dūc-s-erīmus*	*dūc-s-issemus*
(dūximus)	*(dūxerāmus)*	*(dūxerimus)*	*(dūxerīmus)*	*(dūxissemus)*
lēg-Ø-i	*lēg-Ø-erāmus*	*lēg-Ø-erimus*	*lēg-Ø-erīmus*	*lēg-Ø-issemus*
Perf. Ind	Pluperf. Ind.	Fut.Perf. Ind	Perf. Subj.	Pluperf. Subj.

Calabrese (2019) argues that if the thematic vowel had been inserted in this case, the adjacency required for these exponents would have been lost, and they would have been replaced by the regular ASP exponent /-v-/. Given that this did not happen, we have to assume that roots of third conjugation verbs were analyzed as not undergoing TV insertion in the Perfect.

These innovations from PIE to Latin lead to a situation in which there was irregularity in the athematic forms and regularity in the thematic forms. The presence of the TV involved regular morphology. The thematic vowel appears in all cases where there is no root-conditioned contextual allomorphy. If there is root-conditioned contextual allomorphy, then there is no TV. Again, we can assume that this follows from the fact that only in this case, the aspectual node can access the root diacritics needed for the application of the specific VIs.

Latin perfect exponents

Another major development characterizing the Latin Verbal System was the conflation of the PIE aorist and Perfect. Here, I will not deal with the reasons of this change or with its syntactico-semantic consequences, but only with its implications for the verbal morphology of Latin.

The perfect exponents of Latin are given in (117):

(117) a. Perfect → /-Ø-/ / $Root^{Ø}$ ___, $root^{Ø}$= vert, etc
b. Perfect → /-s-/ / $Root^{s}$- ___, $root^{s}$ = scrib, etc.
c. Perfect → /-v-/

The exponent /-v-/ cannot be traced back to PIE, is not found in other Italic languages and is peculiar to Latin. /-s-/ and /-Ø-/ can instead be traced back to PIE. They, in fact, are etymologically related to the PIE VIs in (108a) and b), repeated in (118):.

(118) a. Perfect:
[+Perf. +stat] → /*-Ø-/
b. Aorist:
[+perfect, -stative] → *-Ø-/ / $Root^{Ø}$ ___
[+perfect, -stative] → /*-s-/ / $Root^{s}$ ___

Latin perfect exponents

Latin /-s-/ directly derives from Aorist /-s-/.

Latin /-Ø-/ instead derives from both Perfect and Aorist /-Ø-/. So, we have perfect forms with reduplication that underwent changes such as the following *sēd-Ø-ī* < **se-sd-Ø-*> 'sit' (Sihler (1995:582). At the same time, we have aorist forms that were preserved in Latin: *fīd-Ø-ī* < **bheid-Ø-*, Infectum present *findō* 'split' (cf. Skt. *bhinátti* 3sg pres. vs. *bhét /bháit-Ø-t* 3sg. aor.), *līqu-Ø-ī <leik*^{w}, Infectum present *linquō* 'leave' (cf. Skt. *rin5akti* 3sg pres. vs. *riktám /rik-Ø-tam*/ 2du Aor.)(see Sihler (1995:581-2) for more examples and detailed discussion).

Latin participle exponents

The Latin past participle exponent /-t-/ is etimologically based on PIE suffix /-t- ó -. In surface morphology, this suffix usually directly attached to the root, which undergoes ablaut changes (zero grade). Examples of this suffixes in Sanskrit and Greek forms are provided below (cf, Benveniste (1948), Chantraine (1927), Szemerenyi (1990), Sihler (1995), Whitney (1889)).

(119) [Root -to-]]

Sanskrit:*piṣ-ṭá* , *Root: paiṣ* 'crush',

smi-tá *Root: smai* 'smile'

uc-tá *[uk tá]* *Root:* vac 'say'

Greek: κλυτός, Root: kleu, φυκτός, Root: φευγ, τατός, Root: τειν, θετός, Root: θη (τίθημι), στατός, Root:

original meaning of /*-t-o/-forms

The original meaning of this suffix is stative as referring to the root internal object; therefore, passive in the case of agentive roots but active in the case of unaccusative roots. It refers to a state. See the following Greek cases for example:

(120) *ρυτός* (< *ῥέω* 'flow') "in the state of being flowing"
κλυτός (< *kleu* 'hear') "in the state of being heard, famous"
γραπτός (< *γραφω* 'write') "in the state of being written"
ἀκουστός (<*ἀκούω* 'hear') "in the state of being heard, audible"
νοητός (< *νοέω* 'think') "in the stat of being thought, thinkable
αἱρετός (<*αἱρέω* 'take, catch') in the state of being chosen, elected/ conquerable, intellegible'

PIE verbal participles vs. /*-t-ó-/-forms

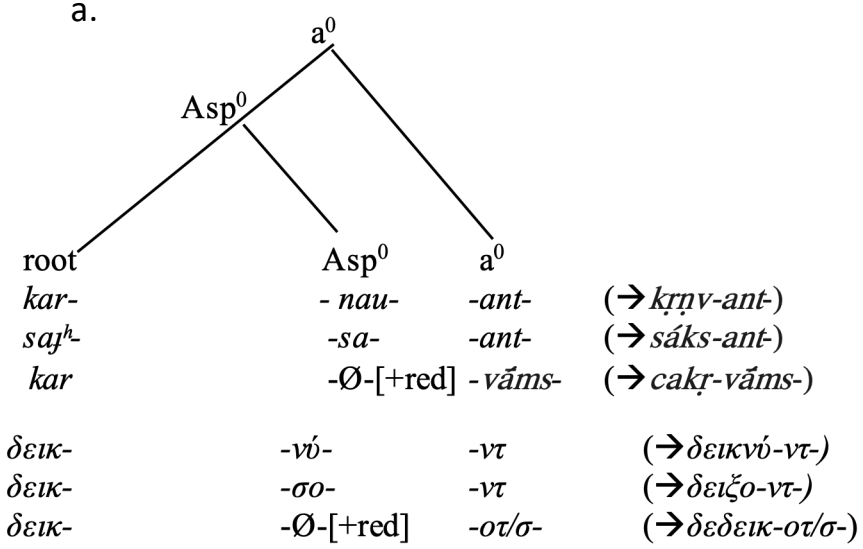
The stative adjective with /*-tó- /was thus originally outside of the verbal system (Joffre 1986:212; Laurent 1999: 17; Embick 2000; Vincent 2011:2, Remberber 2012:273).This can be seen when this suffix is compared to true verbal participial forms, which display internal verbal aspectual morphology as in the following forms in Sanskrit and Greek:

(121) Active Participles

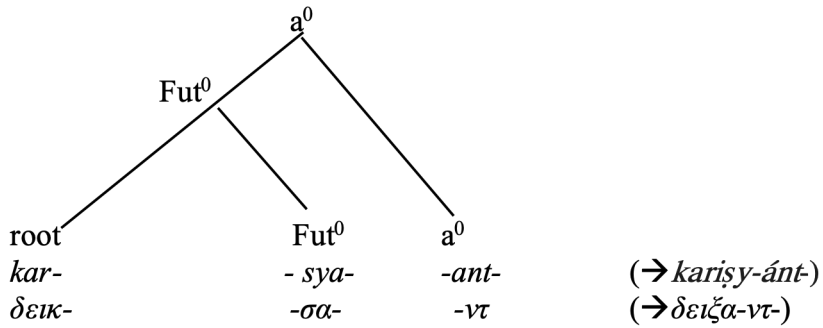
Present	**Future**	**Aorist**	**Perfect**	**Root**	
bháv-ant-	*bhaviṣy-ánt-*		*babhū-vắṃs*	*bhav*	be’
kṛṇv-ant-	*kariṣy-ánt*	*kr-ant-*	*cakṛ-vắms*	*kar*	‘make/do’
bhind-ant-		*bhid-ant-*	*bhid*		‘split’
		vid-ánt-	*vivid- vắms*	*vaid*	‘find’
		sáks-ant-	*sāsah-vắms*	*sqʃ^{h}*	‘prevail’
δεικνύ-ντ-	*δειξο-ντ-*	*δειξα-ντ-*	*δεδεικ-οτ/σ-*	*deik*	‘show’
διδό-ντ-	*δωσο-ντ-*	*δό-ντ-*	*δέδωκ-οτ/σ-*	*do/ō*	‘give’
λυο-ντ-	*λυσο-ντ-*	*λυσα-ντ-*	*λελυκ-οτ/σ-*	*leu*	‘untie’

PIE verbal participles vs. /*-t-ó-/-forms

(122) a.



b.



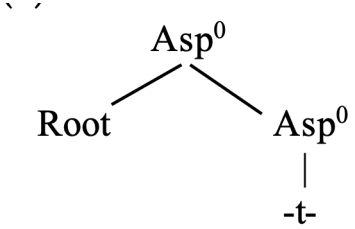
PIE verbal participles vs. /*-t-ó-/-forms

The suffix /*-tó- / never appears with an Aspect or Future component like the other participial forms (cf. (123)): for example, forms like the following appear not to be possible in Sanskrit:

(123) *†krnutá-* < from present of *kar*: *kar-nau-t á-*
†cakr̥tá- <from perfect of *kar*: *kar*+Redupl.*-t á-*
†karisitá- <from furture of *kar*: *kar-i-sya-t á-*

One could then assume that /*-t-/is the realization of the Asp node as in the structure in (124):

(124)



The stative adjective exponent /*-tó-/

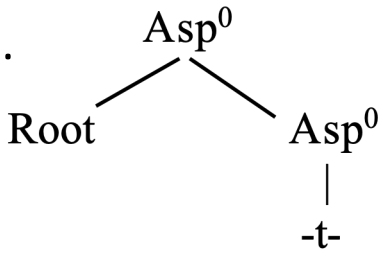
Adjectival uses of /-*t-o-/ still preserved in Latin (from Remberger (2012):

(125)Nonverbal root root	*Adjectival forms*		
barba	*barbatus*	*favor*	*faustus*
onus	*onustus*	*arma*	*armatus*
quinque	*quintus*	*penna*	*pennatus*
sex	*sextus*	*funus*	*funestus*
honor	*honestus*	*turris*	*turritus*
		cornu	*cornutus*

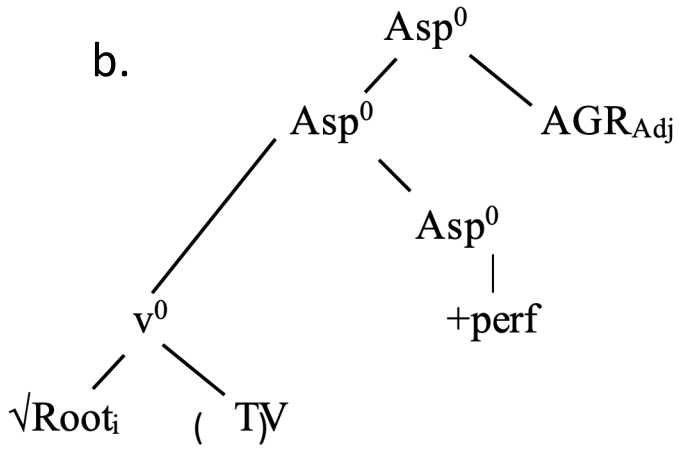
The Latin Innovation.

In Latin the **structure in (126a) developed into a true verbal participial one (126b) as shown by the presence of the v^0 TV**. Furthermore, as in Italian, stative adjectival participles are indistinguishable from the actual verbal participles always having the same verbal structure including a TV.

(126) a.



b.



The Latin Innovation .

Let us assume that both (57) and (59) were already operative in the Latin morphology:

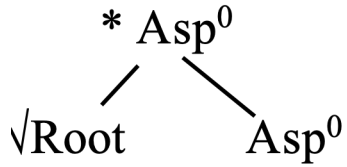
(57) Given a X^0 U, if v^0 is present in U, then also ASP^0 is present, and viceversa.

(44) $\emptyset \rightarrow$ [+perf] / [___] $_{ASP}{}^0$

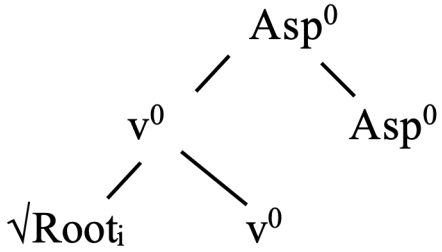
The innovative changes: I

The structure in (127) was disallowed in Latin, as in Italian, and was changed into that in (128):

(127)



(128)

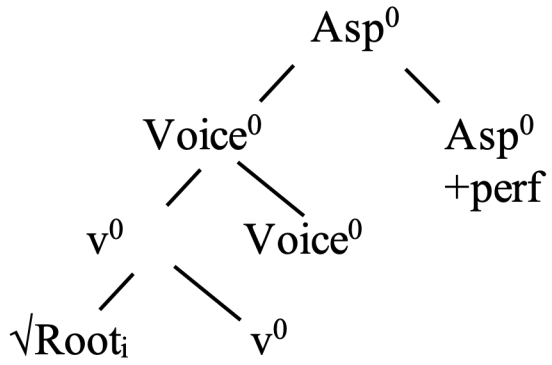


The innovative changes: II

The feature [+perfect] is inserted because of (59).

Furthermore, once we assume the presence of the Asp^0 node and that the articulation of the verbal functional skeleton is always the same, also the intermediate Voice node between v^0 and Asp^0 is required as in (129).

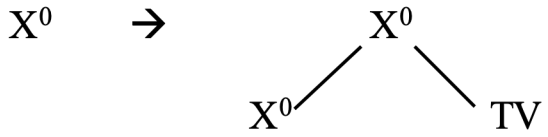
(129)



The Latin Innovation.

The major Latin innovation was the introduction of v^0 thematic vowels:

(28)

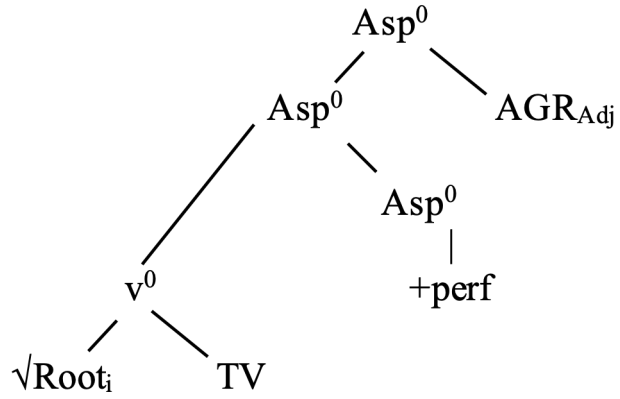


This diachronic development led to the situation that we observed synchronically in Italian stative adjectives which display verbal participial morphology: stative adjectives and nominalizations were integrated in root-based conjugations involving thematic vowels (or athematic constructions).

The innovative changes:

It is this innovation that transforms the morphological status of the /t-/ constructions. In fact, after the insertion of the TV, as well as the Insertion of AGR_{Adj} the full resulting structure from (129) will be that in (130) (remember that because of pruning Asp^0= Voice+Asp^0, and TV= v^0+TV).

(130)



The innovation

A stative adjectival participle thus became a true verbal participle showing a thematic vowel like true verbal forms. The introduction of the thematic vowels led to the situation that we observed synchronically in Italian stative adjectives which display verbal participial morphology. The thematic vowel revealed the presence of v^0 and thus the stative adjectives were integrated in the verbal conjugation system and could become to be used as verbal passive participle forms

The participle exponent /-t-/ and /-s-/

The participle exponent that Latin inherited from IE was /-t-/. This exponent is regularly preserved in thematic roots.

However, a change affected it in roots with athematic past participle: In early Latin, clusters of heteromorphemic coronal stops were affected by a process that changed them into a geminate coronal fricative (131a). This geminated fricative was degeminated after long vowels (131b):

(131) *a.* *tt--> ss*.

b. rīd-to → rīssu→ rīsu but mit-to → missu (cf. Ernout (1989:226)

The participle exponent /-t-/ and /-s-/

At a certain point in classic Latin, the shortened /s/ resulting from this process was reanalyzed as being the exponent /s/ of the Vocabulary Item in (117b), which was already present in Latin.

In fact, in Latin we find many cases in which we have /s/ in the past participle instead of the etimologically expected /t/ regardless of the phonological environment. In all of them, the perfect displays suffixal /s/ (cf. Ernout (1989:226).

(132)	Present	Participle	perfect	Present	Participle	perfect
	māneō	*mānsus*	*mānsī*	*flectō*	*flexus*	*flexī*
	mergō	*mersus*	*mersī*	*tergō*	*tersus*	*tersī*
	mulceō	*mulsus*	*mulsī*	*spargō*	*sparsus*	*sparsī*

I assume that these cases involve extension of the application of the Vocabulary Item in (117b) to new roots, i.e., they involve a reanalysis in which /-s-/ become the exponent of both Past Participle and Perfect forms in the context of certain given roots, as proposed earlier in the analysis of the Italian counterparts.

Thus, the relevant VIs for perfect and perfect participial forms became the ones in (134):

(133) a. $[+\text{perfect}]_{\text{Asp}} \rightarrow$ /-s-/ / Root^{S} ____ Root^{S}= scrib, curr, sparg, etc

b. $[+\text{perfect}\ ]_{\text{Asp}} \rightarrow$ /-t-/

N

c. $[+\text{perfect}]_{\text{Asp}} \rightarrow$ /v/ X

d. elsewhere Ø

Latin Nominalizations

We now also have an account for why Nominalizations in Latin may contain a past participial form as shown in the forms in (134)

(134)

Infinitive	vēn-ā-ri	aud-ī-re	del-ē-re	mon-ē-re	jub-e-re	scrib-e-re	cub-e-re
Past part	vēn-ā-t-us	aud-ī-t-us	del-ē-t-us	mon-i-t-us	jus-s-us	scrip-t-us	cub-i-t-us
Event N	vēn-ā-t-iō	aud-ī-t-iō	del-ē-t-iō	mon-i-t-iō	jus-s-iō	scrip-t-iō	cub-i-t-iō
Agent N	vēn-ā-t-or	aud-ī-t-or	del-ē-t-rix	mon-i-t-or	jus-s-or	scrip-t-or	cub-i-t-or
Result N	vēn-ā-t-u-s	aud-ī-t-u-s	del-ē-t-u-s	mon-i-t-u-s	jus-s-u-s	scrip-t-ura	cub-i-t-u-s
	‘hunt’	‘hear’	‘delete’	‘warn’	‘order’	‘write’	‘recline’

The PIE suffixes /*-t-er-/-or-/, /*-t-i-/ /-t-u-/

Examples of these suffixes in Sanskrit and Greek forms are provided below (cf, Benveniste (1948), Chantraine (1927), Szemerenyi (1990), Sihler (1995), Whitney (1889)). They are directly attached to the root, which undergoes ablaut changes (zero grade or o-grade)

(135) a. /*-t-or-/ (Pre-Acc) ([Root –́ tor-]]

Sanskrit: *dā́tar-*, giver' *váptar-* 'shearer', *dhmā́tar-* 'smelter', *táṣtar-* 'carpenter', *ástar-* 'archer', *sthā́tar-* 'driver', *métar-* 'architect', *hétar-* 'rider', *séktar-*

Greek: *δώτωρ* 'giver', *γεννήτωρ* "creator" < *γενν*α- "generate"; *ῥήτωρ* "rhetorician" < *ῥη-* "say".

b. /*-t-ér-/ ([Root – tér-]]

Sanskrit: *dātár-* 'giver', *bhārtár-* 'bringer', *janitár-* ''parent', *dhātár-*'founder', *yātár-* 'goer', *hetár-* 'conductor'

Greek: *δοτήρ* 'giver' <*δίδωμι, ἀμύνωρ* <*ἀμύνω*, *βατή* 'goer', *θετήρ* 'establisher', *σωτήρ* "savior" < *σαο-* "save"; *ψυκτηρ* "refrigerator' " < *ψυκ-* "cool down'

c. /*-t-i-/ ([Root -ti-]])

Sanskrit: *rātí* 'gift', *ūtí* 'aid', *rītí* 'flow', *stutí* 'praise', *bhakti* 'division', *viṣṭí* 'service', *kīrtí* 'fame', *pūrtí* 'bestowal', *matí* 'thought', *pītí* 'drink'

Greek: *μάντι*, *λέξις* 'speech', <*λεγ* 'say', *ἔνδοσις* 'distribution' <*δο-* 'give', *θέσις* "positioning" < *θη-* 'set' *κρασις* "mixing" < *κερα-* 'mix', –(normal grade– *κρησις* "use" < *κρη-* "use" *ἀνάβασις* (< *ἀνά-βη-* 'climb) 'process of climbing, ascent'; (cf. present *βαν-* *jω* → *βαίνω*)

d. /*-t-u-/ ([Root -tu-]])

Sanskrit:*dā́tu* 'share', *já̄tu* 'birth', *dhā́tu* 'element', *tántu* 'thread' *mántu* 'counsel', *sātu* 'receptacle', *sétu* 'tie', *sótu* 'pressure', *krátu* 'capacity', *sáktu* grits', *aktú* 'ray', *jantú* 'being', *gātu* 'way', *hetú* 'cause', *ketú* 'banner'

Greek: *κλιτύς* 'hill' <*κλίνω, ὀτρυντύς* 'excitement' <*ὀτρύνω, κτιστύς* 'foundation' <*κτίζω*

Latin development of suffixes /*-t-er-/-or-/, /*-t-i-/ /-t-u-/: I

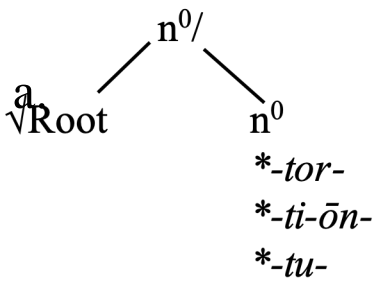
In Latin, all of these suffixes became characteristically added to the perfectum verbal base (Root+TV, otherwise athematic, depending of conjugations or roots). Concomitantly their initial consonant was analyzed as the exponent of the perfect participle, thus acquiring its contextual allomorphy (-s-, otherwise -t- depending of the verb). Aronoff's (1994) Latin third stem was thus formed. The Romance languages, in particular Italo-Romance, essentially preserve the Latin situation. How can we explain this development?

Latin development of suffixes /*-t-er-/-or-/, /*-t-i-/ /-t-u-/: II

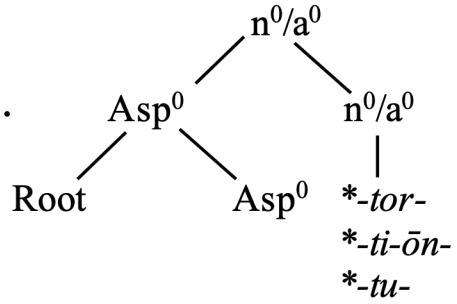
Putting aside the cases in note , as mentioned above, all of these suffixes could be directly attached to the root. We can assume for them an original structure in (137). Given the constraint in (65) , repeated here as (136) , this structure will be changed as in (137):

(136) Ø → Asp^0 / √root ___ if √root refers to an eventuality

(137) a.



→ b.

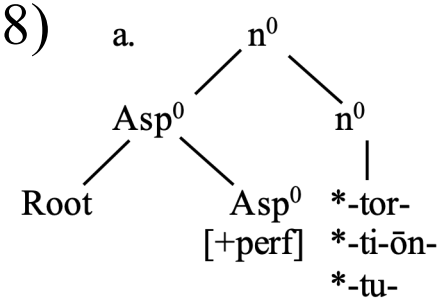


Latin development of suffixes /*-t-er-/-or-/, /*-t-i-/ /*-t-u-/: III

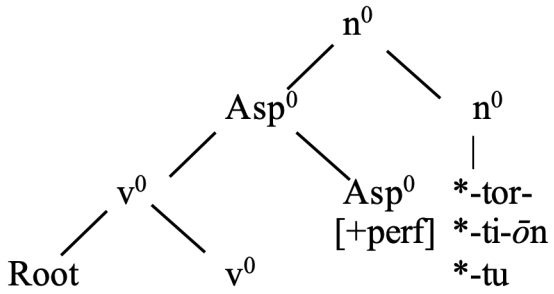
The further morphological repairs discussed above will insert the relevant participial morphology as in (138b) (pruning operations not mentioned).

(138)

a.



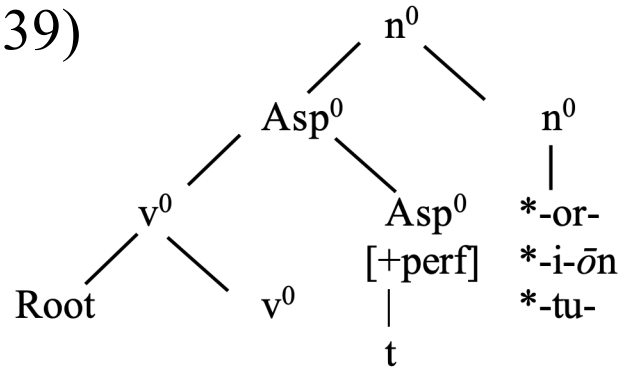
b.



Latin development of suffixes /*-t-er-/-or-/, /*-t-i-/ /-t-u-/: IV

Let us now suppose that under pressure of the suffix /*t-o*/, where, as assumed above, the /-*t*-/ was the exponent of [+perf] Asp^0, the initial consonantal /*t*/ of /-*t-or*) , /-*t-iōn*-) and /-*t-u*-/ was also reanalyzed as the exponent of [+perf] Asp^0 as shown below (on the possible common nature of the /-t-/ of these suffixes, see Szemerenyi (1996)):

(139)

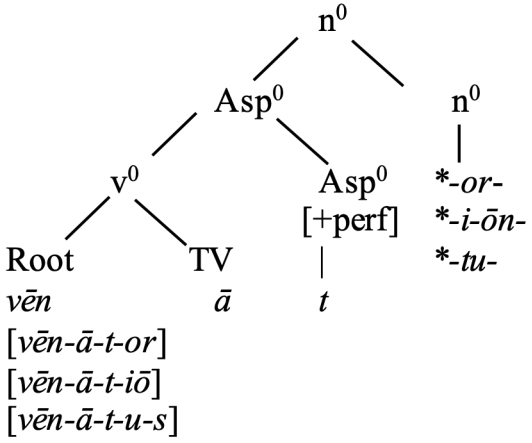


Latin development of suffixes /*-t-er-/-or-/, /*-t-i-/ /-t-u-/: V

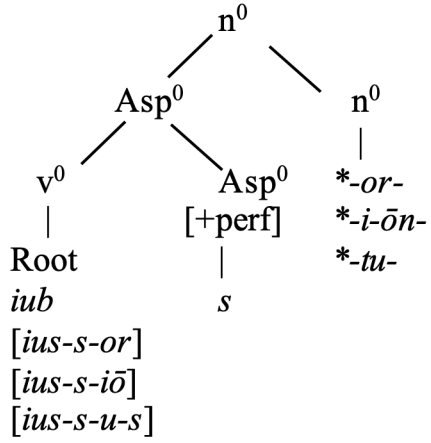
Once these structures underwent insertion of the TV for v^0, they became integral part of the Latin verbal morphology and share all of the morphological properties of the participial /-to/, Thus, after pruning of null v^0, regular verbs have the structure in a). In the case of athematic verbs, as discussed above, a diacritic prevents TV insertion (cf. b) (before AGR-insertion). The surface shape of the inner Asp^0 constituent is then derived by simply applying the regular Latin verbal morpho-phonology (VIs, MP-rules and regular phonology).

(140)

a. Thematic



b. Athematic



Latin development of suffixes /*-t-er-/-or-/, /*-t-i-/ /-t-u-/: VI

Steriade (2018) points out to the existence of nominalization in which the root does not refer to an eventuality, but a concrete referent, such as those in (Steriade 2018:130)

(145)

Non-eventuality root		Nominalization	
ianua	'door'	*ianitor*	'doorkeeper'
fund-a	'sling'	*funditor*	'sling fighter'
ficus	'fig'	*ficitor*	'fig planter'
oliva 'olive'		*olivitor*	'olive tree planter'
vindemia 'grape harvest'		*vindemitor*	'harginger of vintage'

Although the root does not refer to an eventuality, the nominalization does indeed refer to one as their meaning makes it clear. I assume that these nominalizations have the structure in ( ) and that the relevant eventuality referring aspectual semantic is introduced by the Asp^0 node. The relevant repairs discussed above, and the other relevant morphosyntactic operations, eventually convert this basic structure into that in a)—they must be thematic since roots such as those cannot carry the diacritic preventing TV insertion.

One can propose that the thematic short /i/ that is inserted in this case is probably the same thematic vowel that is inserted in the infectum of the III conjugation verbs (see Calabrese (2019) for discussion) and appears in the past participles in() (Calabrese (2019):

(146)

Present 1Pl.	Perfect	Participle
domāmus	*domui*	*domitus*
monēmus	*monui*	*monitus*
molimus	*molui*	*molitus*

If Halle (2018) is correct, this vowel is a high back [ɨ] which is deleted before another suffixal vowel, is shortened before [r], otherwise becomes [i].

The Latin nominal suffix /-*men-(to)*-/

The evolution of these suffixes is to contrast with that of non-t-initial suffixes like for example, the nominal suffix /-*men-(to)*-/ (< PIE **men*-(+ optional addition of suffixal -**to*-). As the other suffixes in (135), also this suffix appears directly attached to the root in PIE, as shown by Sanskrit and Greek.

(147) PIE Root (in full grade, accented)+ **men-(to)*-
Sanskrit: *bhár-ma* 'the action of bringing', *ján-man* 'birth', *kár-man* 'action', *dyót-man* 'splendor', *śró-ma-ta-m* 'reputation'
Greek: *πυθ-μήν* 'foundation' < **bhudh*-, *φέρ-μα* 'the action of bringing' (*μα* <-*mn̥* (zero grade of -*men*))

The Latin nominal suffix /-*men-(to)*-/

In Latin, however, it appears attached to a thematic base, as shown in (148) :

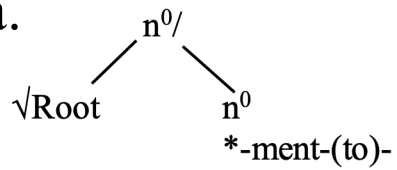
(148) Thematic (Root-TV- *men-(to)*-)

fund-ā-men/ fund-ā-mentum	'foundation'	*fund-ā-re/fund-ā-t-u-*	'lay foundation of'
līb-ā-men/ līb-ā-mentum	'a drink -offering'	*lib-ā-re/lib-ā-t-u-*	'pour out as offering'
orn-ā-mentum	'ornament'	*orn-ā-re/orn-ā-t-u-*	'decorate'
put-ā-men	'clippings'	*put-ā-re/put-ā-t-u-*	'trim, prune'
test-ā-mentum	'testament'	*test-ā-ri/test-ā-t-u-*	'declarate'
vēl-ā-men	'a cover'	*vēl-ā-re/vēl-ā-t-u-*	'cover'
bland-ī-mentum	'flattery'	*bland-ī-re/bland-ī-t-u-*	'flatter'
imped-ī-mentum	'impediment'	*imped-ī-re/imped-ī-t-u-*	'himder'
mōl-ī-mentum	'great exertion'	*mol-ī-ri/mol-ī-t-u-*	'make exertions'
mūn-ī-men/mūn-ī-mentum	'fortification'	*mūn-ī-re mūn-ī-t-u-*	'build a wall'
suff-ī-mentum	'fumigation'	*suff-ī-re/suff-ī-t-u-*	'fumigate'
vest-ī-mentum	'clothing'	*vest-ī-re/vest-ī-t-u-*	'clothe'

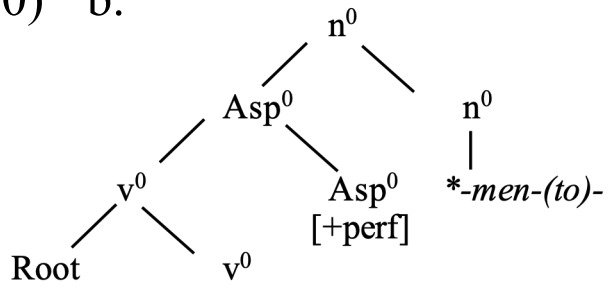
The Latin nominal suffix /-*men-(to)*-/

As proposed before for the suffixes *-ter/tor, -ti, -tu*, we can also assume the basic structure in (149a), which due to the morphological repairs discussed above, becomes as in (149b):

(149) a.



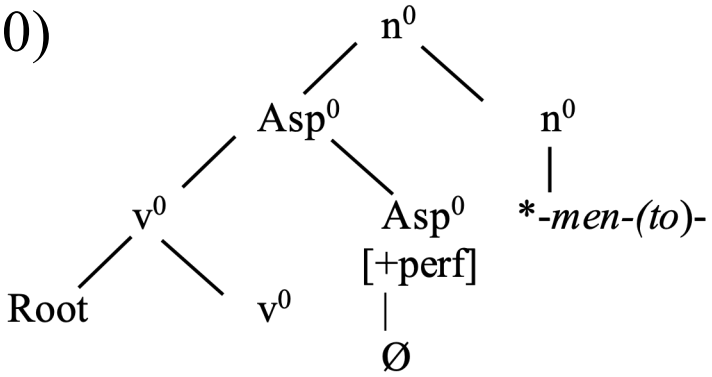
(150) b.



The Latin nominal suffix /-*men-(to)*-/

In this case, the reanalysis seen in (135) was obviously not possible. So, the exponent Ø for Asp was adopted in this case (see Italian counterpart discussed before)):

(150)



The Latin nominal suffix /-*men-(to)*-/

Once these structures underwent insertion of the TV for v^0, they became integral part of the Latin verbal morphology. At this point, it is very important to observe that the treatment of the root in the structure in show the presence of the feature [+perfect]. In fact, -men(-to) constructions are systematically athematic, as expected, when the past participle forms of the relevant verbal roots are athematic. Observe the striking case of *adiū-mentum* 'help' whose root appears with thematic a in infectum verbal forms such as the infinitive *adiuv-ā-re* 'help' but is athematic (with a long *ū*) in perfectum forms such as the past participle *adjū-t-us*. Other forms illustrating the same correlation pattern are given in (151) . This provides evidence for the correctness of the structure in (150):

(151) Latin form in - *men-(to*)-

a. Athematic (Root- *men-(to*)-)

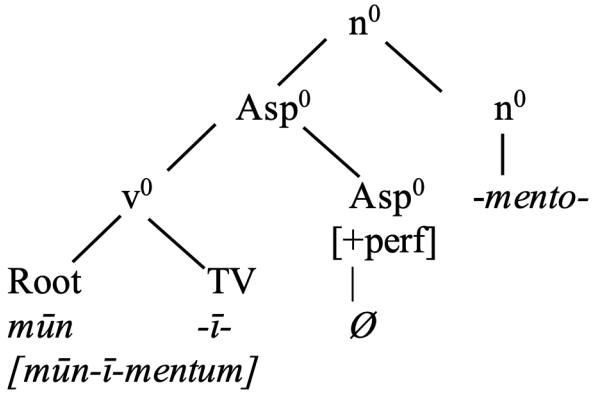
acū-men	'a point'	*acu-e-re/acū-t-u-*	'make sharp'
ag-men	'multitude in motion'	*ag-e-re/ac-t-u-*	'lead, drive'
argū-mentum	'argument	*argu-e-re/argū-t-u-*	'argue, accuse'
assū-mentum	'a patch'	*assu-e-re*(*ad-suere/ad-sū-t-u-*)	'sew on'
aug-men/ aug-mentum	'augmentation'	*aug-e-re/aug[k]-t-um*	'grow'
cae(d)-mentum	'a quarry stone'	*caed-e-re/cae(d)-s-um*	'split off'
crī-men	'judicial charge'	*cern-e-re/crē-t-u-*	'comprehend, decree'
dē-trī-mentum	'detriment'	*dē-ter-e-re/dē-trī-t-u-*	'rub away'
fō-mentum	'warm application'	*fov-ē-re/fō-t-u-*	'warm'
frag-men/ frag-mentum	'fragment'	*frang-e-re/frag[k]-t-u-*	'break'
in-crē-mentum	'increment'	*cre-sc-e-re/crē-t-u-*	'grow'
in-strū(g)-mentum	'instrument'	*instru-e-re/ instrug[k]-t-u-*	'provide'
mō-men/mō-mentum	'movement'	*mov-ē-re /mō-tu-*	'move'
pig-mentum	'pigment'	*ping-e-re/pig[k]-t-u-*	'paint'
sar(p)-menta	'twigs, fascine'	*sarp-e-re/sarp-t-u-*	'cut off, prune'
statū-men	'support'	*statu-e-re/statū-t-u-*	'cause to stand'

The Latin nominal suffix /-*men-(to)*-/

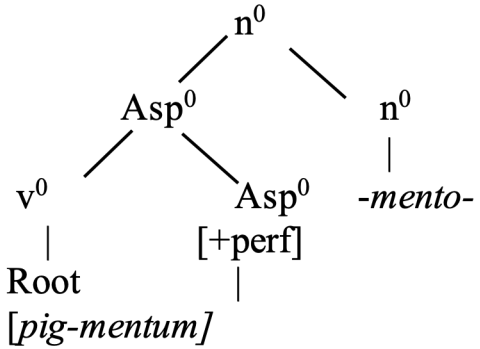
Thus, after TV insertion and pruning of null v^0, regular verbs have the structure in a). In the case of athematic verbs, a root diacritic prevents TV insertion, as discussed above. We will thus have the structures in (cf. b) (shown here before AGR-insertion):

(152)

a. Thematic



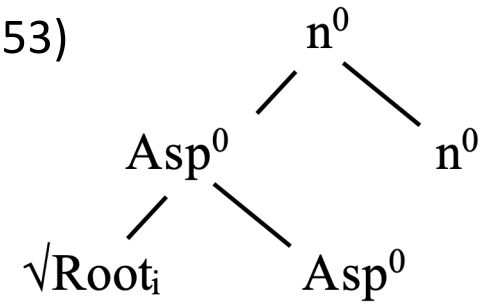
b. Athematic



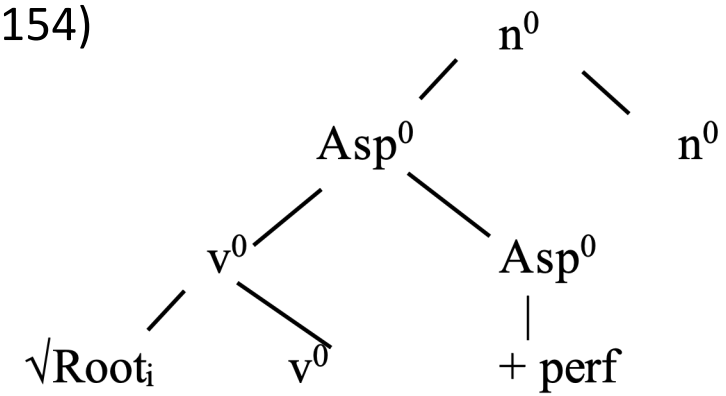
Conclusion on Latin nominalizations

As already discussed for Italian nominalizations, it is enough to hypothesize that the structure of the Latin nominalizations, after the application of (65), is that in (153). The morphological repairs discussed above will insert the relevant participial morphology as in (154):

(153)



(154)

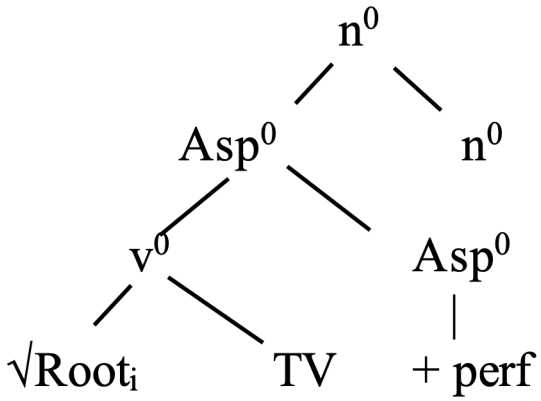


Thematic and athematic forms

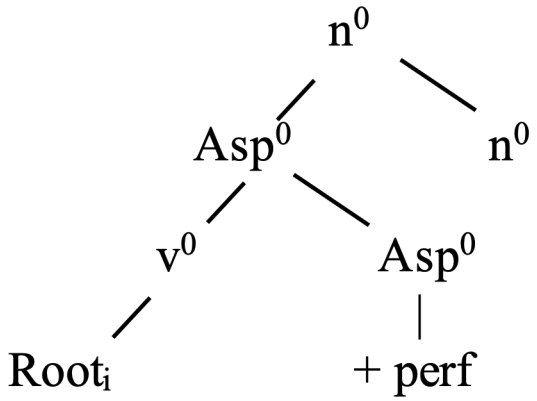
In Latin ,as in Italian, verbal forms undergo insertion of the TV for v^0. After pruning of null v^0, regular verbs have the structure in (155a). In the case of athematic verbs, a diacritic on the root prevents the insertion of the TV (cf. (155b) (before AGR-insertion):

(155)

a. Thematic



b. Athematic



The surface shape of the inner Asp^0 constituent is derived by simply applying the regular Latin verbal morpho-phonology (VIs, MP-rules and regular phonology).

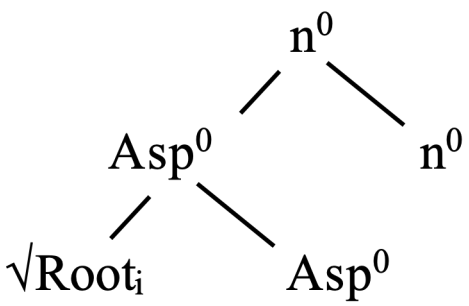
Consequence of the Latin innovations

As mentioned before for Italian, the overall consequence of the Latin changes is that every eventuality root, or root merged with Asp^0, will acquire surface verbal morphology —in particular verb classes patterns, which may be participial in some cases but not in other.

The Supine

The supine is a deverbal noun originally formed by adding the nominal suffix /-*t*-*u*-/ to the root. We can assume that the supine had the basic structure in (156) :

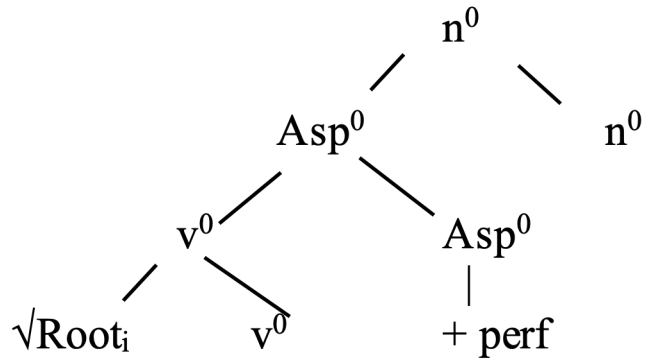
(156)



The Supine

Given the constraint in (57), the supine receives "ornamental" verbal structure and thus acquires the "participial" format in (157):

(157)



The supine

The thematic/athematic status and the allomorphy of supine forms, is derived as discussed before—it will contain participial morphology:

(158) Regular supine forms

[[[ ]$_{Root}$	TV]$_{TV}$	-t-]$_{Asp^0}$	-u-]$_{n^0}$ …..	
am	-a-	-t-	-u-	(cf. amatu-)
mon	-i-	-t-	-u-	(cf. monitu-)
aud	-i-	-t-	-u-	(cf. auditu-)

(159) Irregular supine forms

[[[ ]$_{Root}$	-t-/-s-]$_{Asp^0}$	-u-]$_{n^0}$ …..		
scrib	-t-	-u-	(cf.	scriptu-)
leg	-t-	-u-	(cf.	lectu-)
suād	-s-	-u-	(cf.	suāsu-)
sed	-s-	-u-	(cf.	sessu-)
expell	-s-	-u-	(cf.	expulsu-)

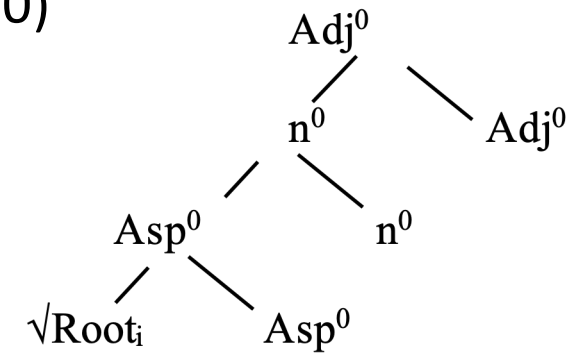
Irrelevance of syntactico-semantic content

Observe that the featural content of voice does not matter in the construction and assignment of morphology for both the past participle and the supine. Therefore, the fact that the past participle is usually passive and the supine is active does not matter in the determination of their surface morphology.

The future participle

Following Remberger (2012), I now propose that the future participle is truly a denominal adjective in its base structure as in (160):

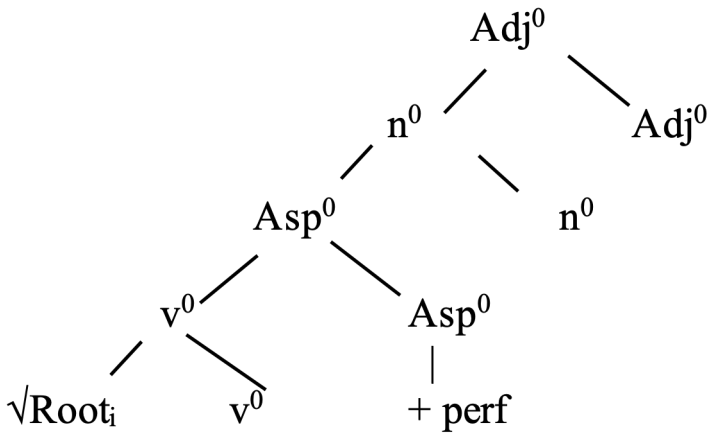
(160)



The future participle

The application of the morphological repairs triggered by (57) will convert (160) into (161):

(161)



As discussed before for the supine, regular verbal forms undergo insertion of the TV for v^0 and eventual pruning of the null v^0. Irregular verbs undergo pre-VI pruning of v^0 and therefore no insertion of v^0-TV

The future participle

Application of the relevant VI in and the VI in for n^0 derives the surface shape of the future participle forms:

(162) /-ur-/ <--> [+desiderative/prospective]$_n$0

(163) Regular future participle forms

[[[ ]$_{Root}$	TV]$_{TV}$	-t-]$_{Asp}$0	-ur-]$_n$0	-u-]$_{Adj}$0 …..	
am	-a-	-t-	-ur-	-u-	(cf. amaturu-)
mon	-i-	-t-	-ur-	-u-	(cf. monituru-)
aud	-i-	-t-	-ur-	-u-]	(cf. audituru-)

(164) Irregular future participle forms

[[[ ]$_{Root}$	-t-/-s-]$_{Asp}$0	-ur-]$_n$0	-u-]$_{Adj}$0	
scrib	-t-	-ur-	-u-	(cf. scripturu-)
leg	-t-	-ur-	-u-	(cf. lecturu-)
suād	-s-	-ur-	-u-	(cf. suāsuru-)
sed	-s-	-ur-	-u-	(cf. sessuru-)
expell	-s-	-ur-	-u-	(cf. expulsuru-)

The future participle

This accounts for the surface morphology of future participle forms, and for the fact that they appear to contain past participle morphology. This is the result of the morphological repairs discussed above.

Participial bases for Latin frequentative verbs

Frequentative verbs:

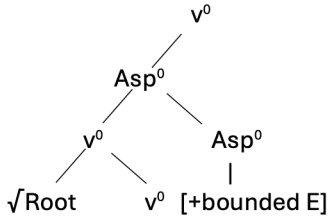
cursāre 'run here and there', *dictāre* 'say often, repeatedly' , *lectāre* 'read often', *cantāre*. etc.

As the glosses indicate, they denote a repetition of the verb's eventuality. They are imperfective.

The problem is that they are regularly built on a participial base (*cur-s-* < *currō* 'run', *dic-t* < *dicō* 'say', *lec-t, legō* < 'read', can-t < can*ō*). They are deverbal formations. What accounts for the presence of the participle?

The semantic nature of the "frequentative" verbs requires quantification of the eventuality referred to by the root of the verb, so that its repetition can be indicated (*cur-s-* (run > 1 occurrence of running, 2 occurrences of running, 3…..). So, the quantification requires bounded and countable instances of events, and their resulting states (in the case of 'run', it would be interpreted as a series of achievements, therefore the interpretation of running here and there, "to and fro", as the dictionary says).

If we use the feature [+bounded/+countable eventuality] instead of [+perf], we could account for the presence of the participle in these deverbal forms.



Morphological repairs lead to morphological syncretism

The morphological repairs induced by morphological structure condition manipulate syntactic structures of passive participles and adjectival verbs and generate "arbitrary"morphological structure. This structure is not motivated synctactically or semantically but only morphologically because of (57).

Mismatches between syntax/semantic structure and surface morphology are thus created. In this sense, Italian, and Latin, past participle forms are semantically opaque in so far as they are the outcome of syncretic operations, the just mentioned repair operations, that neutralize surface morphological contrasts among the surface syntactico-semantic structures that are originally quite different in underlying structure.