VERTICAL SCALES IN TEMPORAL SUB CONSTRUCTIONS

by

ERIK JOSEPH KNIGHTON

Submitted in partial fulfillment of the requirements for the degree of

Master of Arts

Cognitive Linguistics

CASE WESTERN RESERVE UNIVERSITY

August, 2014
CASE WESTERN RESERVE UNIVERSITY
SCHOOL OF GRADUATE STUDIES

We hereby approve the thesis of

Erik Joseph Knighton

candidate for the degree of Masters of Arts*.

Committee Chair
Mark Turner

Committee Member
Florin Berindeanu

Committee Member
Vera Tobin

Committee Member
Todd Oakley

Date of Defense
April 17, 2014

*We also certify that written approval has been obtained for any proprietary material contained therein.
LIST OF TABLES

Table 1: *Occurrences of sub* 1
LIST OF FIGURES

Figure 1: *Literal Spatial* sub 11
Figure 2: *Abstract Spatial* sub 13
Figure 3: *Peripheral* sub 17
Figure 4: *Temporal* sub 24
Vertical Scales in Temporal *sub* Constructions

Abstract

by

ERIK JOSEPH KNIGHTON

Latin authors of the classical period used *sub* rarely and purposefully in a temporal construction like a polarity item with the dichotomous nouns *nox* and *lux* to convey the relative quantity of atmospheric light at dusk and dawn, implying a scale at its minimum value within an absolute frame of reference. This construction comes out of the spatial semantics of *sub* as “under” through a manipulation of metaphor, directional mappings from vertical to horizontal axes, and up-down and center-periphery image schemata. Beginning with the embodied experience of the sky as “above”, projections onto topological features such a mountains allows for negative and inceptive uses of *sub* for pragmatic scalar construal and implicature.
1. INTRODUCTION

This study examines twenty-four usage events of *sub nocte(m)* and nine of *sub luce(m)* from Julius Caesar to Valerius Flaccus in order to show that Latin writers, in the period of about 100 BCE to 100 CE, understood the preposition *sub* to behave much like a negative polarity item – that is, as a lexical item only capable of introducing a dichotomous pragmatic scale at its minimum value. The metaphorical abstraction of space into a model of time will then prove to be a gateway for the polysemous expansion of *sub*’s semantic frame, as well as for cognition concerning spatial and the temporal situatedness of the embodied Roman mind during this time period. Table 1 shows in which texts these examples appear, ordered chronologically.\(^1\)

<table>
<thead>
<tr>
<th>c. 100 BCE</th>
<th>sub +</th>
<th>nocte</th>
<th>noctem</th>
<th>luce</th>
<th>lucem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caes. BC.</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>BG.</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td>Verg. Aen.</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Georg.</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>Ecl.</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Hor. Carm.</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Sat.</td>
<td>–</td>
<td>2</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ars</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Liv. AUC.</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Ov. Met.</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Luc. BC.</td>
<td>3</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Val. Flacc. Arg.</td>
<td>5</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

**TOTAL** 16 8 4 5

Table 1 *Occurrences of sub*
Before tackling these examples a few definitions are in order. Firstly, pragmatic scales are used by Fauconnier with superlatives to show that within a language system speakers can infer a scale as with the phrase "Any noise bothers my uncle" (1975: 354). The superlative *any* establishes a quantified scale of least to greatest noise, whereby the speaker can make known that the uncle is sensitive to the entirety of the scale by implying its lower bound, hence a scalar implicature. Therefore, if *sub* were a true polarity item – according to Israel (2011, 2004) it cannot be negative because it only appears in an affirmative context – it would evoke scalarity much like Fauconnier's "any" or "least" examples.

Negation in polarity, aside from explicit lexical operators such as "no" and "not", is fundamentally linked to how we conceptualize opposites as having inherent (often vertical) scales. For verticality, there is a plethora of metaphorical schemata to draw from because of an archetypal scale wherein things that are "up" are functional, greater and superior, and things that are "down" are worthless, lesser and inferior. Although *sub* itself is not functioning with true negation or in a truly polarizing manner, the dichotomy of *nox* and *lux* has greater implications for such inherently polarized conceptualizations in the Latin mind that will be worth recalling.

An examination of the semantic polysemy of *sub*, and its pragmatic dimensions, is important because the temporal construction has traditionally been difficult to translate, and because it does not appear to persist in modern languages – though the modern incarnations of *nox* and *lux* do appear in use spatially with their Romance *sub* counterpart – it must have been born of some understanding that is no longer accessible. This investigation has greater implications for other prepositions in the Latin language that suffer from an identity complex over polysemy versus abstraction from the spatial to
temporal domains, wherein image schemata, force dynamics, and implicatures can shed light on their function within a language that is fixed, a corpus that is severely limited, and a history of prescriptive grammar that relies too heavily on denotation and lexicalization. The merging of classics and the cognitive sciences is nascent, and because access to native speakers is impossible, the groundwork provided by centuries of linguistic philosophy and philology must influence all aspects of the research.

However, this paper, built from a framework of construction grammar within cognitive linguistics, is descriptive, and is an attempt to tease out the nuances of meaning in light of a somewhat static discipline. As such, many sources are respected authorities in the classical tradition, and considered timeless in their static forms, and others are publications that are reinventing the institution of linguistics because of the breakthroughs in embodiment, which seem to transcend time. I hope that this paper inspires other classicists to investigate cognition in Latin and ancient Greek as living languages, and to adapt modern research into a methodology for achieving an accurate and dynamic view of the corpus.
2. SUB'S SPATIAL CHARACTERISTICS

It is valuable to begin with a cursory exploration of the etymology of sub, which on its own is fairly straightforward. The OLD says of sub's primary meaning "A (w. abl.). 1 (Denoting a position lower than or beneath something) Under. b under the surface of (earth, water, etc.). c under, i.e. inside (an external part of the body or sim.); under (a covering, etc.). d to a position under." and variations for its polysemous extensions follow suit. DeVaan (2009) gives "'under, below; reaching from below, up to' [prep, pref. + acc.(movement), + abl. (position)]", with a simpler etymology beginning with "PIE *(hi)upo 'up, from below'" and converging with what other language is of most direct concern to this paper, the "[Greek] ὑπο, ὑπό 'under, below". Lastly, Butler (1823) has this to say: "It implies contingency and inferiority, when applied to place; proximity within, or not exceeding, a certain limit, when applied to time." Taken together, there is a clear image of what sub can do, and the most important factor is that it maintains a strict upwards directionality, that it is only "under" because there is something overhead, and only "below" with respect to some other object within its immediate frame of reference. The differences in meaning between its use with different cases are worth noting too, because of the implications of movement versus stasis.

Sub belongs to a class of prepositions that can take either the accusative or ablative case as their object. Case syncretism originally allowed the more-versatile ablative (for 3rd declension nouns, with the genitive and dative the morphological models for 1st and 2nd declensions) to assume the role of the typically-separate locative case (Bennett 1907:206-208), just as the accusative may have taken on properties of an allative case as a natural
extension of its principle role as direct object (Coleman 1991:325). It is when looking at this specific construction – where the spatial meaning has been abstracted so that it can function as a temporal clause – that the distinction between the opposite horizontal directionalities from the inherited locative qualities of these two cases becomes moot; i.e. the source of the ablative and the goal of the accusative do not persist with these primitive utilities.

During the reformation of Latin morphology in the medieval period, the accusative assimilated the ablative in accordance with the hierarchy of oblique cases (Blake 2004:33), and although there are constructions in the sampled authors which retain an absolute division of meaning in use with other prepositions, the construction in question not only is too scattered in its use, but overall so infrequent that any choice of one case over another can be attributed to the author’s style or transcription error. It would therefore be inaccurate, and irresponsible, to attempt to glean any significance from comparing or analyzing correlative trends in frequency between the cases when the difference in meaning between sub nocte (“at nightfall”) and sub noctem (“approaching night”) is unreliable in the Latin. Furthermore, there has been research conducted on the insignificance of semantic distinction in prepositional object cases which ultimately determined the archaism and semantic bleaching of the ablative (Luraghi 1985).

That sub is infrequently used to introduce temporal events has led to an idiomatic definition of sub nocte and sub luce as times of “twilight.” Allen & Greenough (§ 221.22.1.a) say "Idiomatically: sub noctem, towards night; sub lucem, near daylight" whereas the OLD gives a separate definition for uses with the ablative of "(in a temporal sense) Immediately before, at the approach of"; but with the accusative: "until, up to". It
would seem that these denotations have to do with *sub*’s implicit semantics of upward verticality and directionality as in the English “sunrise” (as is fitting with its etymology). Translations that choose to read *sub* as “prior to” by manipulating the implied vertical axis are really conflating and taking advantage of existing horizontal spatial arrangements where the subject is peripheral to and at the lower edge of its taller object (cf. Luraghi 2003 on Greek ὑπό).

A metaphorical conception of time as linear, in which EVENTS ARE OBJECTS (cf. Lakoff and Johnson 2000) and THE FUTURE IS IN FRONT OF EGO (cf. Núñez and Sweetser 2006), permits “in front of an object” to become “previous to an event”. For the Latin speaker these mappings exist, primarily in a front-to-back or up-and-down alignments where asymmetrical directions – the anterior and superior – point towards the future, just as in English (Bettini 1995, reprinted in this volume). Because an author can access these metaphorical mappings, *sub* can utilize the image schematics in either an intrinsic or absolute frame of reference (cf. Dodge and Lakoff 2005). Intrinsic frames rely on the inherent characteristics of the landmark for the action of the trajector, whereas absolute frames involve referential knowns like the horizon as a fixed point for the rising and setting of the sun, or the sky, or other fixed and reliable elements of the cyclic day. In an absolute frame, the trajector also does not need to be lexically explicit when the landmark is operating temporally. This is particularly important because research suggests that prepositions in their spatial senses are incapable of being polarity items, and therefore less likely to introduce scales linguistically (Israel 2003).

Before discussing the pragmatics and scalar implicature of *sub* within this construction, some speculation provided by dissecting the temporal nouns in question, *nox* and *lux*, is in
order. That both terms are used in the temporal *sub* construction may be telling of their original meanings as opposites, especially with regard to the Julian obsession with segmenting and demarcating the march of time. During Julius Caesar's reign, he instituted a reformation of the Numa Pompilius calendar, cementing the modern system of twelve quasi-lunar months, leap year intercalation in February (with the exception of the 400-year millennial intercalation of Pope Gregory XIII), the new year beginning in January, etc. (Rupke 2011; Kamm 2008:207-208) because of the disarray of keeping time across the growing empire. The hours of the day had been demarcated according to solar instruments like sundials, having been adopted from Greek astronomers and architects. Though Caesar did not have to enact the same reformation for the daily cycle as he did the year, other highlights of his career, like his writing style (Schlicher 1936), did permeate throughout Rome. His narratives, being the earliest examples in the corpus, are therefore noteworthy for setting precedence for these constructions, especially with *sub luce* which, unlike *sub nocte* and *sub monte*, has no discernible Greek equivalents. This may be because the Greek λευκός does not have the same semantic range as the Latin, with perhaps φῶς (φάος) filling that gap.\(^7\)

Though of no immediate semantic consequence, their morphological structure is also very similar.\(^8\) The class of monosyllables ending in -x/-ks is small, and it seems as though the distinction is made between their genitive forms, *nox* becomes *noctis*, and *lux, lucis* (cf. the Greek forms νύξ, νυκτός and λευκός, λευκοῦ) which reveals a variance in their morphology and Greek origins as a noun and adjective respectively. It would also be unproductive to contrast their meaning or form with the Latin *dies* (“day”), derived from an Indo-European root with the basic meaning “sky” (cf. de Vaan 2008: 170, who gives the
derivation as “PIt. acc. sg. *dijēm (Lat. diem) < PIE *di(ī)eu-m ‘(god of the) sky’, with di-analogically from gen. sg *diwos”), and cognate with words such as deus, divine, Jove, Jupiter, and Zeus (cf. Watkins (2000) who gives "dyeu- To shine (and in many derivatives, 'sky, heaven, god'); I.1. Jove from Latin Iovis; I.3. Vocative compound dyeu-pater, 'O father Jove,' Jupiter, from Latin Iuppiter, Iūpiter; I.4. Dione, Zeus, from Greek Zeus (genitive Dios < Diwos)""). Tellingly, sub die does not appear in use by the same authors as sub nocte or luce; it appears twice in Pliny the Elder’s Natural History⁹, and once each in Quintilian¹⁰, Suetonius¹¹, and Seneca¹².

The decision to focus on the parallels between nox and lux is similarly because of their opposition, grounded in their etymology as “darkness” and “light”. Instead of nox as “night” contrasting with dies "day”, it is more applicable and accurate to focus on lux as its antonym pairing. Briefly, de Vaan (2008: 416-417) details the Grecian-derivative etymology for nox as "PIE *nógwh-t-s [nom.sg.], *négwh-t-s [gen.sg.] 'night'; Gr. νύξ (νύκτ-) 'night' (< *nokwhs)" and for lux, "PIE *leuk- 'light'; Gr. λευκός 'clear, light', λεύσσω 'to see" (355-356). What is most interesting, and of most direct importance to the current research, is that nox be identified not as the abstraction "night" but as "darkness" in its etymologic origins. Sihler (1995) says, concerning its transition into both Hittite and Tocharian B, that their "meaning at least supports the theory that the real meaning of PIE *nº/okwh-t- to have been 'evening', not 'night', with the further implication that the root *nekw- originally meant something like 'get dark.'" Such a polysemous branch of nox must include this verbal force as an extension of its abstraction from a perceptible phenomenon to a temporal understanding.
Such temporal usages of *nox* and *lux* to denote “night” and “day”, respectively, are likely abstractions of their original meanings: i.e., their meaning shifted from simply adjectival dark and light to the periods of time when the sky is dark and light. The development of their semantics is due in part to an increased frequency of adverbial use that no longer required redundant modifiers like *tempus* to be understood as referencing “time”.\(^\text{13}\) Likewise, *lux*'s original adjectival meaning as "bright" applied to an object over time became useful on its own as the implied object.\(^\text{14}\) Similarly, without the need for the genitive *solis* it retained its meaning as occurring in the period of time during which the sun, the primary heavenly body, a universal temporal constant and an archetype of luminosity, is indeed casting its light upon the world and is the chief source of illumination.

Perhaps, though impossible to determine, *nox* and *lux* originally referenced “black” and “white” objects respectively, losing some of that purity and duality in a semantic bleaching through higher-frequency use.\(^\text{15}\) Thus, if “black” became “dark” and “white” became “light”, they would prove to have had a greater semantic bond in the distant past. More recently, though, a metonymic extension occurred where is concerned, and “dark” becomes useful in referencing the period of time where “darkness” is the primary characteristic, i.e. “night”. That “light” becomes “day” is not so easily established, but *lux* is often used by classical authors to be synonymous with “sunlight”, which need not be further explained as “daytime” to maintain its link to that temporal domain, especially when “lightness” is the essential quality of the daytime hours.

Often, the spatial definition of *sub* retains its semantic force when paired with these temporal nouns, and the metonymy of “darkness” for “night time” is replaced by a similar metonymy of “night sky”. The etymologic origins of *nox* allow for it to paint the sky dark
at night without needing to repeat "sky" or "at night," as it can stand in for other words that are more explicitly "darkness" (picked up again in example (3)). In English, 'under cover of night' is the closest comparable phrasing. Vergil makes use of this global spatial relation when describing the bedtime behaviors of those without roofs. It is clear that in its most concrete (spatial) sense, sub neither implicates a scale, nor is it inherently polar. A reader would not infer from the quality of the night that it had an inherent quantity, nor would they need to calculate the hierarchy of nox's location as above in relation to the speaker because here "night" and "sky" are synonymous like the conceptualized fixtures of the Grecian heavenly spheres, or the Biblical firmament.

(1)

a. quaeque aspera dumis / rura tenent, somno positae sub nocte silenti. (Verg. Aen. 4.525)

Whoever holds the countryside, harsh with brambles, put to sleep under a silent night.

b. huc dona sacerdos / cum tulit et caesarum ovium sub nocte silenti / pellibus incubuit stratis somnosque petivit. (Verg. Aen. 7.85)

When the priests brought gifts here, and they rested under a silent night on beds made from the hides of shorn sheep and sought sleep.

The spatial quality of sub is not unique for its conflation with temporal phenomena because of the fundamental observation that the sky is up, and that it is darkened throughout the night. If a speaker finds himself standing under a sunny sky, he could describe himself spatially as sub luce, existing under that light; on the other hand, sub nocte, under a sky devoid of light as in (1). However, he would never say, as evidenced by its previously
mentioned absence in the corpus, that his position in time and space is sub die, as such a place is not so abstractly or temporally mobile. Because the examples in (1) feature a concrete and punctual arrangement of people settling down for the duration of a calm and quiet night, there is no need to argue for the scalability of nocte. In fact, most translations read sub as if Vergil had intended to write per or in for durative effect. Construing sub as if it were per is especially fitting because “night” here is acting as a container with the implication that the trajectors experience an uneventful “quiet” (silenti) period of rest throughout the whole night. Because the flow of time is secondary to the placement of the physical objects, the literalness of sub as “under” is organized as in Figure 1, where the arrow indicates the directionality of viewpoint from a trajector (TR) to the landmark (LM).18

\[
\begin{array}{c}
\text{LM} \\
\text{TR}
\end{array}
\]

Figure 1  Literal Spatial sub

Translating sub nocte silenti as dusk is an unwarranted abstraction, because treating sub nocte independently of silenti with an event structure that signals the oncoming night would not be as salient to a Latin speaker as the whole of night being a container: i.e. a period of time for rest. Generally the two times of day where the lightness or darkness of the sky overtakes the other are subject to special definitions, and typically have their own specific lexical entries (the Greek-borrowed vespera “evening” and aurora “daybreak”, or the antonyms sero “late in the evening” and mane “early in the morning,”). These twilight hours are so marked because they signal a temporal shift more readily experiential than mid-afternoon, or midnight. A speaker of Latin might make a declaration that he is at a
time where the sun is directly overhead, *sub luce solis*, but that is an abstraction more convoluted than *meridianus*, or other such colloquial mid-day idioms. The division of the solar cycle into segments compartmentalizes the passing of time into manageable, easily referenced chunks like those on a sundial (a material anchor discussed in Fauconnier and Turner 2002). Vitruvius is the extant source on ancient sundials, and book nine of his work, *De Architectura*, (written ca. 15 BCE for Augustus) describes the superficial principles concerned with making sundials from a limited astronomical knowledge (Evans 1998: 132-135). In writing his treatises, Vitruvius shed light on how the sun actually establishes the time of day, and why – even though it was an observable phenomenon – the hours were shorter in winter and longer in summer, and why sunrise and sunset were the constants by which noon was determined.

Because Latin has an existing vocabulary for the beginning and end of each day, *sub* seems an unlikely choice among the prepositions available to the native speaker such as *ante, in, post, circa*, and *prope*. The question becomes one of *sub*’s role in this particular construction where its objects are not depictions of the sky, sun, or moon during a length of time, or at a precise time, but at the exact point where there is an equilibrium poised to move in a specific direction. By broadening the scope of *sub*’s spatial sense to describe a relative position at the base of, and next to, a tall object, the vertical blends with the horizontal. When Caesar, in (2) c, says *sub monte*, he is describing his forces’ encampment at the foot of a hill or mountain, where the soldiers’ feet are on the same plane, or grounded, where the mountain begins its ascent. That is to say, to be “under the mountain” is to be in its shadow, gazing up at its peak. This viewpoint arc, an abstract projection of the difference in height between landmark and trajector, establishes a
minimum and maximum vertical value within the intrinsic frame of *monte*, and *sub* introduces the landmark as a lower bound. This situation is illustrated in Figure 2, where the dashed line indicates the center to which the trajector is peripheral, and the solid line represents a projection of the maximum vertical dimension of the landmark so that it is referenced spatially, above the trajector. Though not represented, the viewpoint has its focus at the peak, where the dashed and solid lines meet.

![Figure 2](image)

**Figure 2**  *Abstract Spatial sub*

Caesar does not come to this particular geographic construction on his own, as it was an idiom used by the Greeks, namely in Homer's *Iliad* (2.603) ὑπὸ Κυλλήνης ὄρος αἰπὸ "at the base of the high Cyllene mountain"; Herodotus (8.90.4) κατήμενος ὑπὸ τῷ ὅρει τῷ ἀντίον Σαλαμῖνος τὸ καλέται Αἰγάλεως "he sat at the base of the mountain called Aegaelos, opposite Salamis"; and Thucydides (3.116.1) οἳ ὑπὸ τῇ Ἀἴτνῃ τῷ ὅρει οἰκοδοσίν "[those] who live at the base of Mount Etna". Caesar was considered to be a reformer of historic narrative, and being well-read himself had access to such idiomatic phrases that were perhaps less wordy and poetic than previous attempts.

The relationship is still spatial, but the implication is that the soldiers arrive at the outer boundary of the mountain, at an elevation that is the lowest point compared to its summit. *Sub* therefore is operating as if it were the negative polarity item "least", at the inception of a scale, but only where the semantics show a sufficient abstraction beyond the purely spatial. Because temporal language finds its basis in the language of space, the
abstraction of space in (2) will allow for further abstraction and the inception of a scalar implicature when in the target temporal construction: i.e. these examples provide a stable framework on which the more abstract constructions can grow.

(2)

a. *temere insecuti longius fugientis in locum iniquum progrediuntur et sub montem.* (Caes. BC. 1.45.2)

The soldiers, having pursued their fleeing enemies for so long, followed blindly to a steep place at the base of a mountain.

b. *eodem die ab exploratoribus certior factus hostes sub monte consedisse milia passuum ab ipsius castris octo.* (Caes. BG. 1.21.1)

That same day it was made more certain by his scouts that the enemies had established camp at the base of a mountain, eight thousand paces from his own.

c. *eodem die castra promovit et milibus passuum a Caesaris castris sub monte consedit.* (Caes. BG. 1.48.1)

That same day he moved his camp and reestablished it a thousand paces from Caesar’s camp, at the base of a mountain.

Because *sub*, within its original semantic domain, defines one object’s vertical physical position relative to another, and because something can exist with a tallness in excess of another and still be considered *over* the other without actively being overhead, these vertical affinities become projected onto the horizontal plane as with *sub monte*, where the peak of the hill or mountain is not in a different horizontal plane, but is a center to the peripheral “foot” which has an independent vertical measurement. Whatever
threshold is implied by *sub*, its minimum vertical dimension can also be a reference point beyond which an accumulation of quantity, or a growing, takes place. For instance, there exists the highest quantity of earth beneath one’s feet when at the summit of a mountain.

From the embodied experience of time as an extension of spatial relationships, vertical quantities, and dependent on the movement of celestial bodies, the speaker should not need to rely on *sub* for dawn and dusk, nor on *nox* as night. Flaccus uses these two words creatively without direct reference to time, though it is the subtext.

(3) _vetere sub nocte cupressi / sordidus et multa pallens ferrugine taurus / stabat adhuc._ (Flac. Arg. 1.774)

In the shade of an old cypress a bull, dusty and fading to an iron-grey, was standing.

Example (3) does not immediately imply that the cypress tree is in an oppressive position over the bull, that it is looming and asserting dominance because of its higher elevation. What it does reveal in denotation is a natural order of things, that trees are taller than bulls, made salient by *sub*. The usage of *nocte* is unusual because “night” is not what a cypress tree provides by occluding the sun, and typically *umbra* or *tenebra* would suit this phrasing better. However, the cycle of day and night as a metaphor for the span of a human life must have been available to Latin speakers. Flaccus specifies the agedness of the tree, but instead of calling the bull _vetus taurus_, he instead uses shades of color, the _multa pallens ferrugine_ approaching the saturation of the 'night' of the bull's lifespan. The bull's hide is a reflection of his waning strength, and the choice of _sub_ as the preposition reveals not just a spatial context, but a secondary temporal one. However, because the
abstraction in (3) is based in the *LIFE IS A DAY* metaphor, and does not implicate the same scalar structure as *sub monte* in (2), beyond the generic scalar structure of time.

A vertical arrangement of things where a higher position is a better position can be rotated such that a position in front is the desirable one. This hierarchy shows up in English *suburbs* (Sweetser 2006), where the original denotation of “below the city” (the city proper being centered on the Palatine Hill, where Romulus is said to have founded the city) became “outside the city”, and further abstracted to “excluded from the higher socioeconomic class that resides in the city proper”. The boundaries of the city proper, and the social hierarchy within, were established first by proximity to the Palatine, then the whole of the Seven Hills, then the city walls, with the *suburbs* originally established communities outside the walls but still within the *pomerium*, beyond which was the *ager publicus* or the rural wilderness. The metaphor *CONTROL IS UP* allows for the exclusionary “down and out” meaning of *sub* such that the city, being up, is a body asserting an oppressive dominance over those not included in its established container.

When arrayed around a city the modern English *suburbs* no longer needs to indicate any vertical directionality, having lost the original force of meaning as down and away from the Roman hills, and their defenses (Sweetser 2006). The relationship is instead as in Figure 3, where the landmark is not required to be a tall object, merely at a distance along a horizontal axis. Many of the existing translations for *sub nocte* and *sub luce* oversimplify the *sub monte* model in order to eliminate the vertical dimension because it is not explicit or spatially quantifiable, but this oversight has potential implications for the broader semantics of the preposition, and the abstraction of space and time as correlative and referential in other constructions.
The landmark of sub resides above (as in Figure 3) or at the lower edge (as in Figure 2) of another object as a pressure or an obstacle in the same way that the suburbs’ axial correlation saw something tall as looming and set it above in order to assert force onto the trajector. Perceptually, human eyes are unaccustomed to extreme heights, as evidenced by vertigo and illusory concavity which overwhelm our senses and make it appear as though columns or high walls are leaning towards the observer (cf. the example of the Parthenon in Coren et al. 2003: 5-7). To counteract this visual bending, entasis (a purposeful bending of typically-parallel lines in the supports or edges of a structure) and forced perspective (a manipulation of parallel lines in art to effect the sensation of depth) can be employed in artifice and art to limit the vertiginous aspect of tallness (for the illusion in the architecture of the Parthenon cf. Stevens 1924 and Salmon 2008, and for a study on the simulated effect see Thompson et. al. 2007). However, perception of tallness in nature still suffers from this oppressive optical illusion, which aids in the rotational semantics of sub as both physically “under” and “before” as seen in (3).

Ovid employs sub nocte in a similar spatio-temporal blend, where the night that is approaching takes two semantic roles: that of “darkness” and as a metaphor for loss of sight and senility associated with old age. The metaphor used of the bull in (3) was also available to Ovid: A LIFETIME IS A DAY, as is evidenced elsewhere in his work. There is a natural progression inherent in this poetic metaphor: that old age is twilight, the process of dying is the setting of the sun, and that to be dead is night (Lakoff and Turner 1989). It is
fitting, then, that the *sub* construction be used for transitional hours where death is the threshold. It is also worth noting the use of *natantibus* “swimming” to modify *oculis*, because *sub* taking *aqua* as its object in this manner appears in the corpus for these same authors\(^2\). The imagery is fitting for the figurative sensation of drowning to death.

(4)

a. *at ille / iam moriens, oculis sub nocte natantibus atra / circumspexit Athin.*

(Ov. *Met.* 5.71)

But he, now dying, looked around for Athos with eyes swimming through black night.

b. *perpetuaque trahens inopem sub nocte senectam / Phineus visus erat.* (Ov. *Met.* 7.2)

Phineus, working under a perpetual night appeared weak in his old age.

In each of these examples Ovid provides lexical contextual support to his metaphor, *moriens* (in 4 a) and *senectam* (in 4 b). The former is akin to (3) where the coming night is symbolic of death, and the latter is a not-so-explicit sort of fading into obscurity mirrored in the passive usage of the perceptual verb *visus est*. Ovid also makes sure that the metaphor comes across with *atra* in (4) a, emphatically reinforcing the “darkness” connotation of *nox* and *perpetua* in (4) b, playing off of *trahens* to bring to mind the infinite toil that is Phineus’ punishment. Nevertheless, this extra content is not enough to turn *sub* into a polarity item, and aside from sightedness and lifespan as scales, both with an upper bound of “night”, there does not appear to be any scalar implicature.

A similar example of *sub luce* in Horace is perhaps not so straightforward as (3) and (4), but does reflect, to some degree, the metaphor of life as light rather than what is
obscurum (“dark”), the desire to stay hidden being likened to death. The second haec refers to a woman who wishes others to notice her living, using the same passive perception verb as in (4b), videri. There is no scale here either, and sub operates as in (1), where daylight is a universal constant without the need for contextual clarification. Arguably sub luce has the sense of “from birth”, however due to its use as counterpoint to obscurum – which does not imply duration or inception – there is little justification for such a reading.

(5) haec amat obscurum, volet haec sub luce videri. (Hor. Ars 363)

This one loves the dark, this one wants to be seen in the light.

That the light here is overhead ignores the oppressive qualities of the hierarchical relationship between the sun and the woman. Darkness, on the other hand, is inherently oppressive, as seen in (3) and (4) a, where the strength of the bull and the man wane as their lives run short. Therefore, when an author such as Vergil has need of an expression to convey a great depth where no light can reach – where the prospect is only death and loneliness in darkness – sub nocte is useful. But again, the scales, if any, that are implied in (6) are basic verticality models with earth and sky as boundaries.

(6)

a. ibant obscuri sola sub nocte per umbram, / perque domos Ditis vacuas et inania regna. (Verg. Aen. 6.268)

They went through shadow, hidden and alone at nightfall, as through the empty houses and vacant realms of Pluto.

b. quale per incertam lunam sub luce maligna / est iter in silvis (Verg. Aen. 6.270)
Through what kind of unsettled moon, under what wicked light, is the way through the woods.

c.  *non altius ibis in auras / non meliore loco Stygia sub no...* (Luc. *BC. 7.815*)

You will go no higher into the air, nor lie down in a better place under Stygian darkness.

d.  *inferni qualis sub nocte barathri* (Flac. *Arg. 2.192*)

In the deeper kind of darkness of the abyss.

The examples in (6) are scenes of physical space, dark places where *nox* represents a true absence of light, and *lux* is a real emitter of light. (6) a and b are lines apart in Vergil’s *Aeneid*, and they both depict the closeness characteristic of darkness, that it is *sola* (“lonely”) and it obstructs, the light of the moon (cf. *incertam*). Though all of these elements give an understanding of the events as occurring at night, *sub* does not operate here as a polarity item, nor does it evoke a scale. *Nox* is again a container for the event, and with *lux* is a physical object directly overhead, both as an inclusive element within the container of night and lexically explicit with *lunam*. In (6) c, Lucan employs *altius* when establishing a counterpart to *Stygia sub nocte*: *altus* can be used to modify any noun that is characteristically tall or deep (i.e., an *mons altus* is a very tall mountain, whereas *maria alta* is a deep body of water). Instead of relying on the generic heaven and earth dichotomy, Lucan thus creates a false sense of terrestrial scale with no achievable upper limit and a mythical and similarly unreachable bottom in the underworld. These boundaries on the vertical dimensions of a scalar growth appear in the definition of the adjective as extremes, as quantities that are limited by cognition and language.
Lucan also depicts a scene where the grandeur of the night sky overwhelms the subject’s senses to the point where he imagines the darkness as a literal blanket that light must force itself through in order to illuminate the world. Where we have *qualis* in (6) here we have *quanta*, which suggests that *nocte* should be construed as a mass noun, with meaning “how much darkness” rather than “how much night-time”. The concreteness of “darkness” maintains as well the strict vertical arrangement of landmark and trajector, because it is set up as a barrier between the illuminated sky of daytime and the observer. The speaker on the ground is in the most inferior position, and looking upwards sees the firmament. Because the sun is the trajector, being overhead during the day, and the seeming infinity of stars in the sky do not equal its brilliance, the quantity of "darkness" here can be inferred to be between it and the observer in a vertical arrangement.

(7) \textit{stellasque vagas miratur, et astra / fixa polis vidit quanta sub nocte iaceret / nostra dies. (Luc. BC. 9.10)}

He watched both the wandering stars and the stars fixed to the pole, he saw under how much darkness our day lay.

This example is also telling of the place of humanity as inferior to the heavens, and that Lucan uses *sub* here as though the day is in an inferior place, it is a figurative "behind" that is meant, but "under" in this context holds much more weight as an oppressor that overwhelms the sunlight that is indicative of life and goodness and righteousness.
3. THE CONSTRUCTION IN CONTEXT

So far the examples have been concerned only with spatial relationships and their construals. Even when *nocte* or *luce* are involved, they are typically expressions depicting the sky above, or the dark and oppressive quality of a location hidden from light or sight. That the following examples are temporal is not readily determinable, but the fact that most of them have been translated as “dusk” and “dawn” (the idioms that have been determined, and which are seen in use previously by Greek authors) suggests that the translators inferred a greater amount of abstraction in the construction. It seems as though the meaning was unclear in the act of translating the construction, and so scholars looked to the surrounding text for assistance from context. The translations performed for the purpose of this paper were an emulation of this practice, with as much information gleaned from parallel passages and etymological sources as possible to approximate what the meaning might have been to a native speaker of Latin.

The temporal indicators for the metaphorical fading of life and light as in (3) and (4) can be unpacked from those uses with the aid of surrounding contextual clues; that the fading light is giving rise to darkness. However, the temporal scale does not seem so salient when the usages that first appear in the classical period rely heavily on other lexical contextual elements, especially for *sub luce* which does not have a precedent in Greek like *sub monte* and *sub nocte*. In (8), *sera* provides semantic support to this reading, an ellipsis for *sera hora* denoting a “late hour” of day when light is fading\(^2\). The other translation for *sera* is “long” or “elongated”; some English versions see this in use as modifying *nocte*,

\(^2\)
rather than an adverbial usage. The commentary on (8) is likewise conflicted concerning sera.\textsuperscript{27}

(8) \textit{hinc exaudiri gemitus iraeque leonum / vincla recusantum et sera sub nocte rudentum.} (Verg. Aen. 7.15)

Here are heard clearly the groans and raging of lions, straining against their chains, growing red at the late hour when night falls.

Vergil’s \textit{rudentum} brings to mind the fading aspect of \textit{pallens} in (3), that as the sun set colors turn to red, then seem to desaturate into gradations of shadow and harsh contrast. The setting of the sun implied by \textit{rudentum} acts like \textit{sera} to situate the event at a later hour, before the light has fully faded, and with the amount of darkness at its minimum. Of the examples, this is the most clearly scalar in construal because it takes advantage of attendant circumstance in the form of lexical markers to set up an inception point for night-time. In comparison with “\textit{punctual} and \textit{durative until}” (Israel 2011), \textit{nox} is the landmark and \textit{sub} is operating similarly to that negative polarity item in that it queues a progression of time and darkness into the future, after the established lateness of the hour. Like “\textit{punctual until}”, the points in time for the event of the rest of the sentence treat \textit{nox} as the lower bound on a scale of earliness, meaning that the lions are roaring for the duration of the last hours of daylight, but due to the spatial conflation illustrated by Caesar’s \textit{sub monte} (2) the focus is definitely on the future as midnight from the viewpoint of the lions from outside the container.

Unlike the earliness scale and its inceptive quality in English polarity, and because the day and night appear to be distinct counterparts in the Roman mind (Bunson 2002: 543), a Latin speaker would not necessarily establish a scalar model of time so that \textit{sub}
nocte signified the “end of day” or “late in the day” but instead “at the start of night” or “early in the night”. Concerning the observation of the Roman day, Smith's (1875) entry for dies says "the division of the day most generally observed by the Romans, was that into tempus antemeridianum and pomeridianum," where the meridies was the equivalent of noon. There is an inherent scale where the rising of the sun reaches an upper bound at noon, after which the waning is counting down towards the end of the functional day, which goes back to Homer, e.g. (Il. 21.111) ἔσσεται ἢ ἡδές ἢ δείλη ἢ μέσον ἢμαρ "there will be a dawn, or evening, or midday". Dies and nox have semantic mutually exclusivity as temporal indicators, just as "day" and "night" in English, which is perceptible and ontological, and because the hours of day are useful for normal human activity, the end of the day is a more important limit of which to be aware.

With this model of relative earliness, it makes sense that sub nocte could simultaneously be starting a scale of earliness because of its unique viewpoint. This is illustrated by Figure 4, where the landmark intrinsically has a minimum and maximum, though the maximum is not referenced, and the scale is established because there is a minimum.

As in Figure 2, there is a maintained center-periphery image schema, and a verticality that permits the use of sub in a more spatial sense. However, different from the previous examples, the projection of the peak – here corresponding to “midnight” – is an abstraction which is the upper bound for the flow of time and level of light. Also, because this temporal
model utilizes both the vertical difference in height, and the horizontal distal exclusion of a container as well as the horizontal representation for the flow of time, both axes are compounded by the conception of the construction’s scale. This is somewhat true for the sub monte examples, as one would have to move along an angular trajectory to climb the mountain, but in those examples, the verticality is more salient than the horizontality.

This scalar model, relying on sera to provide temporal context, and which establishes an end-point for a scale of lateness, is picked up again in:

(9)

a. obvius ut sera cum se sub nocte magistris / impingit pecorique pavor. (Flac. Arg. 7.400)

In the way that, at a late hour, when night falls, fear throws itself upon shepherds and their flocks.

b. non ego te sera tales sub nocte videbam / sacra ferens epulasque tibi. (Flac. Arg. 8.95)

I did not see you at that late hour, when night falls, bearing offerings and food for yourself.

The shepherds of (9) a recall the pastoral scenes of sub nocte silenti from (1), but instead of an uneventful night constituting the cause for rest, here it induces panic. This causal relationship where the point at which darkness is perceptible prompts some action is somewhat available to Vergil in (8), but there is no reason other than the reduced noise from the lack of human activity why the lions would take the onset of dusk to decry their captive state so violently. (9) b is more straightforward, however. The event that the subject did not witness (non ego videbam) was to have happened at dusk. Whether or not the end
of the day signaled some ritual, there is still the implication that it was to happen at the onset of night. If there is any precursor to this event structure, it is the *sub lucem* parallel found in:

(10) *partim togati tectis veste gladiis qui sub lucem apertis portis urbes ingrederentur.* (Liv. *AUC.* 9.25.7)

The men in togas, with swords partly concealed by clothes, who at dawn proceeded through the open gates.

The scene is martially motivated, and there is no reason to assume that the *togati* are acting at any time of day other than at dawn. It also, by looking forward from sunrise, implies that the earliness marks an inception not only of the scalar solar cycle, but of the rise in action within the narrative. The invasion of the city had to be made at dawn to take advantage of the open gates and the situation of the city watch. A situation of minimal light, where the defenses of the city are lowered, recalls the use of ὑπὸ νύκτα in Xenophon *Ages. 2.19* αἰσθόμενος δὲ ὑπὸ νύκτα βεβοηθηκότας ἐκ τοῦ Πειραιάου εἰς τὴν πόλιν πασχόδια "perceiving that support had come at nightfall from Peiraeum into the city with haste".

Caesar and Valerius Flaccus in texts with similar martial themes each use *sub luce* as “dawn” landmarks, but as with *sera* in (8) and (9) additional semantic support is needed to convey the appropriate timing for the event: *prima*28. “At first light” is a common English phrase for dawn, and though in (11) a Caesar uses *prima* to modify *vigilia* (“watch”) the reader easily infers that he means *prima vigilia* and *sub lucem* to be subsequent events, with the “first watch” occurring “just before dawn”. Indeed, he uses *sub lucem* earlier to the same effect, but without any added temporal evidence such as *prima*, which suggests that it was not so irregular a convention before his usage.
(11)

a. *ille ex castris prima vigilia egressus prope confecto sub lucem itinere post montem se occultavit.* (Caes. BG. 7.83.7)

He, having left camp at first watch, and with his march near complete by first light, he hid himself behind the mountain.

b. *uno fere tempore sub lucem hostibus nuntiatur in castris Romanorum praeter consuetudinem tumultuari.* (Caes. BG. 7.61.3)

At the same time, at first light, it was announced to the enemies that in the Roman camps was a stirring beyond what was normal.

The only other author who uses *prima* to supplement the meaning of *sub luce* is Valerius Flaccus. (12) a demonstrates that the inceptive scale is not so fixed with *luce* as the landmark, and so when describing the light as causal for the fear overtaking the ship, the author must specify that it is in fact its appearance, at the very point at which it appears, that sets in motion the causation of terror within the scene. The amount of light is minimal, with the implication that it will increase as the day progresses, just as "any" would evoke in this context.

(12)

a. *ecce autem prima volucrem sub luce dehiscens terruit unda ratem.* (Flac. Arg. 2.587)

But look, at first light the waves dividing frightened the winged ship.

b. *‘hic portus’ inquit ‘mihi territat hostis / has acies sub nocte refert’.* (Flac Arg. 2.657)
“This, my port”, he said, “is threatened by our enemies, and at nightfall they return keen”.

In (12) b – a speech which occurs shortly after the events of (12) a in the same chapter – Valerius Flaccus uses tense to organize the flow of events. In the direct discourse territat represents the current context and sub nocte is the point at which the enemies redouble their attack on the harbor. This chain of causation places sub nocte as the beginning point for the new action. Just as in (10), setting the scene at nightfall allows the action of the narrative to build alongside the time of day, with the climax of the event scale as a metaphorical midnight.

Vergil, in one of his two uses of sub lucem, takes advantage of multiple contextual lexemes to cement the meaning of the construction as starting the day. In a mythic frame, he draws on the story of Aurora and Tithonus to emphasize that the goddess’ awakening from slumber signals the start of the day in the same way that sub lucem does. The repetition of aut is commonly used to equate or compare two things, usually alternative options as with the English "either... or" construction, where the one usually excludes the possibility of the other (Allen & Greenough § 324.e.). Here the alternatives are the real-world imagery of sunlight breaking through the darkness and clouds to herald the dawn and the mythical time when Aurora performs her titular duty. The addition of Aurora surget creates a scale of light at daybreak which is more prominent in its action than sub lucem, but their syntactic placement as semantic parallels reinforces the inceptive construal of sub as evoking scalability item in the same way that surget does. Surget – formed by adding the preverb sub, which assumes the form sur before r, with rego "straighten" (cf. rectus "upright") – as an intransitive verb has an upwards mobility, and typifies a sudden rush of
perpendicular motion that has a significant magnitude. Placing such a verb in a syntactically equal spot reveals *sub luce* as having a similar spontaneous event structure, where the last moments of "no light" yields so quickly to "some light" that the exact time of the transition can only be approximated within the language.

(13) *aut ubi sub lucem densa inter nubila sese / diversi rumpent radii aut ubi pallida surget / Tithoni croceum liquens Aurora cubile.* (Verg. Georg. 1.445)

Or when at dawn rays break between thick clouds in different directions, or when pale Aurora rises leaving the golden bed of Tithonus.

The examples in (14), from Horace’s *Satires*, are situated before dark, where the important contextual support is in the form of wine:

(14)

a. *inriguumque mero sub noctem corpus habento* (Hor. Sat. 2.1.9)

And must, at nightfall, have a body filled with wine.

b. *an hic peccat sub noctem qui puer uvam / furtiva mutat strigili?* (Hor. Sat. 2.7.105)

Or does this boy sin who, at nightfall, trades a stolen scraper for grapes?

In (14) a, the wine is *mero* (“undiluted, pure”) and its intended use is to knock out the subject so that he can sleep all night. Enduring a complete night’s sleep is reminiscent of the passages in (1), except in this case *sub nocte* is the point at which the body should be incapacitated by alcohol, implied by the future imperative *habento*. Horace opens the poem in which this line appears by saying he cannot sleep, and that perhaps those who can should find oblivion in a cup full of wine not cut with water. In (14) b, the reading “dusk” perhaps does not suggest itself so readily. The young man who committed the crime did not do so
at night, when dastardly deeds typically are carried out, but his intention is to trade the acquired item as soon as it gets dark so that he can enjoy his drink. The suggestion in these examples is that a state of intoxication should be achieved before night-time becomes too deep and yields to sleep. This interpretation works with the scalar model of *nox* because intoxication is inversely related to the amount of daylight, which is why in (14) the unmixed wine has a purpose of maintaining that level throughout the night. Though the mention of wine is not as solid a contextual support as *sera* for *sub nocte*, it nevertheless adds to the semantic framework of evening and dusk as an appropriate time for drinking and being drunk.

(15) a, b and c involve nautical contexts where *sub nocte* signifies a time to set sail, to make landfall, and a time when the sea begins a period of greater activity. The structure of each event and the context of the narrative all weigh in favor of interpreting *sub nocte* as “dusk”, which is further supported – like the parallels to Caesar's *sub monte* – by the appearance of their equivalents in Greek authors: Herodotus (5.101.3) writes ἐνθεῖτεν δὲ ὑπὸ νύκτα ἀπαλλάσσοντο ἐπὶ τὰς νέας "whence they left to board their ships at nightfall"; Thucydides (2.92.6) writes ὑπὸ νύκτα ἐσέπλευσαν ὡς τὸν κόλπον τὸν Κρισαῖον "at nightfall they sailed towards the Crisean gulf".

(15)

a. *Pompeius sub noctem naves solvit.* (Caes. BC. 1.28.3)

Pompey set sail at nightfall.

b. *cum mare sub noctem tumidis albescere coepit.* (Ov. *Met.* 11.480)

When at nightfall the sea begins to whiten with swells.
c. *et remis aestuque secundo / sub noctem potitur Zanclaea classis harena.*

(Ov. *Met.* 13.729)

And at nightfall the fleet gained the Zanclaean shore with oars and favorable tides.

These events are represented as occurring at times of minimal darkness, when there is an identifiable quantity of darkness that signals the onset of night (i.e. establishing a pragmatic scale at its "least" value in both magnitude and along the linear scale of time), and in (15) a and c the implication is that this time is advantageous for sailors and soldiers alike. (15) b portrays nighttime as characterized by stormy weather unfavorable to sailors. Reduced visibility provides an ideal situation for surprise. These other scales – more/less stormy, more/less visibility – are not so salient, nor necessarily linguistic, but the sentence-level context brings them to mind, even more so when read in the greater context of each work. Compared to examples (10), (11) a, (12) b, and (14) b (evidenced by *peccat*), the twilight hours are a time for upsetting the **UP IS CONTROL** paradigm through stealth and subterfuge. Darkness becomes a prerequisite for stealth, and thus the least-sneaky activity can commence when there is the least darkness. For Latin, the vertical paradigm of lawful order and authority is evidenced by the adjectives *rectus* "upright", *altus* "raised", and *superior* "higher", which were adopted into English with the same semantic force (cf. English *right*, *exalt*, and *superior*). In its preverbial form, *sub* acts to reinforce the lowliness of the action taking place. *Surget* from earlier in example (13) utilized the prefix for origin of the activity of the verb, and therefore does not necessarily retain a negative connotation. *Subdolus*, on the other hand, means "deceitful," and *dolus* on its own can be "crafty" or "something crafted". The negativity of *sub* turns a merely cunning action into a
dishonest one because it occurs from a lower position which, as previously established, is worse.\textsuperscript{30}
4. THE UNASSISTED TEMPORAL CONSTRUCTION

Alongside the previous examples, in which their temporal pragmatics are more easily determined through the aid of contextual clues, other instances of *sub nocte(m)* and *sub luce(m)* appear without any additional attendant circumstance, in what could be considered the construction proper. In what follows, I analyze these in chronological order by author, then by work. Curiously, all of the examples from Caesar, the earliest of these authors, and Valerius Flaccus, the latest, do not use the construction independent of a greater contextual schemata, which seems to support claims about the uniqueness and rarity of this construction. Furthermore, some of these instances have produced conflicting traditions of interpretation, which diverge according to the *sub monte* model of *sub* as horizontal “before” or of *sub* as vertical “under”, particularly when they co-occur with expressions containing prepositions like *per* or *in* or *ad*. Consider, for instance:

(16)

a. *quod surgente die mulsere horisque diurnis, / nocte premunt; quod iam tenebris et sole cadente, / sub lucem exportant calathis.* (Verg. Georg. 3.400)

Starting at sunrise, what they milk during the daylight hours they press at night; which after shadow and the setting of the sun, at first light they send out in baskets.

b. *cum mare sub noctem tumidis albescere coepit.* (Ov. Met. 11.480)

When at nightfall the sea begins to whiten with swells.
c. *quid, quae te pura solum sub nocte canentem / audieram?* (Verg. *Ecl.* 9.40)

What, what pure things did I hear you singing alone at nightfall?

d. *urit atrox Iuno, et sub noctem cura recursat.* (Verg. *Aen.* 1.660)

Fierce Juno burned, and when night fell her cares returned.

e. *una sub nocte iugali.* (Verg. *A.* 10.495)

On their first night of marriage.

Of these examples, the only one that stands out, and is a bit syntactically ill formed is (16) e, where the brevity and semantic density of the phrase opposes a simple interpretation, especially where *sub nocte* is concerned. *Una* brings to mind a singular quantity – and certainly does not normally have an ordinal meaning (thus some translate “one night”, rather than “first night”). However, it is the unfortunate couple’s first *and only* night of marriage, and so *una* succinctly covers both aspects of the event. For *sub nocte*, then, the argument becomes one of duration versus inception. Because tragedy befalls the couple beginning at night, and lasts throughout the night, there is no need to tease out their semantics, just as there was no need to isolate a distinct semantic role for *una*. The other examples are less ambiguous, but it is difficult to render the pragmatics of *sub nocte* as “dusk” without additional wording. In (16) a there seems to be a routine described where *surgente*, as in (13), is synonymous with sunrise, and each segment of the workday into the evening is stated until it comes to *sub lucem*, which mirrors the mythic parallelism of *surget* from (13) to reinforce the meaning as “dawn”. (16) b and c lack immediate contextual clues for meaning, and therefore are more open to construal as scalar. Vergil has established a
meaning for *sub luce* and *nocte*, and thus need not rely on grammatical support to supplement the form or meaning of the construction.

That authors of the classical period no longer depended on contextual clues becomes evident in (17), where, in the Soracte ode, Horace does not need to suggest that lovers’ activities are taking place when the sun goes down, since their rendezvous are supposed to be a secret affair:

(17) *lenesque sub noctem susurri / conposita repetantur hora.* (Hor. Carm. 1.9.19)

And at the agreed hour, when night falls, soft whisperings are resumed.

Ovid, on the other hand, offers an example of a clearly scalar interpretation in (18) a, and a vague hint at custom in (18) b: i.e., when the sun sets, the custom is to part ways unless the actors involved are planning something secret or nefarious.

(18)

a. *ut facibus saepes ardent, quas forte viator / vel nimis admovit vel iam sub luce reliquit.* (Ov. Met. 1.494)

Just as hedges burn, put to torch, which a traveler either by chance too closely approaches or just at the break of dawn leaves behind.

b. *sub noctem dixere ‘vale’.* (Ov. Met. 4.79)

At nightfall they said farewell.

The light cast by the burning of the hedges in (18) a is noticeable when there is no natural light at night. As soon as the sun rises, its light quickly becomes so bright that it overwhelms what little light the burning vegetation can shed, and so a reading of "least" (or “any,” which incepts a scale at its minimum) for *sub* is not farfetched. The onset of day is quick, and the time between first light and full light is a much more accelerated rate than
between morning and noon, which has become apparent in the language used to describe these times of day in both Greek and Latin. Like in the other temporal construction examples *sub* is operating on both a scale of time and, more importantly, brightness. In (18) *sub nocte*, however, is punctual, and can be understood as happening both because, and at the moment of the setting sun. Lucan’s expression in (19) – demonstrating that the construction, while infrequent, persisted in use well into a later period of the language – recalls both the bedtime habits of these examples and the feral characteristics of the caged lions in (8) at the start of night, before it gets too dark but dark enough to provide cover so the *feras* can make their way into the city:

(19) *silvisque feras sub nocte relictis / audaces media posuisse cubilia Roma.* (Luc. BC. 1.555)

And the beasts at nightfall abandon forests to make their beds in Rome.
5. CONCLUSIONS

In this paper, I have shown that *sub* is able, with the proper abstraction of landmark, to establish pragmatic scales, working in much the same way as a polarity item, though it does not quite qualify to be a negative polarity item itself. The Latin nouns *nox* and *lux* operate as counterparts that establish upper bounds to a scale of luminosity, and individually a scale of "darkness" and "lightness" respectively. By utilizing *sub*, which exists as a preposition with upward vertical semantics, the authors of the classical period could implicate these scales at their lowest values, thereby establishing not only a reference to the amount of light or darkness in the sky, but to the times of day where their ratios are set to invert, i.e. "twilight". This scalar implicature was made possible by – and is fundamentally grounded in – the abstraction of vertical difference of constructions like *sub monte* and their Greek equivalents. The construal, being based in translation and English grammatical concepts, is subjective and ultimately unreliable. Also, there is no modern Romance language parallel of this temporal construction (though *sub monte* persists in the French *sous la montagne*, Italian *sotto la montagne*, and Spanish *bajo la montaña*), suggesting that the idiomatic use of *sub* was unpopular, or perhaps a stylized form contained within written Latin that did not translate well, or was clumsy in conversation. Nevertheless, the evidence indicates that *sub* is able to at least introduce a dichotomous ordinal scale at its lowest value, meaning that *sub nocte* would be the time of evening where darkness is just beginning to signal the end of day, and *sub luce* the time of morning where the sun creeps over the horizon to dispel the shadows.
As for implications within the greater framework of the language and discipline, there are unanswered questions concerning whether *sub* can operate with scalar implicature as a preverb that merit investigation. There are questions about the structure of telling time in the classical period that are cognitively important, like the example of artifacts like sundials or architecture based on astronomic observations and the idea of sacred space like demarcating a *templum* or the *pomerium*. Other questions about metaphor and metonymy, about the role of polysemy versus abstraction in the evolution of the Latin language, are worth investigating.

There are even larger questions concerning prepositions and their cognitive workings, some of which are under investigation (cf. Short 2013 on *De*), that might inform how native speakers of Latin mentally organized space and were able to make abstractions into temporal domains. *In* and *per* have implications for container schemas with times of day and night. The organization of linear time can be described by *ante* and *post* from an understanding of embodiment and the physical asymmetry of the human body in a horizontal plane just as *sub* and *super* function for the vertical. The conflations and conceptual blends that occur from those abstractions continue to be useful in English descriptions of time (e.g. AM and PM) and historical event structure (e.g. antebellum). There are many such avenues for retrospection or introspection at this nascent stage, and this paper is a prolegomenon of sorts for this unification of the cognitive and classical institutions.
These excerpts were obtained using the University of Chicago electronic Perseus Project corpus' ngram search. Performing a search with n>1 did not yield any novel examples, nor did searches for nox and lux with other prepositions provide any constructions with similar scalar implicature or construal. Being from the Perseus corpus, each example is pulled from an Oxford Classical Edition text, and each transliteration and translation has been written for the express purposes of this paper. Because the corpus is large but fixed, this method of obtaining a sufficient number of examples should provide a fairly complete view of the semantic and pragmatic range of the construction in context.

Israel's introductory paragraphs (2011: 1-2) give an overview of the up-down scale and its implications. Transverse asymmetry lends humans an innate sense of imbalance within their bodies and their world that is utilized to dictate the directionality of objects and concepts on this scale.

Locatives persist in fixed forms in Classical Latin, describing both temporal and physical situatedness: noctu, diu, domi, ruri

the veracity of etymology in the age of translation is debatable at best according to a pragmatic tradition picked up by Sweetser, 1990

Bettini also says that "Quantitative relations are not admitted in hierarchies of time. One time of day is not greater than another." which seems to strengthen the present argument that nox be a quantifiable "darkness."

On the notions of landmark and trajector, see the Introduction; and more generally, Langacker 2008 . . .

Watkins (2000) says for φῶς/φάος "bhā-1 To shine." and "from Greek phainein, "to bring to light," cause to appear, show"

Allen & Greenough place them in different categories, nox is a mixed i-stem noun (§ 71-72), and lux is relegated to the defective noun category because it is lacking the genitive plural, though it is still a mixed i-stem (§ 103.g.2); Sihler (1995 § 275.1) places both lux and nox (along with their Greek counterparts) in the category "Nomina actionis (feminine) based on verb roots, 'the act of doing (or being) so-and-so' and notes that nox in Latin assumed an i-stem form, as did most adopted feminine root nouns.

cf. Plin. Nat. 19.20, et sub die reeditus; Plin. Nat. 35.36, sub die ludorum Apollinarium

cf. Quint. 8.pr.29 sub diem quae7unt

cf. Suet. Aug. 46.1, sub die comitiorum obsignata Romam mitterent

cf. Sen. Ep. 71.1, Ergo consilium nasci sub diem debet

de Vaan (2008) says of the adverbial forms "The form nox 'at night' is regarded as the remainder of an old gen.sg. *nokʷ-t-es (Leumann 1977: 431), but phonetically more likely is a gen.sg. *nokw-t-s, as Meiser assumes. Pinault 2006a explains nox 'at night' from an old loc.sg. *nokʷi > *nok, which was remade into nox by analogy wih dius 'by day'. He also assumes that noctu and nocturnus presuppose a loc.sg. *nokʷt-eu, which was made at an earlier stage on the example of loc.sg. *dieu 'by day'. Noctua is derived from nox 'night' or noctu 'at night'. Nocturnus follows diurnus 'daily', vesperrnus 'of the evening'"
de Vaan has this to say concerning lux and luna "The base *le/uk-s- is also found in lumen and lustrum (see s.v. lux). It might be derived from the 5-stem *leuk-os-. The word *le/ouk-s-no was probably used as an epithet for the moon in PIE." (2008: 352)

There is no existing etymological evidence that suggests that nox was anything other than "darkness," but there is inconsistency in the words used for "black" in the PIE tradition: niger and ater in Latin, μέλας in Greek.

The OLD says for lux under definition 2 "(spec.) Daylight.; and definition 3 "The light of day (as enabling persons or things to be seen).
The OLD gives "4a. The conditions of night, nocturnal darkness; 5a. Night-like conditions, darkness, gloom"

for an overview of viewpoint in cognitive linguistics see Dancygier and Sweetser, 2012

See Schlicher (1936) on Caesar's style and his increasingly straightforward approach to militaristic reports as historical documents.

Both lux and nox have inherent sight-related semantics. The OLD gives each noun an entry to this effect, and it has been established that lux is etymologically related to visual modalities.

The OLD gives def. 6a. "The light of the sun [...]; hence life." e.g. Ov. Met. 14.132, lux aeterna mihi carituraque fine dabatur; def. 6b. "(as a term of endearment) 'light of my life.'" e.g. Ov. Ars 3.524, 'Lux mea' quaeque solent verba iuvare viros?

Caes. BG 5.18.3, eiusdemque generis sub aqua defixae suedes flumine tegebantur; Ov. Met. 1.301, Mirantur sub aqua lucos urbesque domosque / Nereides; Plin. Nat. 10.3, scandente umbramque suam nanti sub aquam a litore ostendente

The OLD gives for altus "1 Having a great extension upwards, lofty, tall, high.; 6 Situated at a great depth, deep." e.g. Sen. Phaed. 1007, cum subito vastum tonuit ex alto mare; Plin. Nat. 2.106, nives in alto mari non cadere; the OLD also says "10a (of darkness, fog, etc.) Thick, dense, dark. b (of night, etc.) deep, profound, undisturbed, complete."


Georgius Thilo (1881) says "sera sub nocte quasi eo tempore, quo naturali libertate uti consueverunt. sub sera nocte per noctem seram." whereas John Conington (1876) says "On ‘sera sub nocte’ Serv. says, with some imaginative feeling, ‘quasi eo tempore quo naturali libertate uti consueverunt. Pal. has ‘saeva’ for ‘sera.’’"

The OLD gives def. 1b, "(in certain contexts) the morning light. c prima luce (primo luci)" e.g. Caes. BC 1.64.1, Prima luce ex superioribus locis; Liv. AUC 2.59.6, prima luce classico signum profectionis dedit; Verg. G. 2.340, cum praeceps pecudes hausere

Perhaps not coincidentally, aside from subterfuge, English includes other words for such activities that have an implicit minimum verticality within their related etymology: cf., e.g., underhanded and the idiom "under the radar"

BIBLIOGRAPHY


University Press.


