To appear in Linguistic Typology 21.1 (2017) https://www.degruyter.com/view/j/lity

Past-future asymmetries in time adverbials and adpositions: a cross-linguistic and diachronic perspective

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Abstract: Expressions like Eng. *ago* have been claimed to be among the most likely candidates for postposition cross-linguistically (Plank 2011: 457). It is often added that the reason for this must be diachronic. Despite previous contributions, however, (Haspelmath 1997: 87-101; Kurzon 2008), we still lack a quantitatively appropriate typological account of the expressions as well as an explanation of which diachronic developments give rise to these expressions. These are the main goals of the present article. Relying on a sample of 100 languages, it has been found that: (i) The structure instantiated in English by *ago* is far from universal and geographically unevenly distributed. (ii) These expressions are indeed predominantly postposed, which does not hold for their mirror images for the future. (iii) Evidence from etymology, patterns of polysemy and documented semantic extensions suggests that this asymmetry is the result of the different diachronic sources of past and future markers.

Keywords: *Ago*, distance-past, cross-linguistic, diachrony, grammaticalization, word order

1 Introduction

This paper aims to provide a cross-linguistic picture of the synchronic word order properties of expressions for deictic localization in the past (e.g. Eng. *ago*, Fr. *il y a*, Germ. *vor*, Rus. *nazad* etc.) and in the future (e.g. Eng. *in*, Fr. *dans*, Germ. *nach,* Rus. *čerez* etc.) as well as of their diachronic sources. The present article is organized as follows. Section 2 introduces the topic and clarifies the scope of the present analysis, i.e. which are the structures and expressions included and excluded and the motives thereof. Section 3 analyzes earlier contributions to the topic and some of their limitations. Section 4 introduces some initial observations concerning the etymological, morphological and syntactic differences frequently found between past and future deictic expressions. Section 5 presents the sample of languages which has been chosen for the quantitative cross-linguistic analysis of the word order of these phrases and Section 6 explores the presence and absence of the target construction in the sample languages as well as their areal patterns and social concomitants. In addition, the most frequent syntactic and semantic alternatives to these constructions are reviewed. Sections 7 and 8 present the word order patterns of the expressions for past and future deictic location respectively, introduce a distinction between monosemous and polysemous markers and explore whether they conform to the dominant head-complement order in the relevant languages. Patterns of polysemy of the markers with multiple time-related uses, the semantics of the time relations involved, the etymological profile of the expressions and their different word order patterns are argued to provide evidence for two different grammaticalization paths giving rise to these expressions and responsible for the noted asymmetry. In the concluding section 9 I summarize the findings of earlier sections, provide some tentative explanations and propose additional research targets that would complement the contributions of the present research.

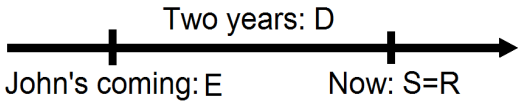
2 Domain of study

Time is one of the most salient aspects of human experience and cognition. The coding of time in language is, therefore, a central component of grammar and has received considerable attention from the linguistic community. Most of those efforts, however, have been centered on the verbal domain (i.e. tense or aspect) while others, such as time adverbials, have received much less attention. This is unfortunate because some languages are altogether bereft of inflectional morphology for tense (e.g. Chinese) or aspect (e.g. German). In addition, tense and/or aspect play only a secondary role, compared to adverbials, in the coding of time relations, especially when these are highly precise.

Time adverbials are generally described (e.g. van der Auwera 1998) as syntactically optional elements which function mainly as modifiers of non-nominal constituents. They comprise extremely varied expressions in both their morphosyntactic composition and semantics. These expressions may be morphologically simple (Eng. *now, often*…), morphologically complex (Eng. *currently, later*…) or syntactically complex expressions. These are, in turn, very diverse, since they may be adverbial phrases (e.g. *two days before*), adpositional phrases (e.g. *in a week*), bare noun phrases (e.g. *summer 1944*) or clauses (e.g. *when you came*). Regarding their semantics, time adverbials can describe duration (e.g. *for an hour*), frequency (e.g. *every year*), contrast (e.g. *already*) or position.

Of this last type are expressions like Eng. *two years ago* or Sp. *hace dos años*. *Ago* or *hace* are part of a phrase which also includes a time NP which specifies the time elapsed from some event in the past up to the present. The phrase as a whole is thus used to indicate the location of the event time (E) at a given distance (D) before the present (S) which is taken as the reference time (R):

(1) *John came* [*two years ago*]



Words like Eng. *ago* or Sp. *hace* have a transparent lexical origin, in the verbs *go* and *hacer* 'to make' respectively, whereas synchronically, their categorial status is more controversial. These expressions tend to be remarkably idiosyncratic within their languages. *Ago*, for instance, is, arguably, (Culicover 1999: 71-74; Kurzon 2008) the only postposition of English and its Italian equivalent *fa* shares this same uniqueness in its language. These expressions contrast prominently with their mirror images for the future, English *in* or Spanish *dentro de*, which only involve the secondary use of spatial prepositions and can therefore be included more easily into one of the conventional word classes.

These are the subclasses of temporal adverbials which are analyzed here. They are syntactically complex, optional and non-clausal expressions which provide the location in time of the main event or situation relative to the *origo* or utterance time. They do so by specifying, in the form of a time NP, the distance separating the present from the time of the event. This may be either in the past (e.g. Eng. *ago*, Fr. *il y a*, Sp. *hace*, Basq. *duela*, Germ. *vor,* Rus. *nazad* etc.) or in the future (e.g. Eng. *in*, Fr. *dans*, Sp. *dentro de*, Basq. *barru*, Germ. *nach,* Rus. *čerez* etc.). Notice that, in order to delimit the object of study, both semantic and formal considerations have been included (i.e. the time distance to the utterance time must be specified by an NP). This is the same approach followed for example by Haspelmath (1997: 6) since, as he mentions, a purely notional, semantic definition of the object of study would be impossible.

Some terminological shortcut is required to refer to these specific constructions throughout the rest of this paper. To avoid a longer term I will refer to these expressions in general as Time

Distancers;[1] to expressions such as Eng. *ago* or Sp. *hace* as Past Distancers and to Eng. *in* or Sp. *dentro de* as Future Distancers independently of their categorial status or syntactic role. The phrases these expressions introduce will be referred to as Time Distance Phrases (TDP) or, when more specificity is required, as Past Distance Phrases (PDP) or Future Distance Phrases (FDP).[2]

3 Previous contributions

Although Time Distancers have not been an exceedingly popular topic for linguistic research, they have not passed totally unnoticed either. For example, they constitute a subset of the NP-based time adverbials studied by Haspelmath (1997). The synchronically peculiar properties of many Past Distancers have recently attracted scholarly attention as well (Kurzon, 2008). Problems posed by Past Distancers in specific languages, both diachronic (Franco, 2012) and synchronic (Culicover 1999: 71-74; Rigau 1999; Móia 2011; Fábregas (2016) have also been addressed. Haspelmath (1997) and Franco (2013) also noticed the frequent formal identity of Time Distancers and other time expressions and of Time Distancers and certain spatial expressions. This will be explored later.

Some asymmetries between Past Distancers and Future Distancers have also been noticed before. When considering specifically some of the sources of Time Distancers, Haspelmath (1997: 86) already noticed a "surprising lack of symmetry" between those for the past and those for the future. For Past Distancers he mentions verbs like *pass* or *exist* and adverbs like *back*. For Future Distancers, common sources involve spatial inclusion (*within*) or movement (*across*) or the adverb *yet*. However, little additional attention has been given to the diachronic, as well as synchronic, differences that are frequently found between past and future deictic markers and between the phrases of which they are part.

In view of their crucial role in language, these expressions and adverbials in general are a very under-studied domain in language. This can probably be explained in part by their sheer complexity. As was mentioned in Section 2, these are very diverse expressions in terms of their composition, their word categorization or their syntactic position and nature.

Indeed, the properties of Past Distancers often make them difficult to research. Many, for instance, are hard to classify on a categorial basis. As mentioned by Kurzon (2008), *ago,* for example, has been variously analyzed in the literature as an adverb, as a postposition and as a preposition. Culicover (1999: 71-74) showed, however, that its properties cannot be fully captured by traditional all-or-nothing Aristotelian categorization. Unless we are ready to prioritize arbitrarily some grammatical properties over others we are simply forced to acknowledge the idiosyncrasy of this particular expression and some of its equivalents in other languages. Probably as a result, a comprehensive cross-linguistic picture of Past Distancers has so far eluded us. What is more, the synchronic properties of these expressions, let alone their diachronic developments, are at times so peculiar that when a typological or cross-linguistic approach has been pursued, appreciation errors have not been uncommon.

Kurzon (2008), for example, explored the Past Distancers in a sample of 26 languages. However, his analysis of many of the expressions is open to dispute.[3] In addition, he seemed determined, from

1 My thanks are due to Martin Haspelmath for suggesting this term.

2 The relevant markers or expressions have been labeled in different ways in the literature. For instance, they have been called "temporal deictic expressions" by Kurzon (2008) and "temporal distance markers" by Haspelmath (1997), and their semantic contribution has been labeled "deictic scalar localization" by Bourdin (2011).

3 Finnish *sitten*, for example, is claimed by Kurzon (2008: 219) to be a postposition "which governs the partitive case […] when the noun in the temporal NP is in the plural […] while in cases when the singular is referred to, the

the very beginning, to classify every single Past Distancer as either adpositional or adverbial. To do so, "inconvenient" properties of the expressions in question are sometimes disregarded. For example, he argues (p. 216) that such Past Distancers as Spanish *hace* and French *il y a* are synchronically prepositional on the basis of their being invariable in form. This, however, is not the situation in those two languages, since non-present forms of the expressions are indeed possible:

(7) *Le había visto hacía una semana* (Spanish)
him had seen make.IPF a week
'I had seen him a week earlier'

In a similar vein, after mentioning (p. 223) that the Past Distancer in Bislama (English creole, Oceania) might be "even verbal", he proceeds to classify the expression as adverbial because, apparently, he had only two taxa in his taxonomy of Past Distancers.

Trying to straitjacket every single word in a language into a rigid grammatical category may not always be the most fruitful approach. Trying to do so with such idiosyncratic expressions as Past Distancers, and besides in languages with which the researcher has little acquaintance, is likely to be unsuccessful. For this reason, the following typological research has focused chiefly on the word order of the Time Distancer with respect to the accompanying time NP. No claims are made here, therefore, concerning the grammatical category of specific Time Distancers or the specifier or complement role of the time NP. By confining the analysis to this readily accessible and uncontroversial feature and relating it to the dominant word-order patterns in each language, it will hopefully be possible to steer clear of errors like those mentioned above, while providing relevant information about the nature of the expressions crosslinguistically.

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nominative is used":

(3) *Kaksi päivää sitten* (Finnish)
Two day.PART.SG ago
'Two days ago' (Kurzon 2008: 219)

(4) *Vuosi sitten* (Finnish)
Year.NOM.SG ago
'A year ago' (Kurzon 2008: 219)

This would indeed be something unique in the language, since most postpositions govern the partitive case but, logically, both in the singular and in the plural (Karlsson 1991: 241). What seems to be happening in these examples is that it is the numeral which is governing the partitive case in (3) whereas in (4) there is no numeral to do so. Note that after numerals other than *one*, the partitive singular is used in Finnish (Karlsson 1991: 110).

In the same page, Kurzon also classifies the Turkish Past Distancer *önce* as a postposition, rather than as an adverb preceded by an extent phrase, which is Haspelmath's (1997: 82) analysis of the expression. The problem in this case seems to be that the location-in-the-past function (marked in English by *ago*) is being mistaken with the anterior (indicated in English by *before*). Both time relations are in Turkish coded with the same expression *önce,* but with a different syntactic structure. Contrary to Kurzon's claim, example (5) does not mean *one year ago* but rather *before one year* and should have therefore remained outside the study since it is not deictic. Sentence (6) could have been included instead, since it makes the appropriate semantic contribution:

(5) *Bir yil-dan önce* (Turkish)
One year-ABL before
'Before one year' (Kurzon 2008: 219)

(6) *Bir yil önce* (Turkish)
One year.NOM ago
'One year ago'

4 Preliminary observations

In Section 2 some differences between Past and Future Distancers were introduced which seemed to constitute an interesting past-future asymmetry. An initial look at these expressions reveals that this asymmetry appears to involve syntactic differences in both word order and morphological complexity such as the ones exemplified through (8-12):

	Past Distancers	Future Distancers	
(8)	a. *I came* [*two years ago*]	b. *I will come* [*in two years*]	
(9)	a. [*Duela bi urte*] *etorri nintzen*	b. [*Bi urte barru*] *etorriko naiz*	(Basque)
(10)	a. *Sono venuto* [*due anni fa*]	b. *Verrò* [*tra due anni*]	(Italian)
(11)	a. *Ja prišel* [*dva goda nazad*]	b. *Ja pridu* [*čerez dva goda*]	(Russian)
(12)	a. *Je suis venu* [*il y a deux ans*]	b. *Je vais venir* [*dans deux ans*]	(French)

The asymmetry also seems to involve etymological differences. For example, while many Past Distancers are synchronically seen to be based upon a lexical, open class item (most usually a verb), Future Distancers are most usually based upon grammatical elements:

a-go < prefix-go	*in* < in	(English)
du-ela < have.3SG-COMP	*barru* < inside	(Basque)
fa < make.3SG	*tra* < behind	(Italian)
na-zad < to-back	*čerez* < across	(Russian)
il y a < it there have.3SG	*dans* < inside	(French)

All in all, as can be seen, Future Distancers appear initially to be more grammaticalized than their past-time equivalents and to be more unremarkable within their respective languages. Past Distancers, on the contrary, appear to be often badly aligned with regards to the dominant word order of their respective languages and sometimes exhibit quite idiosyncratic properties,[4] which is probably the reason why they have attracted more attention than Future Distancers.

It has to be stressed at this point that the asymmetries that have been presented for Time Distancers in (8-12) are not paralleled by other very similar time-related but non-deictic expressions. Thus, for example, no such asymmetry is found between expressions whose reference time is not the present or speech time but some other point in the time axis instead:

(13) a. *2 years before*	b. *2 años antes*	(Spanish)
	'2 years before'	
(14) a. *2 years later*	b. *2 años después*	(Spanish)
	'2 years later'	

These are all adverbs specified by measure phrases and heading adverbial phrases in a little-surprising syntactic position. This seems to suggest that it is the opposition of past and future meaning which is relevant (if not responsible) for the earlier differences. It will be interesting to observe whether the expressions which have time deictic, as well as non-deictic uses[5] tend to pattern like deictics or like non-deictics and whether the preliminary observations presented in this section hold cross-linguistically.

4 Contrary to the examples presented in (8-12) there are also, of course, many languages (e.g. German) which use ordinary spatial adpositions (*vor* 'before') as Past Distancers.

5 As discussed by Haspelmath (1997: 80-90), many languages lack a distinction between deictic and sequential markers; that is, they have a single expression for a Past Distancer like *ago* and a marker of anteriority like *before*.

5 The Sample

With the aim of answering this question and to prove whether or not the asymmetry between Past and Future Distancers is a cross-linguistically valid generalization and to quantify it, the following sample of 100 genetically and geographically diverse languages has been chosen:

Table 1: Sample languages and their genetic affiliation

Indo-European	Dutch, English, German, Swedish, French, Italian, Romanian, Spanish, Bulgarian, Polish, Russian, Serbian/Croatian, Hindi, Pashto, Persian, Punjabi, Breton, Irish, Welsh, Latvian, Lithuanian, Albanian, Armenian, Greek
Afro-Asiatic	Arabic, Hausa, Hebrew, Maltese, Mehri, Oromo, *Mani*[6]
Niger-Congo	Igbo, Swahili, Thimbukushu, Yoruba, *Babungo, Supyre*
Austronesian	Indonesian, Maori, Tagalog, *Muna, Tuvaluan*
Sino-Tibetan	Chinese, Taiwanese, Tibetan, *Lepcha, Thangmi*
Dravidian	Kannada, Malayalam, Tamil, Telugu
Uralic	Estonian, Finnish, Hungarian, Udmurt
Nakh-Daghestanian	Chechen, Hunzib, Lezguian
Pama-Nyungan	*Dyirbal, Warlpiri, Bilinarra*
Tungusic	Evenki, Nanai, Udihe
Arawan	*Jarawara, Tariana*
Central Solomons	*Lavukaleve, Savosavo*
Creoles	Haitian, Saramaccan
Na-Dené	Slave, *Tsilhqút'ín*
Tai-Kadai	Lao, Thai
Turkic	Azeri, Turkish
Uto-Aztecan	Hopi, *Ute*
Abkhaz (Abkhaz-Adyge), Abui (Timor-Alor-Pantar), *Bardi* (Nyulnyulan), Basque (Language Isolate), *Caviñena* (Pano-Tacanan), Georgian (Kartvelian), *Hixkaryana* (Carib), Japanese (Japonic), Kalaallisut (Eskimo-Aleut), *Kayardild* (Tangkic), Korean (Koreanic), *Lango* (Nilotic), *Mixtec* (Oto-Manguean), Mongolian (Mongolic), *Nishnaabemwin* (Algonquian), *Nivkh* (Language Isolate), Quechua (Quechuan), Semelai (Austroasiatic), Tepehua (Totonacan), *Tzutujil* (Mayan), *Wari'* (Chapacuran), *Yukaghir* (Yukaghir)	

The availability of the relevant information was a decisive criterion in the selection of the individual languages in the sample[7]. As a consequence, the sample is somewhat biased towards European and Indo-European languages. This, however, may not be exceedingly problematic when studying Time Distancers. One of the most remarkable facts about these expressions is precisely that even very closely related languages tend to exhibit different, non-cognate expressions.[8] This

6 Languages in italics are those lacking the structure under study. Further information will be provided in Section 6.

7 This lack of randomness disqualifies this as a sample in the strict sense of the word (the term 'convenience sample' is sometimes used), however, the term will be kept for practical reasons to designate the group of languages selected for the present study.

8 See in Appendix 2 the Time Distancers of Romance, Slavic, Celtic, Turkic, Semitic, Finnic or Tai-Kadai languages.

suggests that these are strategies that are relatively unstable diachronically and tend to be renewed frequently. Therefore, trying to ascertain which are the diachronic sources of these expressions will also have to be one of the main goals of the present research.

6 Presence and absence of Time Distancers and their corresponding constructions

The linguistic structure we are concerned with here (i.e. a syntactically complex optional phrase containing a time NP specifying the time separating some event from the present) is ubiquitous in the most widespread European and Asian languages and we might be tempted to take its presence for granted. However, the precise measurement, record and segmentation of time is a cultural feature which is more prominent in some societies than in others. Thus, it must be taken into account that not all languages need to match the degree of precision with which an event can be located in time in most European languages. In addition, of course, the same semantics provided by Time Distancers may be conveyed by constructions different from the one that concerns us at present. The result, therefore, is that some languages simply do not have the linguistic structures which are being analyzed here.[9] These languages were shown in Table 1 in italics.

Probably one of the most extreme cases in this respect (for speakers of European languages at least) is represented by Wari' (Chapacuran, Brazil). According to Everett & Kern (1997: 139), time adjunction as a whole is absent from the language. Time information can apparently only be provided by the use of verbal modifiers which combine with the verb root to produce a compound. Also remarkable to western eyes is the situation in Jarawara (Arawan, Brazil). According to Dixon & Vogel (2004: 409), not only is the construction analyzed here absent from the language but even a specific word for 'when' is also absent. To inquire about time one must resort to circumlocutions:

(15) *Hika bahi itara* (Jarawara)
where sun sit
'What time is it?' (Lit. 'Where does the sun sit?') (Dixon & Vogel 2004: 409)

Somewhat less extreme seems to be the situation in Dyirbal. There, Dixon (1972: 115) described lexicalized, unanalyzable expressions as the only adverbial resource to locate an event in the past with a certain degree of precision. We find, among others, *buluru* 'very many years ago', *bandagay* 'many years ago', *gubila* 'some time ago' etc. Evans (1995: 229) describes something very similar for Kayardild, where we find *yuujbanda* 'in the old days', *kurdiwirdi* 'some time ago' or *dilaya* 'a few days ago'. These monomorphemic expressions do not lend themselves to the kind of analysis I am pursuing here and are therefore outside the scope of the present study.

Something slightly different is what we find in Lepcha (Tibeto-Burman, Bhutan). Plaisier (2006: 93) presents us the following time adverbials in that language:

ʔi-tshóng (2 days ago)	*ʔyo-chám* (3 days ago)	*ʔyo-chót* (4 days ago)
ka-tshóng (in 2 days)	*ká-chám* (in 3 days)	*ká-chót* (in 4 days)

Unlike the Australian time adverbs, the expressions seem to be morphologically complex. The strategy, however, appears not to be available for other time periods (e.g. six days ago). In addition, the morphemes *tschóng, chám* and *chót* are confined to this construction and are not the usual terms for two, three and four in the language. Interesting though this construction might be,

9 The presence or absence of Time Distancers in most of the sample languages has been determined by their presence or absence in descriptive grammars. This approach, of course, is not without problems, since a particular construction can be present in a language but absent from a given grammatical description. To minimize this risk only languages with in-depth grammatical descriptions have been considered. In addition, the absence of Time Distancers from a particular language has only been posited where some sort of negative evidence was found in the grammar (e.g. semantically equivalent constructions like the ones analyzed in this section or/and explicit reports of absence in the grammar).

these time adverbials have therefore also been excluded from further consideration in this study.

A different strategy is represented by Babungo (Niger-Congo, Cameroon). When expressing precisely the location in time of some event, this language uses exclusively biclausal structures:

(16) *ŋwá táa jwì fáŋ vəshī vəbɔ̀ɔ shɔ̂ɔ*
he FUT come [when days two pass.IPFV]
'He'll come in two days' (Lit. 'He will come when two days have passed') (Haspelmath 1997: 55)

(17) *ŋwá kû. ndwá lùu ŋú'sə bɔ̀ɔ*
he die now be years two
'He died two years ago' (Lit. 'He died. It's now two years') (Haspelmath 1997: 55)

In some languages, therefore, the phrase which expresses the time distance separating an event from the present is always a clause in itself and is, thus, outside the scope of the present analysis. These constructions have been excluded because clausal elements often have very different properties from nonclausal ones and may not be comparable despite their identical semantics. Sententials, for instance, tend to have a freer syntax in languages where word order is not rigid, which would have been problematic for the analysis of languages to which the linguist has a limited access (in some cases a single sentence) and no knowledge of his own whatsoever. The Spanish examples below illustrate the different constituent order flexibility sentential and non-sentential elements may have:

	Clausal	Non-clausal
(18)	a. *Hace diez días que te vi* it.makes ten days that you.ACC saw.1SG 'It has been ten days since I saw you'	b. *Hace diez días te vi* ago ten days you.ACC saw.1SG 'I saw you ten days ago'
(19)	a. *Hace que te vi diez días* it.makes that you.ACC saw.1SG ten days 'It has been ten days since I saw you'	b.**Hace te vi diez días* ago you.ACC saw.1SG ten days ('I saw you ten days ago')
(20)	a. *Diez días hace que te vi* ten days it.makes that you.ACC saw.1SG 'It has been ten days since I saw you'	b.**Diez días hace te vi* ten days ago you.ACC saw.1SG ('I saw you ten days ago')

We should wonder at this point whether the presence or absence of Time Distancers in a given language is predictable from or correlated to some other factor. Some areas appear to be specially prone to lacking this construction. Apart from the aforementioned Dyirbal and Kayardild, other languages from Oceania in my sample like Warlpiri, Bilinarra, Lavukaleve or Tuvaluan lack it as well. Languages in Amazonia also appear to be similar in this respect. Apart from Wari' and Jarawara, Caviñena, Tariana or Hixkaryana appear to lack Time Distancers. Languages in the rest of America and in Africa often seem to lack them as well. By contrast, not a single European language has been found to lack this construction. This is also uncommon in Asian languages according to my sample:

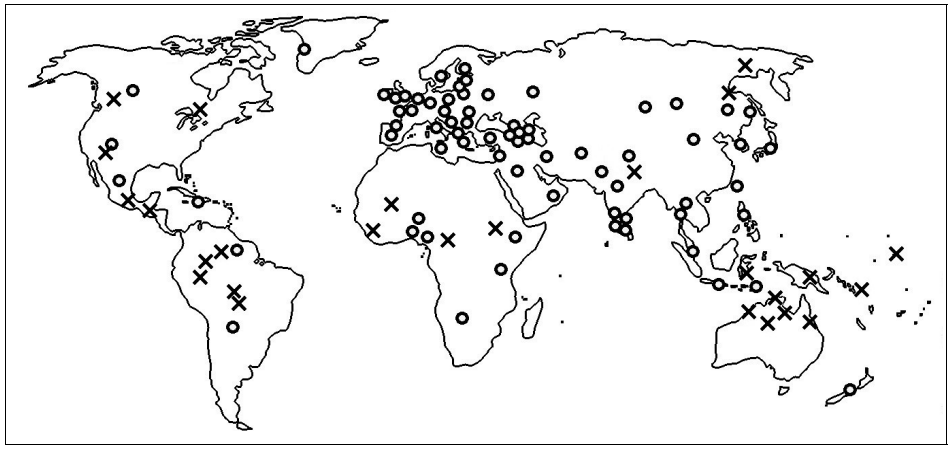
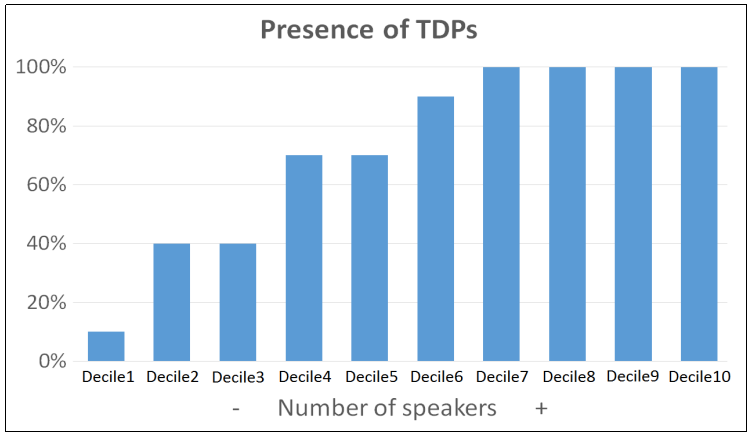


Figure 1: Geographic location of the languages in the sample
and presence (circles) vs. absence (crosses) of Time Distancers.

Even if the distribution of the sample languages is not geographically balanced, the areal pattern of these time constructions is clear enough not to be attributable to chance. This geographic pattern, however, most probably is caused, in turn, by something else, since geographical location *per se* (i.e. latitude and longitude) is unlikely to influence the syntactic structures of a language. If we look at the languages in the sample which lack Time Distancers we easily find some things in common. Without exception they are languages spoken in predominantly rural or hunter-gatherer communities and with a modest number of speakers:



Graphic 1: Proportion of languages having
TDPs ordered by number of speakers.

A functional evolutionary explanation for this trend may be appealing at this point. Language is a social instrument which has to serve the needs of the society where it is spoken. Languages spoken in mountainous areas, for instance, sometimes have the vertical axis integrated into their morphology for spatial deixis (Schapper 2014) while this is extremely rare in languages spoken in flat terrains. It must be that a higher frequency of use of that spatial dimension in these mountainous areas may lead over time to the grammaticalization of those spatial relations. In flat areas, the vertical axis is used less frequently and the relevant morphology either does not develop or is lost because it is less useful there.

Similarly, it is not difficult to imagine that whereas most speakers of Hixkaryana, Babungo or Savosavo rarely need to express something as precise as 'in five weeks' or '12 years ago', the situation is probably different among speakers of Dutch, Basque or Korean. In urban, bureaucratic, polychronic societies, speakers will need to be able to express location in time with absolute precision. In addition, if these meanings arise in discourse with sufficient frequency, there might be

a strong pressure for languages spoken in these contexts to have these structures available.[10] This is, of course, just an impressionistic attempt to explain the data emerging from the present study. Investigating the frequency of appearance of such time relations in oral registers in different languages would help support or dismiss these claims. For the time being, however, I will leave that for future research.

7 Past Distancers and their phrases cross-linguistically

Past Distancers occur across languages in any possible word order with respect to their accompanying time NP. Thus, they may precede it, follow it or, as the third logical possibility, a discontinuous expression may precede and follow it at the same time. I present below examples for each of the attested word orders with the Past Distance Phrase between brackets and the Past Distancer in bold:

(21) *(**Du-ela** hamar urte) jaio zen* (Basque)
has-COMP ten year born was.3SG
'He was born ten years ago'

(22) *Kunit hunak (**'abil** juma')* (Arabic)
was.1SG there ago week
'I was there a week ago' (Kurzon 2008: 217)

(23) *(Do saal **páílãã**) asĩĩ Multaan gae* (Punjabi)
two year ago we Multaan went
'Two years ago we went to Multaan' (Haspelmath 1997: 82)

(24) *Ja priexal sjuda (tri nedeli **nazad**)* (Russian)
I came.M to.here three weeks ago
'I came here three weeks ago'

(25) *Jag var i Stockholm (**för** tre år **sedan**)* (Swedish)
I was in Stockholm ago three years ago
'I was in Stockholm three years ago'

(26) *(**Kə** and səat **bəfit**) ɨzzih nəbbərə* (Amharic)
ago one hour ago here was.3SG.M
'He was here an hour ago' (Kurzon 2008: 217)

In Table 2, I classify the languages in my sample according to whether their Past Distancer is preposed or postposed to the time NP[11] and according to whether the language in question is predominantly prepositional or postpositional.[12] This is, logically, meant to analyze whether there is some correlation between the order of Past Distancers and that of adpositions and to see what the cross-linguistic preference is, if any, for the placing of Past Distancers:

10 The idea that language might evolve to meet the communicative needs of its speakers (which is to say the needs of the society where the language is spoken) is not new (e.g. Deutscher 2000; Bybee 2010; Dixon 2010: 15-22) and is even expected if one accepts usage-based explanations of language change.

11 The two cases which, like Swedish, display a Past Distancer which is both pre- and postposed have been counted as 0,5 for each of the two positions. For some languages (e.g. English *ago* vs *back*, Italian *fa* vs *addietro*) more than one expression is found with the same semantics. In these cases the most frequent variant was chosen for analysis.

12 As any typologist knows, the order of an adposition and its complement is strongly correlated with that of the verb and its object. Almost all of the prepositional languages in the sample therefore display the basic word order VO and almost all of the postpositional languages are OV. The few cases where the two parameters do not co-occur as expected have been indicated in Appendix 1.

Table 2: Correlation between order of adpositions and Past Distancers (PD).

	Prepositional Languages	Postpositional Languages
NP **PD**	**21**	**31**
PD NP	**16**	1

There are two things which are spotted here. On the one hand, it can be seen that, cross-linguistically, the Past Distancer has a strong general tendency to be postposed to the time NP. This had been advanced impressionistically by Plank (2011: 457) for example, who mentioned that "of all adpositions, *ago* is universally among the most likely candidates (perhaps the most likely) for postposing even in languages where prepositions hugely predominate". This seems to be confirmed here since 52 from 69 expressions (75'4%) are postposed in the present sample.

Despite this overall preference for postposition, there seems to be a very clear correlation between the order of a Past Distancer and the dominant order of adpositions in the language in question. Thus, prepositional languages show preposed and postposed Past Distancers with a comparable frequency whereas postpositional languages have a very strong preference for a postposed Past Distancer. From the 32 postpositional languages in the sample for which I have the relevant data, only a single one, Basque, has a preposed Past Distancer. The Chi-squared test (even with Yate's correction; see e.g. Brown 2004) shows that the differences displayed in Table 2 are statistically highly significant (p=0.0003).

This single exception of a postpositional language showing a preposed Past Distancer could well be a result of language contact since the Basque has been for a very long time a neighbor of both Spanish and French, languages where a preposed Past Distancer is used. This hypothesis is supported by the fact that, up to the 17th century, the same expression that in present-day Basque appears preposed (see 21) was indeed postposed:

(27) *Beha egotu naiz ea zer erraiten zuten iendek nik (zenbait urthute **duela**)*
looking be AUX.1SG Q what say AUX.3PL people.ERG I.ERG some years ago
eskiribatu nuen giristinoaren Dotrinaz (Basque)
write have.PST.1SG christian doctrine
'I have been looking at what people say about the christian doctrine I wrote some years ago' (1617-23, Euskal Klasikoen Corpusa)

Until approximately that time the word order of the Spanish Past Distancer was predominantly postposed as well, so language contact would not have exerted a pressure towards preposing. Only when later on, especially during the 18th century, preposing of the Past Distancer became mainstream in Spanish through the replacement of *haber* by *hacer*, did the Basque language come under pressure to switch the order of its Past Distance Phrase to fit the one found in the neighboring languages:

(28) *Orai (**duela** laur egun) othoitzean nindagoen...* (Basque)
now ago four day praying AUX.PST.1SG
'I was praying four days ago now...' (1740, Euskal Klasikoen Corpusa)

It is, of course, difficult to prove beyond doubt that a given change was the result of language contact, but the evidence presented quite strongly suggests that it may have been at least an important factor here and that language contact should not be dismissed when analyzing the word order properties of these expressions.

Back to the typological analysis, one factor which has been left out of the equation until now is the fact that Past Distancers may be monosemous (i.e. may have the location of an event at a certain

point in the past as their only time-related semantic function) or may be polysemous. In fact, as argued by Haspelmath (1997: 80-90) and as shown more graphically by Franco (2013: 53), many Past Distancers are also put to use in the expression of other temporal relations. Very frequently they can also be used for 'retrospective' and 'anterior' uses:

(29) ***Vor*** *vierzig Jahren gab es hier eine wunderbare Landschaft* (German)
ago forty years was there here a wonderful landscape
'Forty years ago there was a wonderful landscape here'

(30) *Mein Vater wurde zehn Jahre* ***vor*** *Beginn des Zweiten Weltkriegs geboren* (German)
my father was ten years before beginning of Second World.war born
'My father was born ten years before the beginning of the Second World War'

(31) ***Vor*** *dem Essen war ich nicht hungrig* (German)
before the meal was I not hungry
'I wasn't hungry before the meal'

(32) *Dümdüz 250 jis idalaj* ***wilik*** (Lezgian)
exactly 250 years this before
'Exactly 250 years ago' (Haspelmath 1997: 82)

(33) *Däwedilaj* ***wilik*** (Lezgian)
war before
'Before the war' (Haspelmath 1997: 82)

Examples (29) and (32) have the semantics that have been defined as the object of study in this paper, which Haspelmath (1997) called 'distance-past'. Example (30) has a different semantic contribution, since it does not make reference to the utterance time but rather the time distance is counted backwards from another time reference. It is usually called 'distance-retrospective'. Examples (31) and (33) are more different still from 'distance-past' in that they neither refer to utterance time nor do they specify the time distance mediating between reference time and event time. Because of this, they are usually referred to simply as 'anterior':

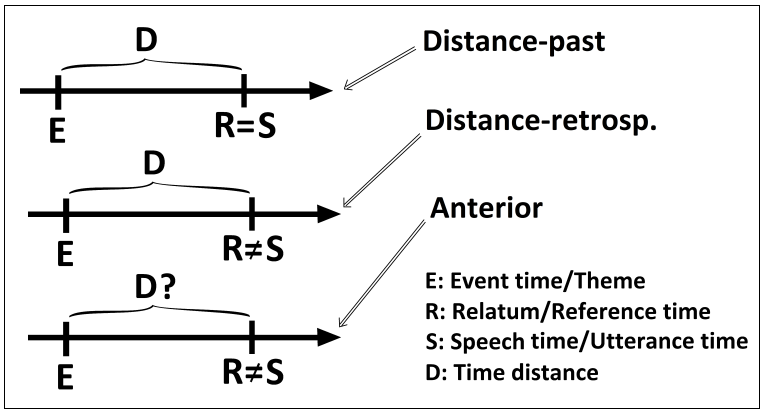


Figure 2: Semantic composition of distance-past, distance-retrospective and anterior time relations.

Cross-linguistically, therefore, Past Distancers can be specialized exclusively for their use in the 'distance-past' function or may have other temporal uses (such as, for example, the previous ones). To see if the properties of the expressions are significantly different depending on whether they are dedicated to 'distance-past' or not, I have analyzed again the correlation between the word order of Past Distancers (PD) and that of adpositions. These are the results:

Table 3: Word order of monosemous PD.

Monosemous PD	Prepositional Languages	Postpositional Languages
NP **PD**	**9**	1
PD NP	4	1

Table 4: Word order of polysemous PD

Polysemous PD	Prepositional Languages	Postpositional Languages
NP **PD**	2	**21**
PD NP	**12**	-

The count shows that the word order of the two types of Past Distancers shows indeed remarkable differences. Those which are not confined in their use to the 'distance-past' function pattern very much like adpositions. Only 5.7% (2/35) of the languages in the sample for which I have the relevant data deviate from the predominant word order found there. All the word order "extravagance" and "maladaptiveness" observed in Past Distancers as a whole, therefore, are found in those used exclusively for the expression of that time relation. Yate's chi-squared test shows that, in prepositional languages, the difference found in the word order of monosemous and polysemous Past Distancers is statistically significant (p=0.012).

From the observed patterns I hypothesize two things. First of all, from the 'messy' properties and little aligned word order of monosemous Past Distancers *vis à vis* their non-dedicated counterparts one may propose that 'distance-past' is a time relation in which erstwhile free, discursive linguistic expressions first become a part of grammar. Such a fact would explain the characteristics of Past Distancers that were presented in Section 3 such as their often synchronically recoverable lexical (frequently verbal) origin as well as the word order properties found here. Given the most frequent diachronic sources of adpositions and adpositional phrases,[13] the word order patterns that have been presented for Past Distancers are not unexpected.

Secondly, Franco (2013) shows that the possible semantics of polysemous Past Distancers are subject to a constraint whereby a given expression cannot be used for the 'distance-past' and 'anterior' functions without being used as well to express 'distance-retrospective':

Table 5: Time relations of polysemous Past Distancers (adapted from Franco 2013: 53)[14]

Language	Anterior	Distance-retrospective	Distance-past
Albanian	*Para*	*Para*	*Parë*
English	*Before*	*Before*	*Ago*
German	*Vor*	*Vor*	*Vor*
Maltese	*Qabel*	*Qabel*	*Ilu*
Serbian/Croatian	*Prije*	*Prije*	*Prije*
Spanish	*Antes*	*Antes*	*Hace*
Turkish	*Önce*	*Önce*	*Önce*

13 As Plank (2011: 460) mentions, "the commonest sources of adpositions-in-adpositional-phrases are verbs-in-verb-phrases (primarily transitive, typically in some non-finite construction), head-nouns-in-attributive-phrases (with body parts and other relational nouns as heads) and (local and temporal) adverbs gaining an obligatory complement". When grammaticalizing from verbs, which is quite frequent among Past Distancers as has been shown, this predicts that in SVO languages both a preposition (out of VO) and a postposition (out of SV) may be possible outcomes whereas in SOV languages the only possible outcome would be a postposition. This agrees with the general correlations found here. Note that prepositional languages are frequently SVO whereas postpositional languages are in most cases SOV.

14 Unlike in Franco (2013), no claims are made in this paper concerning the syntactic analysis of these expressions.

Franco (2013) also included the following information about the diachrony of Italian:

Table 6: Time relations of polysemous Past Distancers in Italian

Language	Anterior	Distance-retrospective	Distance-past
Old Florentine	*Prima*	*Addietro*	*Addietro*
Modern Italian	*Prima*	*Prima*	*Addietro* (also *fa*)

As could be seen graphically in Figure 2, the semantics of 'distance-retrospective' are indeed intermediate between the other two.[15] It is thus not surprising that, when diachronic semantic extensions occur in these expressions, a morph will necessarily need to adopt the intermediate meaning (distance-retrospective) before reaching the final one (distance-past). The constraint observed synchronically by Franco (2013) is thus the expected outcome of "normal" diachronic semantic extensions. It is at this point when our data come into play once again. The fact that the "extravagant" properties of Past Distancers are limited to monosemous ones is an indication that semantic extensions among these three functions proceed from the 'anterior' function towards 'distance-past' via 'distance-retrospective'[16] and rarely (or never) in the opposite direction. Current etymological knowledge of polysemous Past Distancers like *vor*, *prije* or *önce* as well as attested diachronic developments like Franco's Italian example of Table 6 also seem to support the same diachronic path:

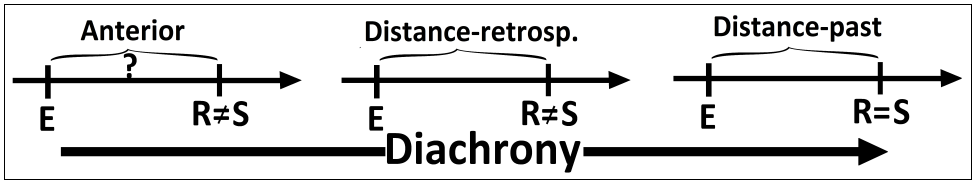


Figure 3: Main direction for semantic change

Other interesting patterns can also be extracted from the results of my typological survey of Past Distancers even if always with the necessary precautions because of the modest numbers involved in the present sample. It looks remarkable, for example, that semantically dedicated Past Distancers are almost completely restricted to Europe and are specially frequent in Western Europe. Here I present the global distribution of monosemous Past Distancers:

15 It could be argued, on empirical grounds, that the difference between deictic (distance-past) and non-deictic time relations (distance-retrospective and anterior) is the most fundamental one. As can be seen in Table 5, a different morphosyntactic coding of distance-past and distance-retrospectivity is more frequent than a different coding of distance-retrospectivity and anteriority.

16 This involves, as can be seen in Figure 3, sucessive steps of interpretative enrichment, which constitutes a development "entirely expected from a Gricean point of view" (Haspelmath 1997: 84) and is arguably the result of the natural tendency of the speaker to always assume more than has been said.

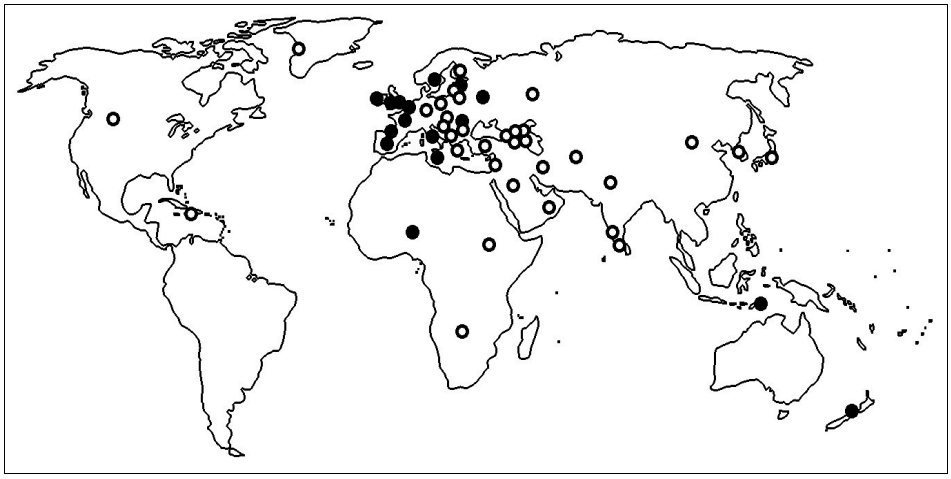


Figure 4: Geographic distribution of monosemous (black circles) and polysemous (white circles) Past Distancers.

As can be seen, only 3 out of 16 languages having a monosemous Past Distancer in this sample are outside Europe. It might be that this is another one of the cross-linguistically uncommon features of so-called 'Standard Average European'. If this turns out to be a significant areal feature it may also be hypothesized, in line with my preliminary explanation at the end of Section 6, that a greater western-culture preoccupation with time measurement may well be the reason behind it. If the different time relations emerged in speech more frequently in European society and languages than in other parts of the world, this could have been a motivation for a greater clarity in this respect (i.e. for the use of different morphs and structures for the different time relations). A similar and highly compatible possibility was mentioned by Haspelmath (1997: 55). As he proposed, the greater frequency of these constructions in Europe may have triggered the grammaticalization of some biclausal structures (like those from Babungo presented in section 6 that would otherwise have been left out of this study) into monoclausal ones, thus increasing the frequency of dedicated Past Distancers in this region. This diachronic development seems to be responsible for the emergence of these expressions in English, French, Italian, Spanish, Basque or Maltese for example.

8 Future Distancers and their phrases cross-linguistically

Future Distancers, the same as Past Distancers, also may occur preposed and postposed to the time NP. Unlike Past Distancers however, no Future Distancers have been found to occur circumposed to their time NP. Conversely, the 'distance-future' semantic function has been found expressed by a particular grammatical case ending on the time NP, something which did not occur in 'distance-past'. It has to be stressed again at this point that the numbers are probably not big enough to be confident that these are general features consistently distinguishing Future from Past Distancers; however, they seem to be in line with the overall higher grammaticalization of Future *vis à vis* Past Distancers. Here are a few examples of pre- and postposed, as well as grammatical case Future Distancers:

(34) *Una expedición viajará a Marte (**dentro de** 15 años)* (Spanish)
an expedition travel.FUT.3SG to Mars inside of 15 years
'An expedition will travel to Mars in 15 years'

(35) *Tha jiríz-o (**se** tris óres)* (M. Greek)
FUT return-1SG in three hours
'I will return in three hours' (Haspelmath 1997: 90)

(36) *(Bi urte **barru**) amaitu-ko ditu ikasketak* (Basque)
two year inside end-FUT AUX.3SG studies
'He/she will finish his/her studies in two years'

(37) *(Iki saat **sonra**) don-eceg-im* (Turkish)
two hour after return-FUT-1SG
'I will be back in two hours' (Franco 2013: 7)

(38) *Työ on valmis (muutama-**ssa** minuuti-**ssa**)* (Finnish)
work is ready few-INESS minutes-INESS
'The work will be ready in a few minutes' (Karlsson 2008: 216)

(39) *(Or saat-**ši**) davbrundebi* (Georgian)
three hour-LOC I.will.return
'I will return in three hours' (Haspelmath 1997: 90)

Another sign of the overall higher degree of grammaticalization found in Future Distancers is the fact that, unlike in Past Distancers, the time NP alone, without any overt marking, can sometimes function as a Future Distance Phrase. This is what Kruspe (2004: 244) describes for Semelai (Mon Khmer, Malaysia) and Smythe (2007: 505) for Huehuetla Tepehua (Totonacan, Mexico):

Table 7: Past and Future Distance Phrases in Semelai and Tepehua

Language	**Past Distance Phrase**	**Future Distance Phrase**
Semelai	*Hmpɛʔ ʔareʔ lɒc* (Lit. 'three day ago')	*Tmpɔh ʔareʔ* (Lit. 'seven day')
Tepehua	*Miix-kiis-chich* (Lit. 'days five ago')	*Miix-kiis* (Lit. 'days five')

In Table 8, as was done in the previous section with Past Distancers, I classify the languages in the sample according to the position of their Future Distancers with respect to the time NP and according to whether the language in question is predominantly prepositional or postpositional. It is analyzed below whether some correlation exists between the order of Future Distancers (FD) and adpositions and whether there is some cross-linguistic preference for the placement of these expressions:

Table 8: Word order of Future Distancers

	Prepositional Languages	Postpositional Languages
NP **FD**	2	**28**
FD NP	**31**	-

As can be seen in Table 8, Future Distancers, unlike their mirror-images for the past, are very "well-behaved" and pattern almost perfectly like adpositions. One of the two exceptions, a postposed marker in prepositional Persian, cannot be considered totally dis-harmonic either because, as a prepositional but SOV language, Persian exhibits mixed features regarding word order. The other, Indonesian *lagi*, grammaticalized from the adverb 'still', (Haspelmath 1997: 165) so its word order, even if synchronically out of line in the language, is diachronically understandable.

As with Past Distancers, a distinction can also be drawn between those Future Distancers having 'distance-future' as their only time-related meaning and those polysemous morphs used with other meanings as well. The case of Turkish *sonra* is an example of a polysemous marker:

(40) *Iki saat **sonra** don-eceg-im* (Turkish)
two hour after return-FUT-1SG
'I will be back in two hours' (Franco 2013: 7)

(41) *Sah-dan* ***sonra*** *bura-da ol-acağ-im* (Turkish)
Tuesday-ABL after here-LOC be-FUT-1SG
'I will be here after Tuesday' (Franco 2013: 7)

Since Future Distancers (FD) in general pattern almost perfectly like adpositions, no asymmetry can be expected this time between monosemous and polysemous expressions:

Table 9: Word order of monosemous FD

Monosemous FD	Prepositional Languages	Postpositional Languages
NP **FD**	-	2
FD NP	**10**	-

Table 10: Word order of polysemous FD

Polysemous FD	Prepositional Languages	Postpositional Languages
NP **FD**	-	**14**
FD NP	**14**	-

This is an indication that, unlike 'distance-past', 'distance-future' is usually not a locus for primary grammaticalization (i.e. for the change in the status of some element from lexical to grammatical). The patterns of polysemy found in Section 7, however, also hold for Future Distancers and thus formal identity of 'distance-future' and 'posterior' like in examples (40-41) can only be found if the semantically intermediate function 'distance prospective' is also expressed with the same marker:

Table 11: Time relations of polysemous Future Distancers (Adapted from Franco 2013: 52)

Language	**Posterior**	**Distance-prospective**	**Distance-future**
Albanian	*Pas*	*Pas*	*Pas*
Haitian	*Apré*	*Apré*	*Nan*
Hungarian	*Ultán*	*Múlva*	*Múlva*
Japanese	*Go ni*	*Go ni*	*Go ni*
Maltese	*Wara*	*Wara*	*Fi*
Serbian/Croatian	*Poslije*	*Poslije*	*Do*

Regarding the diachronic semantic extensions which were hypothesized for Past Distancers in the previous section, therefore, there is, in principle, no reason to believe that they should proceed differently here. The 'posterior', thus, is probably a frequent diachronic source of Future Distancers cross-linguistically but by no means the only source. Given the unremarkable properties of even monosemous Future Distancers, 'distance-future' may not be a frequent locus for primary grammaticalization but it might be for so-called secondary grammaticalization. As witnessed by the spatial inessive semantics of many expressions (e.g. Sp. *dentro de,* Fr. *dans,* Basq. *barru,* Finnish inessive case...), the use of such a spatial metaphor and the subsequent borrowing of the corresponding grammatical strategy from the domain of space may be quite frequent for expressing the distance-future function.

The fact that these inessive-based markers tend to be monosemous attracted the attention of Haspelmath (1997: 100). He noted: "'[w]ithin' markers never express both distance-future and distance-prospective, they are always purely deictic. It is not clear to me why this should be so". I believe that Haspelmath's observation that these markers are always dedicated to distance-future may constitute just an accidental gap in his data. On the one hand, we may be suspicious of the pattern on theoretical grounds alone because, while the verbs often giving rise to Past Distancers already incorporate a deictic meaning,[17] a 'within'-like expression in principle does not have deixis

17 A present tense morphology in many cases anchors them to utterance time and disqualifies them for their use in

as an inherent part of its semantics. On the other hand and more importantly, it can be seen in the historical record that 'within' type Future Distancers which nowadays are restricted to distance-future (e.g. Sp. *dentro de*) had earlier not only the 'within' meaning (42) expected by Haspelmath, but also a prospective (43) meaning independent of utterance time:

(42) *Está vacante una Prebenda la cual segun los estatutos del mismo Colegio,*
is vacant a position which according.to the rules of.the itself college
se debe proveer dentro de cincuenta dias desde el de la vacante (Spanish)
it.must.be fill within of fifty days from the.one of the vacant.position
'There is a vacant position which according to the rules of the college itself must be filled within fifty days' (CORDE, 18th c.)

(43) *Díxo-les que se vistiessen; y dentro de poco tiempo bolvieron* (Spanish)
said.3SG-them that REFL get.dressed.3PL and inside of little time came.back.3PL
'He told them to get dressed and a little later they came back' (CORDE, 18th c.)

The fact that prospective uses of *dentro de* extended over several centuries suggests that it can be a stable feature and that, in principle, there is nothing barring 'within' markers from non-deictic uses. Corpus evidence also confirms that the prospective use of *dentro de* clearly preceded its modern distance-future use. The latter is only found from the 18th century onwards whereas the former is attested from the 14th century onwards. This semantic change from distance-prospective to distance-future in Spanish provides additional evidence for the diachronic trends proposed here, as the change is entirely parallel to that from distance-retrospective to distance-past.

Back to the results of my typological investigation and despite the big difference in the word order of the monosemous markers for the past and those for the future, what we do find is a similar proportion of dedicated Future and Past Distancers (30% and 31,4% respectively).[18] Monosemous Future Distancers, in addition, have a geographic distribution very close to that of monosemous Past Distancers:

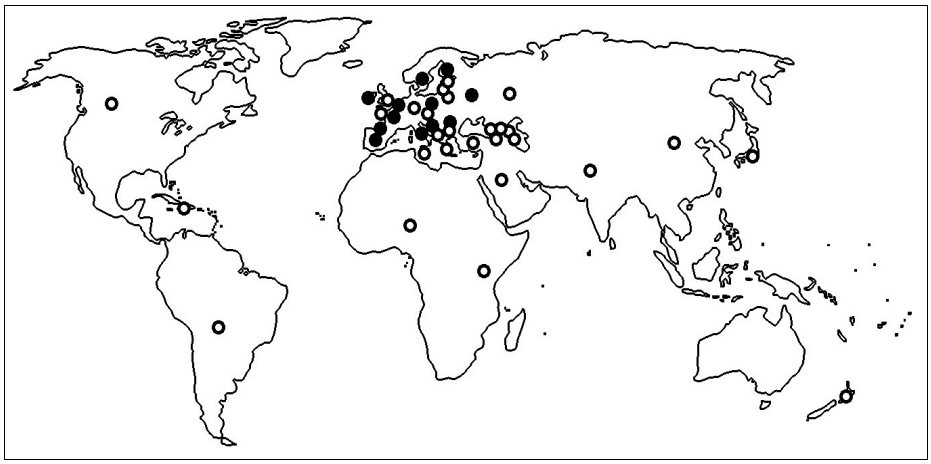


Figure 5: Geographic distribution of monosemous
(black circles) and polysemous (white circles) Future Distancers.

As can be seen, monosemous Future Distancers are indeed completely restricted in the present sample to European languages, a pattern already identified by Haspelmath (1997: 100). This constitutes further evidence that our initial hypothesis to explain this areal pattern could be on the

any of the time relations presented here other than distance-past.

18 Since it is much easier to find evidence that a certain marker is not monosemous (finding a single other temporal use of it suffices) than to find evidence that the marker is used for Time Distance alone, the proportion of monosemous markers may be somewhat underestimated. However I have no reason to believe that this would have any sizeable impact on either the roughly similar proportion of dedicated Past and Future Distancers nor in their geographical distribution, which appears too consistent to have arisen by chance.

right track. It may well be that there existed in Europe a greater need for an unambiguous coding of time relations because of the greater importance of time measurement in society, reflected probably in its greater presence in natural speech. As argued in Section 7, this would have favored more specific, monosemous ways of expressing the various time relations or would have promoted the grammaticalization and loss of clausality of less grammaticalized time biclausal constructions (see e.g. Franco [2012] or Herce [forthcoming]).

9 Conclusion and discussion

In previous sections, the word order properties of Time Distancers were analyzed and the asymmetry between Past and Future Distancers advanced in Section 4 was confirmed to be a cross-linguistically valid and statistically significant generalization. Past Distancers appear to have a much more remarkable word order, since even in prepositional languages the postposing of the marker appears to be more frequent than preposing. Future Distancers, on the other hand, pattern closely like adpositions.

When the distinction between semantically dedicated and polysemous markers is introduced, another asymmetry appears to separate monosemous, much more ill-aligned Past Distancers, from polysemous markers which, like Future Distancers, are very similar to adpositions concerning word order. When this is considered together with the additional evidence from the patterns of polysemy and the lexical, mainly verbal sources of many monosemous Past Distancers, it suggests that the differences have a diachronic origin.

I have proposed two main diachronic sources of Time Distancers. First, we have evidence of a secondary grammaticalization path which leads to Time Distancers from 'anterior' and 'posterior' time markers. This development can easily be accommodated in theoretical models like for example Functional Discourse Grammar. Hengeveld & Mackenzie (2008: 171) note that absolute location in time is a property of episodes, while relative location in time is a property of hierarchically lower states-of-affairs. An upwards development (from the latter to the former) is the expected direction for diachronic change.

The other paths I propose here lead to Time Distancers from other sources. The 'distance-past' meaning for which Past Distancers are used is a frequent locus of primary grammaticalization out of clausal strategies. This is evidenced by the verbal origin of many expressions (e.g. those of French, Italian, Spanish, English, Dutch, Basque or Maltese) and by the fact that most languages can also express the distance-past time relation by means of biclausal structures. Sometimes, for example in French or Spanish (see examples 18-20), the Past Distancer itself can still be used as the main verb in these constructions, pointing more clearly to the diachronic connection between the two. The same is not the case of 'distance-future', where usually secondary grammaticalization only takes place as grammatical strategies are borrowed from the spatial domain.

Some generalizations can probably be made concerning these grammaticalization paths which feed directly into 'distance-future' and 'distance-past'. Both appear to involve most frequently a durative expression as a source. A spatial expression like 'within', which selects an interval at any point of which the event may take place, may become a *dentro de* type of expression through interpretative enrichment.[19] All it takes is that when hearing a sentence like (44) the hearer assumes that the speaker has been maximally informative and that the event will in fact take place

19 More investigation would be needed at this point, however, to clarify a few things. On the one hand, a synchronic cross-linguistic study would be needed to investigate to what extent Haspelmath's observation that inessive-based markers are synchronically deictic can remain a valid universal tendency. On the other hand, a diachronic in-depth quantitative analysis of the semantics of expressions like *dentro de* could help illuminate the grammaticalization paths followed by these expressions when they give rise to Future Distancers.

towards the end of the three years' interval.

(44) *He will sure finish his degree within three years*

Similarly, the verbs used in biclausal constructions to express 'distance-past', which are frequent sources of dedicated Past Distancers, probably began selecting their time NP interval as a period during which the event was taking or not taking place and not as the time interval separating the past event from the present. This contention is based on the fact that this the only possibility found in less grammaticalized time constructions (45) (46) and a meaning which is still found occasionally in more grammaticalized Past Distancers (47).

(45) *Llevo dos años viniendo a esta playa* (Spanish)
take.1SG two years coming to this beach
'I've been two years coming to this beach'

(46) **Llevo dos años que vine a esta playa* (Spanish)
take.1SG two years that came.1SG to this beach
'It has been two years since I came to this beach'

(47) *Trabajo en esta escuela hace 30 años*[20] (Spanish)
work.1SG in this school ago 30 years
'I have been working in this school for 30 years'

Other Past Distancers which nowadays can be used exclusively for distance-past were earlier used with up-to-now durative temporal meanings as well:

(48) *Trois jours a, ne dormi* (Old French)
three days ago NEG sleep.3SG
'She hasn't slept for three days' (Díez Itza & Pérez Toral 1991: 49)

(49) *I woot it by myself full yore agon* (Middle English)
I know it by myself many years ago
'I have known that myself for a long time' (Chaucer, The Knight's Tale: 1813)

(50) *Han er hos Vorherre for snese Aar siden* (Danish)
he is with our.Lord ago tens year ago
'He has been dead for decades' (Rasmussen 1981: 90)

In examples (48-50), the time NPs accompanying the Past Distancers measure intervals during which various states of affairs hold (i.e. the interval is “filled” with the states of affairs located in time). In present-day French, English and Danish, however, these adjunct constructions can only denote a distance separating an event from the present (i.e. the time NP measures an interval which is “empty” concerning the event which is being located in time).

I believe, in addition, that the durative sources of distance-past and distance-future strategies are not limited to clausal or inessive sources respectively. These might just be the most frequent implementations of a more general tendency to link duration and distance and to diachronically derive the latter from the former. This can be observed, for example, also in Future Distancers like Azerbaijani *ərzində*, which apart from the future role (52) can also have durative semantics (51):

(51) *O cavab verdi bütün suallara ərzində dərs*
(S)he answer PAS.3SG all questions during lesson
'He/she answered all the questions during the lesson'

(52) *O soz verdi onunla danışmaga bir həftə ərzində*
(S)he promise PAS.3SG with.her/him talk one week in

20 Most Spanish speakers would nowadays prefer the use of *desde hace 30 años* to describe such a temporal interval. The construction without *desde*, however, despite having become less widespread in the last 100-200 years, continues to occur in the present language.

'He/she promised to talk to her/him in a week'

This link can be found in lexical items as well. Russian *davno*, for instance, also combines durative, up-to-now uses (53) and distance-past ones (54):

(53) *Zapad pereživaet ètot krizis uže davno* (2003, Russian National Corpus)
the.west goes.through this crisis already long.time
'The west has already been going through this crisis for a long time'

(54) *Potomu-čto ne tak davno umerla* (2004, Russian National Corpus)
because not so long.ago died.F
'Because she did not die so long ago'

To conclude the discussion, a graphic representation has been included of the diachronic developments (primary grammaticalizations in gray, secondary grammaticalizations or semantic extensions in black) that have been proposed throughout this section:

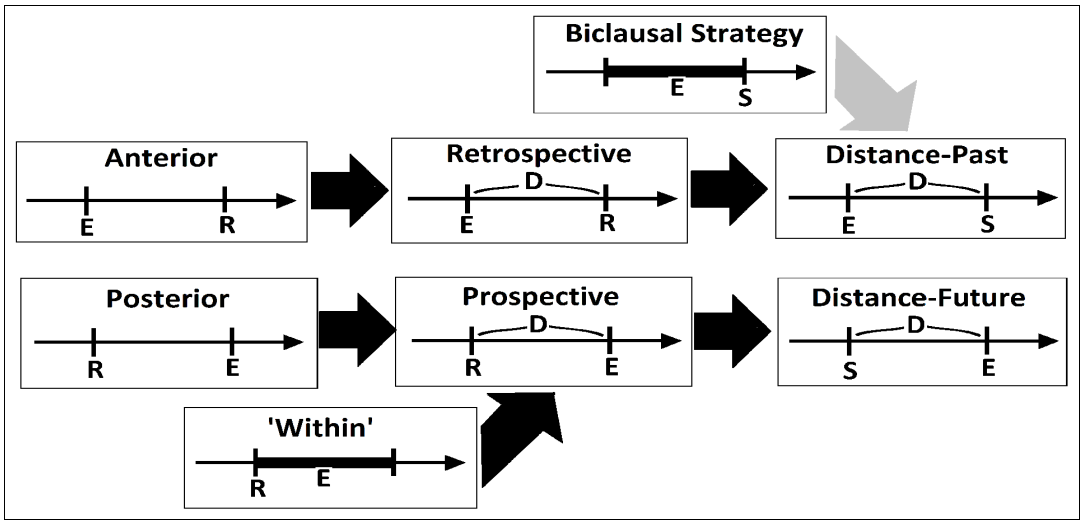


Figure 6: Diachronic sources of Past and Future Distancers

The asymmetries found in Time Distancers have, therefore, a diachronic origin. However, that must in turn be explained somehow. The different sources of Past and Future Distancers might ultimately be attributable to cognitive factors. I very much agree here with Haspelmath (1997: 24) and Comrie (1985: 43-44) who comment that there exists a huge experiential and conceptual difference between the past and the future. In Comrie's words:

> there is a sense in which the future is clearly different from the past. The past […] is immutable, beyond the control of our present actions. The future, however, is necessarily more speculative, in that any prediction we make about the future might be changed by intervening actions, including our own conscious intervention. Thus, in a very real sense the past is more definite than the future.

As a result, the strategies that emerge in speech to talk about the more abstract future may also make use, as we have seen, of more abstract, more grammaticalized resources and rely more heavily on space-based metaphors whereas the past may be expressed by lexical or discursive means more often.

In the languages in the sample we found that distance-future, unlike distance-past, was sometimes expressed by a grammatical case ending applied to the time NP or by a bare NP and that it was never expressed by circumpositions. In addition, much more frequently than Past Distance Phrases, Future Distance Phrases made use of "ordinary" adpositions (i.e. used in other domains, categorially more prototypical, more grammaticalized). Compare e.g. English *in* to *ago*, French *dans* to *il y a* and consider similarly the Time Distancers of Italian, Spanish, Russian, Basque, Maori,

Swedish, Polish etc. Even the mean length of the expressions appears to point in the same direction as, in the sample languages, this is 5.35 characters on average for Past Distancers but only 3.95 in the case of Future Distancers. These facts and, of course, also the word order correlations of Past and Future Distancers analyzed throughout this paper constitute evidence that Future Distancers are on average much more grammaticalized and that the expression of distance-future is more abstract than that of distance-past.

Concerning space-based metaphors, it is relatively frequent for languages to rely on non-spatial resources like full clauses and verbs (also in presentatives, see Haspelmath 1997: 136-138) as sources of their Past Distancers (e.g. Spanish *hace* 'it.makes', Basque *duela* 'that has' etc.) whereas that is not common in the case of Future Distancers. Space-based metaphors are more common, therefore, in the future since, apart from space-based posteriority (parallel to also space-based anteriority for Past Distancers, see Figure 6), the other main source of Future Distancers is, unlike in the past, also space-based: the spatial inessive. Thus, along with the Spanish Future Distancer *dentro de* (inessive-spatial-based) we have the Past Distancer *hace* (non-spatial) and we find the same in Italian, French, Romanian, Polish, Basque, Finnish etc.

Future Distancers and their phrases have been shown to differ cross-linguistically from their mirror-images for the past in being more grammaticalized and more reliant on space-based metaphors. Further investigation would be needed to elucidate whether this greater grammaticalization of the future *vis a vis* the past also applies to other time-related morphs (e.g. to the verbal morphology for tense) and to understand and document in specific languages the semantic and syntactic changes proposed in Figure 6. Looking for measurable evidence for my claims in Section 7 concerning the different importance of time measurement in different societies (e.g. in representative oral corpora in different languages) would also be a desirable goal for future research for those interested in functional explanations in language.

Acknowledgements: The financial support of the European Commission's Backis Programme (2012-2741 / 001-001 - EMA2) and of the Government of the Basque Country (PRE_2015_1_0175) are gratefully acknowledged. Special thanks are due to Carlos-García Castillero and Iván Igartua for their comments of earlier versions of this article. I also thank three anonymous reviewers of *LT* for their helpful remarks.

Abbreviations: 1/2/3 = 1st/2nd/3rd person; ABL = ablative; ACC = accusative; AUX = auxiliary verb; CL = classifier; COMP = complementizer; EKC = Euskal Klasikoen Corpusa (Basque diachronic corpus); ERG = ergative; F = feminine; FD = future distancer; FDP = future distance phrase; FUT = future; IPF = imperfect; IPFV = imperfective; INESS = inessive; LOC = locative; M = masculine; NEG = negation; NOM = nominative; NP = noun phrase; OV = object-verb word order; PART = partitive; PD = past distancer; PDP = past distance phrase; PL = plural; PST = past tense; Q = question particle; REFL = reflexive; SG = singular; SOV = subject-object-verb word order; SV = subject-verb word order; SVO = subject-verb-object word order; TD = time distancer; TDP = time distance phrase; VO = verb-object word order; VP = verbal phrase.

APPENDIX 1. Time Distancers' word order, their polysemy vs. monosemy and the preferred word order of adpositions for the sample languages

Language	Past Distancer	PD dedicated?	Fut. Distancer	FD dedicated?	Adposit.
Dutch	NP **PD**	Yes	**FD** NP	Yes	Prep
English	NP **PD**	Yes	**FD** NP	No	Prep
German	**PD** NP	No	**FD** NP	No	Prep
Swedish	**PD** NP **PD**	Yes	**FD** NP	Yes	Prep
French	**PD** NP	Yes	**FD** NP	Yes	Prep
Italian	NP **PD**	Yes	**FD** NP	Yes	Prep
Romanian	**PD** NP	Yes	**FD** NP	Yes	Prep
Spanish	**PD** NP	Yes	**FD** NP	Yes	Prep
Bulgarian	**PD** NP	No	**FD** NP	No	Prep
Polish	NP **PD**	No	**FD** NP	Yes	Prep
Russian	NP **PD**	Yes	**FD** NP	Yes	Prep
Serbian/Croat.	**PD** NP	No	**FD** NP	Yes	Prep
Hindi	NP **PD**		NP **FD**		Post
Pashto	NP **PD**	No			Post/SOV
Persian	NP **PD**	No	NP **FD**		Prep/SOV
Punjabi	NP **PD**	No	NP **FD**	No	Post
Breton	NP **PD**		**FD** NP	No	Prep
Irish	NP **PD**	Yes	**FD** NP	Yes	Prep
Welsh	NP **PD**	Yes	**FD** NP		Prep
Latvian	**PD** NP	No	**FD** NP	No	Prep
Lithuanian	**PD** NP	No	**FD** NP	No	Prep
Albanian	**PD** NP	No	**FD** NP	No	Prep
Armenian	NP **PD**	No	NP **FD**		Post
Greek	**PD** NP	No	**FD** NP	No	Prep
Arabic	**PD** NP	No	**FD** NP	No	Prep
Hausa	**PD** NP **PD**	Yes	**FD** NP	No	Prep
Hebrew	**PD** NP	No	**FD** NP		Prep
Maltese	NP **PD**	Yes	**FD** NP	No	Prep
Mehri	**PD** NP	No			Prep
Oromo	NP **PD**	No	NP **PD**		Post
Igbo	NP **PD**		**FD** NP		Prep
Swahili			**FD** NP	No	Prep
Thimbukushu	**PD** NP	No			Prep
Yoruba	NP **PD**				Prep
Indonesian	NP **PD**		NP **FD**		Prep

Maori	NP **PD**	Yes	**FD** NP	No	Prep
Tagalog	NP **PD**		**FD** NP		Prep
Chinese	NP **PD**	No	NP **FD**	No	Post/SVO
Taiwanese	NP **PD**		NP **FD**		Post/SVO
Tibetan	NP **PD**				Post
Kannada	NP **PD**		NP-**FD**		Post
Malayalam	NP **PD**	No	NP **FD**		Post
Tamil	NP **PD**	No	NP **FD**		Post
Telugu	NP **PD**				
Estonian	NP **PD**	Yes	NP **FD**	No	Post
Finnish	NP **PD**	No	NP-**FD**	Yes	Post
Hungarian	NP **PD**	No	NP **FD**	No	Post
Udmurt	NP **PD**	No	NP **FD**	No	Post
Chechen	NP **PD**	No	NP **FD**	No	Post
Hunzib	NP **PD**	No	NP **FD**	No	Post
Lezgian	NP **PD**	No	NP-**FD**	No	Post
Evenki	NP **PD**				Post
Nanai	NP **PD**		NP **FD**		Post
Udihe	NP **PD**		NP **FD**		Post
Haitian	**PD** NP	No	**FD** NP	No	Prep
Samaraccan	NP **PD**		**FD** NP		Prep
Slave	NP **PD**	No	NP **FD**	No	Post
Lao	NP **PD**		**FD** NP		Prep
Thai	NP **PD**		**FD** NP		Prep
Azeri	NP **PD**	No	NP **FD**	No	Post
Turkish	NP **PD**	No	NP **FD**	No	Post
Hopi			NP **FD**		Post
Abkhaz	NP **PD**	No	NP **FD**		Post
Abui	**PD** NP	Yes			nd/SOV
Basque	**PD** NP	Yes	NP **FD**	Yes	Post
Georgian	NP **PD**	No	NP-**FD**	No	Post
Japanese	NP **PD**	No	NP **FD**	No	Post
Kalaallisut	NP **PD**	No			Post
Korean	NP **PD**	No	NP **FD**		Post
Mongolian	NP **PD**				Post
Quechua	Clausal		NP-**FD**	No	Post
Semelai	NP **PD**		NP		Prep
Tepehua	NP **PD**		NP		Prep

APPENDIX 2. Examples of Past and Future Distance Phrases

Language	Past Distance Phrase	Future Distance Phrase
Dutch	Twee uur **geleden** (two hours)	**Over** twee uur (two hours)
English	Three hours **ago**	**In** one year
German	**Vor** zwei Jahren (two years)	**In** zwei Monaten (two months)
Swedish	**För** fjorton år **sedan** (14 years)	**Om** två dagar (two days)
French	**Il y a** deux ans (two years)	**Dans** deux jours (two days)
Italian	Due anni **fa** (two years)	**Tra** due anni (two years)
Romanian	**Acum** paisprezece ani (14 years)	**Peste** o lună (1 month)
Spanish	**Hace** un año (1 year)	**Dentro de** un año (1 year)
Bulgarian	**Predi** edna sedmica (1 week)	**Sled** edna sedmica (1 week)
Polish	Sześć miesięcy **temu** (six months)	**Za** tydzień (a week)
Russian	Dva goda **nazad** (two years)	**Čerez** god (a year)
Serbian/Croat.	**Prije** četrnaest godina (14 years)	**Do** dva dana (two days)
Hindi	Bīsa minaṭa **pahalē** (20 minutes)	Bīsa minaṭa **bāda** (20 minutes)
Pashto	Tso wradze **wṛānde** (some days)	
Persian	Do sa'æt **piš** (two hours)	Yek sa'æt **dige** (one hour)
Punjabi	Do saal **páílãã** (two years)	Do kàṇṭe **vicc** (two hours)
Breton	Bloaz **'zo** (a year)	**Araok** miz (a month)
Irish	Bliain **ó shin** (a year)	**I gcionn** trí lá (three days)
Welsh	Ddwy flynedd **yn ôl** (two years)	**Ymhen** mis (a month)
Latvian	**Pirms** gada (a year)	**Pēc** divām stundām (two hours)
Lithuanian	**Prieš** tris dienas (three days)	**Po** kelių minučių (a few minutes)
Albanian	**Ka** dy vjet (two years)	**Pas** një jave (a week)
Armenian	Erku žam **aŕaǰ** (two hours)	Erku taru-**c' heto** (two years)
Greek	**Prin apó** dhió óres (two hours)	**Se** tris óres (three hours)
Arabic	**Munðu** ʔarbaʕati ʔayyaamin (four days)	**Baʕda** yawmayni (two days)
Hausa	**Cikin** awàa biyun **dà sukà wucèe** (two hours)	**Baayan** shèekaràa ukkù (three years)
Hebrew	**Lifney** šloša yamim (three days)	**ʕod** yomayim (two days)
Maltese	Erbat ijiem **ilu** (four days)	**Fi** ftit minuti (few minutes)
Mehri	**Fənōhən** hōba snayn (seven years)	
Oromo	Torbáan afur **dúrá** (week four)	Saa'áa takko **xeesatti** (hour one)
Igbo	Afo abuo **gara aga** (year two)	**N'ime** afo abuo (year two)
Swahili		**Baada ya** siku mbili (two days)
Thimbukushu	**Kughutho** ghomyaka dhiwadi (years two)	
Yoruba	Ogún ọdún **se.hìn** (20 years)	
Indonesian	Dua minggu **lalu** (two weeks)	Dua hari **lagi** (two days)
Maori	Rua haora **noa atu raa** (two hours)	**A** te rua haora (two hours)

Tagalog	Pitong taong **nakaraan** (seven years)	**Sa loob ng** dalawang taon (two years)
Chinese	Sì nián **qián** (four years)	Sì nián **yǐhòu** (four years)
Taiwanese	Sì nî **chêng** (four years)	Sì nî **í-āu** (four years)
Tibetan	Lō sūmgi **ŋ̄ntu** (year three)	
Kannada	Ardha gaṇṭeya **hinde** (half an hour)	Aidu nimiṣad-**alli** (five minutes)
Malayalam	Raṇṭ varṣaṁ **mump** (two years)	Raṇṭ varṣa-**ttinuḷḷil** (two years)
Tamil	Muuṇu maṇi-kki **munnaale** (three hours)	Raṇṭu maṇi **neerattle** (two hours)
Telugu	Gaṇṭa **kindaṭa** (an hour)	
Estonian	Kaks tundi **tagasi** (two hours)	Kahe tunni **pärast** (two hours)
Finnish	Kolme vuotta **sitten** (four years)	Kahde-**ssa** tunni-**ssa** (two hours)
Hungarian	Három hét **elött** (three weeks)	Három hét **múlva** (three weeks)
Udmurt	Odig ar taleś **aźlo** (one year)	Odig ćas **bere** (one hour)
Chechen	Pxi šo **ħalxa** (five years)	Ill minot **jälča** (ten minutes)
Hunzib	Q'anu anƛ'i **art'o** (two weeks)	λaʕel **muǧáƛ** (year)
Lezgian	250 jis idalaj **wilik** (250 years)	Q’we wacra-**laj** (two months)
Evenki	Ilanma tyrganilva **amaski** (three days)	
Nanai	ǯuer ajŋaniwa **xamasi** (two years)	ǯuer ajŋani-du **bipie** (two years)
Udihe	Zu: neŋini **bimi** (two days)	Tuŋama neŋi **bis'esi** (five days)
Haitian	**Fè** kat jou (four days)	**Nan** kèk jou ankò (a few days)
Samaraccan	Tú dáka **pasá** (two days)	**Báka** dií sába (three saturdays)
Slave	Tǫ dzene **t'ǫh** (many day)	Tai dzene **ndah** (three day)
Lao	Songpi **konnani** (two years)	**Nai** songpi (two years)
Thai	Săam wan **maa lɛɛw** (three days)	**Ìik** hòk wan (six days)
Azeri	Üç il **əvvəl** (three years)	Üç il **ərzində** (three years)
Turkish	Iki yıl **önce** (two years)	Iki gün **sonra** (two days)
Hopi		Hikis taala-t **ang** (few days)
Abkhaz	Y°ə-sàat-k’ **r-àpx’a** (two hours)	Y°ə-sàat-k’ rə-**la** (two hours)
Abui		**Afe** hetung nuku (year one)
Basque	**Duela** ehun urte (100 years)	Bi urte **barru** (two years)
Georgian	Or saatis **c’in** (two hours)	Or saat-**ši** (two hours)
Japanese	Nijikan **mae kara** (two hours)	Nijikan **de** (two hours)
Kalaallisut	Nalunaaquttap akunniri pingasut **matuma siurnagut** (three hours)	
Korean	Twu sikan **cen-ey** (two hours)	Sam nyen **twi-ey** (three years)
Mongolian	Gurvan ødriin **ømnø** (three days)	
Quechua		Ishkay uras-**pi** (two hours)
Semelai	Hmpɛʔ ʔareʔ **lɒc** (three day)	Hmpɛʔ ʔareʔ (three day)
Tepehua	Miix-kiis-**chich** (days five)	Miix-kiis (days five)

Much of the data above are taken from Haspelmath (1997) and Franco (2013). For specific languages I am indebted to van den Berg (1995:64-65) for Hunzib, Rice (1989:295-97) for Slave, Borg & Azzopardi-Alexander (1997:171) for Maltese, King (2005:253-254) for Welsh, Mahootian (2002:187) for Persian, Cole (1985:126-127) for Quechua, Press (1986:76) for Breton, Donaldson (2008) for Dutch, Bauer (2003) for Maori, Smyth (2014) for Thai, Sneddon et al. (2012:226) for Indonesian, Bhatia (2013:211-214) for Punjabi, Hinds (2003:221) for Japanese, Bamgbose (2010) for Yoruba, McWhorter & Good (2012:194) for Saramaccan Creole, Owens (1985:228) for Oromo, Krishnamurti & Gwynn (1985:102) for Telugu, Lin (2015:510) for Taiwanese, Goldstein et al. (1991:90) for Tibetan, David (2014) for Pashto, Nikolaeva & Tolskaya (2001) for Udihe, Rubin (2010) for Mehri, Kung (2007:505) for Tepehua and Kruspe (2004) for Semelai.

For the languages lacking the relevant structures see Givón (2011) for Ute, Carlson (1994) for Supyre, Valentine (2001) for Nishnaabemwin, Dayley (1995) for Tzutujil, Macaulay (1996) for Mixtec, Besnier (2002:354-355) for Tuvaluan, Maslova (2003) for Yukaghir, Cook (2013) for Tsilhqút'ín, Van den Berg (1989) for Muna, Noonan (1992) for Lango, Guillaume (2008) for Caviñena, Meakins & Nordlinger (2013) for Bilinarra, Plaisier (2006) for Lepcha, Simpson (1983) for Warlpiri, Derbyshire (1985) for Kixkaryana, Bowern (2012) for Bardi, Aikhenvald (2003) for Tariana, Nedjalkov & Otaina (2013) for Nivkh, Wegener (2012) for Savosavo, Dixon & Vogel (2004) for Jarawara, Evans (1995) for Kayardild, Terrill (2003) for Lavukaleve and Childs (2011) for Mani.

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