‘Day’ and ‘night’ in Latin

*The formation of temporal adjectives and adverbs*

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Abstract

Although Latin is rich in vocabulary items for time, the history of their formation is not always clear. The adjectives and adverbs related to ‘day’ and ‘night’—*diurnus* ‘of the day’ / *dius* ‘by day’ and *nocturnus* ‘of the night’ / *nox* ‘by night’—are such cases and have not yet received fully satisfactory morphological explanations, particularly as to the -r- of the adjectives and the word-final sibilant of the adverbs, from either a Latin or an Indo-European perspective. Building upon traditional views, this paper offers a fresh approach to these forms. The results will then be applied to another temporal adjective, *mēnstruus* ‘of a month’, to clarify its phonological and morphological peculiarities.

Keywords

Latin – time – locative – day – night – month

1 Introduction

Every language has a certain number of words whose meanings are related to time. Latin is so rich in such vocabulary that we come across numerous examples in reading Roman literary works. Yet despite the familiarity of this category, the formation of these words is not always transparent, even if many of their morphological components originate in Proto-Indo-European. This paper will focus on several adjectives and adverbs that have to do with ‘day’ and ‘night’—in particular, *diurnus* ‘of the day’ / *dius* ‘by day’ and *nocturnus* ‘of the night’ / *nox* ‘by night’—and illustrate from both Latin and Indo-European perspectives...
how these forms were created (§§ 2–3). Finally, I also reexamine mēnstruus ‘of a month’ in light of these new analyses and treat some phonological and morphological issues particular to this form (§ 4).

2 The adjectives diurnus and nocturnus

The Latin adjectives for ‘day’ and ‘night’ end in the same suffix or suffix-like element -urnus, respectively diurnus ‘of the day’ [Pl.+] and nocturnus ‘of the night’ [Naev., Pl.+]¹. It has long been debated which one of these forms first appeared in the Latin vocabulary and then caused the other to be created analogically. From this perspective, there are two possibilities, namely, (α) diurnus → nocturnus and (β) nocturnus → diurnus (“→” means ‘triggers’). While de Vaan claims at one point (2008: 417 s.v. nox) that “[n]octurnus follows diurnus ‘daily’ …” (= α), elsewhere (2008: 173 s.v. diū) he argues that “[t]he adj. diurnus has probably adopted -urnus from nocturnus ‘by night’” (= β). As another option (γ), diurnus and nocturnus might have been formed at the same historical stage and coexisted since then.

In any case, either diurnus or nocturnus (or both) seems to be based on an Indo-European er-locative in view of their r-segment; cf. *yēt-er as the basis of Gk. ἐ(ρ)ὲτηρος ‘having … (number of) years’ [Hom.+] (see, e.g., Rau 2007: 285–291; Vine 2009a: 211, 219; Dunkel 2014: 1, 162–167).² In other words, at least one of our forms is a delocatival adjective (cf., e.g., Nussbaum 2004: 5; Nikolaev 2009) derived with the suffix *-no-. This formation is supported by a similar pattern found in derivation from i-locatives, as with Lat. vernus ‘vernal’ (< loc. *yērī + -no- [à la Nussbaum, cited by de Vaan 2008: 664 as one option]) and Gk. ἐαρι-νός ‘id.’ (< loc. ἔαρ ἐν ‘in spring’).³ According to Leumann (1977: 321), Gk. ἐαρι-νός was reanalyzed as ἐαρι-νός, whence the suffix -ινο- has become common for adjectives of time, e.g., ἡμερινός ‘of day’ [Ion.-Att.] (for ἥμαρ and/or ἡμέρα ‘day’) and ὀπωρινός [Hom.+] ‘at the time of late summer’ (for ὀπώρα ‘end of summer’).

¹ Diuturnus ‘lasting for a long time’, not attested before Cicero and Varro, is most likely a new form resulting from the contamination of diūtinus ‘id.’ and diurnus (see Ernout & Meillet 1985: 177).
² The interpretation of the first component of Ved. uṣar-bǔdh- ‘waking at dawn’ as a PIE er-locative (see, e.g., Nussbaum 1986: 189–190, 235–237; Rau 2007: 289–290; Dunkel 2014: 1, 165), long supported by many scholars, is questioned by Lundquist (2015), who argues that the form is an Indo-Iranian creation.
Lat. *hībernus* ‘of winter’ (< *hei̯brino* - < *hei̯mrino* -⁴ see de Vaan 2008: 285 and, more recently, Onishi 2018 for phonological details regarding the consonant cluster) can thus be traced back to *ĝhejm-er* (i.e., er-loc.)⁵ + -ino- (see Weiss 2020: 177 n. 28 and 311 contra Szemerényi 1959), though probably to be posited as a Transponat (see Onishi 2018: 203, 214 n. 24) in view of the absence of cognates that would justify its reconstruction for PIE (cf. Gk. χειμερινός [Hdt.+] in contrast to χειμέριος [Hom.+]).

If *diurnus* and *nocturnus* came into being contemporaneously (= γ), there would be no need to think about the direction of analogy (either α or β). However, our data seems to indicate that one of these two adjectives was in fact the model for the other.

### 2.1 *diurnus* → *nocturnus?*

Weiss (2020: 311) reconstructs *diurnus* as *dii̯u-r-ino* - (based on the (e)r-loc. of *d(i)i̯eu̯- ‘day’, subject to Lindeman’s Law) and takes *nocturnus* to have been analogically created (i.e., noct- + -urno-).⁶ The question then arises as to whether there is any evidence for the (e)r-locative *dii̯u-(e)r* or the like other than *diurnus* itself. In support of this formation (as one of the “-er-Adverbien”), Dunkel (2014: i, 164) cites forms in Vedic such as *anye-dyúr* ‘another day’, *ubhaya-dyúr* ‘on both days’, *púrve-dyúr* ‘the day before’, and *apare-dyúr/uttare-dyúr* ‘the day after’ [AV+]. However, this association is only indirect: no simplex form like †dyúr (vel sim.) is attested. Note, too, that the Vedic forms are first attested only in AV texts (i.e. no RV forms in *-dyúr*), which may signal their late creation (see Walde & Hofmann 1: 360). There is also another issue: Dunkel (see also 2014: ii, 80) regards their final -r, attested in the actual texts, not as a sandhi outcome of -s (the traditional view) but rather as the original sound. He argues that PIE adverbial *-s*—his interpretation of this segment (discussed below in § 3.2.2.3)—does not attach to nouns. Yet there are numerous *einzelsprachlich* cases in which nouns come to have *-s* at word end, as shown in Dunkel (2014: 1, 170–172), particularly in Greek (e.g., γνύξ ‘with bent knee’). According to this line of reasoning, the -r of the post-RV forms can merely be a sandhi variant of -s.

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⁴ It has often been suggested that *hei̯brino* went through an intermediate stage *hei̯br̥no-* with a secondary *-r* (via syncope of *-i*) that later developed into -er-. (Weiss 2020: 133, 177). For the phonetic details behind this scenario, see Nishimura (2011a: 24–31).

⁵ Cf. the corresponding en-locative *ĝhejm-en* ‘in winter’ > YV héman ‘id.’ (Nussbaum 1986: 52 n. 11; Friedman 2003: 2).

⁶ Szemerényi (1959: 113) supports the same direction of analogy (see also Leukart 1987: 359 n. 49), although the details of his scenario are completely different (and ungrounded).
Let us address the issue of the (e)r-locative from a different angle. The root that underlies *dei̯- ‘day’ (see EWAia 1: 752; Rau 2010: 313–318; cf. Dunkel 2014: 11, 139, 143 [as adjectival root]), to which an en-locative was directly formed (Nussbaum 2004: 7–8; Rau 2007: 289; Nikolaev 2009: 467; Vine 2009a: 212). This en-locative *di-én- (not *diu̯-én-) in turn served as the basis for a new n-stem *di-n- ‘day’ as in OCS dьнь ‘id.’, Ved. suðína- ‘bright’, and Latin nūndinum ‘period from one market day to the next’; for a parallel, cf. *kʷsep-en ‘at night’ → *kʷsepén/kʷsepn- ‘night’ > Av. xšapan- ‘night’.7 If, as seems likely, er-locatives were formed directly from the root in the same way as en-locatives, then it is also morphologically unattractive to posit something like *dii̯u̯-(e)r with *-u-intervening between the root and *-(e)r as the historical source of diurnus.

2.2 nocturnus → diurnus?
On the other hand, the reconstruction of an er-locative *nokʷ-t-er (originally to the root √*negʷ; see NIL 2008: 505–507 n. 1) as the derivational basis of nocturnus seems more likely. A trace of this locative can be identified in Gk. νυκτερός ‘nightly’ [trag.+], νυκτερινός ‘id.’ [Ar.+], νυκτερίς ‘bat’ [Od.+], νύκτωρ ‘by night’ [Hes.+] as well as YAv. upa.naxturušu (loc.pl.) ‘bordering on the night’8 and OE nihterne ‘nightly’.9 This leads us to option (β) above, that is, an earlier formation of nocturnus followed by the analogical creation of diurnus (as assumed by Walde & Hofmann 1: 357; Leumann 1977: 322; Ernout & Meillet 1985: 177, 448).

One might claim instead that nocturno- was based on *nokʷtu-r, an (e)r-locative of the u-stem apparently underlying nocțū ‘by night, at night’ [Pl.+] (cf. Leumann 1977: 322).10 However, nocțū may be analogical to důu ‘by day’ [Pl.+] (see Szemerényi 1959: 113 n. 3; Ernout & Meillet 1985: 177; Pinault 2006: 228; Dunkel 2014: 11, 575); in fact, the status of the noun for ‘night’ as a consonant stem in Latin is clear from the comparative evidence (nom.sg. nox, gen.sg. noctis, abl.sg. nocte ≈ Gk. νῆξ, νυκτός, νυκτί: cf. gen.pl. noctium, a secondary

7 Dunkel (2014: 1, 164) presents a different origin of the en-locative, that is, endingless locative + postposition *-én (already suggested by Nussbaum 1986: 290).
8 Gk. νύκτωρ and YAv. upa.naxturušu seem to indicate a backformed r-stem, as pointed out by Rau (2007: 289) and NIL (2008: 505, 507 n. 5). Cf. Leukart (1987: 359–360) for a different view on the creation of νυκτωρ (analogy to collective *āmōr ‘day; by day’).
9 One may instead wish to see an r/n-stem profile behind these derivatives, based on Ved. inst.pl. naktábhīḥ (the second -a- < *-u-); see Benveniste (1935: 10) and Ernout & Meillet (1985: 448). Under this line of reasoning, the underlying derivational basis of the forms would be either the strong r-stem or its endingless locative. Yet since evidence for the weak n-stem is rather limited, it is better to set aside this option.
10 noctua ‘owl’ is most likely a secondary creation from noctū; see Leumann (1977: 278, 303).
3.1 *nokʷt-* + a suffix. (2) An internal derivation from the *er*-locative (cf. Rau 2007: 289–290) may have preceded the external derivation, and this first step could have engendered two different outcomes: (2a) hysterokinetic *nokʷt-ér ~ -r-’ or (2b) amphikinetic *nókʷt-or- (Gk. νύκτωρ) ~ -r-’; in either case, the subsequent external derivation was based on the weak case, that is, *nokʷt-*.

2.3 *diurnus* → *nocturnus* revisited

Based on either (1) or (2) above in § 2.2, the derivational basis of *nocturnus* was *nokʷtr-*.

If the suffix that followed it was *-no-, the process would have been very simple: *nokʷtr-no- > *noctorno- > nocturno-. However, as remarked above (§ 2), *hībernus* ‘of winter’ historically consists of *gʰeĭm-* (er-loc.) and not *-no-, but *-ino-, that is, *gʰeĭm-r-ino- (Transponat) > *heĭbrino- > hiberno-; if one started with †gʰeĭm-t-no- or †gʰeĭm-er-no-, the result would be †hīmurno- or †hīmerno-, respectively. See also Gk. νυκτερινός, though it is attested relatively late [Hdt.+] as mentioned above (see Vine 2009b: 4; Onishi 2018: 203). The *-i- of this *-ino- was most likely a morphological reinforcement of *-e(r)- for more explicit locative marking (cf. pre-Gk. *aus-er-i > Gk. ἕρι ‘early [adv.];’ Lundquist 2014: 95). Therefore, the starting point in our case is most likely *nokʷtr-i(–)no-. Note also that the derivation from a form in *-e(r)- rather than *-e(r)-i apparently proceeds by suffixing not *-no- but *-ó- (e.g., Ved. udrá- ‘otter’, Gk. ὕδρος ‘water snake’ < *ud-r-ó- ← *ud-ér; see Nussbaum 1999: 9; 2004: 5; Friedman 2003: 5), and *nokʷtr-ó- obviously takes us nowhere. However, since the preform *nokʷtr-i(–)no- would not have developed into nocturno- but instead given †nocterno- with e-vocalism as in hībernus, getting to the attested form nocturno- would require an additional step. To this end, it is useful to return to *diurnus* and consider its background.

Even if Ved. *uṣar-ś* ‘at dawn’ does not continue PIE *h₂us(-s)-ér (Lundquist 2015) as mentioned in fn. 2, Ved. loc. *uṣrí may also indicate that the Indo-Iranian locatival suffix *-(a)r- was secondarily followed by *-i-.
The underlying basis of *diurnus is most likely the endingless locative *diū(i)ēu or originally *diū(i)ēu (with vr̥ddhi and involving *-u- as a stem-final consonant this time; cf. § 2.3), which is reflected in *diū ‘by day’. By analogy with *nokʷt-er it may have been extended as an er-locative, something like *diū(i)ēu-er in pre-Latin; this could in turn serve as a derivational basis for *diū(i)u-r-ino-. Alternatively, without positing a secondary er-locative for ‘day’, *nokʷt-r-ino- may have directly affected *diū(i)ēu to form *diū(i)u-r-ino-. In either case, we can easily have *diurno- from *diū(i)u-r-ino- via syncope. This outcome in turn was probably the analogical basis for remaking †nocterno- into nocturno-.14

Taken together, the comparative evidence suggests that an er-locative first emerged for ‘night’ and was then analogically extended to ‘day’. On the other hand, the suffixal shape -urno- first appeared in diurno- ‘of the day’, and later it was extended to the adjective nocturno- ‘of the night’, replacing expected †nocterno-. It is all but certain that the semantic connection between ‘day’ and ‘night’ was a factor in these analogical operations; cf. the lack of change in hībernus ‘of winter’ (→ †hiburnus) and sempiternus ‘everlasting’ [Pl.+] (→ †sempiturnus).

12 Lindsay (1894: 555) suggests the possibility that *diū is analogical to *noctū (cf. § 2.2), but the reconstruction of the former as an endingless locative in PIE is quite straightforward (see Schmidt 1885: 308; Walde & Hofmann 1: 357; Leumann 1977: 357; Nussbaum 1999: 6, 9; NIL 2008: 71, 76 n. 37). Alternatively, as Sihler (1995: 189) claims, *diū can perhaps be reconstructed as *di̯eu̯i, equivalent to Ved. dyávi. This is possible if it was accented like *di̯éu̯; the final *-i would undergo apocope (see also Szemerényi 1959: 113 n. 3; Garnier 2016: 300). However, in light of the secondarily productive use of -i in Vedic, an i-full reconstruction would be unnecessary for Latin; see already Schmidt (1885: 308).

13 As one of the reviewers suggests, the resulting derivative of *diū(i)ēu on the model of *nokʷt-r-ino- would simply be *diū(i)ēu-r-ino-. However, as they also justly point out, it would develop through *diūr(i)no- (monophthongization and syncope) into diurno- (Osthoff’s Law) in the end.

14 The same modification is also posited by Szemerényi (1959: 113), though in the context of an entirely different approach. Another reviewer interestingly suggested that the labial element of the *kʷ or the *kʷt-cluster, if still present, may have been responsible for realizing u-vocalism at the stage of *nokʷt-rino- (< *nokʷt-r-ino-). Although it is not easy to find an exact parallel to test this hypothesis, quater ‘four times’ (< *kʷ(a)trus) may be of some help; despite the -a- later intruding in the *kʷt-cluster, the original configuration of phonemes is quite similar to *nokʷt-r-ino-. The fact that we have not †quatur but quater allows us to set aside the possible effect of labiality.
3 The adverbs *dius* and *nox*

3.1 Preliminary information and genitive interpretations

The two corresponding adverbs for expressing time in Latin, *dius* ‘by day’ [Pl., Titin.] and *nox* ‘by night’ [Lex XII, Enn., Lucil., Pl.], have also drawn much attention among scholars. The length of -*u*- in *dius* (cf. OLD s.v. *diū*: “Also ~ūs”) cannot be confirmed by metrical considerations: in Plautus *Mer*. 862 (*noctu neque dius*), the form stands at verse end; in Titinius *com. 13* (*noctu diusque*), the syllable in question is long by position.

The interpretation of *dius* as an old gen.sg. *diu̯-o/es* (cf. Gk. Δι(ϝ)ός, Ved. *divás*) might be compatible with *diŭs* if the vowel of the genitive ending was lost by syncope. Likewise, *nox* perhaps continues *nokʷt-o/es*, the gen.sg. used as an adverb ‘by night’ (so-called “genitive of time”); cf. Gk. νυκτός, Ved. *aktós* (based on a *u*-stem), Goth. *nahts*, etc. Such a genitive interpretation has been supported by many scholars such as Lindsay (1894: 555) [tentatively]; Sommer (1914: 372); Stolz (1915/1916: 452); Walde & Hofmann (i: 360, ii: 181); Ernout & Meillet (1985: 177) [tentatively]; and de Vaan (2008: 228). The allegedly reconstructed forms should instead have ended up as †*divu/is* (= *diu̯-o/es*) and †*noctu/is* (= *nokʷt-o/es*) via vowel reduction (see Nishimura 2010: 228–230 for details).

As an alternative interpretation for *dius*, one might start with a gen.sg. *diu̯-o/es* ending specifically in *-os* and envisage a historical scenario like *diu̯-o/es > *di-o'es > diis* (cf. Nussbaum 1999: 5, 7–8) with glide loss before the back vowel as in, e.g., *parum* ‘too little (n. indecl. / adv.)’ < *parom* < *paryom* (cf. *parvus* ‘small, little’ without *u*-loss),

16 *deus* ‘god’ < *deµ-0* (cf. *divus* ‘id.’), and *oleum* ‘olive-oil’ < *elei̯u̯o* < *elai̯u̯o* ← Gk. ἔλαιον (cf. *olīvum* ‘id.’). However, the selection of *-os* instead of *-es* as gen.sg. ending cannot be the first choice for Latin, as *-os* is only marginally found in the language (cf. *nationv* ‘nationis’, birth of a child17 / *diovo* in *CIL* i² 650 [Praeneste], *partvs* ‘partis’ / *castorvs* [theonym] in *CIL* i² 582 [Bantia], and *cerervs* [theonym] in *CIL* i² 677 [Capua]). One could argue that the preservation of the less frequent *-os* would have been

15 For the attestations of *nox*, see Lindsay (1894: 555) and Watkins (1965: 351). *Pernox* ‘continuing throughout the night’ (adj./adv.) [Verg.+] seems to be a relatively new formation.

16 It could rather be *paryom > *paryum (vowel reduction) > *par(y)um = parum (u-loss triggered by the phonological constraint on /$u̯uC$_0/; see Nishimura 2019b: 200–201 and, for its phonetic background, Onishi 2019).

17 See Nishimura (2019: 199) for a semantic analysis of the form.
favored in a marginal and synchronically unanalyzable adverb such as *dius. And yet a form related to *dius, namely *herī ‘yesterday’, may reduce the likelihood of such view; according to Schindler (1977: 34) and Vine (2009a: 215), it continues *g̱h-ji̯és (< *g̱h1-ji̯-és or < *g̱h1oh1 ḏ-és [with phonological reduction by “chunking”; Hackstein 2014: 43] ← gen.sg. *ḏ-és),18 where not *-os but *-es was selected as a case marker in the first place. Since the genitive interpretation thus falls short of a full account of *dius, its implications for the length of the vowel in this word—that is, whether *diús or *diúṣ—must remain uncertain. This issue will briefly be addressed below in § 3.2.1.

Nox has also been provided with another genitive interpretation, for which Hittite nekuz /nekʷ-t-s/ (attested in the collocation nekuz mēhu ‘at the time of evening’) provides support. Schindler (1967) interprets the form as gen.sg.,19 a view followed by many scholars, e.g., Rieken (1999: 84); Pinault (2006: 226–228); Kloekhorst (2008: 602); Hoffner & Melchert (2008: 121 n. 204); Vijūnas (2009: 39 and passim); Meier-Brügger (2010: 351). Meiser (1998: 139) thus suggests that the adv. nox was originally gen.sg. used as a temporal expression (i.e. nox < *nokʷt-s < *nogʰʷt-s [or *nogʰʷt-s per LIV 2001: 449 and n. 1]). Yet could such an old genitive have survived in Latin in this way? Note that the adverbial use of the genitive is “otherwise unknown to the Latin grammar” (Watkins 1965: 353).

Again, *herī ‘yesterday’, though it seems to have originated in a genitive case, did not remain unchanged, but was extended by the locative ending *-eji̯. Further, in light of the aforementioned genitive forms used as adverbs like Gk. νυκτός, Ved. aktós, and Goth. nahts, variously innovated in each language, it seems less likely that Latin managed to retain an old genitive only in an adverb alongside the new form, namely noctis (cf. Hitt. nekuz, fossilized vis-à-vis a more common, different lexeme for ‘night’, i.e., išpant-).

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18 Lipp (2009: 11, 189–198) posits *ḏgẖ-ji̯és ‘in der Tageshelle’ with the comparative suffix in the (endingless) loc., but his view (including the root *ḏh(e)g̱h-) is rejected by Hackstein (2014: 36–38). Kroonen (2013: 176), though basing his analysis on the same root *ḏh(e)g̱h-, at least accepts the genitive formation for the forms in Latin and elsewhere. Dunkel (2014: 11, 266–270), on the other hand, posits *g̱hes- as a ‘Grundpartikel’ meaning ‘yesterday’ and assumes herī (adv.) to have been *[s]ecundār lokativisiert.” If his interpretation is correct, the adjective ‘of yesterday’ in Latin would simply be † hernus (< *heri-no-) like vernus ‘vernal’ (see § 2). In light of the actual form hesternus containing the comparative suffix (see § 4), the semantics involved in ‘(of) yesterday’ seem to be more complicated.

19 Cf. Watkins (1965: 354–355), who then regarded nox as nom.sg. by referring to A. Fleck-eisen’s take on fors ‘by chance’.
3.2 diūs
How then should we approach the historical background of diūs and nox? As will become clear below, it is diūs that will offer crucial hints for a better understanding of both forms. Therefore, we will first focus on diūs, then turn to nox in the following section (§ 3.3).

3.2.1 Semantics and morphology
The ambiguous vowel length of diūs, mentioned in § 3.1, might turn our attention to a related compound in a collocation, that is, nudiius tertius (or quartus, sextus) ‘it is the third (fourth, sixth) day since’ [Pl., Caecil.+]. In view of the juxtaposed nom.sg. tertius ‘third’ etc., nudiius is best understood to be in agreement with the adjective (see Stolz 1915/1916: 448 with earlier references;IEW 1959: 185; Watkins 1965: 357; Nussbaum 1999: 5; Pinault 2006: 228). In this light, we can posit the following scenario: (*o-d(i)i̯eu̯s? >) *o-d(i)i̯eu̯s > nu-diūs (cf. diēs, analogical to acc.sg. *diēm by Stang’s Law), in which the length of -ū- is highly likely (thus Dunkel 2014: 11, 577). However, this analysis does not necessarily prove the length of the vowel in the self-standing adverb diūs, because the form lacks such a syntactic diagnostic as nudiius tertius.

We thus need to approach the problem from a different angle. To this end, it is worth mentioning another composite form varying between interdiū and interdiūs; although interdiū is more frequent than interdiūs, the latter competes with the former in terms of antiquity: 6× interdiūs vs. 0× interdiū in Plautus and 1× interdiūs vs. 0× interdiū in Terence (but cf. 1× interdiūs vs. 4× interdiū in Cato). Note that these forms, though prefixed by inter-, are often glossed ‘by day’ just as diūs, suggesting a historical relationship among them; therefore, the final vowel of interdiūs as well as diūs may be long like interdiū unless some phonological or morphological factor later changed the length. In view of the shape of interdiū, a connection with diū ‘by day’ would immediately emerge. What motivated the prefixation of inter- was most likely the semantic ambiguity of diū, which also means ‘for a long time’ (cf. OLD with two separate entries for these meanings), perhaps secondarily (← *all day long’ ← ‘by day’).

20 Lindner’s “nudius” (2002: 35) is metrically impossible (see Pl. Cur. 17, Truc. 91). With regard to vedivs [CIL I 1439] (cited in EW/a ia 1: 751 s.v. dyāv~), a deity probably identified with Vēiovis/Vēdiōvis [Var.+], a nom.sg. interpretation is also possible for its component -divs (thus -diūvs < *-d(i)i̯eu̯s), though this is only tentative.

21 Or it may have originated from a dvandva compound like Ved. divē-dīve, dyāvī-dyāvi ‘every day’ and semantically evolved into ‘for a long time’ with formal simplification (see Walde & Hofmann: 357; NIL 2008: 76 n. 37). Yet at least regarding the scenario *djęu-dięu- > *dięui- > diū suggested by Dunkel (2014: 11, 140 n. 10), this is hard to support from a phonological standpoint. Ernout & Meillet (1985: 177), on the other hand, suggest a con-
polysemy thus engendered may have caused a heavier semantic load, which
was alleviated by a formal distinction, namely the presence/absence of inter-
‘during’. Hence, the characterized form was able to retain its original tempo-
ral meaning ‘by day, during the daylight’; the prefix thus seems to function as a
sort of “prop”. The same morphological process may have been analogically
adopted by diūs to derive interdiūs, though they remain synonymous (and their
final *-s still needs to be clarified; see § 3.2.2). This scenario would well explain
the fact that diūs is less common than the explicitly marked form interdiūs, as
Lindsay (1894: 555) points out.

In this regard, the Vedic forms, such as anye-dyús ‘another day’, ubhaya-dyús
‘on both days’, pūrve-dyús ‘the day before’, and apare-dyús/uttare-dyús ‘the day
after’ (cited as o-dyūr in § 2.1; here we follow not Dunkel 2014 but the traditional
view) are quite different, in that their first members clearly specify certain days
(and are thus not merely a “prop”). Another semantic discrepancy is that
while the Vedic examples concern days or dates, Latin interdiūs has to do with
daytime. Therefore, the claim of Walde & Hofmann (i: 360) that the connection
between Vedic o-dyús and Latin interdiūs cannot be maintained seems to be on
the right track.

3.2.2 More on morphology
Based on what precedes, Latin (interdiūs/diūs) and Vedic (o-dyus and some
other forms cited below) most likely illustrate parallel innovations. In other
words, the same morphological components were independently utilized in
the two languages. Now it is time to highlight the historical background of the
-s of these forms.

3.2.2.1 An s-stem relic?
According to Lindsay (1894: 555), interdiūs and diūs are “suffixless” (i.e. lack-
ing an inflectional suffix = endingless) locatives like Ved. sa-dívás ‘at once’ and
pūrve-dyús ‘early in the morning’, Jones (1913: 436), cited by EWAia (ii: 694),
argues that the second member of sa-dívás ‘at once’ as well as sa-dyás ‘on the
same day’ is probably based on an s-stem loc.sg. Note that while o-dyús of the

22 perdiūs ‘all day long’ [Gell, Apul. ], semantically akin to interdiūs, is most likely a secondary
form based on pernox ‘all night long’ [Verg.+] (cf. n. 15); see Ernout & Meillet (1985: 177).
23 Cf. also OCS dždž ‘rain, bad weather’ (nom.sg.), which probably continues *dus-djú- (see
24 And if the final vowel of interdiūs is long, a phonological dissimilarity between this Latin
form and the Vedic compounds would also emerge.
latter seems to have been built upon the root *dei- (see EWAia 11: 694). *-dīwas of the former looks like a derivative of the suffixed stem *dei-u-, with the following suffix (*-as < *-es) in full grade in both cases. *-dīus is perhaps a reflex of this suffixed *dei-u- in zero grade like *-dīwas, although the suffix that comes after it is not in full grade (i.e., *-s). Recall, however, that *-es(-) is a primary suffix in PIE (see Macdonell 1916: 256; Fortson 2010: 125) and thus immediately follows a root in principle (except for some probably secondary cases like the *-n-os-type, e.g., Lat. mūnus ‘function, task’ < *mōj-n-os). Probably for this reason, EWAia (1: 752) states: “Fraglich ist das Alter des von div- abgeleiteten -s-Stammes, auf dem angeblich divasa-m. ‘Himmel, Tag (ep. +)’ beruht ...” In other words, if stems derived from both *dei- and *dei-u- exist, the one from the latter cannot be as old as that from the former (see also NIL 2008: 72, 78), and it is less likely that the more recent derivative is utilized in marginal forms. Further, particularly regarding *-dyús, AiGr (1930: 42) does not endorse in the first place the idea that it continues an endingless locative.

Taken all together, Vedic sa-dīvas may be an old gen.sg. instead, as already proposed by Stolz (1915/1916: 451). Sa-dīyas, on the other hand, could be an endingless locative of the s-stem to the bare root *dei-; it can also be a gen.sg., as suggested by Vine (2008: 17; 2009a: 215; 2010: 126) and Hackstein (2014: 42–43), which seems to be likelier in light once again of *gh-diēs ‘yesterday’ (← gen.sg. *di-ēs). Based on these analyses, the s-stem interpretation of Latin inter-diū̆s/diū̆s must be regarded as uncertain.

3.2.2.2 A case form?

Stolz (1915/1916: 453) sees an old genitive(-ablative) in Ved. *-dyús and Lat. (inter)diū̆s as in Ved. sa-dīvas. However, such an interpretation is not unproblematic particularly for Latin, as discussed above in § 3.1.
3.2.2.3 *-s as an adverbial formant

We now turn to another option, which seems far better than the others just reviewed. Macdonell (1916: 212) compares Vedic *-dyús with multiplicative adverbs that end in -s, e.g., Ved. dvís ‘twice’ (Lat. bis), trís ‘three times’ (Lat. ter < *tris), etc. To account for this morphological element, Dunkel (2000: 17–18) calls attention to adverbs of direction and manner such as Gk. ἀψ ‘backwards; again’ and Lat. ex ‘from; in consequence of’. In his framework, it is from this category that *-s was extended to other adverbs, including multiplicative adverbs.28

In fact, such adverbs seem to imply more than one opportunity or time slot involved in an event (and also spatial multiplicity as with Gk. ἀμφίς ‘on both sides, apart’).

Vine (2010: 128–137) refers to this *-s in his discussion of Lat. aliās ‘at another time’. As he suggests (2010: 130), the stem *alīo- ‘another’ may semantically have to do with the system of numerals that literally enumerate the number of events or occasions. The repetitive expression aliās . . . aliās . . . ‘at one time . . . at another time’ also involves more than one incident (Vine 2010: 130–131), e.g., Varro R.R. 2.1.15: in emptione alias stipulandum sanum esse, alias e sano pecore, aliás neutrum ‘... in a purchase [of cattle] it is sometimes to be stipulated that the animal is sound, sometimes that it is from a sound flock, while at other times neither stipulation is made’ (tr. Hooper & Ash 1935: 321). Returning to the Vedic forms in *-dyús, we immediately notice that they also designate one or two out of a sequence of days.29

What about the meanings ‘by day’ and ‘by night’? When used independently, each of them would refer to a separate time span. However, they may be juxtaposed with each other (whether explicitly in a collocation or implicitly in context) in order to contrastively enumerate time periods like aliās (i.e., ‘by day’ ↔ ‘by night’). We have already seen such cases from Plautus and Titinius cited in § 3.1. The following examples are also suggestive:

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28 He further proposes that this segment resulted via metanalysis from *-skʷe (< √*sekʷ- ‘accompany’, e.g., Lat. üsque ‘all the way’ < *udskʷe [cf. Ved. úd ‘out’]; Dunkel 2000: 18); namely, *-skʷe was falsely divided into *-s-kʷe (Dunkel 2000: 19–20, 27). His analysis is now presented in greater detail in Dunkel (2014: 1, 167–173).

29 The morphological status of *-dyú- before -s is still not clear (bare stem in zero grade?). If PIE *-s has continued to be used independently in the daughter languages, as it appears, *-dyú- may be an inner-Vedic creation.
Pl. Asin. 598–600:

Audin hunc opera ut largus est nocturna? nunc enim esse negotiosum interdias videlicet Solonom, leges ut conscribat, quibus se populus teneat. gerrae!

‘Can you hear how he’s generous with his nightshift? Now in daytime our Solon is of course busy writing the laws the people should keep. Non-sense!’

tr. de Melo 2011: 207

Pl. Aul. 71–73:

nescio pol quae illunc hominem intemperia tenent: pervigilat noctes totas, tum autem interdias quasi claudus sutor domi sedet totos dies.

‘I just don't know what sort of delusions hold that man in their grip. He stays up entire nights and then, in daytime, he sits at home like some lame cobbler for entire days.’

tr. de Melo 2011: 265

Ter. Ad. 530–531:

hisce opera ut data sit? :: quae non data sit? non potest fieri. :: potest. interdias; sed si hic pernocto, causae quid dicam, Syre?

‘Can’t you say you were giving them some help? :: When I wasn’t? It can’t be done. :: Yes it can. :: During the day, yes. But if I spend the night here, what reason can I give, Syrus?’

tr. Brown 2006: 284

Gell. 17.10.11:

... interdias fumare Aetnam, noctu flammigare.

‘... Aetna in the daytime sends forth smoke and at night fire.’

tr. Rolfe 1952: 243
In these cases, *interdiūs* fits well with the above interpretation of *-s* as an adverbia! marker of opposition in terms of time sequence.

Given its intermediate status as neither a case ending nor a primary suffix, this *-s* may be employed in a rather flexible manner. See the following, where the s-less *interdiū* is used with *noctū*:

Varro *R.R.* 1.21:

*Canes potius cum dignitate et acres paucos habendum quam multos, quos consuefacias potius noctu vigilare et interdiu clausos dormire.*

‘As to dogs, you should keep a few active ones of good traits rather than a pack, and train them rather to keep watch *at night* and sleep indoors *during the day*.’

tr. Hooper & Ash 1935: 237

### 3.3 nox

The adverb *nox* ‘by night’ most likely came into being in the same fashion; the final *-s* highlights the day/night contrast. Another option, the zero-grade of the s-stem suffix, should be excluded because there is no evidence for such a stem derived from the noun *nokʷt* or the root *negʷ* (see *NIL* 2008: 504–513). The question then arises as to what formation the *-s* was attached to. Ernout & Meillet (1985: 448) interestingly mention the possibility that an endingless locative was involved, though without giving any details. Pinault (2006: 228) more explicitly suggests that the adverb *nox* originated from an old loc.sg. *nokʷ* (cf. Ved. *nákt-*, nom.sg. *nák*), which he assumes to have evolved into *nok* and further been reshaped to *nox* by analogy with the counterpart adverb *diūs* ‘by day’. If the underlying element of *diūs* is truly *diū* (see § 3.2.1), which is also an endingless locative, the morphological parallelism between *diūs* and *nox* would appear, namely, as locatives + *-s*.

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30 Hackstein (2018: 99–100) interprets *aliās* as a variant arisen from *aliā* ‘by another route’, a frozen allative form, via the addition of *-s*. See also the inscri!onal forms *qvandivs* (*CIL* vi 6308), *qvandivs* (*CIL* vi 1301), and *qvandivs* (*CIL* vi 3011) with *-s* (cf. *quamdiū* ‘as long as’). Although these forms might be merely secondary creations analogical to *interdiūs*, it should at least be noted that they are used in funerary texts like *qvandivs vixit* ‘as long as he was alive’, *qvandivs vivo* ‘as long as I am alive’, and *qvandivs vixi* ‘as long as I was alive’; the contrast with posthumous time is clearly implied (the latter two are juxtaposed with *post morte* ‘after [my] death’ and *mors intervenit* ‘death intervened’, respectively).
As Pinault states, *diū̆s could have been the model for *nox, but independent creation is also possible. In either case, we stress that the day/night contrast can underlie many speech settings, whether explicitly or implicitly, that concern when things happen, and this fact may have favored the addition of *-s.

To return to Pl. *Asin. 598–600 (cf. § 3.2.2.3), which immediately follows the line spoken by a different person *nox, si voles, manebo 'I'll stay at night if you want me to' (tr. de Melo 2011: 207), the adverb *nox here is used contrastively with *nunc (i.e., in the daytime, as understood from the context) in the immediately preceding utterance of another speaker.

4 mēnstruus, etc.

What we have seen leads us to reexamine another form in the vocabulary of temporal expressions, that is, *mēnstruus ‘of a month’. It is first attested only in a relatively recent period (since Varro), but in view of related forms such as *mēnstrualīs ‘lasting for a month’ [Pl.+], trimē̆(n)stris ‘(of crops) ripening in three months (i.e. spring-sown)’ [Cato+], intermēstris ‘interlunar’ [Cato, Var.] (~ *intermēnstruus ‘id.’ [Cic., Plin.]), it is most likely that the morphological basis *mēnstr- already existed in an early stage of Latin.

Leumann (1977: 303) explains the historical background of *mēnstruus as follows: *men(s)-tero- with the comparative suffix *-tero- (see also Szemerényi 1959: 116 n. 4) >> *men(s)-tr-e/o/ou̯o- (analogical to annuus ‘annual’). However, there is no semantic reason for assuming a formation with the comparative suffix, unlike hesternus ‘of yesterday’ (in contrast to ‘of today’ and ‘of tomorrow’).

Hesternus continues *hes-tr-ino- (for *hes-tr-, cf. Goth. *gistra-dagis ‘tomorrow (!)’, Eng. yester-day, and possibly Toch. *ksär ‘early morning’; Dunkel 2014: 11, 268), where *-tr-, the zero grade of *-tero-, serves as an “oppositional suffix” (Weiss 2020: 311) and takes deictic function, that is, ’of the day on that side (in the past)’, ‘neither today nor tomorrow’.

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31 See also Varro *L.L. 6.86–87 (including notctu ‘by night’ vs. ubi lucet ‘when it is dawn’), discussed in detail by Dupraz (2018: 43–51 and n. 54).

32 With regard to the variation of word-internal -ns- ~ -s-, cf. *monestrum > mōnstrum ‘portent’ [Pl., Lucil.+] vs. Mōstellāria ‘a play about ghosts’ [title of one of Plautus’ comedies]. If the -n- of the former is a result of phonological restoration (see Meiser 1998: 117; Nishimura 2011a: 17 n. 31), the same process may have applied to mēnstr-.

33 This was most likely the model for hodiernus ‘of today’ [Cic.+] (~ hodiē ‘today’; Weiss 2020: 311).

34 For the Gothic form (and possibly the Tocharian form), the deictic projection was made toward the future (see Vine 2008: 18).
How then do we interpret the morphology of mēnstruus? Our starting point should be mēnsis ‘month’, which is certainly the basis of the derivative. According to F. Burroni apud Höfler (2015: 224 n. 12), mēnsis was a gen.sg. in origin (gen. of time, i.e., *‘während des Monats’), reconstructed as *meh₁-n-s-o/es, which developed through *mēns-es into the attested form; this result was secondarily used as nom.sg. as well. Since the vowel, part of the genitive ending, still remains (though weakened to -i-) before -s in mēnsis, Burroni’s interpretation is highly plausible.

Recall that the adverbial use of a genitive case for temporal expression is fully obsolete in Latin. In the case of herī̆ ‘yesterday’ (see §§ 3.1 and 3.2.2.1), it seems that the old genitive was recharacterized by the locative ending. Note also that old case forms, particularly locatives, were suffixed (especially with *-no-) to become adnominal adjectives, as discussed in § 2. In this light, it would not be far-fetched to assume the same process for the word ‘month’, and the following scenario can thus be conceived: *meh₁-n-s-o/es > *mēns-es (genitive of time) + *-e/o/o- (analogical to annuus) > *mēnseruo- (rhotacism) > *mēnsruo-(syncope).

The question then arises as to how *mēnsruo- obtained the -t- of the attested form mēnstruus. The process perhaps looks like a haphazard change; thus, for instance, Sihler (1995: 215) judges sē-mēnstris ‘half-yearly’, likewise with -t- and clearly related to mēnsis, a “stray” form. However, we can pin down a similar phonological development in the history of Latin. In contrast to its masculine counterpart *tond-tor > tōnsor ‘barber’ [Pl.+] the feminine tōnstrīx [Pl., Mart.] shows epenthesis of -t- between -s- and -r-, which is explicable within the historical process *tond-trīx (see Sihler 1995: 202) > *tōns(s)rīx >

35 Rieken (2001: 77–78) posits a historical scenario, followed by Vine (2009a: 219), in which gen.sg. *meh₁-n-és ‘in dem Zeitraum’ (gen. of time) of an n-stem was reinterpreted as an endingless locative and secondarily used as the basis for an amphikinetic s-stem, i.e., *mēh₁-n-os ~ *m(e)h₁-n-s-’ . *meh₁-n-s-o/es above is most likely a reflex of its genitive case.

36 Thus, as Ernout & Meillet (1985: 398) and Weiss (2020: 334) suggest, the i-stem-like appearance here is only secondary.

37 Based on its later development, it follows that the sr-sequence did not yet exist at the time of the change *-sr > -br- as in fūnebris ‘funerary’ (< *founes-ris; see Weiss 2020: 177).

38 One might claim tōnstrīx to be a “repaired” form, i.e., tōns- (part of the masculine counterpart) + the feminine agent suffix -trīx in its original shape. Note, however, that while the Oscan masculine title keenzstur (~kenzur) ‘censor’ is recharacterized with -t- of the masculine agent suffix -tur, the Paelignian priestess titles sacaracirix/pristafalacirix < *-trīks (consonantal change followed by anaptyxis) remain dissimilar from their original state.

39 Alternatively, the masculine tōns(o)r- may have secondarily taken on the feminine suffix -r- as an inner-Latin formation, i.e., *tōnsrīx (A. Yates, p.c.). This option would also support t-epenthesis.
tōnstrīx. The preform *mēnsruo- meets exactly the same phonological conditions to trigger an epenthetic consonant -t-.

5 Conclusion

Most of this paper has been devoted to elucidating the morphological formation of temporal terms with meanings related to ‘day’ and ‘night’. We first dealt with the adjectives diurnus ‘of the day’ and nocturnus ‘of the night’. The origin of the -r- of these forms was our concern, as both of them looked like derivatives of er-locatives. However, by examining the morphology of both adjectives and other related forms in IE languages, it emerges that nocturnus had chronological priority as a derivative from the (e)r-locative for ‘night’ (i.e., *nokw-r-); the -r- of diurnus was thus analogical. On the other hand, with regard to the u-vocalism of -urnus, diurnus (< *di(i̯)u-r-ino-) played the pivotal role. The conglomerate suffix -urno- thus replaced †nocterno- (< *nokw-r-i(--)no-) by nocturno- (§ 2).

We then proceeded to the formation of the corresponding adverbs (inter)diū̆s ‘by day’ (probably with -ū-) and nox ‘by night’. Their interpretation as temporal genitives or endingless locatives of s-stems was judged to be unlikely. By comparing forms like Ved. dvís ‘twice’, Lat. bis ‘id.’, and aliās ‘at another time’, whose final -s seems to imply the occurrence of more than one event in a certain time sequence, we proposed that the -s of (inter)diū̆s and nox shows the same function, particularly when the notions ‘by day’ and ‘by night’ are juxtaposed with each other (§ 3).

Finally, our attention was drawn to another word of temporal meaning, mēnstruus ‘of a month’. This form is most likely a derivative from *mēns-es ‘month’ (genitive of time) via the suffix *-e/o/y- (analogical to annuus), which evolved through *mēnseruo- into *mēnsruo-. Based on the comparison of tōnsor ‘barber’ and its feminine form tōnstrīx, the consonant cluster *-sr- seems to have developed an epenthetic -t-. In this light, it is highly likely that *mēnsruo- also underwent the same phonological change to end up as mēnstruus (§ 4).

40 Regarding the change of T + T followed by -r-, e.g., *rād-trom > rāstrum ‘mattock’ and *rōd-trom > rōstrum ‘beak’ (see Sommer & Pfister 1977: 181), Weiss (2020: 189) tentatively assumes that T + T first became -ss- as with passus (< *pat-o-; cf. patior ‘suffer’), was then simplified as -s- after a heavy syllable, and finally obtained an epenthetic -t- before the following -r-. Although it is also possible in theory that the first T became s and the second T was unchanged, the unitary treatment T + T > -ss- regardless of whether or not it was followed by -r- would be more economical, and our mēnstruus can be explained in the same framework.
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