Deponency

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Abstract: The terms "deponency" and "deponents" originally referred to a particular class of Latin verbs which take passive ("nonactive") morphology but are syntactically active. The term has subsequently been extended to cover verbs in other languages with seemingly aberrant voice morphology, and eventually to describe other kinds of perceived mismatches between morphology and syntax. Deponency has therefore become a useful tool for testing and comparing the predictions and assumptions made by different morphological theories, specifically regarding the lexicon-(morpho)syntax interface. However, the different definitions of and theoretical approaches to deponency found in the literature render it difficult to evaluate and compare specific theoretical claims. Definitions that are too broad do not capture a natural class of phenomena, while definitions that are too narrow or explicitly tailored to a specific language obscure potentially valuable cross-linguistic generalizations. Theoretical approaches moreover differ in whether they treat deponency as a property of a designated morphological domain, a purely lexical (diachronically motivated) idiosyncrasy, or an interaction of different synchronic factors. This article uses deponency in Latin as a case study of these issues and discusses the behavior of Latin deponents in finite and non-finite contexts, in primary and secondary verbs, and from various theoretical perspectives. It is shown that the perceived mismatch of deponent verbs in Latin arises from a discrepancy between argument structure and voice morphology in a lexically specified subset of morphologically nonactive/"passive" verbs which unexpectedly have an agent subject, while the vast majority of verbs with this morphology actually displays canonical behavior with respect to argument structure and voice morphology. Future work on deponency in Latin and other languages that display form-function mismatches must therefore disentangle the lexically specific aspects of these phenomena from properties that follow from general morphological or syntactic principles of the language(s) under study.

Keywords: Deponents, morphology, syntax, form-function mismatches, voice alternations, valency, argument structure alternations

1 Deponency: a form-function mismatch?

1.1 Introduction

The terms "deponency" and "deponent" originated in the Latin grammatical literature of the third century CE and originally referred to a specific set of Latin verbs that take passive endings, but are syntactically active (and can be transitive, though this certainly was not part of any original definition), thus "laying aside" (*dē-pōnere* 'lay aside, depose of') their expected passive meaning. Modern linguistic theory has generally interpreted this as a mismatch between form (passive) and function (active), or between morphology (passive) and syntax (active; cf. Müller 2013 and Grestenberger 2019 for two recent surveys). Deponents have therefore played an important role in theoretical debates on the status of word-formation (in the syntax vs. in the lexicon), lexical and morphological idiosyncrasies or "exceptions", and generally the lexicon-syntax and lexicon-morphology interface. These debates have been hampered, however, by differing views on what exactly constitutes the empirical coverage of the term "deponency". "Broad" definitions like those discussed in several articles in Baerman et al. (2007) and used by the Surrey Deponency Databases (http://www.smg.surrey.ac.uk/deponency, 7. 1. 2021) subsume any kind of perceived mismatch or "aberrant" morphology under the term deponency. This results in an impressive array of cross-linguistic data on morphosyntactic mismatches but makes it difficult to provide

a unified analysis or identify a single cause of these mismatches. “Narrow” definitions of deponency, on the other hand, run the risk of being applicable only to a specific language (or a very small set of languages) and thus potentially fail to capture broader generalizations.
This article discusses the core data that have played a role in the discussion of deponency, with a focus on Latin, and taking into account the problem of finiteness and deponency (section 1). Section 2 discusses different theoretical approaches to deponency and critically evaluates the definitions of deponency these are based on. Section 3 returns to Latin to discuss the argument structure properties of Latin deponents and provides diagnostics for distinguishing between agentive and non-agentive deponents, and section 4 concludes.

1.2 Deponency in Latin

The modern theoretical discussion of deponency has strongly focused on Latin (e.g., Embick 2000, Hippisley 2007, Xu et al. 2007, Weisser 2014, Pinzin 2017), followed by other older Indo-European languages with a similar verbal system, especially Ancient Greek and Sanskrit (e.g., Lavidas & Papangeli 2007, Stump 2007), as well as Modern Greek (Papangeli & Lavidas 2009, Zombolou & Alexiadou 2014, Alexiadou 2019) and Albanian (Kallulli 2013, 2020). From the philological perspective, the detailed study of Flobert (1975) remains the unsurpassed standard (see also Hofman 1910, Baldi 1973). The starting point is the observation that some verbs in Latin can only appear with inflectional morphology that is canonically associated with passive syntax (“passive endings” or “*r*-endings” because of the passive marker *–r* in the 1Sg. *-o**r***, 3Sg. *-tu**r***, 3Pl. *-untu**r***, etc.), but that behave syntactically like regular active, transitive verbs, thus exhibiting an apparent mismatch between form and (canonical) function. The canonical contexts of active and passive verbal morphology in Latin are illustrated in Table 1. Column a) illustrates the present and perfect active of transitive verbs of three different conjugational classes, ***amō*** ‘love’ (1st conjugation), *moneō* ‘admonish, advise’ (2nd conjugation), and *dūcō* ‘lead’ (3rd conjugation),[1] and column b) illustrates the corresponding passive forms. These verbs are considered canonical alternating verbs because each morphological context (“active”, “passive”) corresponds to a canonical syntactic context (active, transitive vs. passive, intransitive). Rows (iii) in Table 1 illustrate that this also holds in the nonfinite domain, illustrated here with the active participle (nom.sg. ending *–ns*) and the (perfect) passive participle (suffix *-t-*). Moreover, while the active and passive present, imperfect, and future indicative, the active and passive present and imperfect subjunctive, and the active perfect indicative in Latin are synthetic forms (illustrated in column i) for the present indicative and ii.a) for the active perfect indicative), all passive forms of the perfect stem (indicative and subjunctive alike) are analytic forms consisting of the perfect passive participle (PPP) in *-t-* plus an inflected form of the *be*-auxiliary *sum* ‘I am’ (illustrated in ii.b).[2]

Table 1. Alternating verbs in Latin

	a. Active	b. Passive	
i. Pres.	*am-**ō***	*am-**or***	
	love-1SG.**ACT**	love-1SG.**PASS**	
	‘I love’	‘I am (being) loved’	
	*mone-**ō***	*mone-**or***	
	admonish-1SG.**ACT**	open-1SG.**PASS**	
	‘I admonish’	‘I am (being) admonished’	
	*dūc-**ō** ‘lead’*	*dūc-**or** ‘am led’*	
	lead-1SG.**ACT**	lead-1SG.**PASS**	
	‘I lead’	‘I am (being) led’	
ii. Perf.	*amā-v-**ī***	*amā-**t**-us/a*	*sum*
	love-PF-1SG.PF.**ACT**	love-**PTCP.PASS**-NOM.SG.M/F	be.1SG.PRES.ACT

[1] The citation form in Latin and Greek is the 1Sg.
[2] For theoretical analyses of this pattern of periphrasis see, e.g., Börjars et al. 1997, Embick 2000, Sadler & Spencer 2001, Kiparsky 2005, Bjorkman 2011.

	‘I loved’	‘I was loved’	
	*monu-**ī***	*moni-**t**-us/a*	*sum*
	admonish.PF-1SG.PF.**ACT**	admonish-**PTCP.PASS**-NOM.SG.M/F	be.1SG.PRES.ACT
	‘I admonished’	‘I was admonished’	
	*dūx-**ī***	*duc-**t**-us/a*	*sum*
	lead.PF-1SG.PF.**ACT**	lead-**PTCP.PASS**-NOM.SG.M/F	be.1SG.PRES.ACT
	‘I led’	‘I was led’	
iii. Ptcp.	***amā-ns***	*amā-**t**-us/a*	
	love-**PTCP.ACT**.NOM.SG	love-**PTCP.PASS**-NOM.SG.M/F	
	‘loving’	‘loved’	
	monē-ns	*moni-**t**-us/a*	
	admonish-**PTCP.ACT**.NOM.SG	admonish-**PTCP.PASS**-NOM.SG.M/F	
	‘admonishing’	‘admonished, advised’	
	dūcē-ns	*duc-**t**-us/a*	
	lead-**PTCP.ACT**.NOM.SG	lead-**PTCP.PASS**-NOM.SG.M/F	
	‘leading’	‘led’	

Deponent verbs in Latin, on the other hand, lack morphologically active forms, which creates the impression of “gaps” or “defectiveness” in their paradigm (in some theoretical approaches, e.g., Stump 2007, Hippisley 2007, 2010, this apparent defectiveness is in fact explicitly built into the definition and/or analysis of deponents, cf. Section 2.2). This is illustrated in Table 2 for deponent verbs from three different conjugational classes, *hortor* (1st conjugation) ‘I exhort, incite’, *sequor* (3rd conjugation) ‘I follow’ and the irregular verb *morio*r ‘I die’. Apart from the missing finite active forms in column a), several other facts are noteworthy here. First, the morphologically passive forms in column b) are syntactically active: *hortor*, *sequor* are transitive and do not mean ‘I was exhorted’ and ‘I was followed’, as one might expect from the comparison with the forms in the b) column in Table 1. Second, deponency does not seem to be restricted to a particular conjugational class, just as the voice alternation in Table 2 does not depend on conjugation. Third, in many standard definitions of deponency (see section 2), intransitive (unaccusative) verbs like *morior* ‘die’ are included in the deponent category just like transitive-agentive verbs like *hortor* and *sequor*, even though they differ in their argument structure and hence their expected ability to alternate. That is, while transitive verbs meaning “exhort” and “follow” should in principle be able to have morphologically passive forms meaning “I am being exhorted” and “I am being followed” (the expected meaning of *hortor* and *sequor*), a verb like *die* is unlikely to ever alternate with a passive “*I am being died”, independent of its voice morphology. It is therefore *a priori* unclear whether a verb like *morior* does in fact display the same kind of mismatch between form and function that we observe in verbs like *hortor* and *sequor* (we return to this problem in Section 2).

In other words, in the standard use of the term as illustrated in Table 2, “deponent verb” is conflated with “nonalternating nonactive/passive verb” or *medium tantum*, “middle only verb” (see Matthews 2007: 298f., Grestenberger 2018, 2019 and section 2.1 below for criticism of the conflation of these two notions), though many theoretical treatments explicitly specify that the only problematic verbs in this class are “transitive deponents” (e.g., Embick 2000, Zombolou & Alexiadou 2014). Finally, row iii) illustrates that the “mismatch” appears to be suspended in nonfinite contexts, at least in the participles (though we will qualify this observation immediately in the examples below and in section 1.3): Just as the alternating verbs in Table 1, deponent verbs have both a (present) active and a (perfect) passive participle. They differ from the canonical alternating verbs in Table 1, however, in that both the active and the passive participle are syntactically active: Thus, *hortāns* means “exhorting”, cf. *amāns* in Table 1, while *hortātus* means “having exhorted” rather than “(having been) exhorted”, contrast *amātus* ‘(having been) loved’ in Table 1. At least in the active present participle of deponents, the mismatch therefore seems to be suspended. This observation has given rise to speculations that the form-function mismatch in transitive deponents is in general restricted to the finite forms, or maybe even causally conditioned by finiteness in some way

(Papangeli & Lavidas 2009, Pesetsky 2009). As we will see below, this impression disappears once we move away from Latin deponency and can be shown to be incorrect even for Latin.

Table 2. Deponent verbs in Latin

	a. Active	b. Passive
i. Pres.	——	*hort-**or***
		exhort-1SG.**PASS**
		'I exhort'
	——	*sequ-**or***
		follow-1SG.**PASS**
		'I follow'
	——	*mori-**or***
		die-1SG.**PASS**
		'I am dying'
ii. Perf.	——	*hortā-**t**-us/a sum*
		exhort-**PTCP.PASS**-NOM.SG.M/F BE.1SG.PRES.ACT
		'I exhorted'
	——	*secū-**t**-us/a sum*
		follow-**PTCP.PASS**-NOM.SG.M/F BE.1SG.PRES.ACT
		'I followed'
	——	*mor-**tu**-us/a sum*
		die-**PTCP.PASS**-NOM.SG.M/F BE.1SG.PRES.ACT
		'I have died; I am dead'
iii. Ptcp.	*hortā-**ns***	*hortā-**t**-us/a*
	exhort-**PTCP.ACT**.NOM.SG	exhort-**PTCP.PASS**-NOM.SG.M/F
	'exhorting'	'having exhorted'
	*sequē-**ns***	*secū-**t**-us/a*
	follow-**PTCP.ACT**.NOM.SG	follow-**PTCP.PASS**-NOM.SG.M/F
	'following'	'having followed'
	*moriē-**ns***	*mor-**tu**-us/a*[3]
	die-**PTCP.ACT**.NOM.SG	die-**PTCP.PASS**-NOM.SG.M/F
	'dying'	'having died; dead'

Let us consider the syntactic properties of deponents more closely. First, we have observed that there are no morphologically active forms, and that the morphologically "passive" forms occur with active syntax. More specifically, transitive deponents like *hortor* and *sequor* take accusative and other types of objects, just like (quasi-)synonymous canonical active transitive verbs. Some (almost) synonymous pairs are illustrated in Table 3.

Table 3. Active/deponent synonyms in Latin

Deponent		Active verb	
*hort**or***	'exhort, incite, encourage'	*mone**ō***	'admonish, encourage'
*fūr**or***	'rob'	*clep**ō***	'steal, rob'
*loqu**or***	'speak, say'	*dīc**ō***	'say'

Below, I use *hortor* and *moneō* as minimal pair to illustrate these properties.[4] Ex. 1) illustrates that deponents can take direct objects in the accusative (cf. also transitive *sequor* 'follow' in ex. 2), likewise a deponent), as can their morphologically active synonyms, cf. ex. 3). Moreover, verbs of speech like *moneō* can also take clausal complements, in this case *ut* "(so)

[3] Irregular, replaces expected **mortus* (cf. Weiss 2020: 470).

[4] The following examples are from Classical Latin prose of the 1st century BCE. Since there is some speaker variation regarding which verbs are used as deponents (i.e., with *r*-endings only; see Hofmann 1910 and Flobert 1975 for a detailed discussion of this variation), I give minimal pairs from works of the same authors, namely Cicero and Livy.

that", which triggers subjunctive mood on the subordinate verb, cf. ex. 3)-4). Ex. 2) and 4) illustrate that the deponent *hortor* also takes clausal complements (and cf. 4), in which *moneō* and *hortor* are coordinated).

1) *ipse* *mē* *Caesar* *ad* *pācem* ***hortā-tur***
self.NOM me.ACC Caesar.NOM to peace.ACC encourage-3SG.PASS
"Caesar himself **encourages** me towards peace." (Cic. *Att*. 7.21)

2) ***hortā-tur*** *ut* *sē* *et* *Appium* ***sequ-ā-ntur***
encourage-3SG.PASS so.that him.ACC and Appius.ACC follow-SUBJ-3PL.PASS
"He encourages (them) to follow him and Appius …" (Cic. *Att*. 4.2)

3) *extrā* *iocum* ***mone-ō*** ***tē,*** .. ***ut*** *cum* *virīs* *bonīs,*
without joke urge-1SG.ACT you.ACC that with men.ABL good.ABL.PL
iūcundīs, *amantibus* *tuī* *vīv-ā-s.*
agreeable.ABL.PL loving.ABL.PL you.GEN live-SUBJ-2SG.ACT
"Joking aside, I urge you to surround yourself with good, agreeable and loving friends …" (Cic. *Fam*. 9.24)

4) … ***vos*** ***et*** ***hort-or*** ***et*** ***mone-ō*** *ut*
you.PL.ACC and encourage-1SG.PASS and admonish-1SG.ACT that
hīs *prōvinciīs* … *cōnsulātis.*
these.DAT province.DAT take.care.SUBJ.2PL.
"I both encourage and admonish you … to take care of these provinces." (Cic. *Fam*. 15.1)

The nonfinite forms show the same mismatch between passive morphology and active syntax. Ex. 5) illustrates a morphologically passive, transitive infinitive of *hortor* in the complement of a control verb.

5) *itaque* ***hortā-ri*** *hominēs* *coepit*
thus incite-INF.PASS men.ACC begin.3SG.PF
"Thus he began to incite the men" Cic. *Ver*. 2.2.90

This is also true of the "PPP", the perfect passive participle, which is usually passive and intransitive when formed to canonical transitive active verbs like *moneō*, cf. 6) with an overt demoted agent phrase.

6) *quī* … ***moni-t-us*** ***ā*** ***proximīs,*** *ut*
REL.NOM.SG.M admonish-PTCP.PASS-NOM.SG.M by close.ABL.PL that
pūrgāret *sē,* … *ait:* …
excuse.IPF.SUBJ.3SG.ACT himself.ACC said
"He, **advised by his closed ones** to exculpate himself, declared …" (Liv. 1.50.8)

This contrasts markedly with PPPs from deponent verbs such as *sequor* 'follow' in 7), which can be used transitively like the corresponding finite forms (see Flobert 1975: 487ff. for more examples of such transitive PPPs).

7) ***omnēs*** *ante* *mē* ***auctōr-ēs*** ***secū-t-us,*** …
all.ACC before me author-ACC.PL follow-PTCP.PASS-NOM.SG.M
exposuī
expound.1SG.PF.ACT
"**Having followed all authors** before me, I have stated (that) ..." (Liv. 4.20.5)

We have already hinted above that in other nonfinite forms the mismatch seems to disappear. This is the case in the present participle in *-ns*, which is syntactically active and transitive for

deponents like *hortor*, cf. the participle *hortant-* in 8), and for active transitive verbs like *moneō*, cf. its participle *monent-* in 9), both with accusative objects and subordinate clauses introduced by *ut*.

8) *clausērunt* *portās,* ***multitūdinem,*** ***ut*** *Mortem* *servitūtī*
close.3PL.PF gates.ACC poplulation.ACC that death.ACC servitude.DAT
praepōnerent, ***horta-nt-ēs.***
prefer.3PL.IPF.SUBJ.ACT urge-PTCP.ACT-NOM.PL
"… they closed the gates, urging the population to prefer death to servitude." (Liv. 45.26.6)

9) *paulisper* *fremitus* *approba-nt-ium* *Dicta* *fuit*
for.a.while murmur.NOM approve-PTCP.ACT-GEN.PL words.ACC.PL.N was
mone-nt-ium*=que* ***aliōrum*** ***aliōs*** ***ut*** *eās*
admonish-PTCP.ACT-GEN.PL other.GEN.PL other.ACC.PL that those.ACC
vōcēs *… in* *pectora* *animōs=que* *dēmitterent.*
words.ACC in hearts.ACC minds.ACC=and send.down.3PL.IPF.SUBJ.ACT
"For a while there was a murmur from those who approved of what had been said and from those who admonished each other to let those words sink into their hearts and minds (…)." (Liv. 34.50.2)

However, we have already seen that the mismatch between passive morphology and active syntax is preserved in the infinitive (ex. 5)) and perfect participle (ex. 7)) of deponent verbs, so the apparent suspension of the mismatch in ex. 8) cannot be due to the nonfinite environment alone. Nevertheless, there are other nonfinite categories in Latin in which there is apparently no mismatch when formed to deponent verbs, notably the future active participle in *-t-ūr-us/a/um*, which is usually analyzed as built on the *-t-* of the perfect participle (also called the „third stem" of Latin verbs). Unlike in the perfect participle, however, both the future active participles of deponents like *hortor* and those of active transitive verbs like *moneō* are syntactically active: Contrast ex. 10)-11) with ex. 6)-7).

10) *cum* *in* *expectātiōne* *senātus* ***esset*** *…* *quī*
when in expectation.ABL senate.NOM be.3SG.IPF.SUBJ.ACT who.NOM.PL
rēgum *suam* ***quī*** *Perseī* ***secū-t-ūr-i***
kings.GEN own.ACC.SG who.NOM.PL Perseus.GEN follow-PTCP-FUT-NOM.PL
amīcitiam ***essent****, …*
friendship.ACC be.3PL.IPF.SUBJ
"When the senate was in expectation as to which of the kings would follow its own (friendship) and which ones the friendship of Perseus …" (Liv. 42.19.3)

11) *quā* ***exercitum*** ***duc-t-ūr-us*** ***erat***
where army.ACC lead-PTCP-FUT-NOM.SG be. 3SG.IPF.ACT
"… where he was going to lead his army." (Liv. 27.43.10)

The future infinitive active consists of the future active participle plus the infinitive of the verb "be", *esse*, and is hence also syntactically active for deponents. The remaining problematic forms, the gerundive, the gerund and the supine, are a little more complicated. The gerund is a verbal noun formed with the suffix *-nd-* and is diachronically most likely a substantivized verbal adjective, which is also the basis of the Latin gerundive in *-nd-us/a/um*[5]. The gerundive is synchronically a passive necessity modal for both deponent, (12), and non-deponent transitive verbs, (13), (e.g., *amandus/a/um* 'to be loved, loveable', *legendus/a/um* 'to be read,

[5] See Miller 2000 and Jasanoff 2006 for arguments that the gerundive historically preceded the gerund, and not vice versa, and Hahn 1943, 1965; Aalto 1949; Hettrich 1993 for the opposite view.

readable', etc.), and therefore cannot be formed to intransitive verbs, except in impersonal constructions (Draeger 1878: 822, 855; Hofmann & Szantyr 1965: 368ff.).[6]

12) *sēd* *utrum* ***horta-nd-us*** ***es*** *nōbīs,* *Lūcī,* *inquit,*
but ADV urge-GER-NOM.SG.M be.2SG us.DAT Lucius.VOC ask.3SG
"'But Lucius', he asked, 'do we have to urge you,' …" (lit. "are you for us to be urged"; Cic. *De Fin*. 5.6)

13) *itaque* *nōbīs* ***mone-nd-ī*** ***sunt*** *Eī* *quōrum*
thus us.DAT admonish-GER-NOM.PL.M be.3Pl they.NOM whose
sermō *imperītus* *incrēbruit,* …
speech.NOM ignorant.NOM.SG increase.PF.3SG
"Therefore we have to admonish those whose speech has become increasingly ignorant…" (lit., they (whose speech...) are for us to admonish"; Cic. *Orat.* 7)

Its substantivized version, the gerund, is an (active) verbal noun for both deponent and non-deponent verbs, (14) (*hortor* = deponent, ***doceō*** = non-deponent) and therefore functionally similar to both the supine and the infinitive (Bauer 1989, Miller 2000).

14) *ut* *opus* *sit* *ōrātōris* *cōpia* *vel* ***ad***
so.that task.NOM be.3SG.SUBJ orator.GEN amount both To
horta-nd-um *vel* *ad* ***doce-nd-um***
exhort-GER-ACC.N and to explain-GER-ACC.N
"So that the orator's task be so complex to both exhort and to explain…" (Cic., *De leg*., 3.40)

The gerund can also take accusative objects when formed to transitive verbs under certain circumstances. The extent to which this was possible is a matter of debate and was fairly rare in Classical Latin (cf. Hofman & Szantyr 1965: 373f. and fn. 6), but when it does occur it again applies to both deponent (*intueor* 'look at', 15)) and non-deponent transitives, (*audiō* 'hear', 16)).

15) *quod* *verbum* *ductum* *est* ***ā*** *nimis* ***intue-nd-ō***
which word.NOM.N drawn.PPP.NOM.N is from overly look.at-GER-ABL
fortūnam *alterīus*
fortune.ACC other.GEN
"… which word is derived from looking too much at somebody else's fortune." (Cic. *Tusc*. 3.20)

[6] For reasons of space, I can only provide a very simplified description of the complex syntactic behavior of these forms. A detailed discussion can be found in, e.g., Hahn 1943, 1965; Aalto 1949; Risch 1984; Heberlein 1989; Bauer 1993; Hettrich 1993; Miller 2000; Anghelina 2008, Pinkster 2015: 284ff. Heberlein, Hettrich, Miller, and Pinkster in particular argue that the gerundive is not exclusively used with passive syntax when formed to transitive verbs (ex. in Pinkster 2015: 290), and that the gerund likewise is not exclusively characterizable as "active". Miller argues that these properties rather result from the lack of structural case checking in "gerundials" (his cover term for gerunds and gerundives), forcing the thematic object to raise into the main clause to receive case and resulting in an apparently passive construction, while the active, transitive use of the gerund is a specifically Latin development that resulted from the need to avoid gender/number agreement conflicts with multiple thematic objects. At any rate, the generalization is that transitive deponents pattern syntactically with formally active transitive verbs in both the passive and the active construal of these "gerundials", so that is no mismatch between form and function. It is probably best to treat these formations as un(der)specified for Voice, as Embick (2000) argues for the Latin active and passive participles in *-ns* and *-tus*, and unlike the Greek and Sanskrit active and nonactive participles discussed in section 1.4, which are specified for Voice (see Grestenberger 2017, 2018, 2020 for a detailed discussion).

16) *Crasse, ita sum cupidus … **tē** … **audie-nd-i** …*
Crassus.VOC so am desirous.NOM you.ACC hear-GER-GEN.SG
"Crassus, I am so desirous of hearing you ..." (Cic. *De Orat*. 2.16, cit. after Pinkster 2015 : 286)

Contexts like (17), in which the "gerundial" (Miller 2000) agrees with an accusative object are ambiguous between the active and the passive reading and may have contributed to the transitivization of the gerund.

17) ***repara-nd-um** **exercitum** **Syphācem**=que **hortandum** nē*
restore-GER-ACC.SG army.ACC Syphax.ACC=and exhort-GER-ACC.SG that.not
bellō absisteret cēnsēbat.
war.ABL withdraw.3SG.IPF.SUBJ recommend.3SG.IPF
"(The ruling) recommended repairing the army (/that the army be repaired) and urging Syphax (/Syphax to be urged) to not withdraw from the war." (Liv. 30.7.6)

Finally, the supine in *-tum* is a verbal noun derived historically from the accusative of a verbal abstract in **-tu-*.[7] Synchronically, it is based on the same stem form as the perfect passive participle (i.e., the "third stem"), and is used primarily after verbs of motion (cf. Hofman & Szantyr 380ff., Weiss 2020: 472, Pinkster 2021: 420ff.). Supines from transitive verbs are active and take accusative objects. Again, this holds for non-deponents like *salūtō* 'greet', (18), and *repetō* 'take back', (19), and for deponents like *queror* 'complain about, lament', (19).

18) *ut **Tigrānēm** īrēs **salūtā-tum**?*
so.that Tigranes.ACC go.IPF.SUBJ.2SG greet-SUP
"… so that you go (to) greet Tigranes?" (Cic. Att. 2.7.2)

19) *in ea castra … lēgātī ab Rōmā Venērunt **ques-tum***
in this camp envoys.NOM from Rome come.3PL.PF complain-SUP
iniūriās** et ex foedere **rēs** **repetī-tum
wrongs.ACC and from treaty.ABL things.ACC retake-SUP
"Into this camp came the envoys … from Rome to lament the injuries committed and to demand restitution according to the treaty." (Liv. 3.25.6)

To summarize, the mismatch between form and meaning in Latin deponents disappears in the present and future participles, the gerund, and the supine, which are syntactically active for both deponents and non-deponents, and the gerundive, which is syntactically passive for both (transitive) deponents and non-deponents, but is preserved in the perfect participle and the infinitive, which are formally passive, but syntactically active for deponents. Table 4 summarizes the properties of the finite and non-finite forms discussed so far (see Section 1.4 for further discussion of the issue of finiteness in deponency).

[7] The second supine in *-tū*, originally from the dative of a verbal noun in **-tu-*, is not treated here for reasons of space (see Hofmann and Szantyr 382f., Weiss 2020: 473 and Pinkster 2021: 423ff.).

Table 4. Summary of finite and nonfinite forms of Latin deponent and non-deponent transitive verbs

	Non-deponent alternating/transitive		Transitive deponents	
Morphological exponence	Active syntax	Passive syntax	Active syntax	Passive syntax
Finite synthetic active forms	✓		n/a	n/a
Finite synthetic passive forms ("*r*-forms")		✓	✓	
Passive inf.		✓	✓	
PPP		✓	✓	
Present participle	✓		✓	
Fut. participle	✓		✓	
Gerundive		✓		✓
Gerund	✓		✓	
Supine	✓		✓	

The shaded areas indicate forms in which a mismatch occurs because one and the same morphological form (the "*r*-forms", the passive infinitive, and the PPP) are associated with two different meanings/syntactic contexts (active vs. passive syntax). In the present and future participles, the gerund, and the supine, the same form is always associated with the same active syntactic behavior (but cf. the caveats in fn. 6), independent of whether the associated finite forms are deponent or non-deponent transitives, while in the gerundive, the same form is always syntactically passive, again independent of whether the associated finite forms are deponent or non-deponent transitives.

Finally, Latin also has a small class of verbs that are traditionally characterized as "semi-deponents" and that are formally nonactive/"passive" in the perfect, but have formally active presents, e.g., pres.act. *gaudeō* 'rejoice, be glad': perf.pass. *gāvīsus sum*; pres.act. *audeō* 'dare, be bold': perf.pass. *ausus sum*; pres.act. *soleō* 'be accustomed to': perf.pass. *solitus sum*; pres.act. *fīdō* 'trust': perf.pass. *fīsus sum*. This phenomenon is restricted to a very small class of stative/subject experiencer verbs and not synchronically productive. It is therefore very different from other cases of apparent semi-deponency in which an entire stem class seems to switch to nonactive voice morphology in specific morphosyntactic environments, e.g., the Classical Greek future (Grestenberger 2019; Fortson forthcoming), the Hittite imperfects in *-šḫe/a-* (Melchert 2017, Inglese 2020: 180ff.), the Tocharian present classes III and IV (Malzahn 2010) and (some of) the Latin verbs in *-(i)tā-* and *-īsc-* (Leumann 1977: 536, Weiss 2020: 424f., 432; Grestenberger 2014a: 165ff.). The cause of these "stem-conditioned" voice alternations (and generally of deponent behavior being restricted to a particular stem, Grestenberger 2014b) remains an open research question (see Haugen & Siddiqi 2013 for a sketch of a theoretical treatment of Latin semi-deponents).

1.3 Theoretical issues

The type of deponency seen in Latin poses a number of problems for contemporary morphological (and syntactic) theory. In approaches which assume a canonical one-to-one mapping of form to meaning (e.g., morphological exponents to formal features, or morphological form to syntactic structure), deponency is considered to violate this canonical mapping and require special mechanisms that derive the non-canonical or "wrong" mapping (designated rules of referral or paradigm linkage rules in Paradigm Function Morphology, Sadler and Spencer 2001; Stump 2007, 2016; Stewart and Stump 2007; lexical overrides and paradigmatic misalignment in Network Morphology, Hippisley 2007, 2010; feature co-occurrence restrictions in Optimality Theory, Müller 2013; etc.).

On the syntax-semantics side, deponency is a problem for theories of passivization in which passive morphology (assuming this is the correct characterization of the Latin *r*-endings) is considered to absorb (or bind, or saturate) an argument, as in classic generative treatments of passivization (e.g., Jaeggli 1986, Baker et al. 1989). It is therefore perhaps no coincidence that generative approaches to deponency tend to be "spurious morpho-syntactic deponency" approaches in the sense of Müller (2013), which attempt to analyze Latin-style deponency as canonical and the apparent mismatch therefore as spurious (e.g., Bobaljik 2007, Alexiadou 2013, Zombolou and Alexiadou 2014, Pinzin 2017, Kallulli 2020; exceptions are Embick 2000 and Grestenberger 2014a, 2018).
For functionalist-typological approaches in which the Latin *r*-endings are treated as a subtype of "middle" morphology whose function is essentially detransitivization or the introduction of semantic subject affectedness (Kemmer 1993, Stump 2007), transitive deponents like *hortor* and generally the lack of discernible "subject affectedness" in many of these verbs tend to be a problem.
In Distributed Morphology, deponency has played a role in the debate surrounding early vs. late insertion of roots, with Embick (2000) arguing that Latin-style deponency provides an argument in favor of early insertion and visibility throughout the derivation of (at least deponent) roots (though see Haugen and Siddiqi 2013 for counterarguments).
Finally, the fact that the mismatch between form and function is apparently suspended in *some* nonfinite contexts for Latin deponents as discussed in the previous section has given rise to the hypothesis that there is a connection between deponency and finiteness (movement to or agreement with finite T, e.g., Papangeli & Lavidas 2009, Pesetsky 2009). However, a closer look at deponency beyond Latin shows that finiteness is not a decisive factor in triggering deponency. We will discuss this in more detail in the following section and return to the theoretical issues outlined here in section 2.

1.4 Beyond Latin: deponency and finiteness

Because the syntactic behavior of Latin deponents seems to vary in nonfinite contexts (i.e., in whether they preserve the perceived "mismatch" or not), some authors suggest a link between deponency and finiteness (Papangeli & Lavidas 2009, Pesetsky 2009). We have already seen that there is no one-to-one correlation between deponency and finiteness (or lack of deponency and nonfiniteness) in Latin, where deponent perfect participles and infinitives preserve deponent behavior and differ from those of non-deponent verbs in being syntactically active. Moreover, closely related languages that have deponent verbs also suggest that deponency does not depend on finiteness, however defined (i.e., finite T). Among the Indo-European languages, the following have been argued to have deponency in the verbal system similar to Latin (broadly speaking, nonactive forms in active contexts): Hittite (Hoffner & Melchert 2008, Grestenberger 2014a, 2018, Inglese 2020), (Vedic and Classical) Sanskrit (Stump 2007, Grestenberger 2014a, 2018), Avestan (Grestenberger 2014a), Ancient Greek (Lavidas 2009, Lavidas & Papangeli 2007, Grestenberger 2014a, 2018), Modern Greek (Zombolou & Alexiadou 2014), Old Albanian (Schumacher & Matzinger 2014), Modern Albanian (Kallulli 2013, 2021), Old Irish (Strachan 1893, Griffith 2014), and Tocharian (Schmidt 1974, Malzahn 2010), and this phenomenon can even be reconstructed for Proto-Indo-European (Grestenberger 2016). In languages like Vedic Sanskrit and Ancient Greek which have both active and nonactive ("middle") participles, deponents regularly form nonactive participles with the same syntactic behavior as the corresponding finite forms (Grestenberger 2017, 2020), and the same applies to the infinitival system. For example, the Vedic deponent present *bā́dha-* 'push, oppress, fend off' takes accusative objects with a preverb/"particle" *ápa* both in the finite present in (20a) and in the nonfinite participial adjunct context in (20b). In this, it is syntactically exactly parallel to an active non-deponent like (*ápa*) *ájati* 'drive (away/off)' and its active participle in 21), both also with active transitive syntax.

20)	a.	***bā́dha-nte***	*víśvam*	*abhimātínam*	*ápa*
		push.PRES-3PL.NONACT	all.ACC.SG	antagonist.ACC	away

"They thrust away every antagonist." (RV 1.85.3c, transl. Jamison & Brereton 2014)

b. *á́* *devó* *yāti* *savitā́* *parāváto*
PRVB god.NOM drive.3SG.PRES.ACT Savitar.NOM afar.ABL
ápa *víśvā* *duritā́* ***bā́dha-māna-ḥ***
away all.ACC.PL obstacle.ACC.PL push.PRES-PTCP.NONACT-NOM.SG.M
"God Savitar drives hither from afar, thrusting away all obstacles." (RV 1.35.3c-d, transl. Jamison & Brereton 2014)

21) a. *ápa* *jyótiṣā* *támo* *antárikṣād* *udnáḥ*
away light.INSTR darkness.ACC midspace.ABL water.ABL
śī́pālam *iva* *vā́ta* ***ājat***
plant.ACC as wind.NOM drive.3SG.IPF.ACT
"With his light he drove away the darkness from the midspace as the wind drives the plant from the water." (RV 10.68.5ab, transl. Jamison & Brereton 2014)

b. *ásiknīm* *eti* *rúśatīm* ***apā́jan***
black.ACC.F come.3SG.PRES.ACT luminous.ACC.F away+drive.PTPC.ACT.NOM.SG.M
"Driving away black (Night), he comes to luminous (Dawn)." (RV 10.3.1d, transl. Jamison & Brereton 2014)

The same pattern is illustrated in (22)-(23) for Ancient Greek: (22a) illustrates the finite deponent *dízēmai* 'seek' with an accusative object, (22b) its nonactive participle in a participial adjunct (i.e., a predicatively used participle), likewise with an accusative object. (23a) illustrates an active finite form of its antonym *krúptō* 'hide' (a non-deponent, alternating verb), and (23b) its active transitive participle (both from the perfective stem).

22) a. ***nóston*** ***dízēai*** ***meli-ēdéa*** *phaídim'*
return.ACC seek.PRS.2SG.NONACT honey-sweet.ACC glorious.VOC
Odusseũ
Ulysses.VOC
"You seek the honey-sweet return home, glorious Ulysses." (*Od*. 11.100)

b. *ṓikheto* *gàr* *kaì* ***keĩse*** *thoẽs* *epì* *nēòs*
go.3SG.IPF.NONACT PART and there swift.GEN on ship.GEN
Odusseùs ***phármakon*** ***andro-phónon*** ***dizḗ-men-os***
Ulysses.NOM poison.ACC men-slaying.ACC seek.PRS-PTCP.NONACT-NOM.SG.M
"And so Ulysses went there on his swift ship, seeking men-slaying poison." (*Od*. 1.261-2)

23) a. *emè* *d'* ***é-krup-s-an*** *theoì* *autoì* *rhēidíōs*
me.ACC PTCL PAST-hide-AOR-3PL.ACT gods.NOM selves.NOM easily
"And the gods themselves hid me easily" (*Od*. 14.357-8)

b. *kephalàs* *dè* *pan-aíthēsin* *korúthessi*
heads.ACC PTCL all-gleaming.DAT.PL helmets.DAT.PL
krup-sa-nt-es *….* *íomen*
hide-AOR-PTCP.ACT-NOM.PL go.SUBJ.1PL.ACT
"… and hiding/covering our heads with all-gleaming helmets, … we shall go." (*Il*. 14.373-4)

In other words, deponent behavior is preserved in the participial and infinitival forms in both Sanskrit and Ancient Greek. This suggests that it is not finiteness alone that causes deponent

behavior to surface. Rather, as we well argue in the next sections, it is the argument structure of deponent verbs that causes the mismatch in combination with the seemingly non-canonical use of nonactive morphology.

For Latin, Embick (2000) argues that the Latin participial suffixes *-nt-* (present) and *-t-* (perfect) are actually underspecified for Voice, which is why "active" *-nt-* can be associated with formally active finite verbs, but (less often) also with verbs which take *r*-endings (deponents and non-deponents), and "passive" *-t-* can be used with active syntax under certain circumstances, as in (7) (cf. the discussion of Kiparky 2005 in section 2.1 and fn. 6 above for this type of analysis). This is different in Sanskrit and Greek, where the active and nonactive participial suffixes are specified for these two different Voice contexts ([±ext.arg.], cf. Grestenberger 2018, 2020), and therefore show the same mismatch behavior as the corresponding finite forms.

To conclude, the fact that the mismatch between form and function seems to be partially suspended in nonfinite environments in Latin is due to a language-specific property of the Latin nonfinite system that is not replicated in other languages with Latin-style deponency. The question is which aspects of deponency are actually cross-linguistically constant and therefore potentially due to a universal property of this phenomenon. The next section discusses this question in the context of different theoretical approaches to deponency.

2 Deponency and morphological theory

2.1 (Un)expected voice alternations

A crucial point of contention in the discussion of deponency is whether the fact that deponents do not alternate is coincidental or causal to their mismatch behavior. To start once again with Latin, we have already seen that a large number of verbs can alternate between the active and the nonactive (or "passive") endings, summarized in Table 5 (present endings).

Table 5. Latin active---nonactive/passive endings (present)

	a. Active		b. Nonactive ("passive")	
	Sg.	Pl.	Sg.	Pl.
1	*-ō* (*-m*)	*-mus*	*-or*	*-mur*
2	*-s*	*-tis*	*-ris* (*-re*)	*-minī*
3	*-t*	*-nt*	*-tur*	*-ntur*

In these alternating verbs (cf. Table 1), both the active and the nonactive endings are associated with specific syntactic environments, which may be considered canonical for these endings—e.g., agentive (transitive) for the active set of endings and passive for the nonactive/"passive" set of endings.

However, there is also a significant number of verbs that does not alternate and either surfaces only with active morphology (*actīva tantum*, "active only" verbs) or only with nonactive morphology (*media tantum*, "middle only" verbs). Table 6 repeats the alternating verbs of Table 1 plus examples of active and nonactive "tantum" verbs.

Table 6. Alternating verbs, *actīva tantum*, *media tantum*

a. Active only	b. Alternating		c. Nonactive only
	Active	Nonactive/Passive	
*e-**ō***	*am-**ō***	*am-**or***	*hort-**or***
go-1SG.**ACT**	love-1SG.**ACT**	love-1SG.**PASS**	exhort-1SG.**PASS**
'I go'	'I love'	'I am (being) loved'	'I exhort'
*rube-**ō***	*dūc-**ō** 'lead'*	*dūc-**or** 'am led'*	*fru-**or***
red-1SG.**ACT**	lead-1SG.**ACT**	lead-1SG.**PASS**	enjoy-1SG.**PASS**
'I am red'	'I lead'	'I am (being) led'	'I enjoy'
*mane-**ō***	*mone-**ō***	*mone-**or***	*mori-**or***
stay-1SG.**ACT**	admonish-1SG.**ACT**	admonish-1SG.**PASS**	die-1SG.**PASS**
'I stay'	'I admonish'	'I am (being) admonished'	'I am dying'

Assuming that the "normal" behavior of a verb is to alternate, both a. and c. verbs (*actīva* and *media tantum*) could be considered explananda, an approach pursued by, e.g., Weisser 2010, 2014 for Latin. Weisser argues that active unaccusatives like in column a. are lexically specified for [+active], while nonactive verbs like in column c. are lexically specified for [-active] and alternating verbs are not lexically specified for a particular type of voice but emerge as active or passive verbs as the result of merging with an active or passive *v*-head. This approach resembles that of Kiparsky (2005), in which *all* verbs in Latin are lexically specified. Kiparsky treats alternating, non-alternating active, and non-alternating nonactive verbs as three separate, lexically specified stem classes, which can be either unspecified or specified as [–Passive] or [+Passive]. Inflectional endings, too, are specified as [+Passive] or [–Passive], or can be unspecified, as illustrated in ex. (24).

24) [±Passive] as a conjugational class feature in Latin (Kiparsky 2005: 121–122)
- a. Verb stems
  - (i) Unspecified: alternating verbs (e.g., *amō* 'love')
  - (ii) [+Passive]: deponents
  - (iii) [–Passive]: *actīva tantum*
- b. Endings
  - (i) Unspecified: indifferent endings (e.g., pres.ptcp. *-ns*)
  - (ii) [+Passive]: passive endings
  - (iii) [–Passive]: active endings

A [–Passive] verb stem can only combine with [–Passive] or unspecified endings, a [+Passive] verb stem can only combine with [+Passive] or unspecified endings, and an unspecified verb stem can combine with all three sets of endings. In the latter case, "[+Passive] inflections trigger one or more of the operations on the verb's argument structure (…), forming passives, as well as possibly reflexives, reciprocals, and inchoatives, depending on further, partly idiosyncratic, properties of the verb" (Kiparsky 2005: 122). This type of voice alternation is thus essentially morphomic in the sense of Aronoff (1994: 25): "a purely morphological function"; rather than a syntactic operation that manipulates/reduces argument structure, although some argument structure alternations can take place (presumably in the lexicon) for unspecified verbs, depending on whether they combine with [+Passive] or [-Passive] endings. Kiparsky argues that "there is no "active meaning" or "passive content", nor indeed any syntactically relevant feature passive in any language" (p. 126), which effectively reduces inflectional voice morphology (in Latin) to conjugational class morphology. This approach has the advantage of unifying the problem of *actīva tantum* with that of *media tantum* in that both are lexically specified and thus in a sense "two sides of the same coin" (Weisser 2010: 25). However, while Weisser's account still makes reference to argument structure (his account specifically treats *unaccusative actīva tantum*), this plays no role in Kiparsky's account—whether a verb has a [+Passive] or [–Passive] feature is essentially a lexical idiosyncrasy, much like the conjugational class to which it belongs. That is, rather than saying that deponent verbs are lexically specified as somehow idiosyncratic, *all* non-alternating Latin verb stems are now lexically specified as either [+Passive] or [-Passive], and the remainder are subject to unspecified argument structure operations. This leaves little room for any meaningful generalizations with respect to the types of verb classes that take active versus nonactive morphology, even though there are ample cross-linguistic generalizations in this domain, as we will see below. In other words, treating *all* non-alternating verbs (columns a. & c. in Table 6) as "form-function mismatches" or explananda for a theory of canonical voice alternations leads to a) a lexicalist account and b) problems.

An alternative approach treats the fact that some verbs alternate and others do not as an epiphenomenon that arises due to the interaction of the argument structure of different verb classes with the morphosyntactic operations that determine the distribution of active vs. nonactive morphology. Specifically, if we can independently define canonical contexts for both active and nonactive morphology, the fact that some verbs can alternate between these falls out from the fact that their argument structure is compatible with both contexts (e.g., transitive

verbs that can passivize, verbs of the causative alternation, etc.). This type of approach is pursued by Alexiadou and Doron 2012, Alexiadou 2013, Zombolou and Alexiadou 2014, Alexiadou et al. 2015, Kallulli 2007, 2013, 2020, Schäfer 2017, Grestenberger 2018, 2019, Kastner 2020, among others. Most of these, following a proposal by Embick (1998, 2004), treat nonactive morphology as the more highly specified allomorph that realizes the functional projection that introduces the external argument, Voice (*v* for Embick), while active morphology is treated as the Elsewhere allomorph according to (25).

(25) Voice → Voice[NonAct]/_ No DP specifier
"a Voice head is spelled out with nonactive morphology [. . .] if it lacks a specifier." (Alexiadou et al. 2015: 101, from Embick 2004: 150).

Schäfer (2017) argues that Voice is both semantically and syntactically specified for agent and D, respectively, and that the presence vs. absence and combination of these features leads to the following typology of Voice heads, which can be morphologically realized in different ways in different languages (cf. the features ±activity, ±external argument, ±cause in Kallulli 2007, 2013, 2020, albeit on v^0):

(26) Typology of Voice heads (Schäfer 2017: 143–144):

a. Active Voice:	{λxλe[agent(e, x)], D}
b. Medio-passive Voice:	{λe∃x[agent(e, x)], Ø}
c. Active expletive Voice:	{Ø, D}
d. Medio-marked expletive Voice:	{Ø, Ø}
e. Transitive medio-passive Voice:	{λe∃x[agent(e, x)], D}
f. Passive input Voice:	{λxλe[agent(e, x)], Ø}

In this approach, nonactive morphology in languages like Greek is the postsyntactic realization of those Voice heads that lack the feature [D] (or [ext.arg.], that is, the DP specifier in (25). This is the case in passives in which the external argument is existentially bound (that is, there is no demoted agent in a *by*-phrase, 26b), in passives with an overt demoted agent (26f, see also Bruening 2013), and in so-called "marked anticausatives" that are not semantically agentive and lack a D-feature (26d). Unergative (transitive) verbs that are both semantically agentive and introduce an external argument in Voice likewise surface with active morphology, (26a), because they do not fulfill condition (25). The remaining cases (26c,e) have a syntactic D-feature, but are semantically non-agentive (26c) or have an agent that is existentially bound (26e). Schäfer argues that these do not exist in Greek, but that Romance languages use the marker SE to saturate the D-feature in those cases: For example, the French *se*-marked anticausative would be an instance of (26c) and the French "short *se*-passive" of (26e). The upshot of this approach is that the "Voice syncretism" (Embick 2004) of languages like Modern Greek is an effect of the interaction of what Schäfer terms "thematic transitivity" (agentivity) and "syntactic transitivity" (D-feature) with language-specific ways of spelling out their corresponding morphosyntactic features. This framework has also been applied to Ancient Greek, Sanskrit, Latin, and Hittite (Grestenberger 2014a, 2018) and to Hebrew (Kastner 2020, with the features ±D and unspecified). Crucially, in this approach whether a verb alternates follows from which of the Voice heads in (26) it can compositionally combine with. Voice alternations are therefore an epiphenomenon arising from the combination of *v*/root semantics with specific types of Voice/agentivity.

Moreover, Zombolou and Alexiadou (2014) show that most non-alternating nonactive verbs in Modern Greek actually fall into the same semantic classes as alternating nonactive verbs, namely anticausative/inchoative, reflexive/reciprocal, and (medio)passive. These three classes together make up 60% of Zombolou and Alexiadou's corpus of non-alternating nonactive verbs ("deponents") in Modern Greek, illustrated in column b) in Table 7. The remaining classes (subject experiencer verbs, verbs of cognition, psychological and physical states, and (unaccusative) verbs of motion) are classes which are independently thought to lack an external argument/agent and can hence be analyzed as containing Schäfer's medio-

marked expletive Voice (that is, a non-agentive Voice head). Semantically, they instantiate the classes that are usually described as canonical middle (or "reflexive") verbs in the typological literature (e.g., Geniušienė 1987, Klaiman 1991, Kemmer 1993, Zúñiga and Kittilä 2019). Regarding stem-forming morphology, note that we find a large number of denominal and deadjectival verbs in the non-alternating class in, e.g., Modern Greek (Zombolou & Alexiadou 2014), Latin (Flobert 1975, Xu et al. 2007, Pinzin 2015, 2017) and Albanian (Kallulli 2013, 2020). However, there are also *alternating* denominal and deadjectival verbs (especially causative alternation verbs), and not all non-alternating nonactive verbs are synchronically denominal or deadjectival, so this is not a biconditional. We will return to this class in section 3.

Table 7. Canonical alternating and non-alternating nonactive verbs in Modern Greek

a. Alternating	b. Non-alternating
anticausative/inchoative	anticausative/inchoative
sikonome 'rise'	*enilikionome* 'become/reach the age of an adult'
reflexive, reciprocal	Reflexive, reciprocal
plenome 'wash oneself'	*adelfoskotonome* 'to mutually perform fratricide'
(medio)passive	(Medio)passive
skotonome 'be killed'	*itome* 'be beaten, defeated'
Selfbenefactive	Subj.Exp. verbs, verbs of cognition
promithevome 'supply oneself with'	*fovame* 'fear', *skeftome* 'think',
	Physical & psychological states
	tsigunevume 'be stingy', *kime* 'lie'
	(some) verbs of motion
	erhome 'come'

To summarize, the alternating/non-alternating divide is unlikely to be the sole predictor for aberrant voice morphology or "mismatch behavior". This is also corroborated by the number of verbs that fall into each class: non-alternating verbs, active or nonactive alike, are hardly a small class in Latin or any of the other languages that feature in discussions of deponency and morphosyntactic mismatches. Thus, in the verb list (*Dhātupāṭha*) of the Classical Sanskrit of Pāṇini (5th century BCE) and Candra (Candragomin, 7th century CE), almost a quarter of the verbs listed are classified as *ātmanepadin* ('for oneself-verbs', *media tantum*), Ā-verbs, while the majority of verbs are *parasmaipadin* ('for somebody else-verbs', *actīva tantum*), P-verbs. Alternating verbs or U-verbs (*ubhayapadin* 'both-verbs') are the smallest class by comparison, though not by much. Table 8 illustrates these classes for Classical Sanskrit based on the list in Liebich (1922), for Homeric Greek (8th century BCE) based on van de Laar (2000),[8] and for Tocharian B and A (5th–10th century CE) based on Malzahn (2010) via CEToM.[9]

[8] Excluding 68 verbs due to scarcity of attestations and in those cases in which the active and the nonactive forms have the same meaning, suggesting that one was being replaced by the other at the time of composition. Note also that van de Laar 2000 only treats verbal stems/roots inherited from Proto-Indo-European or with a likely Proto-Indo-European etymology in the main part of his study, thereby restricting the corpus. Given that nonactive morphology is synchronically productive in certain denominal and deadjectival verbs in Modern Greek and Latin, it is therefore likely that the percentage of non-alternating nonactive verbs in Homeric Greek may actually be even higher than the figure given in Table 8.

[9] *A Comprehensive Edition of Tocharian Manuscripts*, https://www.univie.ac.at/tocharian/.

Table 8. Classical Sanskrit P-, Ā-, and U-verbs

	Classical Sanskrit		Homeric Greek		Toch. B		Toch. A	
	# of verbs	%	# of verbs	%	# of verbs	%	# of verbs	%
P (only active)	1,038	51.9	129	36	150	28	148	33.9
Ā (only nonact.)	485	24.2	89	25	103	19.2	104	23.8
U (alternating)	478	23.9	141	39	283	52.8	185	42.3
Total	2,001		359		536		437	

While this is a very broad survey,[10] it suffices to show that non-alternating verbs (P-verbs and Ā-verbs) are a stable feature of all four languages and their (typologically and genetically) closely related voice systems: Zombolou and Alexiadou 2014 give the number of "deponents" in the sense of non-alternating nonactive verbs in Modern Greek as ca. 1,348 of 5,500, or 20%. This suggests that a better way of understanding the Latin "deponent" verbs in column c in Table 6 is to determine which of these classes are canonical in the sense that their voice morphology follows from independently established properties of argument structure and voice alternations in the language, and which ones are genuinely non-canonical "mismatch verbs". Thus, Zombolou and Alexiadou (2014) observe that 11% of their 1,348 "Ā-verbs" in Modern Greek are apparently agentive, transitive verbs or "active-like deponents" as they call them, e.g., *ekmetalevome* 'exploit, benefit', *eborevome* 'trade', *metahirizome* 'handle, use'. If these are agentive in the sense defined above, that is, with an external argument introduced as the specifier of VoiceP, this class would violate the Voice realization rule in (25) and hence constitute a genuine mismatch.
In the following sections, we will discuss some attempts at defining the offending verb class more precisely and see evidence that it is indeed the "agentive" subclass of nonactive verbs that is problematic for theories of Voice and argument structure interactions.

2.2 Deponency and defectiveness

Related to the problem of the lack of alternation in deponent verbs is the problem of defectiveness and the canonical properties of deponents. As we have seen, most approaches start from the assumption of a canonical opposition between active and nonactive/passive morphology, i.e., the idea that regular verbs alternate and non-alternating verbs are somehow special, irregular or "defective" (cf. Stump's definition in (29)). Consider the detailed definition of Latin deponents given by Flobert (1975):

27) Latin deponents (Flobert 1975: 35)
   a. Un verbe deponent ne s'oppose pas functionellement, mais seulement morphologiquement à un actif (variante), sauf en cas de mutation *diachronique* (déponentisation, repassivation).
   "A deponent verb is not functionally, but only morphologically opposed to an active (variant), except in cases of *diachronic* mutation (deponentization, repassivization)."
   b. Un verbe déponent possède un jeu complémentaire de formes non personnelles de type actif.
   "A deponent verb possesses a complementary set of non-personal forms that are active."
   c. Un verbe déponent se sépare du passif par sa construction, sauf quand il est passivé lui-même (commun).
   "A deponent verb distinguishes itself from a passive by its construction, except when it is itself passivized (*commūne*)."

[10] For example, not taking into account possible voice variation with respect to stem-forming morphology and combination with preverbs.

d. Un verbe déponent est solidaire de son groupe lexical (simple, préfixé) et se conforme à un type de formation, sauf en cas de rupture sémantique.
"A deponent verb acts in accordance with its lexical group (simplex and prefixed) and adheres to a particular type of formation, except in cases of semantic rupture."

(27a) specifies that deponents appear to be parasitic on the morphologically active variant that they would be expected to have given their semantics (except in cases in which deponents have been secondarily created to non-deponent active verbs, "deponentization", or became the "repassivized" passive of new alternating verbs). (27b) attempts to capture the fact that Latin deponents have some nonfinite forms that are morphologically active or "indeterminate", such as the present and future participles and the gerund and supine (cf. section 1.2).[11] (27c) delineates deponents from *passīva tantum* like *cōnflīctor* 'am afflicted, struck by misfortune" and *plēctor* 'am punished, beaten' (both develop oppositional active forms), and generally from morphologically passive verbs which are also syntactically passive (i.e., display no mismatch between form and function). The provision "except when it is itself passive" refers to the *verba commūnia*, considered a separate class of verbs by some of the Latin grammarians (e.g., Aulus Gellius, Diomedes Grammaticus) besides active, passive, and deponent verbs; *commūnia* being verbs that are morphologically nonactive/passive, but syntactically alternating. That is, these are morphologically nonactive verbs that can be used both with active and with passive syntax (e.g., *ōsculor* 'kiss; be kissed (by)'), while deponents are morphologically nonactive verbs that can be used only with active syntax. As Flobert notes, distinguishing between these two classes is less than easy, and not all the ancient grammarians did so (and with varying degrees of success). Finally, (27d) formalizes the insight that deponency tends to be the property of specific lexemes or lexical groups (cf. the discussion of denominal verbs and stem-formation below), including combinations with particular preverbs ("rupture sémantique" refers to "lexicalized" or idiomatic meaning).
Flobert's definition is "narrow" in the sense that it is highly specific to a particular language – Latin – and its voice (and participial) system. On the other hand, it includes insights that are recurring features in other definitions as well, specifically the reference to a perceived suspended opposition between active-passive morphology (a., c.) and to the lexical idiosyncrasy of deponents (d.). Similarly, Baerman (2007) explicitly builds an expected "functional opposition" into his definition of deponency in Latin:

28) Deponency in Latin (adapted from Baerman 2007: 2)
a. Deponency is a mismatch between form and function
b. Given that there is a formal morphological opposition
c. between active and passive
d. that is the normal realization of the corresponding functional opposition,
e. deponents are a lexically-specified set of verbs whose passive forms function as actives.
f. The normal function is no longer available.

Here too the idea is that the problem arises because of an expected but suspended functional opposition ("normal realization", "normal function"), as well as the idea that deponency is lexically specified (be it on roots or stems). The latter point is difficult to deny given that it is easy to find morphologically active synonyms for most of the transitive deponents in Latin, Greek, Sanskrit and other languages which have been claimed to display this phenomenon, that is, morphologically active verbs with the same argument structure and syntactic behavior as the problematic nonactive deponents, cf. Table 9.

[11] „Non personelles" refers to the nonfinite forms in this case.

Table 9. Active/deponent (near-)synonyms (Grestenberger 2018: 492)

Language	Deponent	Active verb	Meaning
Latin	*hortor*	*moneō*	'encourage, incite'
	fūror	*clepō*	'steal, rob'
Sanskrit	*grásate*	*átti*	'devours/eats'
Ancient Greek	*erúomai*	*phúlassō*	'protect, guard'
Modern Greek	*eborevome*	*adallasso*	'trade'
	katarieme	*anathematizo*	'curse'

Minimal pairs such as these make it difficult to propose a uniform context for deponency, hence almost all accounts assume some degree of lexical specification,[12] the cause of which is usually sought in the diachrony of these verbs (works explicitly addressing the diachrony of deponents in different languages include Good 2007, Lavidas 2009, Lavidas & Papangeli 2007, Hippisley 2010, Juge 2013, and Grestenberger 2016, 2018). However, the other common thread in these definitions, the proposed "functional opposition" (or lack thereof in deponents) holds up less well to scrutiny, given that verbs lacking such a functional opposition (*actīva tantum*/P-verbs and *media tantum*, Ā-verbs) make up large (and diachronically stable) classes in all languages with this type of voice system (cf. Table 8 in section 2.1 above).
Stump (2007) attempts to tackle this problem by distinguishing between canonical and noncanonical deponency, (29).

29) Canonical deponency (Stump 2007: 71)
   a. Contrariness of form and meaning
   b. Concurrent defectiveness
   c. Lexical exceptionality

Like in the definition in (28), canonical deponency is characterized by a "mismatch", or "contrariness in form and meaning" (29a). However, an additional criterion is "concurrent defectiveness" (29b), that is, the lack of syntactically passive and/or morphologically active forms.[13] (29c) ensures that this is a lexically idiosyncratic phenomenon, cf. Baerman's (28e) above. While (a) and (c) are constant across almost all definitions, (b) is problematic in that it does not only apply to deponents, but also potentially to other verbs that do not alternate for whatever reason, such as the *actīva tantum*/P-verbs in Tables (6-7) above (although depending on one's theory of voice morphology assignment, not all of these may need to be characterized as displaying "contrariness of form and meaning"). Stump uses these criteria to argue that Sanskrit Ā-verbs are "non-canonical deponents" because they do not display criterion a., "contrariness of form and meaning", since they can be used both with the canonical semantics of middle morphology in Sanskrit (subject-affectedness according to Stump) and without it, thus also obviating criterion b. Latin transitive agentive deponents like *hortor*, on the other hand, are argued to display all characteristics of canonical deponency because they *cannot* be used with both the canonical (passive) and the non-canonical (active) meaning of

[12] In fact, the only approaches that do not need to assume this are the ones characterized as "spurious morpho-syntactic deponency" approaches by Müller (2013: 357f.), in which the mismatch is essentially considered a mirage. Müller counts Bobaljik (2007) and Keine (2010) among these; other instances would be Alexiadou 2013, 2019 and Zombolou and Alexiadou 2014 (cf. main text below). "Spurious morphomic deponency" approaches (Müller 2013: 358f.) like Sadler and Spencer 2001, Kiparsky 2005, and Hippisley 2007, on the other hand, treat the Latin *r*-endings and its alternants essentially as conjugational classes, so in that sense they too assume lexical determination of their distribution (assuming conjugational class is morphomic, see the discussion in the main text).

[13] Stump actually distinguishes between deponency that arises because a word has "the wrong exponence for its morphosyntactic properties" (2007: 73), i.e., form deponency, and deponency that arises because the meaning of a word is associated with the wrong morphosyntactic properties ("property deponency"), but these distinctions apparently cross-cut the canonical/non-canonical deponency distinction in (29).

the *r*-endings. However, Stump compares the entire class of Sanskrit Ā-verbs with its very broad range of meanings (cf. Table 7 for their Modern Greek comparanda) specifically with agentive verbs like *hortor*, and thus with only a subclass of non-alternating nonactive verbs/*r*-verbs in Latin. If we compare the entire class of Sanskrit Ā-verbs to the entire class of Latin *r*-verbs, we immediately see that they encompass the same broad classes of verbs, including intransitive verbs with patient or theme subjects such as *nāscor* 'be born, arise' or *morior* 'perish, die' where there is also no "contrariness of form and meaning", cf. Table 10.

Table 10. Latin canonical non-alternating *r*-verbs (*Ā*-verbs): compare column b. in Table 7.

Anticausative/inchoative change-of-state verbs	*morior* 'die'; *orior* 'rise, be born'; *dēfetīscor* 'become tired'; *expergīscor* 'wake up'; *īrāscor* 'become angry'; *nāscor* 'be born'
Reflexive/reciprocal verbs	*amplector*, *amplexor*, *circumplector*, *complector* 'embrace'; *aemulor* 'rival, vie with'; *congredior* 'meet with'
Verbs of motion	*gradior* 'walk', *lābor* 'glide, slip', *proficīscor* 'start out', *grassor* 'go, move'
Experiencer verbs, psychological state verbs	*adsentor* 'agree with' (dat.), *cōnspicor* 'see, perceive', *experior* 'experience, undergo', *frūnīscor* 'enjoy', *fruor* 'enjoy' (acc./abl.), *obliviscor* 'forget', *opīnor* 'believe, think', *patior* 'suffer, endure', *reor* 'reckon, believe', *vereor* 'fear, revere'

In other words, if both Sanskrit and Latin have verbs like *hortor*, that is, non-canonical nonactive verbs (that do not fulfil Stump's criterion of "subject affectedness", since this would make them canonical middles) and canonical non-alternating middles like in Table 10, the distinction between canonical and non-canonical deponency in these two languages becomes moot. We will discuss more evidence in favor of treating only the *hortor*-class as synchronically non-canonical in Section 3 below.

2.3 Generative approaches to deponency

Generative approaches to deponency usually also start from a definition that includes reference to a (functional) opposition between active and nonactive or active and passive. Thus, Embick's definition in (30) is based on Latin, where passive is indeed canonical for oppositional *r*-verbs (though not exclusively so, e.g., *vertō* 'turn' (tr.) — *vertor* 'turn' (itr.), *lavō* 'wash, bathe sth.' — *lavor* 'wash oneself, bathe' (itr.), etc.).

30) Deponent verbs are only capable of appearing in passive form, but may appear in active syntax, … (Embick 2000: 191)

Embick argues that this behavior is due to a lexically specified feature [pass] of deponent roots, which therefore must be inserted early in order for the feature to be visible throughout the syntactic derivation (see Haugen and Siddiqi 2013 and Grestenberger 2019 for a critical evaluation of this claim). This is required since deponents show the same distribution of synthetic/analytic forms (in the perfect passive) as canonically passive verbs. Zombolou and Alexiadou (2013) initially start out with a similar definition in their corpus study of Modern Greek deponent verbs, which includes reference to a functional opposition ("lack Act-counterparts"), (31).

31) As deponents are defined here those verbs that appear with the NAct-form only (i.e. they lack Act-counterparts), regardless of their semantics and syntax (i.e. whether they are transitive or intransitive, or have an active or experiencer meaning). (Zombolou & Alexiadou 2013: 333)

However, they subsequently argue that the vast number of deponents so defined (i.e., with NAct-forms only) actually instantiate one of the canonical functions of nonactive morphology

(cf. Table 7), leaving only a small class of apparently "non-canonical deponents" (verbs like *ekmetalevome* 'exploit, benefit', *eborevome* 'trade', *metahirizome* 'handle, use', cf. section 2.1); they then go on to argue that this class can actually be analyzed as non-oppositional benefactive/malefactive verbs with an affected (benefactive or experiencer) subject, and hence instantiate a canonical function of nonactive morphology after all. Their approach can thus be classified as "spurious morphosyntactic deponency approach" (following the terminology of Müller 2013), in which a "morphological exponent faithfully realizes a morpho-syntactic property set, which receives its standard interpretation" (Müller 2013: 357) and the perceived mismatch is only apparent (the analysis of deponents of Kallulli 2013 and 2020 can also be classified as "spurious morphosyntactic deponency approach"). This analysis hinges on the status of the external argument of verbs of the "active-like deponents" class: experiencer/benefactive arguments are assumed to be merged below Voice (Pylkkänen 2008, Bosse et al. 2012, Alexiadou 2013) and hence are expected to surface with canonical nonactive morphology by (25) — thus, no mismatch. On the other hand, agent arguments are expected to me merged in the specifier of VoiceP and to trigger active morphology, hence in this case, the mismatch between form (nonactive) and function/syntax (agent subject) would be genuine. Grestenberger (2014, 2018) provides arguments in favor of the latter analysis and proposes a definition of deponency that explicitly addresses the argument structure mismatch, (32).

32) Narrow deponency (Grestenberger 2018: 502)
In an active—nonactive voice system, a deponent is a verb with an agent subject that appears in a syntactically active context and is morphologically nonactive.

This definition is narrow in the sense that it applies only to verbs with a particular argument structure (agent arguments) and morphological exponence (nonactive) in particular types of languages (i.e., those with postsyntactic realization of particular features on Voice or "voice syncretism", cf. Embick 2004, Alexiadou et al. 2015, Schäfer 2017, etc.). However, it is more general than language-specific, "narrowest" definitions like (27), and thus makes predictions about the behavior of verbal deponents and their derived forms in, e.g., the nominal and participial system (Grestenberger 2018, 2020) in languages with this type of voice system. According to this approach, the mismatch in Latin-style deponents arises because a non-canonical agent argument is merged *below* the specifier of VoiceP in a lexically restricted class of verbs and hence causes the postsyntactic realization of nonactive morphology by rule (25). The mismatch is thus restricted to a small class of verbs (i.e., a subset of nonalternating nonactive verbs, namely those with an agent subject) whose "irregular" argument structure properties interact with an otherwise regular, post-syntactic mechanism of morphological exponence. In that sense it resembles the analysis of Bobaljik 2007, who derives the Spurious Antipassive (SAP) in Chukchi (Chukotko-Kamchatkan, Siberia) from the interaction of a (postsyntactic) "filter" on subject-object agreement features in the T-domain with regular rules of morphological exponence in the *v*-domain. However, unlike (32), Bobaljik's definition of "v-deponency", which also attempts to capture deponency in the verbal system of a particular set of languages (those with a morphological opposition between active and nonactive), does not explicitly refer to argument structure, (33).

33) v-deponent$_{def}$ (Bobaljik 2007: 176)
Given a morphological opposition between active and nonactive that is the normal realization of the corresponding functional opposition, v-deponents are those verbs whose nonactive forms function as active.

This definition attempts to capture the superficial similarities between the Chukchi SAP and Latin (transitive) deponents: In the SAP, the verb of an active transitive clause with a subject marked with ergative case and an object marked with absolute case surfaces with an antipassive marker, which is usually only found on syntactically intransitive verbs with a demoted object and absolutive-marked subject. An example is given in (34).

34) Chukchi SAP (Bobaljik 2007: 178)
ə-nan *ɣəm* *Ø-**ine**-ɬʔu-ɣʔi*
he-ERG I(ABS) 3SG.SUB(I)-**AP**-see-3SG.SUB(I)
"He saw me."

Despite this superficial similarity (intransitive/-izing morphology in an active, transitive context), there are several differences between the Chukchi SAP and Latin-style deponency that lead Bobaljik to argue that the various types of "mismatches" discussed in Baerman et al. 2007 (cf. their "broad" definition in (35)) cannot be understood as a unified phenomenon, and even less as an argument for an independent morphological domain with its own rules and processes. This is true even for "v-deponency" as defined in (33), i.e., argument structure/morphology mismatches in the verbal domain, like in Chukchi vs. Latin. Thus, while the offending nonactive morphology in Latin is canonically found on transitive and intransitive verbs (transitive verbs including subject experiencer and psych verbs), the Chukchi antipassive marker is normally only found on intransitive verbs. Moreover, deponency in Latin, Greek, Sanskrit, etc., is a lexically idiosyncratic property of certain roots or stems (recall the minimal pairs in Table 9), while the Chukchi SAP is not restricted to particular lexemes, but found on all transitive verbs with a particular feature combination of subject and object, namely 3sg.S > 1sg.O, cf. (34), 2S > 1sgO, and 2S > 1plO. In a sense, this means that the construction is "regular" for these contexts, whereas Latin-style deponency, though lexically "irregular", is regular insofar as the mismatch is preserved across a variety of syntactic contexts (e.g., in the infinitive and the participial system, depending on the language). Bobaljik argues that the Chukchi SAP is due to post-syntactic "inverse filters" for these particular feature combinations. These filters apply in the T-domain and delete the higher copy of the object DP that has moved into the TP, leading to the activation of the lower copy in its base position. The antipassive marker regularly signals the presence of an object in the v-domain (i.e., an object that has not moved into the T-domain) and is therefore spelled out on the verb when this lower copy is activated, thus causing the apparent mismatch (Müller 2013 classifies Bobaljik's analysis as "spurious morpho-syntactic deponency approach" precisely because the mismatch is only apparent).
This means that even definitions of verbal deponency like (32-33) cannot be used to capture all argument structure/morphology mismatches in the verbal system across different languages. Bobaljik concludes that (33) is therefore merely a descriptive label, "but does not pick out a natural class of phenomena with a common underlying analysis" (p. 197).

2.4 "Broad" definitions of deponency

There is one more type of approach that needs to be discussed because it attempts precisely that: to characterize form/meaning-mismatches across languages and morphosyntactic categories. This type of approach is based on what is characterized as "broad" definition of deponency in Grestenberger (2019),[14] for example, the definition of the Surrey Morphology Group in (35).

35) Deponency describes mismatches between morphology and morphosyntax. A mismatch occurs where the word form is used in some function incompatible with its normal function.
(Surrey Deponency Databases (http://www.smg.surrey.ac.uk/deponency, 7. 1. 2021)

This definition attempts to pick out all instances in which morphology appears to be "in the wrong place" (i.e., the wrong morphosyntactic contexts) and hence may include a vast variety of phenomena, including ones that would otherwise be described as heteroclisis (different

[14] "Broadest" might be even more appropriate, as opposed to "narrowest" like Flobert's definition in (27) which is tailored to one particular language and its categories.

stems or inflectional classes in one and the same paradigm) or syncretism (one form for two different functions that are usually expressed separately). In fact, Baerman (2007) and Corbett (2007) provide an extensive discussion and criteria for distinguishing between deponency, syncretism, defectiveness, and heteroclisis, although these are not always conclusive. For example, the singular uses of the plural forms of the Tsez (Northeast Caucasian, Daghestan) nouns for 'child', *xex*-, and 'woman', *gˁana*-, fulfil some of the criteria for syncretism, but also for deponency according to Corbett (2007). Table 11 compares the irregular noun *xex*- to the regular noun *besuro* 'fish' in Tsez. The mismatch occurs in the singular of the word for 'child', in which the plural marker is unexpectedly found in all cases.

Table 11. Tsez noun morphology (Corbett 2007: 36)

	besuro 'fish'		xex- 'child'	
	Sg.	Pl.	Sg.	Pl.
Absolutive	besuro	besuro-bi	xex-**bi**	xex-bi
Genitive 1	besuro-s	besuro-za-s	xex-**za**-s	xex-za-s
Inessive/Ergative	besur-ā	besuro-z- ā	xex-**z**- ā	xex-z- ā

Descriptively, there is a mismatch between form (plural) and function (singular). Corbett points out that demonstrative and verbal agreement with singular 'child' is also singular (despite the plural marking), so there can be no doubt that the morphosyntactic function is indeed singular. However, this example does not fulfil Stump's criterion of "concurrent defectiveness", (29b), because there is a full-fledged regular plural paradigm as well (which now happens to be homophonous to the singular paradigm, of course). Clearly a theory of morphological exponence that could derive transitive deponents like *hortor* in Latin, the Chukchi SAP, the Tsez plural-marked singulars in Table 11, and the other phenomena discussed in Baerman et al. (2007) via one single mechanism would have to be extremely powerful, and likely overgenerate significantly. This is clearly undesirable, and hence most of the papers in Baerman et al. (2007) attempt to provide a somewhat narrower definition of deponency than (35).

2.5 Deponency in OT

Müller (2013) also attempts to find a mechanism that can capture a broad set of mismatches between form and function and proposes an analysis in Optimality Theory (OT) in which "feature co-occurrence restrictions" (FCR) block the realization of the regular exponent of a given morphosyntactic category. He proposes two constraints that achieve the effect of a form-meaning mismatch, LEX and MATCH:

36) LEX (Müller 2013: 361)
A stem with FCR *[α] cannot be combined with an exponent whose input specification includes [α] (where α is a — possibly singleton — set of morpho-syntactic features).

37) MATCH (Müller 2013: 361)
The morpho-syntactic features of stem and exponent are identical in the output.

Müller's FCR are essentially specifications in the lexical entries of specific items "that express the incompatibility with the regular inflectional exponent's morpho-syntactic features." (p. 360), and hence similar to Bobaljik's postsyntactic "inverse filters" in Chukchi, albeit much more general. Thus the constraint LEX, (36), ensures that a given FCR blocks the realization of the regular exponent, while MATCH, (37), requires identity in the output. But there is no constraint on what the content of *[α] might be: It could be *[-pass] in the case of Latin deponents like *hortor* or *[-pl] in the case of the Tsez nouns for 'child' and 'woman'. In these cases, the relevant FCR will block the insertion of the specified exponent, while MATCH requires identity between the features of the stem and the exponent in the output. To achieve this, the plural morpheme is inserted and its feature [+pl] is changed to [-pl] in the output, incurring a violation

of the faithfulness constraint IDENTNUM, which ranks below LEX and MATCH. Winning deponent candidates like *xexbi* (ABS.PL.) in Tsez therefore satisfy LEX and MATCH but violate language-specific identity constraints: "'Deponency' will then describe competitions where an unfaithful exponent emerges as optimal because the regular exponent is blocked by a higher-ranked constraint." (Müller 2013: 360). Using the constraint LEX plus language-specific FCR may be appealing because a relatively simple mechanism can derive a vast variety of very different kinds of "mismatches", but that is precisely the problem—Müller's LEX works equally well for the Spurious Antipassive in Chukchi (p. 365) as for Latin deponents and Tsez irregular nouns, even though we have seen that the SAP in Chukchi can be argued to arise from the interaction of syntactic movement with postsyntactic constraints on exponence. LEX is too coarse to capture this, that is, it cannot distinguish between "spurious morphosyntactic deponency" and other (apparent or real) mismatches. Even worse, the language-specific FCR *[-pass] in Latin not only derives transitive deponents like *hortor*, but also intransitive canonical *media tantum* like *morior* 'die' or *nāscor* 'be born' (cf. Table 7), and hence blurs the line between genuine argument structure/morphology mismatches and canonical morphological exponence across different syntactic contexts. The same holds for Paradigm Function Morphology (PFM) accounts in which different kinds of mismatches can be handled via rules of referral (Sadler & Spencer 2001), paradigm linkage rules or "property mappings" (Stewart & Stump 2007, Stump 2016; cf. also the discussion of Kiparsky 2005 in section 2.1), all of which amount to lexically specified "more specific rules" that block the application of a more general rule of mapping form to function. The rule of referral for deponents and semi-deponents proposed in Sadler and Spencer (2001), for example, transfers active "m-Voice" (morphological voice features) to passive morphology for defined feature sets of certain lexemes (those marked "deponent" or "semi-deponent").

38) Rule of referral for Latin deponents & semi-deponents, Sadler & Spencer 2001: 91:
If lexeme L is marked [Class:Deponent], then for all feature sets σ, if
([Class:Deponent:Semi] & [Asp:Perf]) or [Class:Deponent:Full] $\subset$ σ then:
[m-Voice:Active] $\Rightarrow$ [m-Voice:Passive]

The notion that these "more specific rules" are lexically determined is common to practically all treatments of Latin deponency (e.g., √[pass], Embick 2000; [Class:Deponent], Sadler and Spencer 2002, stem-specific FCRs, Müller 2013, etc.) and, given minimal pairs like in Table 9, seems unavoidable. However, accounts that derive deponency entirely from lexical idiosyncrasy without taking into account regular voice and argument structure alternations tend to overgenerate. Thus, Sadler & Spencer's rule (38) also cannot distinguish between transitive agentive *hortor* and intransitive change-of-state *morior* and *nāscor*.

2.6 Interim summary

In this section, we have discussed various theoretical approaches to deponency and the types of definitions they are based on, from very narrow ones that may apply only to a single language and its specific categories (e.g., (27)) to very broad ones that are designed to capture a variety of perceived morphosyntactic mismatches in different categories across various languages (e.g., (35)). While the former naturally do not easily generalize to other languages (though they may become the starting point for generalizations), the latter may be too broad to capture generalizations or distinguish between real and "spurious" deponency, and hence overgenerate. A core challenge in formal accounts of deponency is therefore to distinguish between language-specific and more general properties of any given deponency phenomenon, and between the lexically idiosyncratic aspects of it and those that can be derived from independently posited morphosyntactic properties of a given language. In the next section, we will briefly return to Latin to illustrate this before concluding.

3 Latin deponents as non-canonical agentive verbs

3.1. Deponency and agentivity

We have already seen in section 2.1 that a fundamental issue of formal accounts of deponency in Latin is whether such accounts must cover 1) *all* non-alternating nonactive verbs (or media tantum) in Latin, 2) just a subset thereof (transitive and/or agentive ones), or 3) none at all because they can all be considered canonical. Section 2 has provided arguments against 1), and we have already seen that the decision between 2) and 3) hinges on whether we can find evidence that the external argument of a subset of transitive, "active-like" deponents in Latin is an agent. In that case, the spell-out condition on active and nonactive morphology in Latin in (25), repeated in (39) for convenience, would be violated and we would be dealing with a real mismatch between form and function (or rather, argument structure).

39) Voice → Voice[NonAct]/_ No DP specifier
"a Voice head is spelled out with nonactive morphology [. . .] if it lacks a specifier."

In the following, we will briefly review arguments in favor of 2). Embick (1997) uses evidence from clitic doubling and clitic left dislocation to distinguish between nonactive transitive psych/experiencer verbs and agentive deponents in Modern Greek. Since these constructions do not exist in Latin, different agentivity tests are needed, crucially ones that can distinguish between agentive and non-agentive transitive verbs. Since passivization is possible for both in many languages (including Latin), this cannot be the only diagnostic—especially given that Latin deponents usually do not passivize.[15] Grestenberger (2014, 2018) proposes the following diagnostics for agentive deponents in Sanskrit, Latin, Ancient Greek, and Hittite: 1) Agent noun formation, 2) passivization, and 3) compatibility with agent-oriented adverbs. These have to be modified depending on the language. Table 12 provides a collection of primary and deverbal deponents[16] in the corpus used above (Cicero, Livy) that fulfill the definition of narrow deponency in (32), using the following criteria: 1) an accusative object (excluding accusatives of goal), 2) an animate subject, 3) an agent noun, 4) a passively used gerundive. I have included only stems for which at least two of these criteria are attested (forms that are attested before or after the relevant period are given in brackets).

[15] A passive reading of deponents is excluded in "blocking" accounts, i.e., accounts in which the syntactically active *r*-forms "block" the use of the *r*-endings in syntactically passive contexts (Stump 2007, Hippisley 2007, 2010, among others), but is not excluded in the framework discussed in this section. There are a few allegedly syntactically passive forms of deponents that are discussed in the literature (s. Grestenberger 2019 with refs.), and the *verba commūnia* mentioned in section 2.2 may also be relevant here: Aulus Gellius (15.13) mentions several *r*-verbs that can be used both actively and passively, including *hortor* 'exhort', *testor* 'call/act as witness' and *ūtor* 'use' (Flobert 1975: 9ff; cf. also Hoffman 1910 on passive uses of deponents), which could suggest that these deponents could passivize in the same way that morphologically active transitive verbs could, namely using the *r*-endings and resulting in surface syncretism between the active and the passive forms. Since this option was not widely used, though, the diagnostic of passively used gerundives is introduced here instead.

[16] Mostly verbs of the productive deverbal iterative/frequentative class in *-tor*, *-tāri*, e.g., *sector* from *sequor* and *tūtor* from *tueor* in Table 12.

Table 12. Latin agentive deponents

		Acc.obj.	Anim. subj.	Nom.ag	*Pass. gerundive*
cōnfiteor	‘grant, concede’,	✓	✓	*(cōnfessor)*	*cōnfitendus*
fateor	‘confess, acknowledge’	✓	✓		
(ec-, prae-, pro-)for	‘speak, say’	✓	✓		*-fandus*
(dē)fungor	‘perform, execute; discharge’,	(✓ Plaut.); abl.obj.	✓		*-fungendus*
hortor	‘exhort, command’,	✓	✓	*hortātor*	*hortandus*
imitor,	‘imitate’	✓	✓	*imitātor*	*imitandus*
īnfitior	‘deny’	✓	✓	*īnfitiātor*	*(īnfitiandus; Ov.*)
(ē)loquor	‘speak (out), say’	✓	✓	*(-locūtor, Plaut.)*	*loquendus*
minitor	‘threaten’	✓	✓		
opperior	‘wait for, attend’,	✓	✓		
polliceor	‘promise, offer’	✓	✓		
profiteor	‘declare, profess’	✓	✓	*(professor)*	*profitendus*
queror	‘lament, bewail’	✓	✓		*querendus*
(cōn-, īn-, ad-)sector	‘follow, pursue’	✓	✓	*(-)sectātor*	*īnsectandus*
(per-, ob-)sequor	‘follow’	✓	✓	*(-secū-tor post-class)*	*-sequendus*
cōnsōlor	‘console, comfort’	✓	✓	*cōnsōlātor*	*cōnsōlandus*
tueor	‘protect, watch, guard’	✓	✓	*tūtor*	*tuendus*
tūtor	‘protect’	✓	✓	(*tūtātor*, post-class.)	*tūtandus*
ulcīscor	‘punish, take revenge’	✓	✓	*ultor*	*ulcīscendus*
vēnor	‘chase, hunt’	✓	✓	*vēnā-tor*	

Note that accusative objects are also possible for non-agentive experiencer or selfbenefactive verbs (e.g., *fruor* ‘delight in, enjoy’, *ūtor* ‘use’; though both more commonly with abl.), so this diagnostic alone cannot decide whether a given nonactive verb in Latin is a mismatch verb. The same is true for the passivization diagnostic. While Ancient Greek and Sanskrit deponents can form passives using specific derivational suffixes (*-thē-* in the Greek aorist, *-yá-* in the Sanskrit imperfective passive), Latin does not have a comparable passivization strategy (but cf. footnote 15). However, we have seen in section 1.2 that transitive verbs in Latin can form a passive (deontic) verbal adjective, the gerundive, which is therefore included in Table 12. However, this, too is possible for transitive experiencer verbs. Therefore a combination of these diagnostics is necessary to establish whether a verb is a real deponent.
Nevertheless, Table 12 suffices to show that there several verbs that fulfill three or four criteria (*cōnfiteor*, (-)*for*, (-)*fungor, hortor, imitor, īnfitior, loquor, profiteor,* (-)*sector,* (-)*sequor, consōlor, tueor, ulcīscor, vēnor*), suggesting that these are indeed agentive verbs. Table 13 compares agent noun formation of these verbs to that of non-deponent agentive verbs to illustrate these two groups indeed pattern together.

Table 13. Latin agent nouns from non-deponent and deponent verbs

a. active, non-deponent				b. deponent			
verb		agent noun		verb		agent noun	
moneō	‘advise’	*moni-tor*	‘adviser’	*hortor*	‘incite’	*hortā-tor*	‘inciter’
vincō	‘conquer’	*vic-tor*	‘conqueror’	*vēnor*	‘hunt’	*vēnā-tor*	‘hunter’
legō	‘read’	*lēc-tor*	‘reader’	*tueor*	‘follow’	*tūtor*	‘follower’

The use of agent-oriented adverbs with non-deponent and deponent agentive verbs is briefly discussed in Grestenberger (2018: 499f.). Taken together, this evidence suggests that at least

some deponents in Latin (and related languages like Sanskrit and Ancient Greek, where these criteria also apply) genuinely instantiate a mismatch between argument structure and voice morphology: Their surface subject is an agent, while their voice morphology is unexpectedly nonactive.

3.2 Denominal and deadjectival deponents

In addition to the primary deponents discussed in section 3.1, Latin also has a large number of deadjectival and denominal deponents (Flobert 1975, Xu et al. 2007), as do languages with a related voice system, e.g., Modern Greek (Zombolou & Alexiadou 2014), Ancient Greek (Grestenberger 2014a), and Modern Albanian (Kallulli 2013, 2020). As Zombolou and Alexiadou (2014) note, most of the deadjectival and denominal deponents of Modern Greek actually instantiate one of the canonical functions of nonactive morphology (i.e., there are anticausative, reflexive, experiencer verbs, etc.) and therefore do not constitute a mismatch. The same is true in Latin, cf. Table 14.

Table 14. Latin deadjectival non-alternating nonactive verbs (canonical)

Verb		Base	
adversor	'disagree with' (+ dat.)	*adversus*	'turned against, opposed to'),
blandior	'flatter' (+dat., abl.)	*blandus*	'flattering, fawning'
īrāscor	'be angry (at)' + dat.	*īrātus*	'angry'
laetor	'be glad (at)' (+abl., acc.; prep.)	*laetus*	'glad'

However, the more productive and regular way of forming stative and inchoative deadjectival and denominal verbs is via *active* 2nd conjugation presents in *-eō* and 3rd conjugation presents in *-ēscō* (Leumann et al. 1977: 553ff., Weiss 2020: 432).
There are also a few such verbs that may have become reanalyzed as agentive and fulfill some of the criteria discussed in the previous section, which could hence be characterized as deponents.

Table 15. Latin deadjectival non-alternating nonactive verbs (non-canonical/deponent)

Verb		Base	
largior	'bestow, distribute' (+acc)	*largus*	'abundant; generous'
mīror	'admire' (+acc)	*mīrus*	'astonishing'
miseror	'lament, commiserate' (+acc)	*miser*	'wretched'

These also form agent nouns (*largītor* 'bestower, giver; briber', *mīrātor* 'admirer', *miserātor* 'commiserator', post-class.). Note that deadjectival deponents are not restricted to a particular stem class, although the 1st conjugation (and its subtypes) predominates.
Denominal deponents fall into several classes. Verbs derived from agent nouns or nouns of professions with the meaning "act like x" tend to be nonactive and may or may not take accusative objects. Flobert (1975: 66) calls these *prédicatifs*, 'predicative', as they seem to identify the subject of the derived verb with the base. These are almost exclusively 1st conjugation verbs.

Table 16. “Predicative” denominal deponents in Cicero & Livy

arbitror	‘observe, witness’ (+acc)	*arbiter*	‘witness’
(h)ariolor	‘foretell, prophesy’ (itr.)	*hariolus*	‘prophet’
bacchor	‘celebrate the festival of Bacchus; to act like the Bacchae’ (itr.)	*Bacchus, Baccae*	Bacchus, Bacchantes
comitor	‘act as an attend; follow’ (+dat & acc.)	*comes, comit-*	‘attendant, follower’
fūror	‘steal’ (+acc.)	*fūr*	‘thief’
interpretor	‘explain’ (+acc)	*interpres, -pret-)*	‘intermediary’
philosophor	‘act like a philosopher, be philosophical’ (itr.)	*philosophus*	‘philosopher’

Verbs in which the base is not identified with the subject of the derived verb (*situatifs*, Flobert 1975: 66) take different meanings, mostly “give x”, “make x”, “get x”, and “use x” (Xu et al. 2007: 138). Some examples are given in table 17.

Table 17. “Situative” denominal deponents in Cicero & Livy

frūmentor	‘fetch corn’ (itr.)	*frūmentum*	‘corn’
lucror	‘gain, acquire, profit from’ (+ gen.)	*lucrum*	‘profit’
māchinor	‘contrive, design’ (+ acc.)	*māchina*	‘contraption, engine’
minor	‘threaten with, make threats against’ (+ dat. & acc.)	*minae*	‘threats’
moderor	‘set bounds, moderate’ (+ dat.)	*modus*	‘measure, bound’
mōlior	‘undertake; work, toil’ (+ acc.)	*mōlēs*	‘toil, labor’
nūgor	‘talk nonsense’ (itr.)	*nūgae*	‘nonsense, jests’
ōsculor	‘kiss’ (+ acc., also reciprocal)	*ōsculum*	‘kiss’
piscor	‘to fish’ (itr.)	*piscis*	‘fish’
precor	‘say prayers; beg, plead (for)’ (+ dat., acc)	*prex, prec-*	‘prayer, request’
recordor	‘remember, recall’ (+acc.)	*cor, cord-*	‘heart’
speculor	‘spy out, explore’	*specula*	‘look-out post’

This class is not restricted to a particular stem type, although the 1st conjugation once again dominates. Moreover, some of these appear to be agentive by the now familiar diagnostics (e.g., agent nouns *māchinātor* ‘inventor, designer’, *mōlītor* ‘framer, contriver’, *nūgātor* ‘joker’, *piscātor* ‘fisher’, *speculātor ‘spy*, look-out’), so they qualify as genuine mismatch verbs, while the predicative verbs in Table 16 seem to start out as non-agentive intransitives and only acquire transitive and agentive syntax in the course of their historical development (e.g., post-classical agent nouns like *fūrātor* ‘thief’ and *medicātor* ‘physician’). This suggests that deponency “in the narrow sense” cross-cuts the distinction between primary verbs, deverbal, denominal, and deadjectival verbs, as suggested by the corpus study of Zombolou & Alexiadou (2014) as well.

4 Conclusion

The debate about the classification and analysis of deponency in Latin goes back to antiquity. The present article has focused on the behavior of agentive, transitive verbs with passive (nonactive) morphology in Latin and argued that this should be considered the core class in which deponent behavior, i.e., a genuine mismatch between morphological form (nonactive) and syntactic function/argument structure (agentive) is detectable in Latin and languages with a similar voice system. Crucially, in order to detect and define this mismatch it was necessary to closely investigate the synchronic distribution of active vs. nonactive morphology in Latin and determine the canonical functions of these contexts, as well as the behavior of deponent verbs in the nonfinite system (section 1).This has enabled us to establish that it is not the lack of an alternation between active or nonactive endings that renders deponents special, nor the

apparent defectiveness (in terms of lack of syntactically passive forms), but the interaction of their non-canonical argument structure properties with the canonical realization of nonactive morphology.

We have seen that the theoretical approaches to and definitions of deponency vary greatly depending on the role these factors are assumed to play. We have compared very narrow, language-specific definitions that apply only to a particular language with approaches that attempt to define verbal deponency related to voice morphology across similar languages and approaches that attempt an even broader definition that includes mismatches between form and function also in the nominal and adjectival domain across a variety of genetically unrelated languages. These latter approaches have the disadvantage of being unable to distinguish between cross-linguistically stable aspects of deponency and phenomena that may receive a language-specific or independent explanation. In particular, we have seen in section 3 that language-specific morphosyntactic criteria are necessary to establish synchronic mismatch behavior and argued that Latin deponents are noncanonical agentive verbs. While the diagnostics proposed here are necessarily to some extent language-specific, the idea that verbal deponency arises due to the interaction of a lexical idiosyncrasy (a diachronically reanalyzed noncanonical agent in certain verbs, in this case) with regular and general mechanisms of morphological realization of verbal inflectional morphology is in principle generalizable beyond Latin and may provide a fruitful avenue for future research on argument structure/morphology mismatches in the verbal domain.

A number of questions remain. The closer study of Latin-style deponency outside of Indo-European languages is an urgent desideratum (Tuite 2002, Bobaljik 2007, and Good 2007 provide some starting points), as is the interaction between deponency and stem-forming morphology briefly mentioned at the end of section 1.2 (cf. Grestenberger 2014b). The question of the preservation of deponent behavior in the nonfinite domain discussed in section 1.4 also deserves further scrutiny. Finally, whether Latin-style deponency can and should be systematically distinguished from other types of argument structure/transitivity mismatches remains an open question (again, see Bobaljik 2007 on this issue). However, it is important to stress that these questions can only be meaningfully addressed once simplistic accounts of deponency as “mapping error” are abandoned.

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