

Participles and voice mismatches: deponency in non-finite contexts

Laura Grestenberger
Laura.Grestenberger@concordia.ca

Nov. 25, 2015

1 Introduction

Deponents: Verbs with the “wrong” voice morphology (non-active morphology, active syntax) → **voice mismatch**, e.g., *sequor* in (1).

The puzzle: some non-finite forms of deponents give up the voice mismatch, cp. (1-c.).

(1) Latin alternating vs. deponent verbs: the basic paradigm

	a. Pres.act.	b. Pres.pass.	c. Pres.ptcp.
Alternating	am-ō 'I love'	am-or 'I am (being) loved'	am-āns 'loving'
Deponent		sequ-or 'I follow'	sequ-ēns 'following'

Papangeli and Lavidas 2009, Pesetsky 2009: Deponency depends on finite T.

Goals of this talk:

- Argue that deponency does not depend on finite T, but on the availability of *vP*
- Show that this accounts for the cross-linguistic variation in whether or not voice mismatches surface in participles
- Test the prediction that deponency will be preserved in nominalizations that include *vP*

1.1 Background: Participles

- Participles: deverbal nominalizations that are (perceived to be) integrated in a verbal paradigm; non-finite verbal forms
- Differences in participial syntax result from different attachment sites of the nominalizer (e.g., Anagnostopoulou 2003,2014, Alexiadou et al. 2007, Alexiadou and Anagnostopoulou 2008, Baker and Vinokurova 2009, Baker 2011, Embick 1997, 2000, Embick (2004b), Harley 2009 ...)

Anagnostopoulou (2003): Greek “passive” participles: *-menos* vs. *-tos* (Holton et al. 1997: 234ff., Embick 1997: 134ff., Anagnostopoulou 2003, Alexiadou and Anagnostopoulou 2008, Papangeli and Lavidas 2009).

- *-menos* has event implications, whereas *-tos* does not (e.g., *vrasmenos* implies that there was a boiling event, *vrastos* does not).

(2) *-menos* vs. *-tos* participles

Verb	<i>-menos</i>	<i>-tos</i>	
<i>vrazo</i>	<i>vras-menos</i>	<i>vras-tos</i>	'boiled'
<i>psino</i>	<i>psi-menos</i>	<i>psi-tos</i>	'grilled'
<i>anigo</i>	<i>anig-menos</i>	<i>anig-tos</i>	'opened; open'
<i>klino</i>	<i>klis-menos</i>	<i>klis-tos</i>	'closed'

- *-menos* licenses manner adverbs, *-tos* does not.

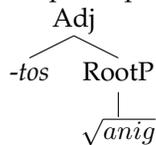
(3) To thisavrofilakio itan prosektika anig-meno/*anig-to
 the safe was cautiously opened-*menos*/open(ed)-*tos*
 "The safe was cautiously opened"

- *-menos* licenses agent *by*-phrases, *-tos* does not.

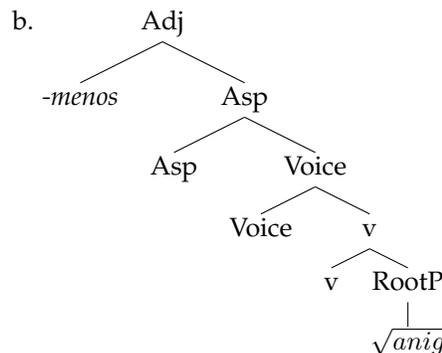
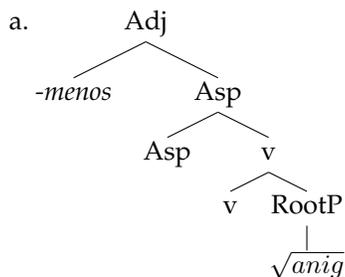
(4) To thisavrofilakio itan anig-meno/*anig-to apo tin Maria
 the safe was opened-*menos*/open(ed)-*tos* by the Maria
 "The safe was opened by Maria"

Anagnostopoulou: different attachment sites for the nominalizing suffixes *-menos* vs. *-tos*: *-tos* attaches directly to the root, cp. (6), *-menos* either selects v+Asp ("target state participles", (5-a), NB "v" stands for the verbalizing projection, not the one introducing the agent) or v+Voice+Asp ("resultant state participles", (6-b)).

(5) *tos*-participles:



(6) *menos*-participles:



- This framework can be used to explain the cross-linguistic variation in the syntactic behavior of deponent participles
- Contrary to recent claims, deponent behavior does not depend on finiteness.
- Deponent behavior in participles is preserved whenever the projection that determines voice morphology is included in the nominalization

2 Background: Voice and Voice mismatches

Many of the older IE languages (Hittite, Tocharian, Vedic Sanskrit, Avestan, Greek, Latin, Old Irish) and some modern IE languages (Greek, Albanian) have a voice system in which an opposition between active and non-active (“middle”) voice is expressed through verbal inflection together with tense and agreement features → **bivalent voice system, “Greek-type voice system”**.

- (7) Vedic: Active—non-active endings (non-past/“present”)

	Active			Middle		
	Sg.	Dual	Pl.	Sg.	Dual	Pl.
1	-mi	-vas	-masi	-e	-vahe	-mahe
2	-si	-thas	-tha	-se	-ethe, -áthe	-dhve
3	-ti	-tas	-nti	-te, -e	-ete, -áte	-nte, -re

- **The puzzle:** All these languages have verbs whose voice morphology does not match their syntactic context: they take non-active morphology, but are syntactically active → **deponents** (Lat. *dē-pōnere* ‘lay aside’, sc. the verb’s passive meaning). Examples:

- (8) **Latin:** Deponent *hortor* ‘incite, encourage’: Plautus, *Mercator* 695–697:

sed **coquos**, quasi in mari solet hortator **remiges**
 but cooks.ACC.PL like in sea.ABL be.wont.to.3SG.PRES inciter.NOM rowers.ACC.PL
hortarier, ita **hortabatur**
 incite.INF.PASS so incite.3SG.IPF.PASS

“But just like at sea a rowing-master (lit. ‘inciter’) is wont to urge the rowers, so he urged the cooks”

- (9) **Greek:** Deponent *tínūmai* ‘punish’: Homer, *Iliad*, 3.278-9:

kai hoì hupenérthe kamóntas **anthrópous tínusthon**
 and who.NOM.PL beneath passed.on.PTCP.ACC.PL men.ACC punish.2DU.PRES.MID.

“and (you) who in the underworld punish the men who have passed on”

- (10) **Vedic:** Deponent *tráiyate* ‘protects’: RV 2.23.4a-b:

tráya-se jánam yás túbhyaṃ dásāt
 protect-2SG.PRES.MID man.ACC who.NOM you.DAT worship.3SG.SUBJ.ACT

“You protect the man who worships you”

- (11) **Hittite:** Deponent *paḥša(ri)* ‘protects’: KBo 8.35 ii 14-15:

nu mán kūš **lingāuš paḥšašduma šumāš=a**
 PART if these.ACC.PL oaths.ACC.PL protect.2PL.PRES.MID you.ACC.PL=PART
 DINGIR.MEŠ-eš **paḥšandaru**
 gods.PL-PL protect.3PL.IPV.MID

‘If you protect these oaths, let the gods likewise protect you!’

- **The broader question:** What governs the distribution of active vs. non-active morphology in these languages?

It is easy to find (near-)synonyms with differing voice morphology, e.g.:

(12) Active/non-active (near-)synonyms

Language	Non-active verb	Active verb	Meaning
Latin	<i>hortor</i>	<i>moneō</i>	'encourage, incite'
	<i>fūror</i>	<i>clepō, rapiō</i>	'steal, rob'
Sanskrit	<i>vārdhate</i>	<i>bhāvati</i>	'grows/becomes'
	<i>grāsate</i>	<i>ātti</i>	'devours/eats'
Hom. Greek	<i>erúomai</i>	<i>phúlassō</i>	'protect, guard'
	<i>érkhomai</i>	<i>eīmi</i>	'come, go'
Modern Greek	<i>eborevome</i>	<i>adallasso</i>	'trade'
	<i>katarieme</i>	<i>anathematizo</i>	'curse'

- So how can we predict where non-active voice morphology should occur, and why does it sometimes "go wrong"?

2.1 Canonical vs. non-canonical uses of non-active morphology

Non-active morphology is found in the same syntactic environments cross-linguistically (Rivero 1990, Klaiman 1991, Kemmer 1993, 1994, Embick 1998, Kaufmann 2007, Kallulli 2007, 2013, Alexiadou and Doron 2012, Alexiadou 2013 etc.):

(13) Canonical functions of non-active morphology

- Anticausatives (e.g., Ved. *vārdhate* 'grows', *vāhate* 'drives' (itr.), MG *keome* 'burn' (itr.))
- Reflexives & reciprocals (e.g., AG *louíomai* 'wash myself', Ved. *pávate* 'purifies him/herself')
- Self-benefactives (Ved. *yájate* 'sacrifices sth. for him/herself', *bhárate* 'carries sth. for him/herself; takes')
- (Dispositional/generic constructions)
- (Medio)passives (e.g., Ved. *stáve* 'is (being) praised')

= **voice syncretism** (Embick 1998). NB Non-active verbs in these contexts usually alternate with active-marked verbs → **alternating/oppositional non-active verbs**.

... but non-active morphology is also found in **non-alternating/non-oppositional** contexts (cp. Kemmer 1993, Zombolou and Alexiadou 2014):

- (14)
- Experiencer/psych verbs
 - Statives
 - (some) verbs of motion
 - (some) deadjectival and denominal verbs
 - (some) verbs of speech and communication

Is there a unifying generalization for these contexts? → Their surface subjects ≠ agents.

2.2 A postsyntactic approach to voice morphology

Following Kratzer (1996), the external argument (agent) of transitive verbs is merged in the specifier of a functional projection *vP*.

Spell-Out condition on non-active morphology:

- (15) $v \leftrightarrow v\text{-}X/_$ No external argument (Embick 2004: 150)
 “Non-active voice is assigned when v does not introduce an external argument”
 (“-X” = morphological exponence of “non-active” in a given language)

- [ACT] and [NONACT] are not syntactic features, but different ways of spelling out v
- [NONACT] = a postsyntactic feature/property of v
- active = “elsewhere” morphology

Further assumption: two types of v (cp. Kratzer (1996), Embick (1997), 1998, 2004, Chomsky (2001), Kallulli (2007), (2013)):

- v [AG]: “agentive v ”: can merge an agent as its specifier, can value ACC on the object
- v : no specifier/external argument,
- no ACC

- (16) Definition: canonical uses of non-active morphology: v [AG] does not introduce an external argument

This gives us the following basic distribution of voice morphology in a Greek-type voice system (cp. Kallulli 2013: 349):

- (17) Distribution of active vs. non-active morphology:

	+ext.arg.	-ext.arg.
v [AG]	ACT	NONACT
v	n/a	ACT

- Deponents are “mismatch verbs” because their surface subject is an agent, but they surface with non-active morphology — not predicted by (17).

- (18) Definition of deponency (Grestenberger 2014)
 “In an active—non-active voice system, a deponent is a syntactically active verb whose surface subject is an agent and whose finite forms are morphologically non-active.”

3 Properties of Indo-European deponent nominalizations

3.1 Mismatch suspended

3.1.1 Agent nouns

- Deponents behave like formally active agentive verbs and form agent nouns, using the same suffix as the regular active verbs.

- (19) Vedic agent nouns, suffix *-tár-* (Benveniste 1948, Tichy 1995).

alternating		deponent	
root	agent noun	root	agent noun
<i>dā</i> 'give'	<i>dā-tár-</i> 'giver'	<i>trā</i> 'protect'	<i>trā-tár-</i> 'protector'
<i>nī</i> 'lead'	<i>ne-tár-</i> 'leader'	<i>īd</i> 'praise'	<i>īdī-tár-</i> 'praiser, worshipper'
<i>rakṣ</i> 'protect'	<i>rakṣi-tár-</i> 'protector'	<i>kṣad</i> 'serve, prepare'	<i>kṣat-tár-</i> 'server'

... also holds for the other IE languages:

- (20) Greek deponent agent nouns
- rū-tér* 'protector' (*érūmai*, *rúomai* 'protect, guard')
 - lēis-tér* 'robber' (*lēizomai* 'rob, plunder'; *lēis* 'plunder')
 - lōbē-tér* 'slanderer' (*lōbáomai* 'slander, mistreat'; *lōbē* 'insult')
- (21) Latin deponent agent nouns
- hortā-tor* 'inciter' (*hortor* 'urge, incite')
 - vēnā-tor* 'hunter' (*vēnor* 'hunt')
 - tū-tor* 'watcher, protector' (*tueor* 'watch, protect, guard')
- (22) Modern Greek deponent agent nouns:
- hiris-tis* 'user, manipulator' (*hirizome* 'use, manipulate')
 - ekmetalef-tis* 'exploiter' (*ekmetalevome* 'exploit')
 - episkep-tis* 'visitor' (*episkeftome* 'visit')

3.1.2 Verbal adjectives/"target state participles"

- Vedic, Ancient Greek, Modern Greek, Hittite have nominalizers/stativizers that attach directly to the root. They have a passive reading with transitive verbs, but an intransitive reading with intransitive verbs. The verbal adjectives of deponents pattern with active transitive verbs in having a passive reading.

- (23) Vedic verbal adjectives in *-tá-*

alternating		deponent	
root	verbal adj.	root	verbal adj.
<i>han</i> 'slay'	<i>ha-tá-</i> 'slain'	<i>gras</i> 'devour'	<i>gras-itá-</i> 'devoured'
<i>vac</i> 'speak'	<i>uk-tá-</i> 'spoken'	<i>bādh</i> 'beset'	<i>bādh-itá-</i> 'beset, hemmed in'
<i>pā</i> 'drink'	<i>pī-tá-</i> 'drunk'	<i>labh</i> 'take, seize'	<i>-lab-dha-</i> 'taken' (< * <i>labh-ta-</i>)

Greek: *-tós*:

- (24) Greek verbal adjectives in *-tós*

alternating		deponent	
verb	verbal adj.	verb	verbal adj.
<i>títhēmi</i> 'place, set'	<i>the-tós</i> 'placed, set'	<i>ex-aínumai</i> 'pick, choose'	<i>éx-ai-tos</i> 'picked; choice'
<i>poiēō</i> 'make'	<i>poiē-tós</i> 'made'	<i>mnáomai</i> 'woo, court'	<i>mnēs-tē</i> 'wooed one' (f.)
<i>tetraínō</i> 'pierce'	<i>trē-tós</i> 'pierced'	<i>eúkhomai</i> 'pray'	<i>euk-tós</i> 'prayed for, desired'

Hittite: *-ant-*"participle" = syntactically like the verbal adjectives in *-tá-* and *-tós-* in Vedic and Greek (Hoffner and Melchert 2008: 339ff.):

(25) Hittite *-ant*-formations

alternating		deponent	
verb	verbal adj.	verb	verbal adj.
<i>epp-/app-</i> ‘seize’	<i>app-ant-</i> ‘seized, taken’	<i>parš(i)-</i> ‘break’	<i>paršiy-ant-</i> ‘broken’
<i>pai-/pi-</i> ‘give’	<i>piy-ant-</i> ‘given’	<i>huet(i)-</i> ‘pluck, pull’	<i>hueti-ant-</i> ‘pulled’
<i>tarupp-</i> ‘assemble’	<i>tarupp-ant-</i> ‘assembled’	<i>tuhš-</i> ‘cut off’	<i>tuhš-ant-</i> ‘cut off’

3.1.3 Latin

Latin deponents use the same morphology as non-deponents in non-finite contexts. The mismatch appears to be suspended. Example: Lat. **present** participles in *-ns* found both with deponent and with formally active verbs:

(26) Latin non-finite forms

	Present			Perfect	
	Pres.act.	Pres.pass.	Pres.ptcp.	Perf.act.	Perf.pass.
Altern.	<i>am-ō</i> ‘I love’	<i>am-or</i> ‘I am loved’	<i>amā-ns</i> ‘loving’	<i>am-āv-ī</i> ‘I have loved’	<i>amātus sum</i> ‘I was loved’
Dep.		<i>sequ-or</i> ‘I follow’	<i>sequē-ns</i> ‘following’		<i>secūtus sum</i> ‘I have followed’

On the other hand, **perfect** participles of deponents continue the mismatch behavior:

(27) *sequor* ‘follow’, perf.ptcp. *secūtus* ‘(have) followed’, Livy, *Ab urbe condita* 4.20.5:

omnes ante me **auctores** **secutus**, ... exposui
all.ACC before me authors.ACC followed.PTCP.NOM.SG.M expound.1SG.PERF

“Having followed all authors before me, I have stated (that) ...” (not: “having been followed”)

(28) *com-minīscor* ‘invent, devise’, perf.ptcp. *commentus* ‘(have) devised’: Plautus, *Truculentus* 85:

eo nunc **commenta** **est dolum**
this.ABL now devised.PTCP.NOM.SG.F is deceit.ACC

“For this reason she has now devised this deceit” (not: “has been devised”)

- The Latin present “active” participle cannot be used as evidence that voice mismatches are suspended in non-finite contexts

3.2 Mismatch continued

3.2.1 Vedic and Greek

- Vedic & Greek: active vs. middle (non-active) participial forms in the present, aorist, and perfect paradigm.
 - Vedic: active *-ant-/at-*, middle *-āna-/māna-*
 - Greek: active *-(o/e/a)-nt-*, middle *-(o/a)-menos*.
- Deponent participles always select the **middle** suffix and continue the mismatch

(29) Vedic:

a. Deponent *day* ‘distribute’, RV 1.130.7d-g:

atithigvāya śāmbaram girér ugró ávābharat mahó
 Atithigva.DAT Śambara.ACC mountain.ABL mighty.NOM push.down.3SG.IPF great.ACC
dhānāni dāyamāna **ójasā** víśvā dhānāny
 prizes.ACC distributing.PART.PRES.MID.NOM.SG might.INSTR all.ACC prizes.ACC
 ójasā
 might.INSTR

“The mighty one pushed Śambara off the mountain for Atithigva, distributing the great prizes with might, (distributing) all the prizes with might.”

b. *bādh* ‘oppress, attack, fend off’, RV 1.35.3cd:

á devó yāti savitā ... víśvā **duritā**
 PRVB god.NOM.SG go.3SG.PRES Savitar.NOM.SG all.ACC.PL danger.ACC.SG
bādhamānah
 fend.off.MID.PTCP.NOM.SG

“The god Savitar is approaching, ... fending off all dangers.”

(30) Greek:

a. *dízēmai* ‘seek sth.’ : ptcp. *dizēmenos* ‘seeking’, Od.1.261-2:

óikheto gàr kai keīse thoēs epì vēds Odusseūs **phármakon**
 go.3SG.IPF PART and there swift.GEN on ship.GEN Ulysses.NOM poison.ACC
androphónon dizēmenos
 men.slaying.ACC seeking.NOM

‘And then Ulysses went into his swift ship, seeking (some) men-slaying poison.’

b. *tínūmai* ‘avenge, punish, chastize’ : ptcp. *tínúmenos*, Od.24.326:

lóbēn tīnúmenos thumalgéa kai kakà érga
 insult.ACC avenging.PRES.PTCP.MID.NOM.SG grievous.ACC and bad.ACC deeds.ACC
 “ ... avenging (their) grievous insults and bad deeds.”

3.3 Summary

(31) Morphosyntax of IE participles to verbs with active syntax (**bold** = mismatch preserved):

	formally active verb	deponent verb
Vedic	<i>-nt-; -tá-</i>	<i>-(m)āna-; tá-</i>
Greek	<i>-(ole/a)-nt-; -tós</i>	<i>-menos; -tós</i>
Latin	<i>-ns</i>	<i>-ns; -tus</i>
Hittite	<i>-ant-</i>	<i>-ant-</i>

4 Deriving deponent participles

The puzzle: At what point in the derivation do we know that, e.g., Vedic \sqrt{ni} ‘lead’ is alternating, but $\sqrt{trā}$ ‘protect’ is deponent? They are identical w.r.t. agent noun formation & verbal adjective formation, but have different voice morphology in their finite paradigm and their participles:

(32) Vedic

	3sg.pres.	pres.ptcp.	verbal adj.	agent noun
alternating: $\sqrt{m\bar{i}}$ 'slay'	náy-a-ti	náy-a-nt-	nī-tá-	ne-tár-
deponent: $\sqrt{tr\bar{a}}$ 'protect'	trā-ya-te	trā-ya-māna-	trā-tá-	trā-tár-

Observation: Voice mismatch in deponents = linked to their *verbalizing* morphology.

(33) Vedic alternating and deponent verb stems

Alternating		Deponent	
Stem	Meaning	Stem	Meaning
$\sqrt{v\bar{a}rdh}$ -a-act./mid.	'grow'	$\sqrt{r\bar{a}bh}$ -a-mid.	'seize'
$\sqrt{bh\bar{a}r}$ -a-act./mid.	'carry'	$\sqrt{gr\bar{a}s}$ -a-mid.	'devour'
$\sqrt{y\bar{a}j}$ -a-act./mid.	'sacrifice'	$\sqrt{tr\bar{a}}$ -ya-mid.	'protect'

This suggests that the “trigger” of deponent behavior is located between the verbalizer V and *v*.

4.1 Proposal

- In deponents, the agent argument is introduced *non-canonically* by a projection X below $v[AG]$
- Therefore $v[AG]$ will be spelled out as non-active by rule (15), even though there is an agent argument (it's just not in the right place)
- If a nominalizer in a given language regularly attaches above $vP([AG])$, deponent behavior is preserved in the nominalization. If a nominalizer attaches below $vP([AG])$, deponent behavior is suspended in the nominalization.

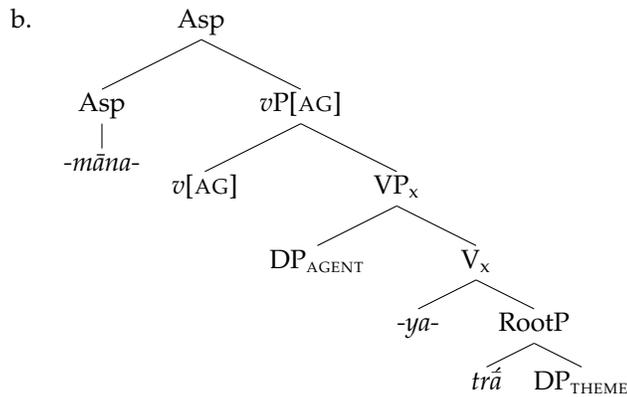
4.2 Nominalizer above $vP([AG])$

- Vedic: active participle *-ant-* vs. middle participle in *-(m)āna-*: Participles of deponents always take the middle suffix and display the same mismatch as the corresponding finite forms.
- Greek: active participle suffix *-(o/e/a)-nt-*, middle participle suffix *-menos*. Deponents always take the middle participial suffix and continue the mismatch behavior:

Structure for Vedic/Greek deponent participles¹:

- (34) a. Vedic
 $\sqrt{tr\bar{a}}$ -ya-māna-
 protect-VB-MID.PTCP-
 'protecting'

¹I follow Embick (2000), Bjorkman (2011) in assuming that the nominalizing head spells out Asp if the verb cannot move to T, thus avoiding having to operate with a category PtcpP (other notations for participial heads include nP, NP, DP, and AdjP). Note that nothing hinges on the choice of notation.



Spell-Out rules for Vedic participles:

- (35) a. $\text{Asp} \leftrightarrow \text{-(m)āna-} / \text{_}v[\text{AG}][\text{-ext.arg}]$
 b. $\text{Asp} \leftrightarrow \text{-ant-}$: elsewhere

4.2.1 Latin

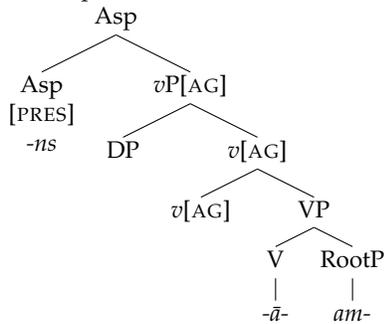
Additional assumption for Latin *-ns*: not sensitive to whether or not $v[\text{AG}]$ has a specifier:

- (36) $\text{Asp} \leftrightarrow \text{-ns} / [\text{pres}]$

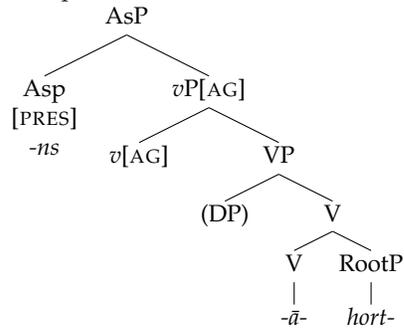
Syncretism: in the context of $\text{Asp}[\text{PRES}]$, the nominalizer is always spelled out as *-ns* (cp. Embick 2000: 218)

- (37) Latin *ns*-participles:

a. Non-deponent: *amāns*



b. Deponent: *hortāns*



Additional evidence that Latin “active” participle is underspecified for Voice (cp. Leumann 1977: 583): the present participle of alternating verbs occasionally has the syntactic behavior of the formally passive (rather than active) finite forms.

- (38) a. *vertēns* ‘turning’ (tr./itr.): *vert-ō* ‘turn’ (tr.) : *vert-or* ‘turn’ (itr.)
 b. *volvēns* ‘rolling’ (tr./itr.): *volv-ō* ‘roll’ (tr.) : *volv-or* ‘roll’ (itr.)
 c. *liquēns* ‘fluid’ : *liqu-or* ‘become fluid, melt’ (vs. *liqueo* ‘be clear’ and (later) *liqu-ō* ‘make fluid, melt’ (tr.))

Embick (2000): *-ns* and *-tus* are allomorphs of Asp; *-tus* = underspecified for Voice and Asp:

- (39) a. $\text{-ns} \leftrightarrow \text{Asp}[\text{PRES}]$
 b. $\text{-t[us]-} / \text{-s-} \leftrightarrow \text{elsewhere}$

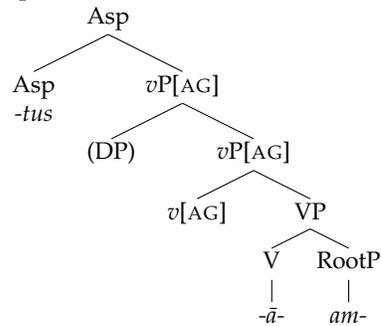
- *tus*-participles can value accusative case on their objects because they contain *v*[AG]
- they can be modified by manner adverbs (cp. Anagnostopoulou’s diagnostics)

(40) *filius ūnicē amā-tus*
 son uniquely love-PERF.PTCTP.NOM.SG
 “especially loved son”

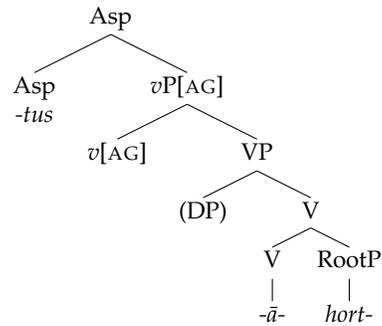
Non-deponent vs. deponent *tus*-participles (based on Embick 2000):

(41) *tus*-participles

a. non-deponent: *am-ā-tus* ‘loved’



b. deponent *hort-ā-tus* ‘exhorted’



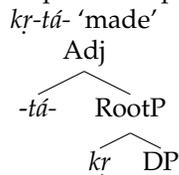
4.3 Nominalizer below *v*P([AG])

Anagnostopoulou (2003), Alexiadou and Anagnostopoulou (2008), Anagnostopoulou (2014): nominalizer in MG *tos*-participles (“stative participles”) takes a RootP (RP) complement.

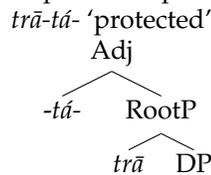
- Only the internal argument is included → derives the “theme-orientedness” of these formations (intransitive subject/transitive object)
- No verbalizing morphology, no *v*P → deponents are predicted to pattern with regular transitive verbs

This means that if a nominalization of a deponent does not include the verbalizer and *v*P, the mismatch is suspended.

(42) a. Vedic non-deponent *tá*-participle:



b. Vedic deponent *tá*-participle:



Besides MG *-tos* and Vedic *-tá-*, this is also the structure of the Ancient Greek *to*-participle and the Hittite *ant*-participle.

4.4 Summary

(43) Morphosyntax of deponent participles “Greek-type voice systems”:

	includes <i>v</i> P	no <i>v</i> P
act.	Gk. <i>-menos</i> , Ved. <i>-(m)āna-</i> , Lat. <i>-ns/-tus</i>	
pass.		Gk. <i>-tos</i> , Ved. <i>-tá-</i> , MG <i>-tos</i> , Hitt. <i>-ant-</i>

4.5 Modern Greek

Deponent participles, both in *-tos* and in *-menos*, behave like the participles of non-deponent transitive verbs. *-tos* occurs in negated participles of deponent and non-deponent verbs (ex. from Papangeli and Lavidas 2009: 201):

- (44) a. Non-deponent *pleno* 'wash':
 pli-menos — a-pli-tos
 washed unwashed
- b. Deponent *metahirizome* 'use':
 metahiris-menos — a-metahirist-tos
 used unused

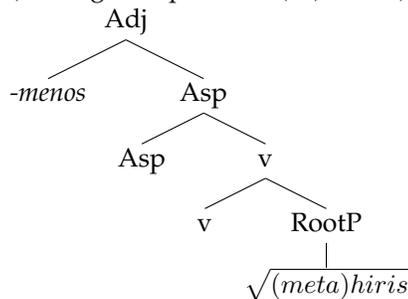
behavior of *-tos* = expected given Anagnostopoulou's analysis (cp. (4) above).

Problem: *menos*-participles of deponents are passive.

- (45) Non-deponent *grafo* 'write':
- a. To *gramma* *ine* *grammeno*
 The letter.NOM is written
 "The letter is written"
- b. To *grammeno* *gramma*
 The written letter
- (46) Deponent *metahirizome* 'use':
- a. To *lexiko* *ine* *metahirismeno*
 The dictionary.NOM is used
 "The dictionary is used"
- b. To *metahirismeno* *lexiko*
 The used dictionary

Anagnostopoulou 2003: 21ff.: target state participles in *-menos* do not contain Voice and are incompatible with agentive *by*-phrases and agent-oriented adverbs, but can be used with *parameno* 'remain' and *fenome* 'appear'. These diagnostics hold for deponent participles.

- (47) (= Anagnostopoulou's (5a) above)



- (48) a. To *lexiko* *fenete* *metahirismeno*
 the dictionary appears used
 'The dictionary seems used'
- b. ? O *ergatis* *paramene* *ekmetalevmenos*
 the worker remains exploited
 'the worker remains exploited'

Additional evidence: MG participles in *-ómenos*² preserve the mismatch when formed to deponent verbs.³

- (49) a. metahiris-ménos ‘used’
 b. metahiriz-ómenos ‘using’

Cp. *epitithémenos* ‘attacking; attacker’ (*epititheme*), *ekmetalevómenos* ‘taking advantage of, using’ (*ekmetalevome*), *dehómenos* ‘accepting’ (*dehome*), *arnúmenos* ‘refusing’ (*arnume*), etc.

These have the same active, transitive syntax as the finite forms:

- (50) Kerdise lefta ekmetalevómenos tus ergates
 won.3SG.PAST.ACT money.ACC exploiting the.ACC workers.ACC
 “He won money (by) exploiting the workers”

- Synchronically, *-menos* does not include Voice/*vP* for deponent participles, but *-ómenos* does
- In Ancient Greek, *-menos* included *vP* → language change

4.6 Conclusion

- Voice mismatches are lexically conditioned, but only surface in “verbal” environments (VP-*vP* must be present)
- Voice mismatches do not depend on finite T
- Anagnostopoulou’s analysis of Modern Greek participles predicts the behavior of deponent participles in Vedic and Ancient Greek and the behavior of verbal adjectives in Vedic, Greek, and Hittite and can be extended to Modern Greek deponent participles
- Additional assumption for Latin: syncretism in participial morphology

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²This is usually said to belong to *Katharevousa* Greek (Holton et al. 1997: 235ff.) and appears to be unproductive.

³Thanks to Elena Anagnostopoulou, Sabine Iatridou, and Despina Oikonomou for these examples.

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