



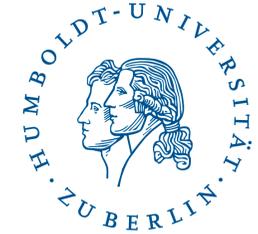
On the complexity of Greek verbal morphology

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Thessaloniki, March 19, 2019

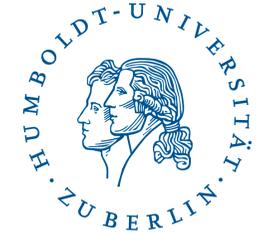


The puzzle



- In Greek, as in many other languages, verbs of *change of state* undergo the causative alternation, see e.g. Embick (1998), Alexiadou & Anagnostopoulou (2004), Zombolou (2004), Alexiadou, Anagnostopoulou & Schäfer (2006, 2015), Roussou & Tsimpli (2007) among others.
- The causative alternation relates pairs of transitive and intransitive verbs, where the transitive variant is interpreted roughly as 'cause to verb_{intransitive}' (see Levin (1993), and Schäfer (2009) for overviews):

- (1) a. Mary opened the door *causative variant*
 b. The door opened *anticausative variant*

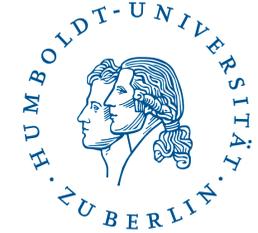


The puzzle

- While in English both the causative and the anticausative variant bear the same morphology, active, in Greek there are two classes of anticausatives, **marked**, bearing non-active (NAct) morphology, and **unmarked**, bearing active (Act). (Some verbs may bear both markings):
- **Question:** can we predict which verb gets which morphology?

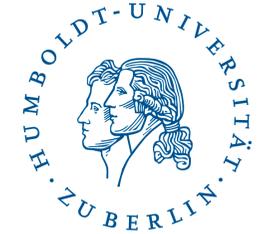
- (2) a. o Janis ekapse ti supa *causative*
the John.nom burned.Act the soup.acc
John burnt the soup
- b. i supa kaike *marked anticausative*
the soup.nom burned.Nact
The soup burned

The puzzle



- c. O Janis anikse tin porta *causative*
John opened the door
- d. I porta anikse *unmarked anticausative*
the door opened

- Traditionally, this split was taken as suggestive of a derivational relationship between the two variants:
 - Active in both: intransitive is the basic form
 - Non-active in intransitive: transitive is the basic form
- Such approaches have been criticized in the literature and the next set of data also casts doubts on them.



The puzzle

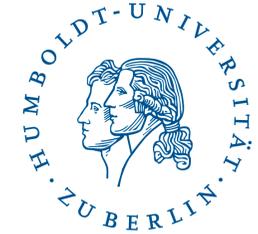
- Alexiadou, Anagnostopoulou & Schäfer (2015: 96): there are verbs that are built on the basis of the same stem but differ in terms of the presence vs. absence of a **prefix**; the intransitive variant of un-prefixed verbs contrasts with that of prefixed ones: the former bears Act, while the latter surfaces with NAct (3).

- (3) a. To pedi isihase.
the child quietened.Act
The child got quiet.
- b. To pedi **kath**-isihastike.
the child recomposed.NAct
The child got recomposed.

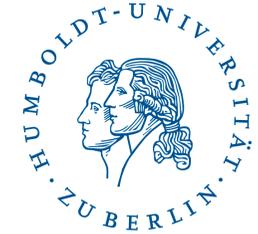
<https://parents.org.gr/forum/topic/49664-arneitai-to-scholeio-prin-to-archisei/>

- I will show that this is more general.
- Why is this the case? Why does the prefix matter?

Outline



- Background on Voice in general and Greek Voice in particular based on Alexiadou, Anagnostopoulou & Schäfer (2015).
- Adopt a common base approach: both transitive and intransitive variants are derived from a common root that combines with functional layers.
- Establish a generalization concerning the relationship between NAct Voice and prefixed verbs.
- Propose an analysis thereof.



The role of Voice

- Recent work on the syntax of argument structure, crucially building on Kratzer (1996), sees Voice as one of the argument introducing heads. More specifically, it is the layer that introduces the external argument.

(4) [_{VoiceP} External argument [_{VP}]]

- According to Kratzer (1996), there are two active Voice heads: one adding the agent argument to an action verb, and one adding the holder argument to a stative verb.
- The same head that introduces the external argument in the active introduces the implicit external argument in the passive.

Voice in argument alternations



- Kratzer (1996) provides several arguments in favor of severing the external argument.
- One argument comes from languages such as Greek that show Voice alternations, distinguishing between Act and NAct Voice:

Voice in argument alternations



- (I) a. **Active forms of grafo 'write'**

-Perfective

Perfective

PN	-Past	Past	-Past	Past
1s	graf-o	e-graf-a	grap-s-o	e-grap-s-a
2s	graf-is	e-graf-es	grap-s-is	e-grap-s-es
3s	graf-i	e-graf-e	grap-s-i	e-grap-s-e
1pl	graf-ume	graf-ame	grap-s-ume	grap-s-ame
2pl	graf-ete	graf-ate	grap-s-ete	grap-s-ate
3pl	graf-un	graf-ane	grap-s-un	e-grap-s-an

Voice in argument alternations



- **b. - Active forms of grafo 'write'**

-Perfective

Perfective

PN	-Past	Past	-Past	Past
1s	graf-ome	graf-omuna	graf-t-o	graf-tik-a
2s	graf-ese	graf-osuna	graf-t-is	graf-tik-es
3s	graf-ete	graf-otan	graf-t-i	graf-tik-e
1pl	graf-omaste	graf-omastan	graf-t-ume	graf-tik-ame
2pl	graf-este	graf-osastan	graf-t-ite	graf-tik-ate
3pl	graf-onde	graf-ondan	graf-t-un	graf-tik-an

Voice in argument alternations



- **NAct** morphology appears on:
 - i. marked anticausatives
 - ii. passives
 - iii. reflexives
 - iv. dispositional middles
 - v. deponents

(Tsimpli 1989, 2006, Sioupi 1998, Embick 1998, 2004, Alexiadou & Anagnostopoulou 2004, Zombolou 2004, Alexiadou, Lekakou 2005, Anagnostooulou & Schäfer 2006, 2015, Lavidas 2009, Alexiadou & Doron 2012 and others)

Voice in argument alternations



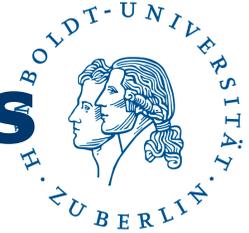
- (5) a. o Janis ekap**se** ti supa *causative*
the John.nom burned.Act the soup.acc
John burnt the soup
- b. i supa kege**te** *marked anticausative*
the soup.nom burns.Nact
The soup is burning

Voice in argument alternations



- (6) a. *passive*
To vivlio diavast**ike** ktes
the book.nom read.Nact yesterday
The book was read yesterday
- b. *reflexive*
I Maria hteniz**ete**
the Mary.nom combs.Nact
Mary combs herself
- c. *dispositional middle*
Afto to vivlio diavaz**ete** efkola
this the book.nom reads.NAct easily
This book reads easily

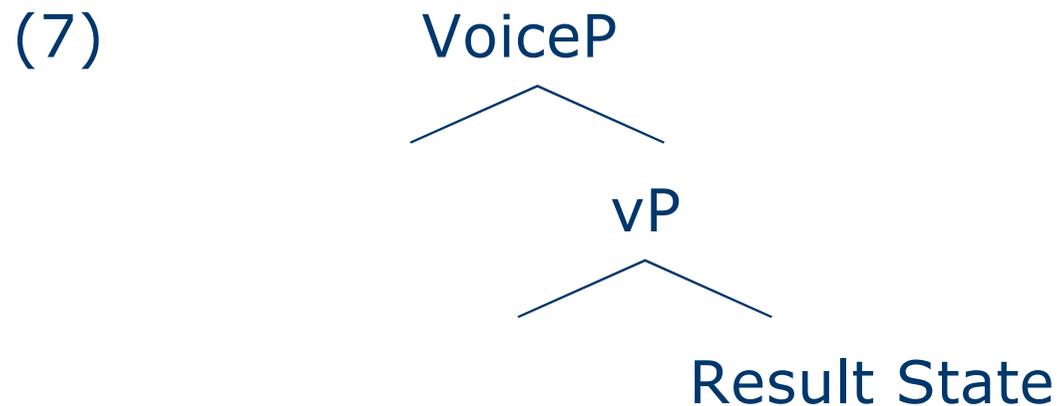
Voice in argument alternations



- **This is a case of Voice Syncretism:** distinct syntactic alternations are realized with identical morphology.
- Underspecification of morphological exponents (*inflection markers*) with respect to morpho-syntactic structure, Embick (1998).

The structure of verbs

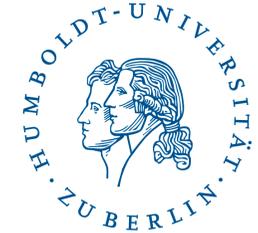
- Alexiadou, Anagnostopoulou & Schäfer (2015): verbal meaning is composed in syntax; verbs of change of state include the following components:



v introduces event implications, and the combination of *v* and the result state component leads to a causative interpretation (see also Ramchand, 2008).

Greek NAct Voice = Middle Voice

Middle Voice

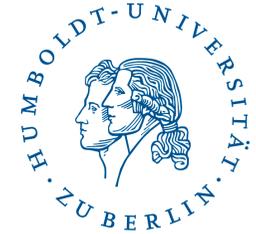


- Two NAct Voice heads: Passive and Middle, Doron (2003), Alexiadou & Doron (2012), Spathas et al. (2013).
- Passive attaches above VoiceP (English and German); Middle is the non-active counterpart of Kratzer's active Voice, NAct spells-out absence of specifier:

(8) Voice → NAct/_ (no specifier), structure (9a)

- (9)
- | | | |
|----|---|---------------|
| a. | [MiddleVoiceP [-D] NAct [vP [ResultP √burn]]] | <i>NAct</i> |
| b. | [vP [ResultP √open]] | <i>active</i> |
| c. | [VoiceP DP [vP [ResultP √burn]]] | <i>active</i> |
| d. | [PassiveP [VoiceP DP [vP [ResultP √burn]]]] | |

Middle Voice



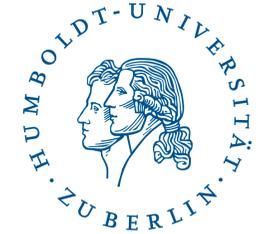
- The interpretation of passive structures always includes an understood external argument, since this is a property of passive independent of the root.
- The event described by the passive verb involves the same external argument as the corresponding active verb; the thematic role of this argument is the one required by the verbal predicate: agent/experiencer/location/cause.
- Languages with a passive head can passivize every transitive verb.
- In these languages, passive morphology is **not** syncretic with reflexives and anticausatives.

Middle Voice



- The Middle Voice-head does not have an argument, but, depending on the root, it can yield several interpretations, e.g. passive, reflexive (and reciprocal), etc..
- **Underspecification**, Embick (1998), cf. Tsimpli (2006), Alexiadou & Doron (2012), Alexiadou, Anagnostopoulou & Schäfer (2015), Manzini et al. (2016).

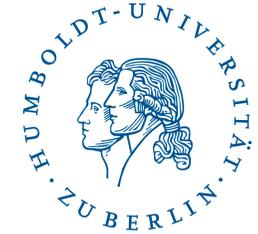
Middle Voice



- In Greek, Middle Voice is underspecified, and often ambiguous between passive and reflexive: the presence of *by*-phrases or of the prefix *afto-* disambiguate.

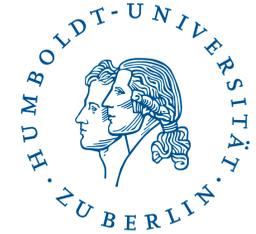
- (10) a. O Janis plithike (apo ti Maria)
The John.nom washed.Nact.3sg by the Maria
John was washed by Mary
- b. O Janis afto-eksoristike
The John.nom self exiled.Nact.3sg
John got self-exiled

Middle Voice



- The default interpretation of Middle Voice is reflexive with naturally reflexive predicates and passive with naturally disjoint predicates.
- In the presence of overt lexical material that specifies its implicit argument it gives rise to non-ambiguous interpretations (Alexiadou & Doron 2012, Alexiadou & Schäfer 2012, Spathas et al. 2013):
 - i. a passive one, when an agentive *by*-phrase is present (10a) with naturally reflexive predicates.
 - ii. a reflexive one with naturally disjoint predicates prefixed with *afto*-.

Greek Voice

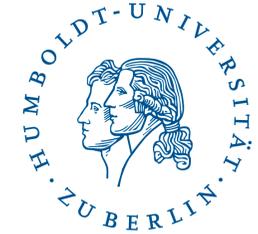


- In Greek, there are many verbs that do not passivize, although their counterparts in English and German are perfectly passivizable.
- Verbs that do not form passives, Zombolou (2004), Alexiadou, Anagnostopoulou & Schäfer (2015):
- Most change of state verbs, but also several other verb classes:

(11) haidevo 'stroke', tsimbao 'pinch', frondizo 'take care of', derno 'beat', klotsao 'kick', skotono 'kill', kovo 'cut', maherono 'stab', spao 'break', kriono 'cool', vatheno 'deepen', kondeno 'shorten', makreno 'lengthen', alazo 'change' etc.

- Alexiadou, Anagnostopoulou & Schäfer (2015) note further constraints:

Greek Voice



➤ Morpho-phonological constraints:

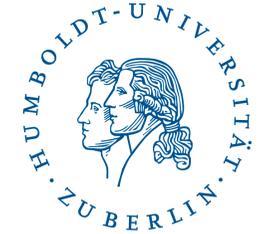
- In some cases, a phonological clash results from the combination of a particular stem with the non-active affix; in other cases lexical semantics block NAct, e.g:

(12) **kontinthike* 'shortened-NAct', **leptinthike*
'thinned-NAct', **makrinthike* 'lengthened-NAct',
**adinatistike* 'thinned-NAct'

- In yet other cases, when there are two verbs with a similar meaning and differ only in the presence of a prefix, the **prefixed** one combines with NAct:

(13) **alahtike* **metav***lithike*
change.NAct.3sg change.NAct.3sg

Greek Voice



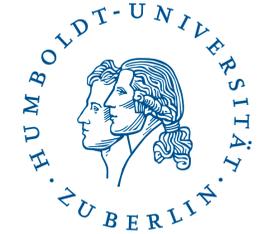
- Non-transparency: as mentioned, NAct is used in a variety of environments, anticausatives, reflexives, and deponents:

(14) Anticausatives	Reflexives	Deponents
<i>gremistike</i>	<i>plithike</i>	<i>metehiristike</i>
collapsed.NAct.3sg	washed.NAct.3sg	used.NAct.3sg
<i>kaike</i>	<i>ksiristike</i>	
burned.NAct.3sg	shaved.NAct.3sg	

Deponents: some have a transitive syntax (15); transitive deponents do not feed passivization.

- (15) O Janis metahiristike to leksiko
John used.NAct.3sg the dictionary.acc
John used the dictionary

Interim conclusion



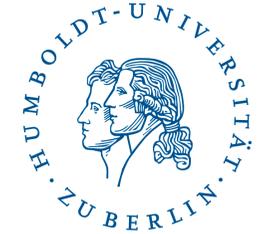
- All these properties together with the observation that *by*-phrases are severely restricted in Greek (either considered marked or only possible if the DP in the *by*-phrase is non-specific), led to the proposal that passive in Greek might be lexical and not syntactic (Lascaratou & Warburton 1983, Smirniotopoulos 1992).
- Klaiman (1991), Kaufmann (2001), and Manney (2000) argue in fact that Greek lacks a designated passive Voice, it actually has middle Voice.
- Middle Voice subsumes a variety of readings, Kemmer (1993), unlike passive Voice, see Alexiadou & Doron (2012).
- Re-interpretation of the syntax vs. lexicon division as two domains for NAct Voice formation.

Low attachment of Voice



- In Greek and other languages of this type, verbs (v+root) combine only with middle Voice.
- This explains:
 1. the low productivity of passives (and the restrictions on by-phrases)
 2. the morpho-phonological restrictions
 3. the multifunctionality of NAct morphology
 4. the lack of transitive counterparts for many verbs such as inherent reflexives and deponents
- Voice can access v/ v+Root, it is **local** enough. The morphology of Voice is sensitive to features of its complement.

Greek Voice



(16)

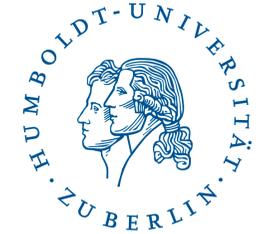
Middle VoiceP



Result State [Root or ResultP]

(17) Voice → NAct/_ (no specifier), i.e. [-D] on Voice.

Let us now turn to intransitive variants of prefixed alternating verbs and the question of NAct marking.



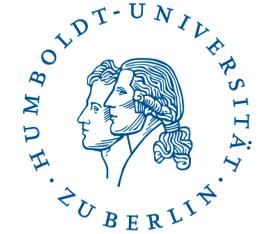
Intransitive form

NAct

Active

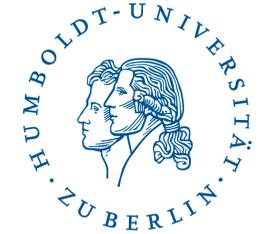
kommatiazo (tear)	asprizo (whiten)
miono (decrease)	kokinizo (redden)
eksafanizo (diminish)	mavrizo (blacken)
veltiono (improve)	katharizo (clean)
diplasiazo (double)	stroggilevo (round)
singentrano (collect/gather)	klino (close)
dhiadhido (spread a rumor)	anigo (open)
vithizo (sink)	plateno (widen)

Generalization I



- Alexiadou & Anagnostopoulou (2004): de-adjectival verbs have intransitive counterparts with active morphology.
- Accounts in terms of spontaneity of events (Haspelmath 1993, Schäfer 2008) or assuming that these are basically monadic verbs (Alexiadou & Anagnostopoulou 2004, Alexiadou & Doron 2012).

Generalization II



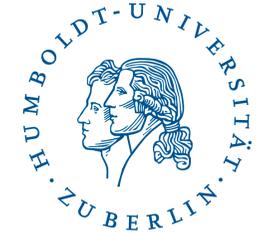
Prefixed verbs: intransitives bear NAct

(18)

af -air-o`	subtract`	af-air-um 'remove.NAct`
ek -leg-o	vote/choose`	ek-leg.ome 'vote.NAct'
dia -leg-o	`cull/ choose`	etc..
dia -graf-o	`delete`	
ek -top-iz-o	'remove'	
ek -diok-o	`remove`	

(19) **No prefixed transitive** verb has an intransitive variant bearing Act Voice.

Prefixed verbs: NAct



(20)	alazo	vs. meta -valo	meta-val-ome
	change	prefix-root 'change'	change.NAct
	isihazō	vs. kath -isih-az-o	kath-isih-az-ome
	quieten	prefix-quieten	quieten-NAct
	malakono	vs. kata -prain-o	kata-prain-ome
	soften	prefix-soften	soften.Nact

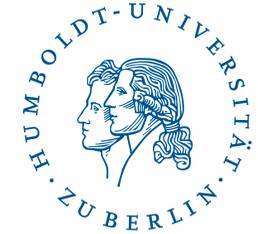
(21)	Further verbs in Asylogistou (2018):		
	Active	NAct	
	apo -tifl-on-o	apo-tiflonome	off-blind
	ek -ken-on-o	ekkenonome	evacuate
	kata -spatal-o	kataspatalieme	spend

Prefixed verbs only?

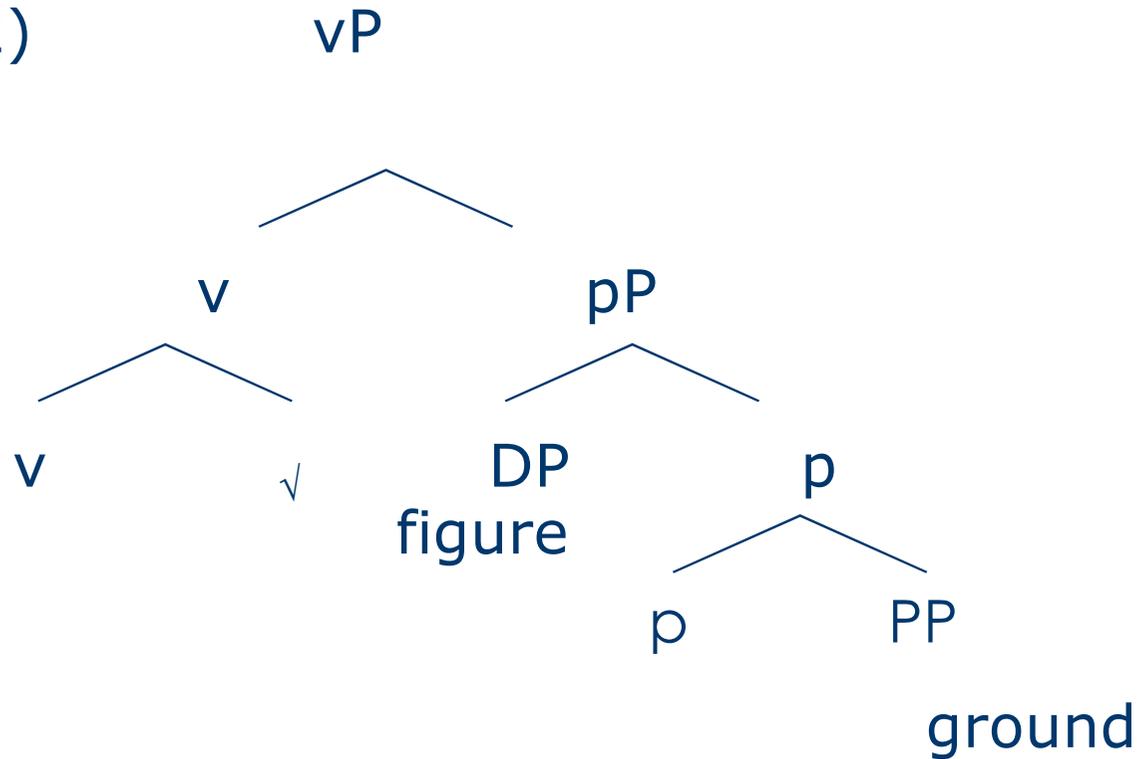


- Several non-prefixed verbs that take NAct have been analyzed as having a more complex structure including a PP by Alexiadou & Anagnostopoulou (1999), e.g. *komatiazō* (tear).
- What is the structure of prefixed verbs?

Why does the prefix matter?

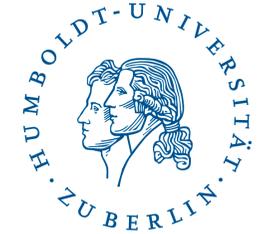


(22)



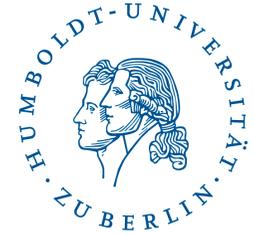
Object of transitive prefixed verb introduced within pP
Svenonius (2008), Wood (2013), Asyllogistou (2018).

Why does the prefix matter?



- Wood: *-st* found with this class is the result of a [-D] feature on the head *p*:
- this prohibits a DP from appearing in its specifier, in analogy to Voice_[-D], see Schäfer (2008), which triggers NAct in Greek.
- The subject-less predicate *p* undergoes what is termed “late saturation”, i.e. an argument introduced later satisfies the requirement of that head. Importantly, in the cases Wood discusses “the composition will result in the DP in Spec, VoiceP bearing two roles: the role introduced by Voice and the role introduced by *p*.” (Wood 2014: 4).
- Importantly, these are agentive verbs in Icelandic.

Why does the prefix matter?

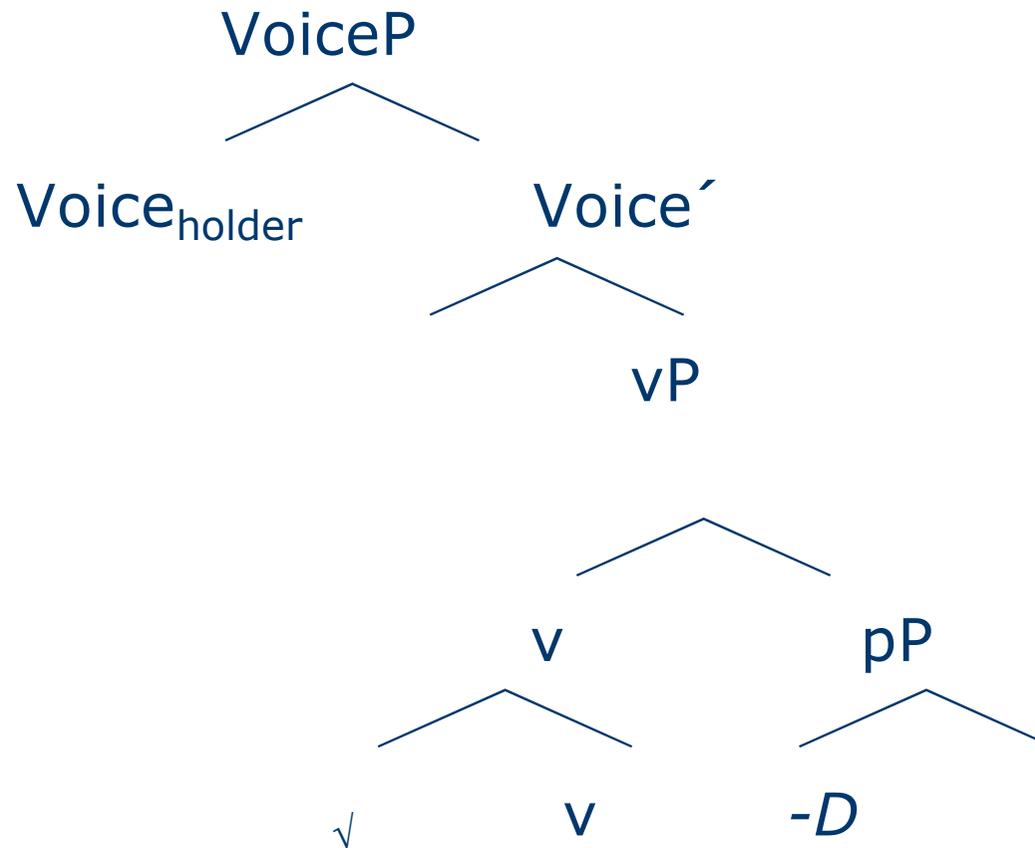


- The Greek situation is rather different: we have **intransitive** variants transitive verbs for which it would be very hard to assume that, in Icelandic, **[-D] feature** on the head **p** prohibits a DP from appearing in its specifier, in analogy to Voice_[-D].
- The subjectless predicate **p** in Greek could not undergo “**late saturation**”, as Voice is [-D].
- This is right analysis for deponent verbs, Alexiadou (2019), which incidentally are mostly prefixed.

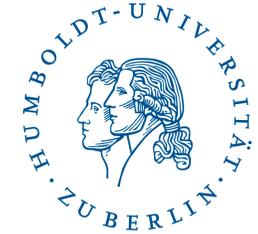
Prefixed deponents

- ipo-psiazome / ipo-ptevome (suspect), em-pistevome (trust), ep-ofel-ume (benefit from), ek-metal-ev-ome (exploit):

(24)



Prefixed verbs

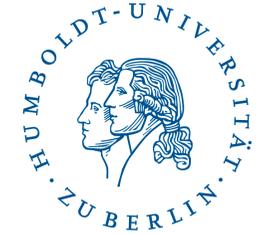


- Asyllogistou (2018): the status of prefixes has changed in the diachrony of Greek.
- This is a change that goes in parallel with a more general change in the lexicalization of paths/results from a satellite-framed to a verb-framed language in terms of Talmy's (2000) typology.

(25) a. He walked into the room *satellite*
Manner Path/Result

b. Bike sto domatio (trhondas) *verb*
He entered the room running
Path/Result *Manner*

Prefixed verbs



- Asyllogistou (2018):

“verb particle constructions in Modern Greek are fully fused and operate as one syntactic unit”.

“By contrast in earlier stages of Greek, prefixes behaved similarly to Germanic particles, i.e. they could be split from the verbal predicate. As Asyllogistou states, “particles cease to be free standing from Classical Greek and on.”

Evidence I: Augment-drop:

(683)	Apo.valo	>	ap.é.vala		
	Off.throw-1SG-PRES	>	off.AUG.throw-1SG-PAST		
	‘expel’				
(684)	Apóvale	ton Savefski	o Tratos		(Facebook post)
	Off.throw-3SG-PAST	the-ACC Savefski	the-NOM Tratos		
	‘Tratos expelled Savefski’				

Prefixed verbs



- (685) Sistino > sinéstisa/ (e)sistisa
 With.stand-1SG-PRES > with.AUG.stand-1SG-PST/(AUG)with.stand-1SG-PST
- (686) O Yanis mu sinestise/(e)sistise tin Maria
 The Yanis-NOM I-GEN introduce-3SG-PAST the-ACC Maria
 ‘Yannis introduced me to Maria’

Prefixed verbs



Evidence II:

veno' (*baíno*) verbs have not been encountered in NAct form in any of the previous periods of Greek, the fact that they are acceptable in NAct voice form suggests full fusion:

(26)?? *O Psiloritis* **anevenete**

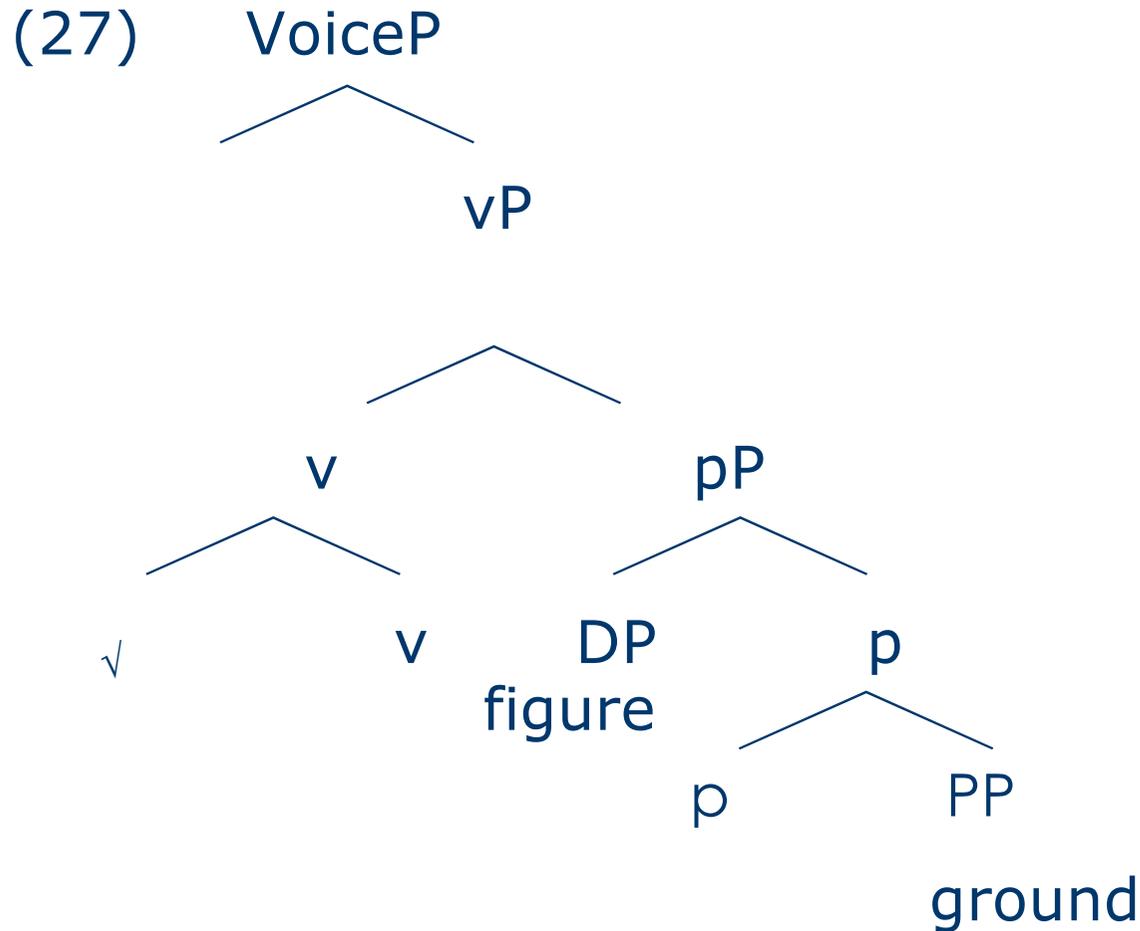
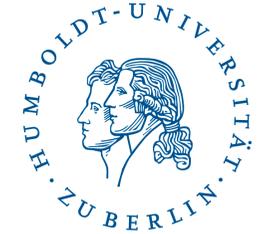
The Psiloritis.nom up.walk.NAct.3sg

efkola apo ta pedja

easily by the children.acc

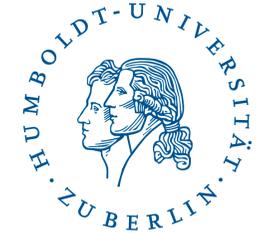
Psiloritis is easily climbed by the children

Prefixed verbs



p incorporates into \checkmark , as suggested by Asyllogistou, this makes Middle Voice sensitive to properties of the v-Root complex.

Support



- i) It is about transitivity and Voice as all non-alternating intransitive prefixed verbs discussed in Asyllogistou (2018) bear Act:

(28)	kata-pleo	sail
	ek-pleo	sail
	is-horo	enter
	eks-ormo	charge out
	dia-nikterevo	be open though the night

Support



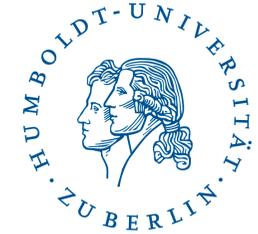
- ii) The Greek verb *break* ,*spao*' does not form an intransitive with NAct, but in the presence of a prefix that combines with *sp* the intransitive bears NAct:

(29) To vazō espase/*spastike
the vase broke.Act/broke.NActg

(30) O thōrivos mu **apospa** tin prosōhi
The noise.nom me off.break.3sg the attention
Noise distracts my attention (Asyllogistou 2018)

(31) I prosōhi mu apospastike
the attention my off.broke.NAct
My attention got distracted

Diachrony of the morphology of the alternation



- Lavidas (2009):
- Medieval and Early Modern Greek show instability in Voice marking. This is because the Voice system of Greek underwent a change, whereby NAct morphology is associated with blocking of accusative.
- This is related to the generalization of accusative to all direct objects, and loss of benefactive meaning of Voice.
- This led to the strengthening of active anticausatives.
- Still, there is no prefixed transitive verb that forms an anticausative with active morphology.
- PP = argument introducer in result containing VPs.

Prefixed verbs



- Across languages?
- We need to look at languages with similar changes in their particle system, e.g. Romance.
- French and Romanian:
 - *French: grandir* 'become bigger' no reflexive, while the prefixed *s'agrandir* 'become bigger' takes the reflexive.
 - Romanian: Tomescu (2008):" wrt to *înnegri*, 'blacken' speakers find the reflexive constructions the only or the better alternative. Indeed, an internet search has yielded no inchoative examples for *înnegri* ."

Conclusion



- The complexity of Greek verbal Voice morphology with prefixed verbs seems to be a result of particle re-analysis.
- It remains to be seen to which extent this can capture the situation in other languages with similar patterns.
- Suggestive evidence that this is correct comes from work by Acedo-Matellán and Troberg and Burnett, who point to changes in the status of Latin and Romance prefixes.