

## Russian, Swedish, and Finnish adpositions meaning ‘under’ and ‘over/across’ in temporal constructions

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### 1. Introduction

This article discusses how the Russian, Swedish, and Finnish adpositions *pod*, *under*, *alla* (‘under’) and *čerez* (‘across/over’), *över*, *yli* (‘over/across’)<sup>1</sup> are used in both temporal and spatial constructions. In Russian and Finnish the adpositions meaning ‘under’ are used in the temporal meaning ‘just before’, while the Swedish adposition has the temporal meaning ‘during’. In Swedish and Finnish the temporal meaning for ‘over/across’ is ‘throughout a whole period of time’, while in Russian it is ‘after a certain period of time’ or ‘every second’. The temporal meaning of Swedish ‘under’ is thus quite different from that of Russian and Finnish, whereas Russian temporal ‘over/across’ does not match the Finnish and Swedish ones. The reason why it is interesting to compare these three languages is that they are areally close, Finnish occupying the mid-position between Swedish in the west and Russian in the east. Moreover, Swedish and Russian are genetically related, belonging to different branches of the Indo-European family of languages (Germanic vs. Slavic), whereas Finnish belongs to the Uralic language family. Yet during its history, Finnish has been in close contact with both Russian and Swedish.

All the adpositions discussed here also have meanings and uses that will not be discussed. The boundaries between their meanings as compared to other adpositions do not coincide, neither in-between these three languages, nor when compared to English, as indicated by the translation ‘over/across’. As pointed out by Filipenko (2000, 47) the English prepositions *over*, *above*, and *across* express a set of meanings in which the Russian prepositions *čerez* (‘across’, ‘over’, ‘through’), *skvoz’* (‘through’), and *nad* (‘over’, ‘above’) are also involved, without,

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<sup>1</sup> For *čerez* the meaning ‘across’ is more prominent than the meaning ‘over’, whereas for *över* and *yli* the meaning ‘over’ is primary, but the meaning ‘across’ is also actualized in the spatial conceptualizations that we will discuss. For sake of simplicity we will use ‘over/across’ in all glosses.



however, complete correspondence between the individual prepositions. The same applies to the Swedish prepositions *över* ('over', 'above', 'across'), *genom* ('through'), and *ovanför* ('above') and the Finnish postpositions *yli* ('over', 'across'), *ylitse* ('over', 'above'); *kautta* ('via', 'through'), *läpi* ('through'), *lävitse* ('through'); *yllä* ('over', 'above'), and *yläpuolella* ('above') in relation to the abovementioned Russian prepositions. It should be noted that the meaning of Russian *čerez* is less related to the vertical dimension<sup>2</sup> than Swedish *över* and Finnish *yli*. Relevant for our investigation of temporal expressions are only the spatial senses where the Russian *čerez*, Swedish *över*, and Finnish *yli* overlap in meanings covered by the English prepositions *over* and *across*.<sup>3</sup> As we will demonstrate, these spatial meanings can be seen as analogues of the temporal meanings of the adpositions *čerez*, *över*, and *yli*.

In philosophy, grammar and linguistics, there is a long tradition of viewing spatial linguistic expressions as more basic than abstract expressions, such as expressions of time. Lyons (1977, 718) calls this idea “the hypothesis of localism”, according to which spatial expressions serve as structural templates for other more abstract expressions. Among the most obvious is the fact that in many, even unrelated, languages, adpositions and other locative expressions tend to also be used in temporal expressions. Temporal expressions are thus considered to be derived from locative expressions, and space is seen as the basis of human cognition, as it is the locus of actual bodily experience. However, even connecting spatial experience to language has turned out to be more complicated than it has been assumed, since space itself is conceptually complex and open to culture-specific meaning ascriptions (Blomberg and Thiering 2016). Thus it is only to be expected that similar or equivalent spatial constructions of different languages could have temporal counterparts that differ in their conceptualizations of time.

Cognitive linguistics recognizes the centrality of human sensory-motor experience for ways of conceptualizing the world, and, for instance, the relation between temporal and spatial expressions has been widely discussed in terms of the TIME IS SPACE metaphor (e.g. Clark 1973; Lakoff and Johnson 1980; 1999, 137–169; Evans 2003; 2013, 169–189; Moore 2014; Viimaranta 2006, 239–270; Yu 1998, 83–139). It has even been claimed that “[v]ery little of our understanding of time is purely temporal. Most of our understanding of time is a metaphorical version of our understanding of motion in space” (Lakoff and Johnson 1999, 139). While horizontal conceptualization of time has been widely studied, the vertical dimension has attracted by far less attention when it comes to both space and time. In addition, very little research can be found on the utilization of vertical spatial metaphors in temporal expressions. The only temporal metaphor that Lakoff and Johnson (1980, 16) mention among vertical dimensional metaphors is FORSEEABLE FUTURE EVENTS ARE UP (and

<sup>2</sup> On the relation of *čerez* to the vertical dimension, see Shull 2003, 54-55.

<sup>3</sup> The spatial meaning of the Finnish adposition *yli* has been studied as compared to the English *over* (T. Salmi 1994) and as one of the adpositions with “path meaning” (e.g. Huumo 2013; Huumo and Lehismets 2011; Lehismets 2013; 2014). The meanings of the adpositions *yli*, *čerez*, and *över* discussed in this article in terms of spatial frames of reference are path meanings (cf. also Shull 2003).

AHEAD), e.g. *All upcoming events are listed in the paper*. The physical basis is said to be that when an object approaches a person (or a person approaches an object), the top of the object appears to be moving upward in the person's field of vision, as the ground is perceived as being fixed. Especially discussions on Chinese have raised the issue of the vertical metaphor, relating it to the Chinese traditional vertical direction of writing that yields an event structure where "up" is earlier and "down" is later, and which is thus different from the horizontal event structures in languages written from left to right (Yu 1998; Boroditsky 2001). Even these results have been questioned on the basis of understanding the vertical axis in different ways (Bender and Beller 2014, 369). Conducting two experiments consisting in card-arranging tasks, Yang and Sun (2016) found that most Mandarin speakers (about 80%) have a horizontal bias for temporal cognition. In English expressions only marginal evidence of vertical spatiotemporal mapping can be found, e.g. "handing down to our descendants" (Galton 2011, 701). Russian, Swedish, and Finnish are all written from left to right and time is basically conceived and encoded linguistically as having a horizontal direction with the future ahead and the past behind. However, as already pointed out, all three languages include temporal constructions that use adpositions that refer or allude to the vertical spatial axis, viz. the planes of "under" and "over".

However, it has also been claimed that the TIME IS SPACE metaphor for many prepositions no longer activates spatial conceptualization (cf. Rice, Dominiek and Vanrespaille 1999). In addition, it has been found that metaphor hardly ever involves straightforward mapping, and that the relationship between the domains of time and space is thus more complex as well. Temporal constructions featuring spatial terms may both inherit features from spatial constructions and differ from prototypical spatial uses (Kuznetsova, Plungian and Rakhilina 2013). Evans (2013, 142) claims that "at an experiential level time and space are wholly distinct, and distinguishable", although at the representational level "time is supported by, and arguably parasitic on spatial representation" (ibid., 143). Evans (ibid., 169) further suggests that conceptual metaphors probably form only part of the story. Borrowing the term from Zinken (2007) but using it in a more inclusive way, Evans proposes the notion of discourse metaphor: metaphors that "arise in the context of language use" which may evolve, become lexicalized and even reanalyzed to signal a semantic function that is different from the original one (ibid., 176–177). Raxilina and Plungjan (2014, 22–23) suggest that some types of temporal metaphorical transfer are quite transparent, while others are less transparent, resulting from a long period of mutual influence of spatial and temporal constructions. In recent years a large number of studies have been devoted to the study of spatial versus temporal cognition in terms of spatial and temporal frames of reference and of the corresponding linguistic expressions (e.g. Evans 2013; for a critical review of approaches, see Bender and Beller 2014).

The research questions that our study seeks to answer are: What spatial conceptualizations, underlying the relation between spatial and temporal frames of reference, can explain temporal uses of the adpositions meaning 'under' and 'over/across' in

Russian, Swedish, and Finnish? What types of temporal lexical units occur in these adpositional temporal constructions? What are the similarities and differences between the Russian and Finnish temporal ‘under’-constructions, and between the Swedish and Finnish temporal ‘over/across’-constructions? Our theoretical point of departure is in approaches discussing spatial and temporal frames of reference and our data comes from searches in the newspaper corpora of the Russian National Corpus (RNC), The Swedish Language Bank, and The Language Bank of Finland. Our investigation thus consists of two parts: 1) an analysis of the temporal constructions under discussion in terms of temporal frames of reference and how they relate to spatial frames of reference; 2) a corpus study of the temporal lexical units occurring in the temporal constructions under discussion. In addition, we compare the constructions that are similar in two of our languages, viz. the Russian and Finnish ‘under’-constructions and the Swedish and Finnish ‘over/across’-constructions.

## 2. Previous literature

This section provides an overview of how the adpositional constructions we are interested in and their productivity are discussed in previous literature. We begin with the Russian preposition *pod*, which has been the object of study in its temporal meanings (Krejdlin 1997, 148–149; Zaliznjak and Šmelëv 1997, 234–235) and their interrelations with spatial meanings (Kuznetsova et al. 2013; Raxilina and Plungjan 2013; 2014). The latter studies discuss and compare spatial and temporal constructions using the preposition *pod*. The temporal construction *pod* + ACC of time unit lexemes is termed “the proximate future construction” with the meaning ‘close to’ and ‘just before’ a time period (Kuznetsova et al. 2013, 303). In the temporal construction only *pod* + ACC is allowed (in the spatial meaning *pod* + ACC indicates direction, while *pod* + INSTR which indicates position). This is one of the space-time asymmetries discussed by Nessel, who contends that “since time is dynamic and the accusative case involves dynamicity, we would expect prepositions that govern this case to be used in temporal constructions” (Nessel 2011, 52). Corpus studies (Kuznetsova et al. 2013; Raxilina and Plungjan 2013; 2014) confirm the restrictions of use mentioned in Krejdlin (1997) and Plungjan and Raxilina (2000) – while *pod utro* (‘toward morning’) and *pod večer* (‘toward evening’) had 1,244 and 1,505 occurrences respectively in the main corpus of the Russian National Corpus (RNC), *pod den* (‘just before the day’) had only eight and *pod noč* (‘toward night’) only 17. The authors argue that just like morning is the boundary between night and day, evening is the boundary between day and night. Raxilina and Plungjan (2014, 42) maintain that the proximate future construction is a marker of relevant temporal boundaries historically attached to the Russian vocabulary. They further claim that the proximate future construction is possible only with time units that are interpreted as endpoints (cf. the very frequent expression *pod konec*-ACC ‘toward the end’ vs. \**pod načalo* ‘toward the beginning’). This puts restrictions on the meanings of the nouns allowed in the construction (Kuznetsova et al. 2013, 304–305; Raxilina and Plungjan 2013, 17; 2014, 43). Although Raxilina and Plungjan (2013, 2014) discuss Christmas and a few other red-letter days (often expressed in the form *den’/ prazdnik* + GEN, e.g. *Den’ Pobedy* ‘Victory Day’), and call them important boundary marks on the time axis, they do not discuss in what sense they are endpoints.

The fact that most temporal constructions differ from the corresponding spatial constructions (cf. the case of *pod* where the instrumental case is possible only in the spatial construction) has made Raxilina and Plungjan (2013, 18–19) argue that instead of keeping space and time together, the linguistic forms of temporal constructions are aimed at demonstrating that space and time are different. They have even questioned the metaphor TIME IS SPACE and proposed that TIME IS TIME (ibid., 19). This tallies with Evans' (2013, 142) contention mentioned above that time and space are wholly distinct at an experiential level. It is worth noticing that the “opposite” of Russian *pod* (‘under, below’), namely *nad* (‘over, above’) takes only the instrumental case and is not at all used in temporal expressions.

The Finnish adposition *alla* is used similarly to Russian *pod* in the temporal meaning ‘right before’, which has not been thoroughly described.<sup>4</sup> It can be found in standard dictionaries of Finnish (NS, PS; s.v. *alla*) as the temporal meaning of the adposition: “right before a public holiday or an event”. The construction is very limited in use, and the same example *joulun alla* ‘right before Christmas’ is repeated everywhere. We have not found any usage-based studies on the use of this construction and very few mentions of it in general. *Iso suomen kielioppi* (‘Big Finnish Grammar’, a modern comprehensive descriptive grammar of Finnish) also includes *joulun alla* but does not separately discuss this meaning for the adposition *alla* (VISK 2008, §689). It is worth noting that *alla* denotes position in its spatial meaning and not direction as the Russian temporal *pod* + ACC. In Finnish there is a separate adposition for motion ‘to-under’ something (*alle*). When *alle* is used in temporal expressions indicating duration it is a quantifier with the meaning ‘less than’, for example *alle viikon* ‘to-under week-GEN’, meaning ‘for less than a week’.

As already mentioned, the meaning of the Swedish temporal construction with the preposition *under* is quite different from the Russian and Finnish ones. Both SO and SAOB define a temporal meaning for *under*, saying that the phrase governed by the preposition denotes the period of time, or the ‘zone’ (*område*) of time when something happens or is valid (SO) and simultaneity with such a delimited section of time (SAOB). In SAOB the temporal meaning is classified among other senses having to do with parallelism between some activity or situation and the activity or situation expressed in the phrase governed by *under*. Discussing the limited temporal usage of the English *under*, Lindstromberg (2010, 166) maintains that it “reflects the conception of time as something wind-like, or stream-like which we either pass through *horizontally* [original emphasis] or which flows horizontally

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<sup>4</sup> Quite interestingly for this study, utilization of *alla* in the sense of ‘during’, similarly to the Swedish *under*, did occur in Mikael Agricola’s texts, such as in his translation of the New Testament (for example *Testamentin alla* meaning ‘during the union’ (H. Salmi 2010, 113)), and this possibility remained in Finnish even much later, but 18<sup>th</sup> and 19<sup>th</sup> century language authorities saw it as foreign influence and did not recommend it (ibid., 114). According to H. Salmi (2010, 114), *alla* does not occur in the temporal meaning ‘right before’ in Mikael Agricola’s (16<sup>th</sup> century) Finnish. She assumes (ibid.) that this meaning in modern Finnish is an effect of grammaticalization, but does not exclude the influence of language contact. However, Russian as a possible source of influence is not mentioned. This is a topic that needs further investigation.

toward us out of the future, and then passes by us into the past”. We would surmise that it is precisely this kind of horizontal experience of time that makes the Swedish temporal *under*-construction focus on the parallelism between an activity or situation and the period of time that it takes place under, largely ignoring the vertical dimension connoted by the preposition.

SAG 3 (1999, 516–517) discusses temporal *under*-constructions under the heading of adverbials of non-deictic temporal anchoring. Using the preposition *under* is said to be the most general and productive way of forming an adverbial of temporal anchoring, although in cases where another preposition would be possible, *under* is often stylistically more formal. A temporal phrase using *under* denotes that the action anchored to it takes place some time within or during the whole time period referred to by the NP governed by *under*. This NP must denote a time unit with some duration, while the action may be punctual or durative. It is further claimed that the NP must be definite, in the sense that the listener should be able to identify the time period on a timeline. Often this means that the NP will be in the definite form, but not always (cf. *under april månad* – ‘under April month’ / ‘during the month of April’, SAG 3, 516). Since the NP denotes a period of time, the temporal *under*-construction may both anchor the action on a timeline and at the same time indicate its duration, especially if the NP starts with *hela* ‘the whole’. However, when it comes to the quantification of duration, *under* in combination with the preposition *på* (‘on’) can mean ‘in less than’ (*på under en minut* / *på under minuten* ‘in less than a minute’; cf. Finnish *alle* discussed above).

We now turn to how the adpositions meaning ‘over/across’ have been described. Raxilina (2010, 276) sees the Russian temporal constructions as fully symmetric with spatial constructions, cf. *čerez dom ot NP-GEN* (‘over/across house-ACC from NP-GEN’) / ‘the second house from NP’ and *čerez nedelju posle NP-GEN* (‘over/across week-ACC after NP-GEN’ / ‘a week after NP’); and *čerez (každyj) kvartal stojali časovye* (‘over/across (every-ACC) block-ACC stood sentinels-NOM’ / ‘sentinels were standing at every second block’ and *prihodit’ čerez nedelju* (‘to come-IPF over/across week-ACC’ / ‘to come every two weeks’). Raxilina and Plungjan (2014, 23), however, note the difference that in the case of the metonymy: TIME – EVENT (taking place in that time), the temporal construction is possible only with repeatable situations forming a flow of similar events (*čerez dva uroka* ‘two lessons later’ is correct but <sup>??</sup>*čerez dva obeda* ‘two lunches later’ sounds awkward), while the spatial construction can denote a single unique portion of space. Thus, the constructions are not fully symmetric.

The temporal meaning of Swedish *över* is defined in SO as: (from the beginning) to the end of a certain period of time. Just like the Swedish temporal *under*-construction, the temporal *över*-construction denotes simultaneity (SAG 2, 710). However, there is no detailed investigation into these partly competing temporal constructions, whether all the same time units are allowed in both constructions or not, and how their respective conceptualizations of time differ. SAG 3 (539) further states that with *över* the relevant span of time starts at a point in time which is known from the context and does not end before the end of the period of time referred to. It seems to us that the Swedish *över*-construction is very similar to a the

temporal meaning of English *over*, discussed by Lindstromberg (2010, 129–130), where he suggests that *over* tends to convey “the idea that a period of time is surveyed in one go as if seen from above” (129); or gives “a ‘summary view’ of a period of time”: “House prices are up 1.1 per cent *over the year*” (130).<sup>5</sup>

In Finnish the construction noun-GEN + *yli* / *yli* + noun-GEN has the meaning ‘over a certain period of time’, ‘throughout the duration of a time period’. This meaning is described in dictionaries, as an abstract meaning of the adposition (NS) or the temporal meaning of the word (PS; KS). There seems to be no empirical research on the use of this construction. Huumo mentions the meaning ‘throughout the period of time’ when discussing prepositional and postpositional uses of Finnish path adpositions (Huumo 2013, 332). T. Salmi (1994) does not include this meaning in her account of metaphorical meanings of *yli*.

In short, the temporal constructions discussed in this article have attracted interest to different degrees: The Russian prepositions *pod* and *čerez* in temporal constructions have been studied from a cognitive linguistic point of view, but not in terms of frames of reference. The Swedish and Finnish constructions have mainly been touched upon in dictionaries and grammars.

### 3. Frames of reference

In what follows we discuss the adpositions under discussion in terms of spatial and temporal frames of reference and analyse authentic examples taken from the newspaper corpora that provide the material for the corpus study in section 4. But first a brief discussion of the literature on frames of reference.

In his widely-cited book, Levinson (2003, 24–38) describes three crucial elements involved in the specification of location when employing a coordinate system or spatial frame of reference (s-FoR): figure (F, the entity located), ground (G, the entity in relation to which F is located), and X (origin of the coordinate system, establishing the search region). Based on the type of origin X which the ground is locked to, Levinson (2003, 38–61) distinguishes three types of grammaticalized or lexicalized s-FoRs: intrinsic (based on facets of the ground object, e.g. front or back), relative (based on the viewpoint of an observer), and absolute (based on fixed directions provided by gravity or fixed horizontal directions, for instance, the four cardinal points). The three frames of reference can be distinguished both on the horizontal axis and on the vertical axis (Levinson 2003, 75), but most of Levinson’s book is devoted to the horizontal axis. In the vertical dimension, “the intrinsic (canonical position of objects), the relative (perception from an upright stance) and the absolute (as defined by the gravitational axis) tend to coincide” (Levinson 2003, 75). Thus if an insect hovers above your head when you are in an upright position, the three frames coincide: The insect is in the vicinity of the uppermost part of your body (intrinsic), it is above you in your visual field

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<sup>5</sup> The classical study by Claudia Brugman on the uses of the English *over* presents three examples of similar metaphorical uses: *We talked over lunch*, *He spent his money over a period of time* and *I had the flu over Christmas* (Brugman 1988, 19, 21).

(relative), and it is higher in the axis defined by gravity (absolute). In English, the insect may also “hover above” a person that lies down, although the intrinsic frame of reference has the insect by the side of the person. The intrinsic frame of reference is thus eclipsed by the absolute frame of reference.

According to Galton (2011), space and time have three comparable parameters: quantity, linearity, and directedness, but in addition, time has the feature of transience that is lacking from space. This distinction has been utilized, among others, by Evans who defines transience as “the subjectively felt *experience* of (temporal) passage” (2013, 66, Evans’s emphasis). Evans further argues that there are three types of transience: duration, succession, and anisotropicity (“a felt distinction between future, present, and past” (ibid., 67)) which relate to the three parameters that space and time share and further to three temporal frames of reference (t-FoRs) that Evans (2013, 79–80) terms extrinsic (related to “duration as an unending event in which all else occurs”), sequential (related to succession), and deictic (related to anisotropicity). In some approaches similar types of t-FoRs are named after Levinson’s corresponding s-FoRs, viz. absolute, intrinsic, and relative (see Bender and Beller 2014).

Evans (2013, 75–78) maintains that there are also three elements that are required for the description of linguistically encoded t-FoRs: target event (TE, the event to be fixed in time – the analogue of F in s-FoRs), reference point (RP, the event in relation to which the TE is fixed – the analogue of G in s-FoRs), and origo (O, the element anchoring the RP in a transience type, either duration, succession, or anisotropicity – thus the analogue of the origin X of s-FoRs). In addition, a linguistically encoded t-FoR can involve a perspective point (PP) from which the temporal scene is viewed, which may be fixed at the TE (*Christmas is fast approaching*) or at the RP (*We are fast approaching Christmas*) (ibid., 76–78). When it comes to linguistically encoded t-FoRs, the studies also tend to concentrate on the horizontal axis (see e.g. Evans 2013; Bender and Beller 2014).

### 3.1 Spatial frames of reference: ‘under’

There are two s-FoRs of ‘under’ that are of relevance for Russian, Swedish, and Finnish temporal expressions. These s-FoRs are visualized in Figures 1 and 2. The prototypical s-FoR for Russian *pod*, Swedish *under*, and Finnish *alla* involves a figure (F) located (or moved) below the lowest point of a reference object or ground (G) (Plungjan and Raxilina 2000; *Svensk ordbok* 2009, (SO) s.v. *under*; SAG 2 1999, 686–700; *Nykysuomen sanakirja* (NS), *Suomen kielen perussanakirja* (PS), *Kielitoimiston sanakirja* (KS), s.v. *alla*, cf. Figure 1). The entities used as G can be of different shapes (dome-shaped, box-shaped, stackable, or substances), and the F can either be in direct contact with the ground or at a distance from it (Plungjan and Raxilina 2000). The prototypical s-FoR of ‘under’ (as position / direction) in Russian, Swedish, and Finnish materializes in expressions such as: *čemodan pod krovat’ju / zapihnut’ čemodan pod krovat’*; *resväskan är under sängen / skjuta in resväskan under sängen*; *matkalaukku on sängyn alla / työntää matkalaukku sängyn alle* (‘the suitcase is under the bed / to push the suitcase under the bed’) that utilize the prepositions *pod* + INS (position) / ACC (direction) vs. *under* in Russian

and Swedish, respectively, and GEN + the postpositions *alla* (position) / *alle* (direction) in Finnish. As noted above, when it comes to the vertical dimension, the three types of frames of reference (intrinsic, relative, and absolute) tend to coincide, which also applies to the way the artifacts in the expressions above would normally be arranged and viewed. However, the absolute frame of reference is decisive for ‘under’, because even if the bed were turned upside down or the viewer were next to the suitcase in a horizontal position, the above (stative) examples would apply.

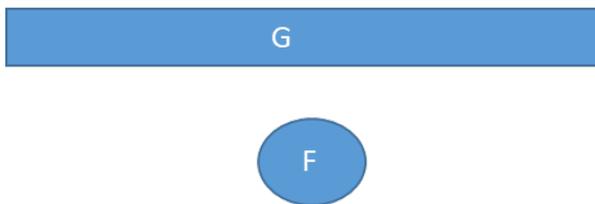


Figure 1: Prototypical spatial ‘under’ (position)

In another – less prototypical – s-FoR, *pod* has the meaning ‘nearby the lower end of an object’, which is the case when the G is formed by more or less vertical objects shaped like pillars, walls, or slopes, and by metonymy the construction has been extended to cities to mean ‘near / in the area of’ (they used to have walls and were often situated on hills, e.g. *naxodit’sja pod Moskvoj / exat’ pod Moskvu* ‘be in the Moscow area / travel to the Moscow area’) (Plungjan and Raxilina 2000; Raxilina and Plungjan 2014), cf. Figure 2. In all these cases Russian uses *pod* + INS for position and *pod* + ACC for direction. In the same meaning Finnish uses GEN + *alla* for position and GEN + *alle* for direction (NS; PS; KS, s.v. *alla, alle*), cf. Russian *pod goroj / pod goru* vs. Finnish *mäen alla / mäen alle* (‘in a position at the foot of a hill’ / ‘to a position at the foot of a hill’). The historical dictionary *Svenska Akademiens ordbok* (SAOB) also defines a spatial meaning that is very similar to the less prototypical spatial meaning of *pod* and *alla*, viz. ‘position beneath and in front of something that more or less obviously rises upwards from its foot’ (especially a mountain, castle, or wall, but totally obsolete when it comes to names of fortified towns). The newest example given (*under muren* ‘beneath the wall’) is from 1924 (SAOB.www, s.v. *under*). In this meaning of ‘under’ the intrinsic (the lower end of a vertical entity is G) and the absolute (gravity keeps both F and G in place) s-FoRs coincide. The spatial relationship between F and G is not conditioned by a subjective viewpoint.

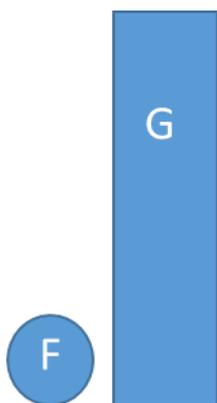


Figure 2: Spatial 'under' (position nearby the lower end of an object)

### 3.2 Temporal frames of reference: 'under'

The temporal constructions utilizing the adpositions *pod* + ACC, *under*, and GEN + *alla* materialize in expressions such as: *pod vyhodnye* ('close to / toward the weekend') featuring *pod* + ACC in Russian and *viikonlopun alla* ('weekend-GEN + under') with the same meaning in Finnish as in Russian, whereas Swedish *under veckoslutet* means 'during the weekend'. In the Russian and Finnish temporal constructions the mapping of the less prototypical s-FoR ('nearby the lower end of an object') onto time is fairly transparent. The Swedish temporal *under* construction can be seen as related to the prototypical s-FoR, but in a way that is not equally immediately discernible.

The temporal constructions under discussion can be described as linguistic materializations of extrinsic (absolute) t-FoRs, where a temporal event (TE) is fixed in relation to a reference point (RP) whose origo (O) anchors the RP in the transience type duration. In other words, these constructions fix the TE in an "absolute" way, without mediation through an observer (cf. the decisive role of the absolute s-FoR for the spatial adpositions meaning 'under'). According to Evans (2013, 129), in the extrinsic t-FoR duration is reified as an "encompassing' *temporal matrix*" (Evans' emphasis) that harnesses naturally occurring periodicities, such as the solar cycle and other types of periodicity-counting systems. The Russian and Finnish adpositions anchor the TE near the beginning of a period that forms part of a temporal matrix (cf. Figure 3), while the Swedish adposition fixes the TE within the duration of such a period, either for its whole duration or for part/s of the duration, conceptualizing the TE as parallel to the RP that it takes place 'under' largely ignoring the vertical connotation (cf. section 2 and Figure 4).



Figure 3: Russian and Finnish temporal 'under'



Figure 4: Swedish temporal ‘under’

Examples (1)–(4) demonstrate actual materializations analyzed as linguistic encodings of the Russian and Finnish t-FoRs visualized in Figures 3.

- (1) Russian (RNC, *Komsomol’skaja pravda*, 2013)  
 Pod utro v gorode bylo sxvačeno 13 čelovek.  
 under morning-ACC in city-LOC seize-PST.PASS 13 people  
 ‘Toward morning 13 people were seized in the city.’
- (2) Russian (RNC, *Večernjaja Moskva*, 2002)  
 My poznakomilis’ pod Roždestvo.  
 we get.acquainted-PST.PL.REFL. under Christmas-ACC  
 ‘We met on Christmas Eve / just before Christmas.’

In both examples the target event (TE) is fixed to a reference point (RP) near the beginning of a temporal boundary that forms part of a temporal matrix, and thus they encode an extrinsic T-FoR. Consider the Finnish examples:

- (3) Finnish (KLK Suomi 2000)  
 Keskustel-i-mme joulu-n alla.  
 discuss-IMPF.we Christmas-GEN under-ADP  
 ‘We had a discussion right before Christmas.’
- (4) Finnish (KLK suomi 1999)  
 Saa-tiin kaikki järvisyyhy juhannuksen alla.  
 get-IMPF.3SG everybody swimmer’s itch-ACC Midsummer-GEN under-ADP  
 ‘We all got swimmer’s itch right before Midsummer.’

As these examples show, the Finnish construction ‘noun-GEN + *alla*’ also fixes a TE to an RP near the beginning of a temporal boundary that forms part of a temporal matrix and encodes an extrinsic T-FoR. The only difference is that in Russian the TE is conceptualized as moving toward the RP, whereas in Finnish the TE is stationary.

In examples (5)–(7) actual manifestations of the Swedish *under*-construction are analyzed as linguistic encodings of the t-FoR visualized in Figure 4, where the TE may be parallel to, i.e. simultaneous with, different portions of the RP.

- (5) Swedish (GP 2005)  
 Tjetjenien var förhållandevis lugnt under helg-en.  
 Chechnya was comparatively calm under weekend-DEF  
 ‘Chechnya was comparatively calm during the weekend.’
- (6) Swedish (GP 2006)  
 Olje-utsläpp-et upptäcktes under helg-en.  
 oil-spill-DEF discover-PST.PASS under weekend-DEF  
 ‘The oil spill was discovered during the weekend.’
- (7) Swedish (GP 2006)  
 Mannen har förhört flera gånger under helg-en.  
 man-DEF interrogate-PERF.PASS several times under weekend-DEF  
 ‘The man has been interrogated several times during the weekend.’

These examples thus illustrate the different degrees of simultaneity of TE and RP allowed by the *under*-construction. In example (5) the situation (TE) prevailed during the whole weekend (RP). In example (6) a momentaneous action took place within the temporal confines of the weekend, and thus the simultaneity is minimal, whereas example (7) exemplifies repeated actions situated within the time slot, none of them being simultaneous with more than part of it. In today’s developed cultures of the world, the concept of “weekend” belongs to the periodicity-counting systems that keep track of and harness duration (cf. extrinsic t-FoR).

### 3.3 Spatial frames of reference: ‘over/across’

There are three s-FoRs for ‘over/across’ that will be relevant for temporal expressions using *čerez* + ACC in Russian, *över* in Swedish and GEN + *yli* / *yli* + GEN in Finnish. In one s-FoR, visualized in Figure 5, temporarily overcoming gravity the F moves horizontally along a path that goes above the G which forms an obstacle and down on the other side (cf. Raxilina 2010, 268–287; Shull 2003, 26; SO 2009, s.v. *över*; NS, PS, KS, s.v. *yli*): *prygnut’ čerez zabor* (Russian), *hoppa över staketet* (Swedish), *hypätä aidan yli* (Finnish) (‘to jump over the fence’). In another s-FoR (cf. Figure 6), the F moves horizontally passing / across the surface of a G that can be of different shapes but can be traversed from one side to the other (cf. Raxilina 2010, 268–287; Shull 2003, 26; SO 2009, s.v. *över*; NS, PS, KS, s.v. *yli*): *idti čerez ulicu; gå över gatan; mennä kadun yli* (‘to walk across the street’). It should be noted that in the s-FoR under discussion, the adpositions *över* in Swedish and *yli* in Finnish are used only if the moving F is in contact with or above (viz. when the F is flying) the surface of a G that is open and typically faces upward. However, Russian also uses *čerez* + ACC for passing on the ground or floor of non-open spaces and objects (e.g. woods or galleries) (Raxilina 2010, 268–287), spaces that would use *genom* ‘through’ in Swedish and *läpi, lävitse* ‘through’ in Finnish. The feature of *čerez* that allows for it to be used with different kinds of landmarks (grounds) is referred to as *ambiguous landmark preference* by S. Shull (2003, 26). Swedish and Finnish thus do not share this feature. For the two s-FoRs of the “over” region discussed so far, the origin X which the G is locked to, thus establishing the search region, is intrinsic in the sense that it connotes the upper part

of an obstacle or the open, typically upward, surface of a space or object. However, gravity is also involved, as it makes the F's path over the obstacle return to solid ground or alternatively keeps the F on its path on the surface being crossed. Thus in these two s-FoRs, the intrinsic frame and the absolute frame of reference coincide. The spatial relationship between F and G is not conditioned by the viewpoint of an observer.

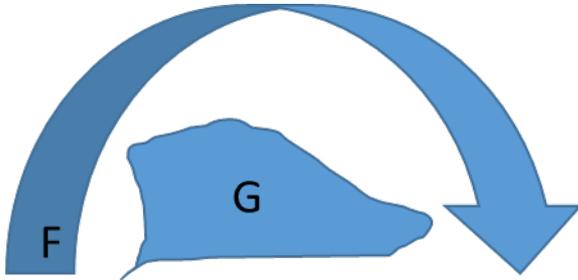


Figure 5: Spatial 'over/across' (crossing an obstacle)



Figure 6: Spatial 'over/across' (path)

A third type of s-FoR that uses *čerez* in Russian relates the F to a G that is the endpoint of a perception whose zero point can also be given, which, of course, involves only mental motion. The path of the mental motion can cover one portion of space or a whole chain of portions (cf. Figure 7, also section 2): *on živet čerez dva doma ot nas* 'he-NOM lives over/across two-ACC house-GEN from we-GEN / 'he lives in the third house from ours'; *čerez každye dva kvartala stojali časovye* 'over/across every-ACC two-ACC block-GEN stood sentinels-NOM' / 'sentinels were standing at every third block' (Raxilina 2010, 276). In this s-FoR the origin X can either depend on the viewpoint of an observer and thus be deictic or relative (as in *on živet čerez dva doma ot nas*, where *ot nas* 'from us' can also be left out), or else it can be locked to a fixed spatial arrangement of objects that is neither dependent on the viewpoint of an observer, nor on facets of the objects (as in *čerez každye dva kvartala stojali časovye* or *on živet čerez dva doma ot magazina* 'he lives in the third house from the shop'). According to Levinson (2003, 274), this type of referencing to familiar landmarks without angles and branches makes up one-dimensional strip-maps, where it is possible to think in terms of the map itself without ego's location on the map.

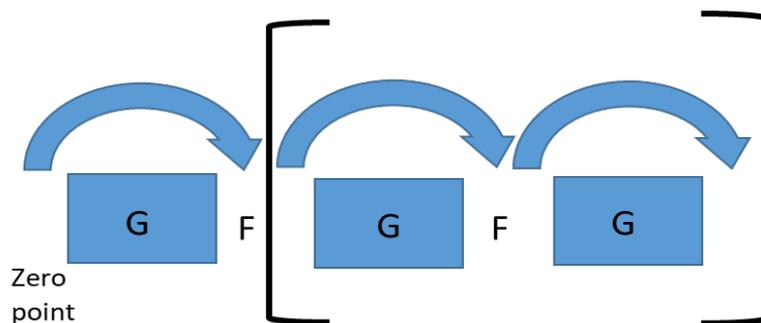


Figure 7: Russian spatial 'over/across' (mental motion)

### 3.4 Temporal frames of reference: 'over/across'

When it comes to temporal 'over/across', the Russian t-FoR has its analogue in the s-FoR that applies only to Russian (cf. Raxilina 2010). Similarly to the s-FoR that involves mental motion encoded by *čerez* + ACC and where only one portion of space is covered, the t-FoR with the passage of only one portion of time can be encoded in two ways. Either the zero point is expressed by *posle* + GEN ('after') or left implicit. If left implicit the zero point may depend on a deictic zero point, i.e. the now of the speaker, or else on a zero point known from the textual context. Thus depending on the context, *čerez nedelju* can mean either 'in one week (from now)' (*Ja vernus' čerez nedelju* 'I will return in a week'), or 'one week later' (*Ona uexala no vernulas' čerez nedelju* 'She left but returned a week later'). With the zero point expressed, *čerez nedelju posle* + NP-GEN means 'two weeks after NP' (*Čerez nedelju posle ot' ezda ona vernulas'* 'One week after her departure she returned'). The t-FoR encoded by Russian *čerez* + ACC thus fixes the target event (TE) to an RP (reference point) which is set (immediately) after the passage of a portion of time separating the TE from a previous event, and the RP is thus anchored in the transience type of succession (see Figure 8). When a TE that implies repetition of the same event is anchored to an RP that involves the lapsing of a whole chain of the same type of time periods (cf. *rabotat' čerez nedelju* 'to work every two weeks'), the RP is also anchored to the transience type of succession, but of time periods of equal length (see Figure 9).

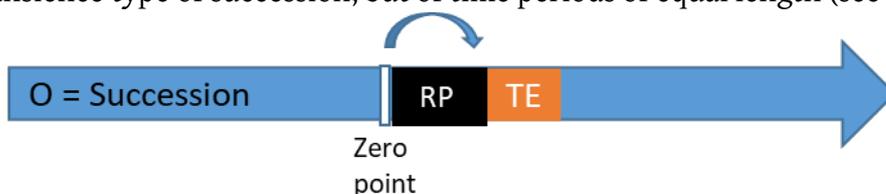


Figure 8: Russian temporal 'over/across' (after)

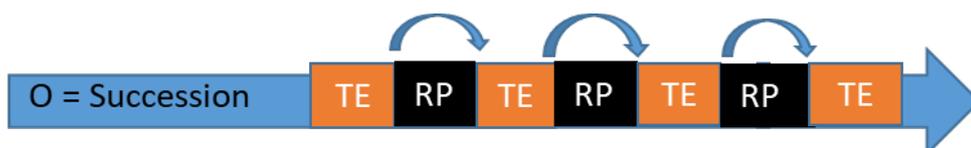


Figure 9: Russian temporal 'over' (every two)

Examples (8) and (9) demonstrate actual manifestations of the encoding of the t-FoRs visualized in Figures 8 and 9.

- (8) Russian (RNC, *Komsomol'skaja pravda*, 2014)  
 Čerez nedelju prixodit pis'mo ot odnogo japonca.  
 over week-ACC. come-PR.SG.3 letter from one-GEN. Japanese-GEN.  
 'A week later a letter comes from a Japanese man.'
- (9) Russian (RNC, *Trud-7*, 2007)  
 Rabotal ja čerez noč' i zanimal dve  
 work-PST.SG.MASC I over night-ACC and hold-PST.SG.MASC two-ACC  
 dolžnosti odnovenno – uborščika i storoža.  
 post-GEN.SG simultaneously – cleaner-ACC and watchman-ACC.  
 'I worked every second night and held two posts simultaneously – cleaner and watchman.'

In example (8) the TE (the arrival of the letter) is fixed to a reference point (RP) which is set one week after an earlier event, which thus anchors the RP to the transience type of succession. In example (9) the working periods (repeated TEs) are fixed to an RP that forms a succession of nights where every second night is free and every second involves work. With bare nouns (i.e. without numerals) signifying qualitative periods (like night in example (9), see further section 4) the meaning 'every second' seems to be the prevailing one. For instance, *čerez dve noči* will normally mean 'two nights later' or 'in two nights'.

When it comes to t-FoRs that involve 'over/across' it is thus Russian that stands apart from the other two languages, since the Swedish *över*-construction and the Finnish *yli*-constructions demonstrate similar linguistic encoding of a t-FoR where the adpositions fix the TE to the whole of a period of time that forms part of a temporal matrix, viewed as if from above in one go from its beginning (or even somewhat before that) to the very end (see Figure 10). The TE is thus fixed in relation to an RP which is anchored to the transience type duration (i.e. an absolute frame of reference). This t-FoR shares characteristics both with the s-FoR where temporarily overcoming gravity the F moves above and over the G and the one where the F moves horizontally passing / across the surface of a G to its end.

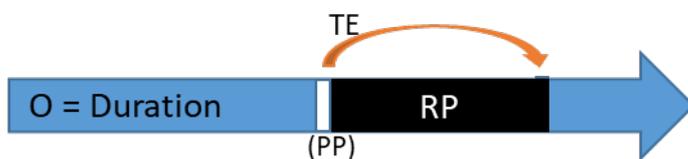


Figure 10: Swedish and Finnish temporal 'over/across'

In contrast to the Swedish *under*-construction, the *över*-construction needs the situation or target event (TE) to hold for the whole period of the reference point (RP), often beginning before the period starts, and it should also be possible to take a summary view of it (cf. section 2). This does not seem to be obligatory for the Finnish *yli*-constructions (cf. example 12). The starting point, which is often implicit in the context, is generally taken as the perspective (PP) point for a prospective view over the period.

Examples (10)–(13) demonstrate manifestations of the linguistic encoding of the t-FoR visualized in Figure 10.

## (10) Swedish (GP 2007)

Daisy får stanna kvar på sjukhus-et över natten.  
 Daisy gets stay on hospital-DEF over night-DEF  
 ‘Daisy may / must stay in hospital overnight.’

## (11) Swedish (GP 2011)

Låt revben-en marinera i kylskåp över natt-en.  
 Let.IMP ribs-DEF marinate in fridge over night-DEF.  
 ‘Let the ribs marinate in the fridge overnight.’

In example (10) Daisy is in hospital, but in the context of only one sentence it is impossible to say how long she has already been there: since the morning, the afternoon, the same night, or longer. What we do know is that she will spend the coming night there, which is prospectively viewed from the moment she (or the text producer) learnt that fact. In example (11) it is understood that you should put the ribs in the fridge and from that moment forward in time you should leave them there to marinate at least until morning, i.e. the whole night. The TEs (i.e. ‘Daisy must stay in hospital’ and ‘let the ribs marinate in the fridge’) are thus fixed to RPs (in both cases ‘overnight’) in the form of periodicity-counting units that are anchored in the transience type of duration.

## (12) Finnish (KLK suomi 2000)

Kadonnutta etsittiin yön yli Pertunmaalla.  
 missing-ACC. search-PST.PASS. night-GEN over Pertunmaa-ADE  
 ‘They searched for the missing person the whole night in Pertunmaa.’

## (13) Finnish (KLK suomi 1994)

Oli siis nukuttava yön yli ja katsottava asiaa  
 had.to then sleep-INF night-GEN over and look at-INF matter-ACC  
 uudelleen.  
 anew.  
 ‘We had to sleep the night and reconsider.’

In example (12) the search for the missing person continued throughout the night in question, i.e. there were people searching during every minute of that night. Thus the TE is fixed to the whole period of a periodicity-counting unit functioning as an RP anchored in the transience type of duration. It is interesting that in the context of example (12) Swedish would not use *över* but *under (hela)* ‘during (the whole)’. The target event of searching for a missing person apparently does not qualify for a summary view. In example (13) there is an example of the use of the idiom *nukkua yön yli*. In this example the notion of reconsidering is repeated twice, although it is already included in the idiom – sleeping the night does not

mean that the person needs to sleep well (sleep throughout the night) but rather the consequences of such a night – the capability of making well-founded decisions without haste. In the context of example (13) in addition to *över natten* in Swedish you would need to say *sova på saken* ('sleep on it') first, which by itself also conveys the whole meaning.

Having discussed the relevant t-FoRs comparing them to the corresponding s-FoRs, we will now turn to the investigation of what types of temporal lexical units occur in the temporal constructions. The Russian *pod*-construction has been described in corpus studies, whereas the *čerez*-construction as well as the Swedish and Finnish constructions have not been the objects of corpus studies. In what follows we undertake corpus studies of all six constructions.

#### 4. Data

In order to find out what lexical units referring to time can be used in the constructions under study, searches were done in the Russian National Corpus (RNC), The Swedish Language Bank, and The Language Bank of Finland. We chose to investigate written media discourse in all three languages, which can be found in all three corpora. The corpus of the contemporary Russian press of the RNC includes 228,521,421 tokens. For Swedish we chose Swedish modern corpora: "GP" (Göteborgsposten 1994–2013) and "Tidskrifter" (Forskning & Framsteg), altogether approximately 270,000,000 tokens. For Finnish we used The Newspaper and Periodical Corpus of the National Library of Finland (1970–2000s) and the Corpus of Finnish magazines and newspapers from the 1990s and 2000s, altogether approximately 456,000,000 tokens (version of December 2018). The search strings were formulated as follows:

- Swedish: *över* / *under* + noun
- Finnish: noun (GEN) + *yli* (ADP) / *alla* (ADP); *yli* (ADP) + noun (GEN)
- Russian: *pod* / *čerez* + noun (ACC; "semantics: time") and exact searches of *pod* + the individual names of holidays/festivals in ACC

As the occurrences yielded by the individual searches differed depending on the user interfaces and annotations of the corpora, different degrees and types of corpus management were needed. In particular, since the Finnish and Swedish corpora used do not include semantic information and the adpositions also occur with other semantic classes of nouns, and even in homonymous constructions, the relevant examples needed to be extracted manually. However, we had the same aim for all three corpus materials: to find phrases consisting of the relevant adpositions in combination with lexicalized temporal units of the following types:

1. Time units: millennium, century, decade, year, month, week, day, hour, minute, second
2. Calendar unit names: January, February, etc.; Monday, Tuesday, etc.
3. Qualitative periods: spring, summer, autumn, winter; morning, afternoon, evening, night

4. Festivals: Christmas, New Year, etc.
5. Historical periods: antiquity, Middle Ages, etc.

This list is based on Haspelmath's typological study on temporal adverbials in the world's languages (Haspelmath 1997, 26–27, 31, 115), with the addition of “historical periods”, which can be seen as names for cultural groupings of longer canonical time periods (millennia, centuries, and possibly decades), just like festivals are names for special cultural groupings of shorter canonical time periods (days, weeks, and perhaps months). For the Russian constructions, the strings *pod / čerez* immediately before noun-ACC with the semantic differentiation time (minus age) yielded a list of time unit words of types 1–3 above. For *pod*, festivals had then to be searched for individually. The search results from the Swedish Language Bank were long lists of the respective prepositions followed by nouns, displayed in Excel tables in order of the number of occurrences. These lists had to be manually cleansed from all nouns that did not belong to the types of “time words” defined above. The search results for Finnish were retrieved and saved in the same fashion.

The resulting lists of occurrences (datasets) were then analyzed and classified against the background of the types of time units listed above. The Russian dataset for *pod* consisted of 2,014 datapoints and for *čerez* 19,499; the Swedish dataset included 91,980 datapoints for *under* and 4,425 for *över*; and the Finnish dataset 2,450 datapoints for *alla* and 3,716 for *yli*.

## 5. Results

### 5.1 Russian and Finnish temporal ‘under’

As already pointed out, the Russian temporal *pod*-construction (also called the proximate future construction) and the Finnish temporal *alla*-construction both have the meaning ‘right before’. But do they also occur with the same lexicalized temporal units? For the results of the corpus searches (units with three or more occurrences<sup>6</sup>), see Table 1.

As Table 1 shows, in the results from the contemporary Russian press of the RNC (228,521,421 tokens), the temporal nouns with a frequency of three or more occurrences all denote qualitative periods (parts of the day and seasons) and holidays/festivals. There were only stray occurrences (1-2) of 14 other temporal nouns (altogether 17) that in addition to qualitative periods and holidays included a few calendar name units (Sunday, Friday, and February). Thus in our material, the Russian proximate future construction is limited to 26 different units of time and holidays/festivals, out of which only a handful could be considered highly frequent, notably morning, evening, New Year, and Christmas.

The results from the Corpus of Finnish magazines and newspapers (456,000,000 tokens) also yielded names of holidays/festivals and qualitative periods (only seasons). However, holidays and festivals dominate the Finnish list, and the Finnish proximate future construction is even more limited than its Russian counterpart. In the whole corpus material

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<sup>6</sup> The figures are comparable only within each individual language, since the Finnish corpus is about twice the size of the Russian corpus.

in addition to the 12 nouns in Table 1, only four other time nouns occur (i.e. altogether 16 time nouns occur in the construction). The difference in frequency among the nouns occurring in the Finnish data is significant – the most frequently occurring expression *joulun alla* ('right before Christmas', lit. 'under Christmas') has eight times the number of occurrences (1,958 vs. 242) of the second collocation *juhannuksen alla* ('right before Midsummer', lit. 'under Midsummer'), which is in line with the fact that *joulun alla* is given as an example in both dictionaries and grammars (cf. 2).

Russian ( <i>pod</i> + noun-ACC.)			Finnish (noun-GEN + <i>alla</i> )		
noun	time unit	occurrences	noun	time unit	occurrences
<i>utro</i>	morning	851	<i>joulu</i>	Christmas	1958
<i>Novyj god</i>	New Year	670	<i>juhannus</i>	Midsummer	242
<i>večer</i>	evening	287	<i>vappu</i>	May Day	87
<i>Roždestvo</i>	Christmas	98	<i>pääsiäinen</i>	Easter	75
<i>zima</i>	winter	33	<i>itsenäisyyspäivä</i>	Independence Day	38
<i>prazdnik/prazdniki</i>	holiday/s	21	<i>äitienpäivä</i>	Mother's Day	10
<i>zakat</i>	sunset	11	<i>talvi</i>	winter	10
<i>osen'</i>	autumn	7	<i>vuosipäivä</i>	anniversary	9
<i>kreščenie</i>	Epiphany	7	<i>vuodenvaihde</i>	turn of the year	7
<i>vyhodnye</i>	weekend	5	<i>kesä</i>	summer	4
<i>den' roždenija</i>	birthday	4	<i>loppiainen</i>	Epiphany	3
<i>Pasha</i>	Easter	3	<i>syksy</i>	Autumn	3
		1997			2446

Table 1: Lexicalized temporal units in the Russian *pod*-construction and the Finnish *alla*- construction

As already pointed out, Raxilina and Plungjan (2013, 17; 2014, 43) maintain that the culturally important temporal boundaries denoted by the nouns used in the Russian temporal *pod*-construction should be interpreted as endpoints. Some of the Russian temporal units in Table 1 are easier to regard as endpoints than others. If we compare the proximate future construction in Finnish with its somewhat more productive counterpart in Russian, we notice that the Finnish time units appearing in this construction also tend to denote important temporal boundaries. Christmas and Midsummer are undoubtedly the most important Finnish holidays. However, the criterion that they should be interpreted as an endpoint seems to be less relevant than for the Russian construction (e.g. of what period is Mother's Day the endpoint?).

Both in Russian and Finnish, the names of seasons occur in the respective constructions, but 'morning' and 'evening' do not occur in this construction in Finnish. Both Finnish and Russian are spoken in areas with four distinct seasons and each change of seasons forms a significant boundary of the encompassing temporal matrix. An interesting detail is that in Russian 'under summer' is generally not used (Raxilina and Plungjan 2014, 43). Raxilina and Plungjan claim that in the Russian culture autumn is a seasonal boundary, while summer is a seasonal period, but in our Finnish material 'summer' is used in the proximate future

construction, which would indicate that the seasons are conceptualized differently in these languages.<sup>7</sup>

### 5.2 Swedish temporal ‘under’

Not unexpectedly, the combination of Swedish *under* and temporal nouns in the temporal construction was highly productive: there were 1,427 different temporal nouns that occurred at least twice directly after *under*.<sup>8</sup> Out of these, 100 nouns occurred 100 times or more. See table 2 for the manifestations of the Swedish temporal *under*-construction with more than 1,000 occurrences (which account for more than half of the whole dataset: 51,702/91,980).

under	noun-DEF	meaning	occurrences
	<i>höst-en</i>	autumn	5795
	<i>vår-en</i>	spring	5299
	<i>år-et</i>	year	4516
	<i>tid-en</i>	time (meanwhile)	4233
	<i>dag-en</i>	day	3997
	<i>sommar-en</i>	summer	3962
	<i>år-en</i>	years	3680
	<i>natt-en</i>	night	3377
	<i>gårdag-en</i>	day before	3039
	<i>vecka-n</i>	week	2462
	<i>kväll-en</i>	evening	2376
	<i>period-en</i>	period	2343
	<i>säsong-en</i>	season	2147
	<i>helg-en</i>	weekend	1987
	<i>vinter-n</i>	winter	1383
	<i>eftermiddag-en</i>	afternoon	1106
			51702

Table 2: The most frequent manifestations of the Swedish *under*-construction

The list is topped by two seasons: autumn and spring, and the other two seasons also belong to the 16 most frequent words. Other qualitative periods at the top are the words for ‘night’, ‘evening’, and ‘afternoon’. The canonical time periods at the top are the words for: ‘year/s’, ‘day’, ‘the day before’ (*gårdagen*), and ‘week’. In addition, the top of the list includes the words for the general temporal nouns ‘time’, ‘period’, and ‘season’. In the top 16 list is also *helgen*, which can mean ‘holiday-DEF’, but generally means ‘weekend-DEF’. All of these nouns are in the definite form.

<sup>7</sup> One should not, nevertheless, exaggerate the significance of this detail, since in both languages the same meaning can be and is regularly expressed by other lexical means, such as *v preddverii leta* and *kesän kynnyksellä*, both meaning ‘in/on summer’s threshold’.

<sup>8</sup> The overwhelming majority of these combinations of *under* and a noun represent the temporal *under*-construction. However, in very rare cases they arise from *under* in the function of adverb particle as in *fartyget som gick under natten till i fredags* (‘the ship that went down on the night before last Friday’, GP 2013).

Among the words with at least 500 occurrences are the names of all the days of the week, the last decade of the 20<sup>th</sup> century (the 90s / the 1990s) or the current century (the 2000s), and the month of July. Further down the list (with at least 100 occurrences) are the names of all the other months and the festivals of Christmas, Easter, and Midsummer. In addition, there are further decades and centuries, indefinite and plural forms of words that have more occurrences in the singular definite form, historical periods, and numerous compound nouns, e.g. *söndags-kväll-en* (Sunday evening-DEF, 100 occurrences). It is thus quite apparent that the most frequent temporal nouns used in the *under*-construction in this newspaper and periodical corpus material refer to temporal periods that are central to the daily existence of people in general, to life in modern Western culture and in Sweden.

One reason for the proliferation of different nouns is the possibility of forming compound nouns in Swedish, which results in temporal words if their last component represents the types of temporal unit words listed in section 4 above (e.g. *går-dag-en* in Table 2, the abovementioned *söndags-kväll-en*). The nouns are mostly in the definite form and in the singular, but the indefinite form and plural also occur (e.g. *under dagtid* ‘under day time’ (316 occurrences) and *under år-en* in Table 2. A discussion of the principles of choice of the form of the noun is beyond the scope of our study.

All kinds of time units that may be seen as having duration (cf. section 2) enter into the temporal construction with *under*, from millennium to millisecond and moment. Much like the English *during*, the Swedish *under* seems to be able to “stretch out” a temporal reference point (cf. Lindstromberg 2010, 78–79). However, short periods of time combine with *under* much less frequently than longer ones. The shortest time unit that can be found among our 1,427 nouns is *minut* (‘minute’), as in *under slutminuten* (‘during the last minute’, usually of a competition), which occurs seven times. The longest periods are the Middle Ages and antiquity.

### 5.3 Russian temporal ‘over/across’

As it has already become clear, Russian stands apart from Swedish and Finnish when it comes to temporal ‘over/across’. The results of the search in the RNC confirmed that *čerez* in the meaning ‘in’ / ‘later’ / ‘after’ basically combines with nouns for time units that are used for measuring time (canonical time periods in Haspelmath’s (1997, 27) sense). Our search for *čerez* + ACC (with the semantics “time”) in the corpus of the contemporary Russian press resulted in 18,945 datapoints for those nouns that had at least 100 occurrences (which leaves 554 datapoints for the nouns with fewer than 100 occurrences). For the most frequently used time units, see Table 3.

As the table shows, the most frequent units of time used to measure the time between successive events were year, month, week, hour, day, half an hour, and minute. All other units of time were much rarer in our material. The expressions *čerez sutki* (‘over day and night-ACC’), *čerez sekundu* (‘over second-ACC’) and *čerez mgnovenie* (‘over instant-ACC’) had more than 100 occurrences. There were about 30 more nouns with less than 100 occurrences, many with only a few. The construction is productive for nouns that denote periodicity-

counting units (over 40 forms of time nouns representing 24 different stems occurred). It is in frequent use and features countable time periods of different lengths (in the corpus material from instant and microsecond to millennia). The meaning ‘every second’ is also possible with these nouns, but less frequent. Qualitative periods occur rarely in the temporal *čerez*-construction. In our search results only one example with *večer* (‘evening’) and three with *noč* (‘night’) were found.

<i>čerez</i>	noun-ACC.	meaning	occurrences
	<i>god</i>	year	5998
	<i>mesjac</i>	month	3428
	<i>nedelju</i>	week	3150
	<i>čas</i>	hour	1758
	<i>den</i>	day	1320
	<i>polčasa</i>	half an hour	1246
	<i>minutu</i>	minute	1027
	<i>sutki</i>	day and night	541
	<i>sekundu</i>	second	276
	<i>mgnovenie</i>	instant	201
			18945

Table 3: Manifestations of the Russian temporal *čerez*-construction (more than 100 occurrences)

#### 5.4 Swedish and Finnish temporal ‘over/across’

As already noted in section 2, the Swedish and Finnish temporal *över*- and *yli*-constructions have similar meanings. In this section we further explore this similarity and what differences there are. The results of the corpus searches are shown in Table 4, which lists the manifestations of the Swedish construction and both Finnish variants with more than 10 occurrences.

The Swedish construction with *över* (‘over’, ‘across’) is productive but yielded considerably fewer results from the search than the *under*-construction. The most frequent representative *över natten* ‘night-DEF’ was also more than five times less frequent than the most frequent representative of the *under*-construction (*under hösten* ‘during autumn-DEF’). There were no more than 91 different nouns with two occurrences or more, out of which at least one entered into an example of the relevant construction. In some instances the combination of *över* and a time word was in fact due to other functions of *över*, notably the function of adverb particle (e.g. [...] *hoppa över julen* ‘... skips Christmas’, GP 2002). The number of nouns occurring with *över* 10 or more times was 29 (see Table 4). Among these nouns, eight refer to canonical time periods, e.g. *över dagen* ‘day-DEF’, *över året* ‘year-DEF’, *över åren* ‘years-DEF’, of which the longest is decades *över decennier* ‘decades’ and the shortest is day (on the list of 91, the shortest time covered is an afternoon). However, most of the nouns refer to holidays/festivals and qualitative periods (14 altogether) e.g. *över helgen* ‘weekend-DEF’, *över jul* ‘Christmas’, *över nyår* ‘New Year’, *över midsommar* ‘Midsummer’, *över påsk* ‘Easter’; *över sommaren* ‘summer-DEF’, *över vintern*, *över hösten* ‘autumn-DEF’. Thus it seems that this construction is mostly used

about time periods that people can easily survey in one go or take a summary view of (cf. section 2). This may explain why no temporal periods of an hour or less occur in this construction, and that *över* in combination with such nouns can mean ‘more than’ (see footnote 9).

Swedish			Finnish		
<i>över</i> + noun	time unit	occurrences	noun-GEN + <i>yli</i>	time unit	occurrences
<i>över natt-en</i>	night-DEF	943	<i>yön yli</i>	night	1220
<i>över tid</i>	time	779	<i>talven yli</i>	winter	452
<i>över tid-en</i>	time-DEF	443	<i>kesän yli</i>	summer	81
<i>över sommar-en</i>	summer-DEF	345	<i>viikonlopun yli</i>	weekend	69
<i>över helg-en</i>	weekend-DEF	330	<i>ajan yli</i>	time	66
<i>över dag-en</i>	day-DEF	215	<i>aikojen yli</i>	times	62
<i>över jul</i>	Christmas	179	<i>viikonvaihteen yli</i>	weekend	39
<i>över vinter-n</i>	winter-DEF	166	<i>vuodenvaihteen yli</i>	turn of the year	31
<i>över år-et</i>	year-DEF	120	<i>vuoden yli</i>	year	18
<i>över år-en</i>	years-DEF	118	<i>pääsiäisen yli</i>	Easter	12
<i>över säsong-en</i>	season-DEF	79			
<i>över jul-en</i>	Christmas-DEF	70	<i>yli + noun-GEN</i>	time unit	occurrences
<i>över helger-na</i>	weekends-DEF	63	<i>yli vuoden</i>	year	1056
<i>över dygn-et</i>	day-and-night-DEF	51	<i>yli viikon</i>	week	156
<i>över natt</i>	night	47	<i>yli ajan</i>	time	125
<i>över nyår</i>	New Year	35	<i>yli yön</i>	night	122
<i>över midsommar</i>	Midsummer	31	<i>yli talven</i>	winter	79
<i>över veck-an</i>	week-DEF	29	<i>yli vuodenvaihteen</i>	turn of the year	36
<i>över julhelg-en</i>	Christmas-holidays-DEF	23	<i>yli kesän</i>	summer	28
<i>över höst-en</i>	autumn-DEF	18	<i>yli viikonvaihteen</i>	weekend	26
<i>över period-en</i>	period-DEF	18	<i>yli viikonlopun</i>	weekend	16
<i>över decennier</i>	decades	16			
<i>över veckoslut-et</i>	weekend-DEF	15			
<i>över påsk</i>	Easter	14			
<i>över årskift-et</i>	turn-of-year-DEF	13			
<i>över inomhussäsong-en</i>	indoor-season-DEF	13			
<i>över påsk-en</i>	Easter-DEF	13			
<i>över påskhelg-en</i>	Easter-holidays-DEF	12			
<i>dan</i>	day-DEF, colloquial	11			

Table 4: Manifestations of the Swedish and Finnish simultaneity constructions with *över* and *yli*

For its part, the use of time nouns in the Finnish constructions noun-GEN + *yli* / *yli* + noun-GEN does not seem to be productive. The corpus searches yielded only nine different nouns with more than 10 occurrences (and 11 different nouns altogether) for noun-GEN + *yli* and also nine different nouns with more than 10 occurrences (12 nouns altogether) for *yli* + noun-GEN in this meaning, see Table 4. All Finnish time nouns used with *yli* have counterparts

among the nouns used in the Swedish *över*-construction, but they are thus significantly fewer. Another remarkable difference is that there is only one holiday (Easter) among the Finnish nouns. Like in the Swedish construction no words denoting very short time periods are used in the Finnish constructions (the shortest one is night). It can also be noted that in Finnish winter, which denotes an especially harsh time, is by far more frequently used than summer in these constructions, whereas summer, a period that is easier to live through is among the most frequently used nouns in the Swedish construction, leaving winter behind.

In the construction *yli* + noun-GEN, *yli* 'over' is also used as a quantifier meaning 'more than' in expressions of duration. Thus, *yli vuoden* can mean 'throughout a/the year', but when the context involves duration it most likely means 'for more than a year'. The difference between the two is, nevertheless, not always clear and they are related – for something to be true for more than a certain period of time it needs first to be true throughout that period. Among the first 1,000 hits resulting from the search string *yli* (ADP) + noun (GEN) in the corpus there were 191 uses of time nouns, of which only 20 had the meaning 'from beginning to end/throughout', with all the rest meaning 'longer than, more than'. Also, the most frequent collocations in our corpus, *yli vuoden* with 1,056 occurrences and *yli viikon* with 165 occurrences had a very large percentage of such uses (e.g. for *yli vuoden* the first 200 occurrences did not include a single one where the meaning would not have included the component 'more than').<sup>9</sup>

The words for 'time' (*tid* and *aika*) are among the most frequent to occur both in the Swedish *över*-construction and the Finnish *yli*-constructions, and in both languages there are special nuances of meaning. Swedish *tid* and *tiden* (indefinite and definite forms) are in second and third place when it comes to number of occurrences (779 and 443, see Table 4). The high numbers are probably due to the fact that *över tid / tiden* is a fixed expression (loan translation from English) meaning 'during a long and uninterrupted period of time', approaching the meaning 'little by little' (SAOB, s.v. *tid*). SO (s.v. *över*) mentions a variant meaning of the *över*-construction, viz. there may be a nuance of development of the situation/activity during the current period of time. This nuance is common with the abovementioned fixed expression and with periods of a year or longer, and also the noun *dygnet* ('day and night'/'24 hours').

The occurrences with the Finnish word *aika* 'time' either in the singular or plural are a special case. *Ajan yli* 'over time' in the relevant meaning has 66 occurrences, and the plural *aikojen yli* 'over times' 62 occurrences. In almost all of these occurrences time is specified, most frequently as the difficult time, through (literally 'over') which one has to manage or live (cf. the frequency winter in these constructions). *Yli ajan* (125 occurrences) and *yli aikojen* (nine occurrences) can mean 'always' or 'independent of time', so if interpreted as this

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<sup>9</sup> For the meaning of 'more than' the Swedish *över* mostly takes the indefinite form with the indefinite article of the noun, e.g. *över ett år* 'more than a year'. However, with short time spans of an hour or less *över* and the definite form of a temporal noun can have the meaning 'more than', e.g. in sports reports *över minuten* 'over minute-DEF' (*snabbare*) would mean 'more than a minute (faster)'.

construction, ‘time’ or ‘times’ means ‘time in general’ or ‘all times’. These expressions can have biblical connotations or mean ‘beyond a certain time limit’.

## 6. Conclusion

The adpositions in Swedish, Finnish, and Russian meaning ‘under’ and ‘over/across’ are used in temporal constructions that encode different temporal frames of reference (t-FoRs), all of which can be described as analogues of spatial frames of reference (s-FoRs). As we have demonstrated, there is a fairly clear, but still incomplete, symmetry between the Russian and Finnish spatial and temporal constructions of the “under” region (temporal / spatial proximity). In Swedish, however, the analogy between spatial and temporal constructions of the “under” domain is less clear, because the target event is fixed to a reference point ‘under’ a time period and it is conceptualized as horizontally parallel to this period. When it comes to the “over” region, the symmetries between the relevant s-FoRs and the temporal constructions are easier to discern (over / across a portion of space (physically or mentally) vs. after / from beginning to end of a period of time). The Russian temporal construction conceptualizes a situation where the target event is fixed to a reference point which is at the endpoint of a temporal period that has elapsed after a previous event, with possible repetition of the events and reference points. In the Swedish and Finnish constructions the target event covers the reference point from beginning to end and there is often a perspective point set at the beginning of the reference point or before it.

Corpus analysis of the six constructions demonstrates that the Russian temporal proximity *pod*-construction is limited but somewhat productive. It features lexicalized temporal units that denote important temporal boundaries, but only a handful of them were highly frequent in our material (morning, evening, New Year, Christmas, and to some extent winter). The similar Finnish *alla*-construction must be considered unproductive (or next to unproductive), since all in all the whole corpus contained only 16 time unit nouns, mostly denoting holidays and festivals, one of which (Christmas) totally eclipses the others in terms of frequency. In contrast, the Swedish *under*-construction is extremely productive, allowing nouns that denote time units of all kinds, as long as they have duration (i.e. points in time, such as midnight, are not allowed).

The Russian *čerez*-construction meaning ‘after’/‘in’/‘later’ or ‘every second/two’ is in frequent use and productive when it comes to time measuring vocabulary. Most frequent in the corpus material were year, month, week, hour, day, half hour, and minute. The Swedish and Finnish *över*- and *yli*-constructions are similar in meaning, but differences appear when it comes to their actual use in context. The Swedish *över*-construction is similar to the *under*-construction in meaning but much less productive. Only time periods of a duration from afternoon to decades occurred in our corpus results, probably due to the fact that this construction takes a summary view of the situation. We found the Finnish *yli*-constructions to be basically unproductive (only a dozen different time unit nouns used in this construction were found in the corpus). All time units encountered in the Finnish constructions also appear in the corresponding Swedish construction. Again one manifestation of a Finnish

construction practically eclipses the others when it comes to frequency, viz. *yön yli* ('night-GEN over'),<sup>10</sup> which is often used as an idiom with the meaning 'sleep on it'. Also when used in the sense 'the whole night from beginning to end / overnight' it may be used in contexts where the corresponding Swedish construction would not fit.

The results of our investigation poses the question whether the apparent similarity of Finnish to Russian when it comes to the "under-constructions" and to Swedish regarding the "over/across-constructions" may have to do with language contact. This is a question that must await further research. To conclude we will only state the obvious fact that, on the one hand, genetically related Russian and Swedish have come up with completely different temporal constructions with the prepositions meaning 'under' and 'over/across', although they are used in similar spatial constructions. On the other hand, Finnish, which belongs to another language family but has been in contact with Russian and Swedish throughout its history, "shares" one construction with Swedish and one with Russian.

#### *Abbreviations*

ACC	Accusative
ADE	Adessive
ADP	Adposition
DEF	Definite form
F	Figure
G	Ground
GEN	Genitive
GP	Göteborgsposten
IMPF	Imperfect
INF	Infinitive
INS	Instrumental
IPF	Imperfective aspect
KLK	The Newspaper and Periodical Corpus of the National Library of Finland
NOM	Nominative
NP	Noun phrase
NS	Nykysuomen sanakirja
O	Origo
PASS	Passive
PL	Plural
PP	Perspective point
PR	Present tense
PS	Suomen kielen perussanakirja
PST	Past tense
RNC	Russian National Corpus

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<sup>10</sup> The number of occurrences for *yli vuoden* ('over year-GEN') is also high, but mostly it has the meaning 'more than a year'.

RP	Reference point
SAG	Svenska Akademiens grammatik
SAOB	Svenska Akademiens ordbok
TE	Target event
s-FoR	Spatial Frame of Reference
SO	Svensk ordbok
SG	Singular
t-FoR	Temporal Frame of Reference
VISK	Iso Suomen Kielioppi (web version)

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