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On the Alternation between Complex Prepositions and Adverbial Prepositions in Esperanto, such as *en la mezo de* vs. *meze de* / *en la kadro de* vs. *kadre de*

Christopher Gledhill

UNIVERSITÉ PARIS-CITÉ
CLILLAC-ARP

`christopher.gledhill@u-paris.fr`

Abstract

The grammar of Esperanto allows a derived adverbial to replace the initial element in any complex prepositional phrase, thus creating a range of equivalent structures such as *en la mezo de* / *meze de* ‘in the middle of’, *en la kadro de* / *kadre de* ‘in the framework of’ etc. This ‘adverbial alternation’ raises a number of questions. Are Adv Ps interchangeable with their Complex P counterparts? Do they occur with the same frequency? Does lexicalisation operate in the same way in Esperanto as it does in other languages? Here I examine a sample of alternating structures in a corpus of standard written Esperanto (*Tekstaro* >10 million tokens). While many pairs seem to be interchangeable, others appear to be developing contrastive use. The use of idioms and other marked units of phraseology is often seen as evidence that Esperanto has become an autonomous language. Here I point to evidence of less marked, more routine patterns of discourse which are unique to this speech community.

1. Introduction

Prepositions in Esperanto behave much as they do in Esperanto’s ‘source’ languages (predominantly Romance, Germanic, some Slavonic). There are, however, a number of unique features that appear to be specific to the *lingvo internacia* (Zamenhof 1887). In particular, very early in the development of the language, Zamenhof decided to allow the initial preposition in any prepositional phrase to be replaced by an ‘indefinite’ preposition (*je*) or the accusative (ending in *-n*). Both of these alternatives have found widespread use in the language. Interestingly, and perhaps uniquely to Esperanto, a further alternation was introduced by allowing a preposition to be replaced by a derived adverbial expression (ending in *-e*). This has resulted in the creation

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of dozens of apparently equivalent structures such as *en la mezo de / meze de* ‘in the middle of’, *en la kadro de / kadre de* ‘in the framework of’, etc. In this paper, I set out to explore the alternation between a Complex Preposition (Complex P) and a Preposition (Adv P) in more detail.

The relationship between Complex P / Adv P raises a number of questions for descriptive linguistics. Semantically speaking, is there a predictable difference in meaning between Complex P and Adv P forms? From a syntactic perspective, is it possible to posit the existence of a productive ‘discourse pattern which uses the relationship between Complex P and Adv P as a model for further constructions? What is the distribution of prepositional forms and their adverbial counterparts in present-day Esperanto? How has this distribution evolved over time? And how do these patterns relate to more generally acknowledged forms of language change, such as lexicalisation, grammaticalisation, etc.?

To address these questions, I examine a sample of alternating complex prepositions and their adverbial preposition equivalents in a standard reference corpus of written Esperanto (*Tekstaro* >10 million tokens). Since the *Tekstaro* is a diachronic corpus, it is possible to trace the historical development of each form, at least as far as the formal written language is concerned. As discussed below, while many Complex P / Adv P pairs appear to be interchangeable, others appear to be developing contrastive use, with some forms becoming clearly dominant over their apparent equivalents. In addition, even when two equivalents appear to co-exist, it is possible to observe the formation of specialised lexico-grammatical patterns.

The fact that similar developments have been observed in languages such as English (Hoffmann 2005, Desagulier 2022), lends support to the interpretation that Esperanto has moved from being a language project ‘on paper’ to become a fully natural language with its own community and culture (Fettes 1996, Koutny 2022). One compelling piece of evidence for this process involves the development of a rich inventory of idiomatic expressions and other idiosyncratic phraseology (Fiedler 2006, 2015). In this paper, I point to evidence of less marked, more routine phraseological patterns which may show the emergence of subconscious discourse patterns that are unique to the community of Esperantophones.

2. Complex versus Adverbial Prepositions: some preliminary observations

As with all Indo-European languages, Esperanto makes extensive use of ‘simple prepositions’ (here symbolised by P) such as *al* ‘to’, *de* ‘of’, *en* ‘in’, etc. Also, like many other languages, Esperanto makes use of many different ‘complex prepositions’ (Complex P), that is to say constructions which involve the embedding of one prepositional sequence within another, such as *en la mezo + de Parizo* ‘in the middle of Paris’ or *en la sudo + de Parizo* ‘in the south of Paris’, etc. Somewhat unusually however, the grammar of Esperanto also allows for the substitution of the first prepositional group (PG) in these phrases by an adverbial, using the ending *-e* (Adv). Thus the first PG in a complex

prepositional phrase such as *en la mezo (de)* or *en la sudo (de)* can be replaced by a derived Adv, as in *meze (de)* or *sude (de)*.¹

The reasons why Zamenhof introduced this alternation are examined below. However, in the first instance, it is worth addressing a few basic questions about this alternation. For example, does the alternation between Complex P / Adv P reflect a systematic difference in meaning? In some cases, it can be argued that there is a clear difference between the two forms. Figure 1 sets out four invented sentences (below labeled 1a, 1b, 1c and 1d):



Figure 1 The distinction between *en la mezo / meze de Parizo* vs. *en la sudo de / sude de Parizo*

1a) *Mi loĝas en la mezo de Parizo* (Complex P)

'I live in the middle of Paris'

1b) *Mi loĝas meze de Parizo* (Adv P)

'I live in the middle of Paris'

1c) *Mi loĝas en la sudo de Parizo* (Complex P)

'I live in the south of Paris'

1d) *Mi loĝas sude de Parizo* (Adv P)

'I live south of Paris'

As suggested in Fig. 1 (and my English glosses), examples 1a) and 1b) appear to have broadly similar meanings, and can be seen as equivalents. One proof of this is that we can place different prepositions in the initial position of this

¹ For the distinction between Prepositional Group (PG) and Prepositional Phrase (PP) see section 4.2.

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expression without changing its meaning (for example *en la mezo de, je la mezo de, ĉe la mezo de* all mean something like ‘at / in the middle of’).

In contrast, there appears to be a more marked difference between examples 1c) and 1d). I suggest that example 1c) *en la sudo de Parizo* means that the predicate can be located ‘within the southern space’ or ‘on the southern side’ of the location named ‘Paris’ (thus perhaps locating the predicate within the traditional boundaries of the city, as in Fig. 1). On the other hand, example 1d) *sude de Parizo* appears to have a fuzzier frame of reference: the implication is that the predicate is situated ‘(somewhere) south of’, or perhaps ‘to the south of’ Paris. It helps my argument – I think – that this distinction appears to be realised in very similar ways in English (compare the glosses ‘in the south of’ vs. ‘south of’).

If this distinction is valid, then it might be hypothesised that examples 1a) and 1b) also involve a similar contrast, with the Complex P (*en la mezo de*) possibly expressing a specific location (‘right in the middle’), whereas the Adv P (*meze de*) possibly expresses a less focused meaning (‘somewhere in the middle’). A similar contrast might also hold for equivalent expressions such as *en la centro de / centre de* ‘in the centre of’, *en la kerno de / kerne de* ‘at the core of’, etc. As discussed below (section 4.2) this semantic distinction demonstrates that sequences such as *en la mezo / en la sudo* are not complex prepositions in themselves, but rather correspond to syntactic units (prepositional groups).

In the following sections of this paper, I suggest that this distinction probably does not hold for all of these expressions, especially when we consider more abstract relations such as *en la kadro de / kadre de* ‘in the framework / setting of’. While there is certainly a ‘spatial’ metaphor at the heart of these expressions, it seems that in many contexts, the specific meaning expressed by the initial preposition *en* has become secondary to the more general use of the phrase as a complex preposition (a key factor in the process of ‘lexicalisation’, Lehmann 2002).

Of course, the above discussion is based on artificial examples, and thus ignores the relative frequency, stylistic distribution and typical contexts of use for these different forms. Yet, as I demonstrate in the corpus data below, it can be shown that some ‘derived’ Adv P forms are used much more frequently than their ‘original’ Complex P counterparts (this is the case for *kadre de*). But this tendency does not apply to all constructions: *en la centro de* ‘at / in the centre of’ is still preferred over *centre de*. While in other cases (as with *meze de*), the frequencies for Complex P / Adv P have been similar since the beginning, although each phrase is used in subtly different discourse contexts. In other words, while many Complex P / Adv P alternations can still be seen as equivalents, in some cases the Adv P form has undergone a degree of semantic shift or specialisation. In addition, it might be hypothesised that a particular subset of Adv P constructions has come to take on a pivotal role as prototypes or ‘type specimens’ which serve as models in the productive construction of new phraseological patterns in the language (such as the ‘pleonastic

preposition' *pere de* 'by means of' derived from the simple P *per* 'by').

However, before looking at these issues in more detail, it is necessary to widen our focus and to examine some of the general ways in which prepositions operate in Esperanto.

3. Prepositions in Esperanto: a brief overview

In Esperanto, as in many languages, the main function of a preposition is to express a relationship (of dependency or symmetry) between two different elements at the level of the clause, whether this involves another clause, or a specific subunit or phrase. Pennacchietti (1976, 2006, following Brøndal 1940) argues that all prepositions can be classified according to an 'oppositional grid' of semantic features, with the particular place of each P within this system being necessarily different from one language to the next. Pennacchietti then goes on to describe such a system for 34 prominent simple Ps in Esperanto (I have set out a selection of 24 of these in Table 1, based on Pennacchietti (2007:77) ²).

Table 1. Pennacchietti's 'oppositional grid' for Esperanto prepositions

	(+) Dimensional (P places N1 in the same spatial / temporal axis as N2)	Neutral	(-) Dimensional (P does not place N1 in the same spatial / temporal axis as N2)
(+) Applicative (P expresses an 'applicative' relation from N1 to N2)	<i>en</i> 'in, into, within' <i>dum</i> 'during' <i>inter</i> 'between' <i>tra</i> 'through'	<i>antaŭ</i> 'before' <i>por</i> 'for' <i>super</i> 'above, over' <i>sur</i> 'on'	<i>al</i> 'to, towards' <i>ĉe</i> 'at' <i>ĝis</i> 'up to, until' <i>je</i> [indefinite]
(+) Retroapplicative (P expresses a 'retro-applicative' relation from N2 to N1)	<i>apud</i> 'near, next to' <i>kun</i> 'with' <i>laŭ</i> 'according to, along' <i>per</i> 'by, through, with'	<i>ekster</i> 'outside' <i>malgraŭ</i> 'despite' <i>post</i> 'after' <i>sub</i> 'below, under'	<i>da</i> 'measure, quantity of' <i>de</i> 'of, from' <i>el</i> 'out of' <i>pro</i> 'because of'

Space precludes a full discussion of Pennacchietti's analysis here, however it will be useful to retain certain aspects of his model, especially as they have been reformulated by analysts such as Gobbo (2009). In particular, it will be useful to refer to the related hypothesis that prepositions, grammatical adverbs, and subordinating conjunctions all share similar properties cross-

² An anonymous reviewer wonders why *ĉe* 'at' is classified as 'non-dimensional' (column 4), since one can say *mi sidas ĉe la tablo* 'I am sitting at the table'. The reviewer also asks why *en* / *sur* as well as *super* / *antaŭ* are not analysed within the same category. These are valid observations. However, it is not my purpose to defend the analyses set out here. For a more principled discussion of the items presented in Table 1, as well as the distinction between 'applicative / retroapplicative' relations, I refer readers to Pennacchietti (1977) and Gobbo (2009). Furthermore, it should be noted that I have only included these examples here to demonstrate that, in their analysis of prepositional systems, some linguists posit semantic distinctions based on symmetrical conceptual oppositions that are independent of context. In contrast, in the corpus-based analysis which I explore in the later sections of this paper, I avoid such abstractions, and concentrate instead on phraseological patterns and rhetorical functions as they are expressed in authentic discourse.

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linguistically, and can thus be brought together under the term ‘adposition’ (Kurzon & Adler 2008). As we see below, such similarities may explain the complexity as well as the productivity of the Complex P / Adv P alternation in Esperanto.

Although prepositions in Esperanto function in much the same way as other languages, it is still necessary to examine the various ways in which they differ, especially in relation to morphology, the one stratum in which Esperanto differs markedly from its source languages (Koutny 2009, 2015). In the following discussion, I suggest six basic principles of morphology that are fundamental to Esperanto. The first three relate to the ‘accusative’ (sections 3.1 to 3.3), while the final three pertain to the derivation of complex prepositions and adverbials (sections 3.4 to 3.6).

3.1. The accusative alternation (P + N vs. N-n)

According to this principle, it is possible to replace the initial preposition in a prepositional phrase (PP), either by using the accusative (realised by the ending *-n*), or by an ‘indefinite’ preposition (*je*) (Zamenhof 1887 rule 14, 1905 § 29). Here is a pair of comparable examples from the *Tekstaro* corpus:

2a) *Kiel vi povas **kredi je** via propra homeco...?*

‘How can you believe in your own humanity...?’ (*Tekstaro*. Translated journalism 2011-2013).

2b) *Kiel vi povas **kredi Buron kaj Senekon pli ol min?***

‘How can you believe (in) Burrus (Acc) and Seneca (Acc) more than me?’ (*Tekstaro*. Original fiction 2021).

3.2. The accusative of direction applied to nouns (N -on)

Within a prepositional phrase, it is possible to express direction or movement by applying the accusative ending (*-n*) regardless of the presence of a preposition (Zamenhof 1887 rule 13, 1905 § 28). The following sets out Zamenhof’s original example (1905 p. 34):

2c) *La birdo flugis **en la ĝardenon***

‘The bird flew into the garden (Acc)’

In theory, Zamenhof emphasised the optional nature of this relationship, stating that the accusative depends on the predicate and is in no way associated with the use of any given preposition. In practice, many Ps (especially those expressing direction or movement) appear to block the accusative in Esperanto. This is the case for *al*, *de*, *el* and so on. Also, as we see in 3.6, some derived Adverb-Prepositions require the use of the accusative.

3.3. The accusative of direction applied to adverbs (Adv -en)

Within a prepositional phrase, it is possible to express direction of movement by applying the accusative (-n) to a derived adverbial form (Zamenhof 1905 § 28). Thus while the Acc form is typically used with nouns and adjectives (N -n or Adj -n), derived adverbials (forms ending in -e) can also take an accusative with predicates of motion (Adv -n):

2d) *ankaŭ ni devas iri antaŭen.*

‘... also we have to go forwards (Adv-n)’ (*Tekstaro*. Translated journalism. 2011-2013)

3.4. The adverbial alternation (P + N vs. N-e)

It is possible to use a derived adverbial (ending in -e) as an alternative to a prepositional phrase (Zamenhof 1908 response 37). This usage is present in Zamenhof’s early examples (here the root *dom-* means ‘house, home’):

2e) *Mi restos hodiaŭ dome*

‘I shall stay at home (Adv) today’

This apparently simple transformation opens up the possibility of multiple alternating structures in Esperanto. Thus, if we combine the accusative alternation (3.1) with the adverbial alternation (3.4), we obtain in theory three possible ways of expressing a phrase such as ‘in the morning’³. Here is a comparable sample from the *Tekstaro* using the same lexical root *maten-* ‘morning’:

Prepositional Phrase: je + N

2f) *Kiel kutime, je la mateno venis la aŭtomobilo por veturigi lin al la oficejo,...*

‘As usual, in the morning, the car came to drive him to the office...’ (*Tekstaro*. Translated fiction 1991)

Accusative alternation: N-on

2g) *Okazis, ke mi vizitis lian vendejon la matenon post tiu signifoplena sabata kunveno...*

‘It happened that I visited his shop on Friday, the morning after that meaningful Saturday meeting...’ (*Tekstaro*. Translated fiction 1999)

Adverbial alternation: N-e

2h) *Je la dua matene venis du virinoj al nia tablo, kiuj trinkis ĉampanon kun ni.*

³ Although I have stated that these are alternations, they are not semantically equivalent. For instance, there appears to be a difference between *la matenon* ‘(in, on) the morning’ and *matene* ‘in the morning(s)’. Here, it is possible, as mentioned in relation to examples 1b/1d, that the derived Adv form has a more generic frame of reference.

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‘At two (o’ clock) in the morning two women came up to our table, [and] who drank champagne with us.’ (*Tekstaro*. Original fiction 1970).

The following two principles (3.5, 3.6) are less central to this study, but I include them here for the sake of completeness.

3.5. The derivation of ‘adverbial prepositions’ (P-e)

It is possible to add a derived adverbial ending (-e) to any simple preposition (as long as it is used intransitively, i.e. without a following complete, Zamenhof 1905 §28). Again, this principle is in line with the agglutinating use of grammatical endings in Esperanto:

2i) *Vi devas lasi la komercistojn eniri **antaŭe***

‘You must let the merchants enter beforehand (Adv)...’ (*Tekstaro*. Original fiction 1999)

3.6. The derivation of ‘adverb-prepositions’ (V-e N-n)

Finally, it is possible to use the adverbial ending to create a derived preposition, a form that Zamenhof calls an ‘adverb-preposition’. If the adverb-preposition is derived from a verb, and that verb is transitive (V + N-n), the adverb-preposition also takes the accusative (Adv + N-n). Zamenhof (1889, § 24) illustrates this with two examples:

2j) *kio koncernas tion > **koncerne** tion* (Zamenhof 1889, § 24)
‘which concerns that > concerning that’

2k) *kio rilatas tion > **rilate** tion* (Zamenhof 1889, § 24)
‘which relates to that > ‘relating to that / in relation to that’ [my translation]).

Although several commentators have mentioned this construction, there are few linguistic accounts of these structures. Piron (1989 and undated) suggests that the alternation was formulated by Zamenhof as a response to suggestions from writers and translators who had been using the construction productively. As we see below, Piron also suggests that adverb-preposition forms have expanded considerably since the 1940s, a hypothesis that can now be tested empirically.

4. Towards a typology of complex prepositional phrases

As we have seen, the two main principles set out above (the ‘accusative alternation’ and the ‘adverbial alternation’), provide an initial conceptual framework which can explain the emergence of several equivalent pairs of Complex P / Adv P. However, in order to fully grasp how Adv Ps relate to their Complex P counterparts, it is also necessary to consider the internal structure

of prepositional phrases in Esperanto. In the following discussion, I therefore return briefly to the distinction between Simplex Prepositions (section 4.1) and Complex Prepositions (4.2). I then distinguish three different subtypes of Complex P: (4.3) Adverbial Prepositions, (4.4) Lexicalised Adverb-Prepositions, and (4.5) so-called ‘Pleonastic Prepositions’.

4.1. Simplex Prepositions

The category *Simplex Preposition* includes single-morpheme items such as *al* ‘to’ *antaŭ* ‘before’ and so on, as well as items which are based on lexicalised compounds in one of Esperanto’s source languages, such as *anstataŭ* ‘instead of’ or *malgraŭ* ‘despite’. This category also includes compound prepositions such as *ekde* ‘starting from’, *malantaŭ* ‘behind’, etc. which technically involve more than one lexical root. For convenience, I consider these as ‘simplex’ for the purposes of this paper.

4.2. Complex Prepositions

Various terms have been used to refer to complex prepositions in the literature: composite prepositions, compound prepositions, extended prepositions, prepositional locutions, and so on. Among Esperanto grammarians, these have been discussed as *prepoziciaĵoj* (‘preposition-derived items’ Kalocsay & Waringhien 1985) or *rolvortaĵoj* (‘function-word-derived items’ Wennergren 2005/2023).

Following Halliday & Matthiessen (2014, 566-567), I find it useful to recognise a broad distinction between two levels of analysis: **Prepositional Group** and **Prepositional Phrase**. A Prepositional Group (**PG**) is a unit which operates at the level of the word, and consists structurally of a head (a Simplex P, a Complex Preposition or an Adverb-Preposition) with potential modifiers (before or after the P). A Prepositional Phrase (**PP**) is a unit which operates at the level of the clause, and involves an initiating lexical head (a simple P, a complex P or Adv P) and a final lexical focus or complement (sometimes also called Completive). Table 2 sets out an analysis of the two examples used at the beginning of this paper (1c: *en la sudo de Parizo*) and (1d:

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sude de Parizo) along these lines.

From a syntactic perspective, the hierarchical relations between PG and PP have long been a matter of debate (Huddleston & Pullum 2002: 618). However, from the point of view of discourse analysis, I would suggest that it does not

Table 2. Two types of Complex Preposition

1c	Prepositional Phrase (PP)	
	Prepositional Group (PG)	
	<i>en la sudo de</i>	<i>Parizo</i>
	in the south-N of	Paris-N
1d	Adverb-Prepositional Phrase (Adv PP)	
	Adverb Preposition Group	Completive
	<i>sude de</i>	<i>Parizo</i>
	south-Adv of	Paris-N

matter whether *de* belongs to the initial part of the PP or the second part, or whether the ‘completive’ (or whatever term we wish to use for the initial element in the sequence) is ‘dependent’, or has some other relation with the final element in the sequence. The main point here is that the initial sequence *en la sudo (de) / sude (de)* is perceived as a complex functional unit (in this paper, ‘Complex Prepositions’ are seen in this light) in contrast to the lexical focus of the phrase (here *Parizo*). Halliday & Matthiessen (2014) mention that sequences such as *in front of*, *by the side of*, as well as more metaphorical constructions such as *on the grounds of*, *for the sake of* are seen as “being on the way to becoming prepositions but have not quite got there [...]” and can thus be “[...] left unanalysed” (2014: 423). In other words, these sequences can be shown to have an intermediate status from a syntactic point of view and can thus be considered to have undergone a degree of lexicalisation, a process that I return to below in terms of ‘rank-shift’.

From the point of view of historical linguistics, it has been hypothesised that any perception of the PG as a semantic unit generally leads to reanalysis as a simple P. Thus it has been observed that the initial element (in English, prepositions such as *by* or *on* for example) often undergoes lenition, that is to say, phonological weakening, or merger with the remaining phrase (Lehmann 2002). Similar processes have been attested, for example, in the evolution of Early Spanish: *de ex de* > *desde* ‘as of, from’, *hoc die* > *hodie* > *hoy* ‘today’, etc. or Middle English: *by sidon* > *beside*, *on gemong* > *among*, etc. (Schwenter & Traugott 1995, Stosic & Fagard 2019, *inter alia*).

Since Prepositional Groups (PG) are the structural equivalents of Adverb-Prepositional Groups (Adv Gp), for the purposes of this study, it will be assumed that both terms are covered by the symbols Complex P / Adv P. However, as we see below, it is also necessary to account for the specific distribution of adverbials in Esperanto. In the following sub-sections, I

therefore distinguish between three sub-types of Adv P, namely: 4.3. **Adverbial P**, 4.4 **Lexicalised Adv-P** and 4.5 **Pleonastic P**. As indicated below, each subtype is defined in terms of its distributional relation to a corresponding Complex P (that is, in terms of a recognisable alternation with an equivalent Prepositional Group).

4.3. Adverbial Prepositions

As we have seen, an adverbial prepositional phrase (Adv PP such as *meze de Parizo*) is made up of a derived adverbial preposition group (Adv PG) (as in *meze de, sude de*) plus a Completive (a nominal group such as *Parizo*). Each Adv PP has a prepositional phrase (PP) as its recognised equivalent or counterpart (here *meze de / sude de + Parizo = en la mezo de / en la sudo de + Parizo*). The pair (Adv PG / PG) forms an alternation (an alternating pair of phrases) which can be seen as a direct consequence of the two principles of Esperanto grammar defined above (3.1, 3.4). This alternation provides the most diverse category of prepositional / adverbial equivalents, including the frequently encountered alternations set out in Table 3.

Table 3. Alternating Complex P / Adverbial P⁴

<i>en la centro de / centre de</i> ‘at the centre of’, <i>en la fino de / fine de</i> ‘at the end of’, <i>je la flanko de / flanke de</i> ‘at the side of’, <i>kun la helpo de / helpo de</i> ‘with the help of’, <i>en la interno de / interne de</i> ‘in the interior of’, <i>en la kerno de / kerne de</i> ‘at the core of’, <i>en la komenco de / komence de</i> ‘at the start of’, <i>je la kosto de / koste de</i> ‘at the cost of’ <i>en (la) okazo de / okaze de</i> ‘on the occasion of’, <i>sur la bazo de / surbaze de</i> ‘on the basis of’, etc.

It is interesting to note that some of these phrases are introduced by *je* (indefinite preposition), others by *kun* ‘with’ or *sur* ‘on’⁵. Generally speaking, however, *en* appears to be the default preposition for most of these alternations, as noted by Kaloscy & Waringhien (1985: 229). This is the case for many frequent alternations such as *en la kadro de / kadre de* and *en la okazo de / okaze de*, and so on, and it appears that a similar state of affairs appears to hold in other languages (although not necessarily for the same PP, as noted by Gross 2006). As mentioned above, if we accept the argument that this initial element may be perceived to be redundant, then it follows that many examples of alternating Complex P / Adv P are subject to potential

⁴ An anonymous reviewer wonders whether items such as *en la kerno de* can really be considered Complex Ps, referring to other possible alternations such as *en la hejmo de mia amiko > ?hejme de..* ‘at the home of’ (which seems a legitimate alternation to me in some contexts) or *sur la pordo de la domo > ?porde de...* ‘at my friend’s door’ (although here the Adv P alternation is impossible, since *de* is used as a possessive), or *dum la tagoj de mia vojaĝo > ?tage de mia...* ‘during the days of my voyage...’ (which is similarly not possible, since *de* is also being used as a possessive). The reviewer then wonders where the boundary lies, and whether this may be related to frequency. This observation echoes observations made throughout this paper: while many sequences are *bona fide* compositional syntactic structures, others become lexicalised through frequent use, leading to the possibility of divergent usage. The possibility of such a development is examined in section 6 in particular.

⁵ Among these phrases, *surbaze de* is somewhat exceptional in that the initial P1 is maintained in the Adv PP.

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lexicalisation.

4.4. Lexicalised Adverb-Prepositions

A less diverse, but also frequently encountered sub-type includes Zamenhof's 'adverb-prepositions', formed mostly according to principle 3.6 (mentioned above), although as we shall see many of these forms cannot be directly traced back to a verbal construction. Table 4 gives a selection:

Table 4. Lexicalised Adverb-Prepositions

<i>diference de</i> 'differently from' (perhaps by analogy with <i>je la diferenco de</i>), <i>fare de</i> 'done by' (by analogy with the participle <i>farita de</i>), <i>fronte al</i> (by analogy with <i>kun la fronto al</i>), <i>kontraste al</i> 'in contrast with' (by analogy with <i>en kontrasto kun</i>), <i>male de</i> 'in contrast to, opposite to' (from the prefix <i>mal-</i>), <i>responde al</i> 'in response to' (by analogy with <i>en respondo al</i> or <i>kiel respondo al</i> 'as a response to'), etc.
--

Lexicalised Adv-Ps can be distinguished from other Adv P forms by the fact that they rarely alternate with a Complex P (although they may be based such a construction originally). For example, although it is possible to find attested examples of *en respondo al* / *kiel respondo al* in the corpus, the default form is mainly *responde al*.⁶ It is also significant that many of these constructions are not based on a spatial metaphor (with a 'geometric' meaning such as *mezo* or *kadro*), but are rather derived from verbs and participles with more abstract meanings of contrast, comparison, relation, etc.

It is perhaps worth adding here that the Lexicalised Adverb category also includes performative idioms such as *dank'al* 'thanks to' (which some Esperantists reject in favour of *danke al*), and the very widely used neologism *far*, a simple preposition which is nevertheless itself derived from the Adv-P *fare de* 'by, with the agency of' (perhaps formed by analogy with the participle construction *farita de* 'done by'). Furthermore, it is sometimes possible for the linking P (*al* or *de* in the above examples) to be replaced by the accusative (as per 3.4 the accusative alternation). The resulting forms therefore resemble simplex P, which is especially the case for *escepte N-n* 'except (for)', *koncerne N-n*, 'concerning', *rilate N-n* 'relating to', and so on. Thus although each of these Adverb-Prepositions is obviously derived from a lexical root, each is selected as an autonomous phrase with its own specialised function.

In his discussion of complex prepositions, Wennergren (2023: 229) provides glosses for many of these forms. It is interesting to note that for a significant subset of these cases, Wennergren has to resort to some rather convoluted paraphrases. Thus *fronte al* 'in front of' is glossed as *kun la fronto direktita al* 'with the front directed towards', *inkluzive de* 'including' is rephrased as *kun la enkalkulado de* 'with the inclusion of', and *konforme al* 'conforming with' is reformulated as *en maniero, kiu konformas al* 'in a manner that conforms with'. The need for elaborate paraphrases suggests that each of the Adv Ps appears to have acquired a separate set of meanings that

⁶ The relevant frequencies in the *Tekstaro* are: *en respondo al* 6, *kiel respondo al* 9 and *responde al* 149.

cannot be sufficiently rendered by an equivalent Complex P.

As mentioned above, it is possible to account for such examples in terms of lexicalisation. Here I am using this term in a rather particular sense, in order to refer to the demotion (or ‘rank-shift’, Halliday & Matthiessen 2014) of a grammatical phrase (or here, a Prepositional Group) from the level of the syntax to the level of a single lexical item. For example, the PG *en respondo (al)* can be seen as the alternating equivalent of a simple Adv *responde*. In this respect, it is useful to compare lexicalisation with the analogous process of grammaticalisation (or morphologisation, Lehmann 2002), which involves a further rank-shift from the level of the group down to the level of the word or morpheme. A further example of this in Esperanto might involve the use of the simplex Preposition *al* ‘to’ as a prefix in the compound V *aliĝi (al.iĝ.i)* ‘to.become.V-inf’ ‘to join, to sign up, to subscribe’. Here the P has been ‘rank-shifted’ to the status of prefix, in other terms: re-analysed as the initial syllable in a conventionalised lexical item.

4.5. Pleonastic Prepositions

A final and surprisingly productive subtype of complex P involves ‘pleonastic prepositions’, that is to say adverbial prepositions derived from their simple preposition counterparts, as set out in Table 5.⁷

Table 5. Pleonastic Prepositions

<i>antaŭ / antaŭe de</i> ‘before / in front of / previously to’, <i>apud / apude de</i> ‘near to / in proximity to’, <i>en / ene de</i> ‘in / inside, in the interior of’, <i>kun / kune kun</i> ‘with, together with’ (although <i>kune de</i> is attested), <i>per / pere de</i> ‘by, with / by means / by intermediary of’, <i>sub / sube de</i> ‘under / below, underneath’, <i>trans / transe de</i> ‘across / across from, on the opposite side of’, etc.

The main difference between these items and other categories of Adv P is that they are by definition restricted to the subclass of prepositions. However, since none of these items are semantically equivalent to their simple P counterparts, pleonastic Ps cannot be analysed in terms of alternation. In addition, not all prepositions can be mobilised for this paradigm (possible forms such as **sure de* or **supere de* are not attested in the *Tekstaro*).

Having said this, pleonastic prepositions are some of the most emblematic constructions in Esperanto. Indeed, it could be argued that the recursive structure on which they are based (P > P-e + de) is one of the most successful ‘artificial’ innovations in the language. As Wennergren states (2023, 229), several pleonastic Ps have been widely adopted in the subsequent development of the language, usually with much more specialised meanings than their simple P counterparts. This can be also seen in the glosses provided in Table 5

⁷ An anonymous reviewer objects to the use of the term ‘pleonasm’ for items such as *kune kun* in which the first element reinforces the second item, or intensifies the meaning of the phrase. I agree that there is a contrast between items such as *kun / kune kun*. However, since ‘pleonastic preposition’ is a term used in the literature for precisely this kind of phenomenon (for example Rehbein & Genabith 2006), I maintain such usage here.

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(requiring a wide range of Complex Ps in English). It is also interesting to compare these items with examples of recycling and reduplication which are well-documented in the prepositional systems of other languages, for example in French: *au dessus de* ‘above’, *par devers* ‘on the side of, in possession of’, etc. (Lamiroy 2001).

5. Complex P and Adv P in the corpus

The standard grammars of Esperanto do not comment on the relationship between Complex P and Adv P. In his discussion of these forms, Wennergren (2023) acknowledges that the adverbial forms are productive: “... *la rolvortaĵoj estas tre multaj, kaj oni povas libere formi novajn*” “complex prepositions are very numerous, and one can easily form new ones., (2023: 230 [my translation]), but he stops short of comparing the two forms directly. The only example of a detailed comparison that I have been able to find comes from the linguist and former member of the *Akademio de Esperanto*, Segio Pokrovskij (1999a/b) who, in answer to a reader’s question on language use (whether to use forms such as *helpo de / pere de*), states that:

En la etnaj lingvoj oni iam variigas la rimedajn prepoziciaĵojn per diversaj proksimsencaj esprimoj; imitante tion, ankaŭ en Esperanto oni uzas *helpo de, pere de* ktp. Preskaŭ ĉiam tio estas malrekomendinda trajto de kancelaria stilo; prefere oni uzu la simplan *per*. (Pokrovskij 1999a/b, 50).

‘In the ethnic languages, complex linking prepositions are sometimes varied by diverse expressions, all with a similar meaning; people also imitate this in Esperanto, using *helpo de, pere de*, etc. Almost always, this is a feature of ‘chancellery’ style which is not to be recommended; it is preferable to use the simple *per*.’ (Pokrovskij 1999a/b [my translation]).

It is interesting to observe that Pokrovskij associates complex prepositions (and their Adv-P counterparts) with technocratic discourse. A similar formulation can be seen with regards to other structures, such as support verb constructions or German *Funktionsverbgefüge*, which are at times seen as examples of ‘pompous’ administrative style (Gledhill 2010). Notwithstanding the clearly subjective nature of these prescriptions, it is possible to test these statements empirically. Are complex Ps and their Adv P equivalents really typical of formal, technical discourse, or do they have a wider currency? In the following discussion, these questions are addressed by observing a sample of alternating phrases in a representative corpus of Esperanto. The *Tekstaro* (‘text-collection’ Wennergren 2023) is a corpus of written texts representing a large amount of written material (original and translated) produced in Esperanto since 1887 up to the modern day. Such a corpus cannot be used to analyse spontaneous production, but it can serve as a useful reference corpus of ‘standard’ Esperanto, especially since the editor has included all of the

writings of L. Zamenhof and several other canonical authors, especially from the early period (roughly 1887-1946). Since the corpus is regularly updated, the exact number of texts and size of the corpus are in constant growth (currently more than 12 million words). The version of the corpus used here is dated 31 December 2019, and includes a total of 10.2 million tokens.

I have arbitrarily divided the corpus into five periods (by publication date, see Table 6). Dividing the corpus into periods shows the extent to which the different genres that are represented in the corpus have developed over time (from largely translated literary texts to more original texts and journalism). It is however important to note that this division is arbitrary and leads to an imbalance in the data, with some periods appearing to be neglected (relatively

Table 6. Composition of the Tekstaro corpus (December 2019)

<i>Section</i>	<i>Dates</i>	<i>Texts</i>	<i>Genre / Text Type</i>	<i>Million words</i>
1	1887-1916	39	Fiction: anthologies, novels, <i>Fundamental Chrestomathy</i> , <i>Old Testament</i> , <i>New Testament</i> . Nonfiction: Essays, Pamphlets.	1.72
2	1917-1946	17	Fiction: one anthology, translated and original novels. Nonfiction: Biographies, Essays	0.89
3	1947-1976	13	Fiction: one anthology, translated and original novels, Non-fiction: essays, <i>Esperanto en Perspektivo</i> , <i>Azia Strategio</i> etc.	0.61
4	1977-2006	29	Fiction: Translated and Original Novels. Non-fiction: newspaper archives including: <i>Monato</i> , <i>Ondo de Esperanto</i> and translations from <i>Le Monde diplomatique</i>	3.39
5	2007-2019	6	Non-fiction: newspaper archives including: <i>Monato</i> , <i>Kontakto</i> and translations from <i>Le Monde diplomatique</i>	3.59
Total		104		10.2

few texts date from 1947-1976), while others receive a large input of new text (translated journalism in the later sections). Thus when considering the relative frequency of different forms, it is important to bear these variations in mind, especially since the inclusion of different registers clearly has a significant impact on the kinds of lexicogrammatical patterns that can be observed in the corpus.

Notwithstanding such objections, the first question addressed below is very simple: given a set of roughly equivalent constructions, what is the distribution of Complex P and Adv P in the *Tekstaro*? Table 7 sets out the ten most frequent 4-grams (n-word sequences) which correspond to complex prepositions in the

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Table 7. The ten most frequent 4-grams corresponding to Complex P candidates in the Tekstaro

RANK	FREQUENCY	TEXTS	TYPE
*3	2917	185	<i>(en) la fino de la</i>
*9	1662	146	<i>(en) la komenco de la</i>
*33	1027	57	<i>en la kadro de</i>
*38	941	129	<i>en la domo de</i>
*44	836	144	<i>la mezo de la</i>
*48	800	123	<i>en la nomo de</i>
*60	663	101	<i>ĉe la fino de</i>
*68	640	129	<i>en la mezo de</i>
*84	578	120	<i>post la fino de</i>
*91	559	70	<i>en la centro de</i>

*Tekstaro*⁸. As can be seen, many of these forms correspond to spatial and temporal metaphors (*en la fino de*, *en la komenco de*), as well as the more abstract spatial constructions (*en la mezo de / en la kadro de*) that are analysed in the following sections.

5.1. The distribution of Complex P / Adv P meaning ‘internal location’

Table 8 sets out the raw *Tekstaro* frequencies for six phrases with a spatial meaning equivalent to ‘inside, in the middle’: *en la centro de / centre de* ‘in the centre’, *en la interno de / interne de* ‘inside, in the interior of’, *en la kerno de / kerne de* ‘at the core of’, *en la koro de / kore de* ‘at the heart of’, *en la mezo / meze de* ‘in the middle of’, and *en la sino de / sine de* ‘in the bosom of, in the midst of’.

It can be observed that some Adv P forms have increased significantly in frequency over time (this is certainly the case for *interne de*, *kerne de*, *sine de*). However, it is also interesting to note that a number of constructions do not quite follow this trend. For alternations such as *en la interno de / interne de*

⁸ An anonymous reviewer objects that *en la domo de* is listed here as a Complex Preposition. This is a legitimate observation. It would therefore be more accurate to describe the items in Table 7 as ‘Complex P candidates’. In this respect, it is useful to consider that when searching for unspecified n-grams, the results may include any sequence of items of exactly n-length. Thus for example, when looking for 4-grams, the corpus will throw up results which include all repeated segments that are exactly 4 items in length, regardless of their status. Such a search will identify many legitimate sequences of Complex P, but may often also include noise (fragments of an extended n-gram, dates of the form *la 7-a de septembro*, etc). Thus as can be seen in Table 7, the first two most frequent 4-grams to emerge in the *Tekstaro* are < *la fino de la* > and < *la komenco de la* >. Both of these can be interpreted as fragments of a longer sequence such as < *en la fino de la* > and < *en la komenco de la* >, both of which happen to correspond to Complex Ps.

and *en la mezo de / meze de*, Adv P has in fact been the predominant form since the early period (1887-1916). Furthermore, for the phrases *en la centro de* and *en la koro de*, the default form has always been Complex P, even in ‘modern Esperanto’. Thus although the evidence in the later sections of the corpus suggests that Adv P has become the dominant form, Adv P has not replaced Complex P in all cases.

Table 8. Distribution of ‘internal location’ alternations in the *Tekstaro*

	1887-1916	1917-1946	1947-1976	1977-2006	2007-2019
en la centro de / centre de	4 / 0	6 / 0	7 / 4	53 / 19	107 / 25
en la interno de / interne de	7 / 56	9 / 13	1 / 41	10 / 102	6 / 100
en la kerne de / kerne de	0 / 0	0 / 0	0 / 0	5 / 6	23 / 35
en la koro de / kore de	25 / 0	11 / 0	1 / 0	46 / 2	42 / 1
en la mezo de / meze de	74 / 291	52 / 185	9 / 47	24 / 322	40 / 381
en la sino de / sine de	1 / 0	1 / 0	11 / 0	16 / 136	12 / 186

5.2. The distribution of Complex P / Adv P phrases meaning ‘spatial / temporal limit’

Tables 9 and 10 compare two sets of expressions across two related semantic spheres. Table 9 sets out the relative frequency of four constructions which refer to spatial shapes or limits: *sur la bazo de / surbaze de* ‘on the basis of’, *en la kadro de / kadre de* and *en la sudo de / sude de* ‘in/to the south of’ (with *en la mezo de* repeated here for comparison). In contrast, Table 10 sets out various comparable expressions relating to two temporal limits: *ĉe la fino de / je la fino de / en la fino de / fine de* ‘at the end of’, *ĉe la komenco de / je la de komenco de / en la komenco de / komence de* ‘at the beginning / start of’.

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Once again, we see the apparent ‘rise’ of Adv P constructions corresponding to the later periods in the corpus. However, it is interesting to see that, for all of these alternations, complex P still occurs frequently in the later periods of the corpus. An additional point is that for some expressions, the distribution of initial prepositions does not alter markedly. Even in the later periods of the corpus, *ĉe* and *je* appear to be just as frequent as *en* when used with + *la fino / komenco de*. As mentioned above, Piron (1989) has suggested that the form Adv P in Esperanto only really ‘took off’ in the post-war period. The *Tekstaro* data appear to confirm his intuitions, albeit with the proviso that some ‘pioneer’ expressions such as *interne de / meze de*, were already in use, even in the earliest texts.

Table 9. Distribution of ‘spatial limit’ alternations in the *Tekstaro*

	1887-1916	1917-1946	1947-1976	1977-2006	2007-2019
sur la bazo de / surbaze de	2 / 0	4 / 0	3 / 99	13 / 246	12 / 331
en la kadro de / kadre de	1 / 0	2 / 0	93 / 0	117 / 293	115 / 341
en la mezo de / meze de	74 / 291	52 / 185	9 / 47	24 / 322	40 / 381
en la sudo de / sude de	2 / 13	1 / 8	0 / 3	22 / 54	55 / 72

Table 10. Distribution of 'temporal point' alternations in the *Tekstaro*

	1887-1916	1917-1946	1947-1976	1977-2006	2007-2019
ĉe la fino de / je la fino de	12 / 1	17 / 4	20 / 5	49 / 33	115 / 56
en la fino de / fine de	38 / 0	23 / 5	11 / 89	28 / 553	37 / 734
ĉe la komenco de / je la komenco de /	10 / 2	2 / 1	3 / 1	12 / 10	20 / 22
en la komenco de / komence de	53 / 1	23 / 2	7 / 27	42 / 373	27 / 521

5.3. The distribution of Pleonastic Prepositions

Table 11 sets out the relative frequency of a selection of 'pleonastic' prepositions compared with their simple P counterparts, namely: *ekster / ekstere de* 'out / outside of', *en / ene de* 'in / inside of', *kun / kune de* 'with / together with' and *per / pere de* 'by without'⁹. For comparison, I have also included the neologism *far* and its Adv P form *fare de* (although as stated above *fare de* is not a pleonastic P, but is rather derived from a participle

Table 11. Distribution of Prepositions vs Pleonastic Prepositions in the *Tekstaro*

	1887-1916	1917-1946	1947-1976	1977-2006	2007-2023
ekster / ekstere de	189 / 4	124 / 2	109 / 0	498 / 26	648 / 27
en / ene de	30K / 0	14K / 0	15,4K / 0	68K / 289	80K / 862
kun / kune kun	9K / 394	5K / 216	2,8K / 65	16K / 355	16K / 373
per / pere de	826 / 7	4K / 30	2K / 94	9K / 388	8,7K / 526
farita de / fare de / far	27 / 0 / 0	12 / 0 / 0	20 / 57 / 3	92 / 707 / 74	118 / 1230 / 62

construction: *farita de*).

⁹ In contrast to previous sections, I have included searches from a later version of the *Tekstaro*, which means that the latest portion of the corpus now extends from 2007 to 2023.

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As stated above, it is not meaningful to compare the raw frequency of simple Ps with their derived Adv P forms, since these forms are not equivalent alternations. Nevertheless, it is interesting to observe the relative distribution of simple Ps and derived Adv P forms as they are used in the corpus over time. As with *meze de*, it is perhaps surprising to observe that some Adv P forms were already in frequent use in early Esperanto, especially the purely pleonastic form *kune kun*.

Finally, it is notable that *fare de* is used much more frequently than any of the other comparable Adv Ps (including all of the other Adv P forms we have seen up to now). It makes its first appearance in the corpus in the 1950s, including several mentions in (non-fiction) texts by Ivo Lappena. Since *fare de* does not enter into a significant alternation with comparable phrases, it is not analysed in the concordances below. Nevertheless, this form is clearly an important example of ‘planned evolution’ in the language¹⁰, and it would be interesting to determine in a future study whether this form has in some way been ‘promoted’ by its use in technical texts or in translation (as can be observed in many hundreds of examples from *Le Monde diplomatique*).

6. Lexico-grammatical patterns in the *Tekstaro*¹¹

In the final sections of this paper, I examine how two Complex P / Adv P alternations are used in the corpus, namely *en la mezo de / meze de* and *en la kadro de / kadre de*. My choice of these forms is partly determined by their respective scores (as 3rd and 7th most frequent n-grams in the corpus), but also by the fact that the Adv P forms are much more frequent than the corresponding Complex P, especially in the later sections of the *Tekstaro*.

However, before analysing the data, it is important to define what we are searching for. So far, I have argued that Complex P and Adv P are alternations because one form is derived from the other. But this does not mean that these forms are always interchangeable or synonymous. This argument is based on the theoretical perspectives of ‘construction grammar’ (Goldberg 1995, Legallois & François 2006) and ‘corpus linguistics’ (Hunston & Francis 2000, Tutin & Grossmann 2002). According to both of these approaches, whenever

¹⁰ By ‘planned evolution’ I am referring to the fact that the use of novel prepositions such as *fare de* represent conscious interventions in the functioning of the language system (*planned*), which consequently are used as (or seen as) natural developments (*evolution*).

¹¹ An anonymous reviewer states that the reasons for including this final section are unclear, and they have the impression that such analysis is part of a general tendency on my part to de-emphasise semantics. This objection is understandable. Many people have the impression that a given word or phrase can ‘have meaning’ out of context (i.e. they see meaning as an essential property of lexical units, independent of any context of use). Similarly, it comes as no surprise to them that related but distinctive constructions such as *en la sudo de* and *sude de* etc. ‘must have different meanings’ on the basis of structural differences alone. For the descriptive linguist, however, this is not enough. As I have pointed out elsewhere (Gledhill 2010, etc.), it is only by profiling the typical phraseology of lexical items (their patterns of co-occurrence) and their rhetorical functions (the negotiated meanings that these items acquire in longer stretches of actual discourse) that the analyst can tease out the subtle differences that are associated with individual words or morphemes. In other words, it is important to observe the meaning of a word as it is negotiated through language use, preferably within the context of a representative corpus of texts. For further details about such a ‘contextualist’ approach to meaning, I refer the reader to Firth (1957), Sinclair (1991), Frath (2023), *inter alia*.

two language forms are perceived to be ‘alternations’, it is usually the case that these items can be distinguished in terms of contrasting patterns of discourse. This principle applies to lexical alternations (including paronyms such as *economic / economical, social / societal*, etc.) as well as grammatical alternations (Active / Passive, Prepositional Dative / Oblique Dative, etc.). I have previously argued (Gledhill 2010, 2015) that these distinctive ‘patterns of use’ can be usefully captured in the form of **lexico-grammatical patterns (LxGr)**. By using this concept, I am making the following assumptions:

- 1) Every sign (morpheme, word or phrase) has its own ‘lexico-grammar’; that is its own consistent and contrastive micro-patterns of use which are realised in habitual modes of discourse (text types, genres).
- 2) For each LxGr pattern, there is a regular and productive grammatical structure (syntax), a predictable frame of reference (semantics) and a recognisable rhetorical function (pragmatics).
- 3) LxGr patterns are not ‘fixed’ sequences of words (sometimes referred to as ‘bundles’, ‘clusters’, ‘fixed collocations’, etc.). Rather, LxGr patterns are discontinuous and variable, a feature which allows them to cascade into other patterns in on-going stretches of discourse.

To give an initial example of a LxGr pattern, let us consider how the preposition *en* ‘in’ is typically used with the noun *kadro* ‘frame’. Observation of the corpus shows that both *en* and *kadro* often co-occur in very regular, but also very productive contexts, as in the following examples (all taken from the *Tekstaro*):

- 3a) *Super la sofo **pendis** granda kolora bildo **en bela kadro**.*
‘Above the sofa there hung a large colored picture in a beautiful frame.’
- 3b) *Vi lernos multegon, kaj samtempe vi **ripozos en plaĉa kadro**.*
‘You will learn a lot, and at the same time you will rest in a pleasant setting.’
- 3c) *senokula vizaĝo nenature **ridis en nigra kadro***
‘an eyeless face unnaturally laughed in a black frame’

On the basis of such examples, I suggest that both of these words (*en + kadro*) enter into a regular pattern of use in which *kadro* is typically pre-modified by adjectives and often co-selected with an intransitive verb whose meaning is ‘behaviour’ (a physical or biological act that is inherent to a given entity or being, such as hanging, laughing, moving, resting sneezing, [as exemplified in 3a-c]). This pattern of speech can be represented by the formula: < *ridi / ripoz* / *pendi + en + bela / nigra / plaĉa + kadro* >. The general meaning of this phrase is ‘to (behave) in (a descriptive) setting’, and the pragmatic context of use is narrative history or fiction. To what extent can I claim that this pattern is ‘distinctive’? One of the best ways of demonstrating this is to find contrasting

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patterns in the corpus, as we shall see below.

A final point regarding authentic data: in the following concordances, it should be noted that I have used Google Translate¹² to provide a gloss for all of my examples. I have only intervened in one or two cases to revise these translations. This exercise provides some interesting results: as will become clear for *en la kadro de / kadre de*, Google Translate systematically proposes two different translations for the root *kadr-* (rendered either as *frame / framework* or more generally 'as a part of'), a useful indicator that we are dealing with contrastive patterns of use.

6.1. Lexico-grammatical patterns for *en la mezo de*

En la mezo de is a Complex P often used as a clause modifier (*esti + en la mezo de*). Semantically, *en la mezo de* can refer to both time and space, although the majority of uses in the corpus appear to refer to space / location. As a clause modifier¹³, *en la mezo de* typically refers to stative Vs, Relational and Behavioural Processes.¹⁴ Here is a selection of examples, with the relevant Vs underlined:

4a) *Estis frua printempo en la mezo de marto.*

'It was early spring in the middle of March.'

4b) *En la mezo de la urbo abunde ŝprucas 66-grada minerala fonto*

'In the middle of the city, a 66-degree mineral spring gushes abundantly'

4c) *Li staras en la mezo de la ĉambro kiel monumento.*

'He stands in the middle of the room like a monument'

4d) *Unu paradis ... aliaj tri pavis en la mezo de la vojo.*

'One paraded ... three others also paraded in the middle of the street.'

4e) *Situanta en la mezo de la provinco Cuanza Sul, la altebenaĵo de Waku-Kungo, ... estas preskaŭ mita kampkultura regiono.*

'Located in the middle of Cuanza Sul province, the plateau of Waku-Kungo, ... is an almost mythical farming region.'

¹² Available here: <<https://translate.google.com/?hl=fr&tab=TT>>. It is likely that Google translate was trained on data translated from French using large corpora such as *Le Monde diplomatique* (texts that are translated to a professional level from French into English, as well as other languages). Thus, as with all texts in Esperanto, this means that there will always be a question mark about the influence of translation, as well as the 'native-like' status of cited examples.

¹³ In this analysis, I have not considered examples where *en la mezo de* post-modifies a nominal group (NG). It is also possible for *meze de* to post-modify nominal groups (NG), but with less frequency than Complex P.

¹⁴ In the following analysis I use an initial capital to refer to the different sub-types of semantic process according to Systemic Functional Grammar (Halliday & Mathiessen 1985/2014).

6.2. Lexico-grammatical patterns for *meze de*

The Adv P *meze de* is typically used to modify dynamic Material processes, often denoting change. There also appears to be a degree of contrast, as though the action is taking place 'in the middle of' somewhere unexpected or surprising. Here are some examples (with in the relevant items underlined) from the *Tekstaro*:

5a) *Sed, eble ĉar ĝi fariĝis **meze de** Vaŝingtono*

'But, maybe because it happened in the middle of Washington'

5b) *civile vestitaj policianoj, ekipitaj per tipaj orelŝirmiloj, iris kaj venis **meze de** la ribejoj, kaj komunikis alilingve...*

'... plainclothes policemen, equipped with typical ear muffs, came and went in the middle of the riots, and communicated in other languages...'

5c) *tio cetere okazis **meze de** la milito*

'moreover, this happened in the middle of the war'

5d) *Oni multe penadis, kaj **meze de** tiom da turmentoj la prezidanto Maduro faris la socialan miraklon savi la landon.*

'A lot of effort was put in, and in the midst of so much torment, President Maduro performed the social miracle of saving the country.'

5e) *En malpli ol jaro, la nacia konglomerato Baladna... konstruis **meze de** dezerto en la nordo, grandegan farmon*

'In less than a year, the national conglomerate Baladna ... built a huge farm in the middle of a desert in the north'

In sum, Complex P (examples 4a-4e) has a more static frame of reference than Adv P (examples 5a-5e). As we have seen, the Complex P *en la mezo de* is used with intransitive or stative Vs and tends to refer to a clearly defined space. Generally speaking, the fact that the action is *taking place* + *in the middle of* + [*March, the street, a province in China, etc.*] is not presented contrastively or with explicit evaluation. On the other hand, Adv P forms are used when the speaker/writer is attempting to make a marked contrast. This tendency appears to confirm the intuitive analysis set out in the introduction to this paper (section 1 above). However, it seems that the contrast between examples 1a/b (...*en la mezo* / *meze de Parizo*) and 1c/d (...*en la sudo* / *sude de Parizo*), may have less to do with semantics (reference to spatial boundaries) and more to do with pragmatics (in particular the rhetorical or contrastive effect conveyed by using the deliberately 'generic' Adv P form as opposed to the 'specific' Complex P).

6.3. Lexico-grammatical patterns for *en la kadro de*

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Turning now to the alternation *en la kadro de / kadre de*, it is clear from the corpus analysis (and the examples cited below), that both variants are predominantly used in elaborate, often technical discourse. As noted in the literature (for example Biel 2015), these are typically the kinds of contexts in which complex prepositional phrases tend to be used more frequently. Furthermore, and in contrast to *en la mezo / meze de* (which has been a longstanding alternation in Esperanto), *en la kadro de* occurs sporadically since 1887, but *kadre de* is only attested for the first time in 1976.

Regarding *en la kadro de*, this form is often used to modify a past participle (-*ata* or -*ita* in the following examples). The typical Vs used with this phrase correspond to i) Material processes (action, collaboration, protection), ii) Mental processes of design/elaboration, iii) Communicative processes of authorisation/permission. The following examples give an indication of each sub-pattern:

Material processes:

6a) *Tiu "modernigo" estis grandparte elaborita en la kadro de la duflankaj intertraktadoj por la Traktato de Liberkomerco*

'That "modernisation" was worked out to a large extent in the framework of the bilateral negotiations for the Free Trade Agreement ...'

6b) *ĉi tie la oficistoj estas protektataj de la leĝo, en la kadro de statuso rigardata kiel [...]*

'here the officials are protected by the law, in the framework of a status seen as [...]

Mental processes:

6c) *Tiu devigo estis adoptita en la kadro de la USA PATRIOT ACT [...]*

'This obligation was adopted in the framework of the USA PATRIOT ACT [...]

6d) *Kvankam la NED estis konceptita en la kadro de la usona arsenalo de la malvarma milito,*

'Although the NED was conceived in the framework of the American arsenal of the cold war, ...

Communicative processes:

6e) *kaj la instruado de Esperanto estas permesita en la kadro de tiuj horoj*

'and the teaching of Esperanto is allowed within the framework of those hours'

There also exists a fourth pattern, which is infrequent, but sufficiently distinctive to be worth mentioning here. This involves a Complex P with the

LxGr structure: <aŭtoro / homoj + (re)meti + en la (Adj) kadron de + [process / political activity] >. This structure involves the 'directive' use of the accusative (mentioned above, section 3.2) which is licensed by the transitive V (re)meti 'to place, to put'. This phrase corresponds roughly to a conceptual metaphor of removal, where 'to place in a framework' = 'reconsider':

6f) *Unue ŝajnas al mi necese **remeti** ĉi tiun traktaton **en la ĝeneralan kadron de** la nuna politika evoluo*

'First of all, it seems to me necessary to put this treaty back into the general framework of the current political development'

6g) *Samtempe ni volas **meti** ĝin **en la kadron de** tio, kion oni scias ĝenerale pri la homa lingvo [...]*

'At the same time we want to place it in the framework of what is known in general about human language [...]

6h) *la ĉeestantoj estis invititaj **meti** la laborojn **en la ĝeneralan kadron de** la lukto kontraŭ la malsato .*

'those present were invited to place the work in the general framework of the fight against hunger.'

6i) ***Metante** ĉiujn ĉi batalojn **en la kadron de** sia "milito kontraŭ la terorismo", Usono kontribuis al kreado de "internacio de rezistado"...*

'By placing all these battles in the framework of its "war against terrorism", the United States contributed to the creation of an 'international of resistance'...'

6j) *Samtempe, la venezuela dekstrularo manovris kun la celo internaciigi la internan konflikton **metante** ĝin **en la kadron de** la Organizaĵo de Amerikaj Landoj (OAL),*

'At the same time, the Venezuelan right-wing maneuvered with the aim of internationalizing the internal conflict by placing it in the framework of the Organization of American States (OAL)'

6.4. Lexico-grammatical patterns for *kadre de*

There are a number of regular patterns of expression associated with the Adv P *kadre de*. Many of these are limited to highly specific and recurrent contexts. For the sake of simplicity, I mention two patterns here. The first is used to modify a Communicative process. Invariably, this V refers to the organisation of a congress, course or conference: *aranĝi* 'to arrange', *ekpozici* 'to present an exposé', *prelegi* 'to give a talk', *prezenti* 'to present' etc, as can be seen in 7a-e):

7a) *La prelegoj, faritaj **enkadre de** la kongresoj, aperis libroforme.*

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'The lectures, given as part of the congresses, appeared in book form.'

7b) *Amri Wandel, astronomo kaj esperantisto, jam plurfoje prelegis pri sia fako kadre de la Internacia Kongresa Universitato en diversaj lokoj*

Amri Wandel, astronomer and Esperantist, has lectured several times about his field under the aegis of the International Congress University in various places'

7c) [*Libro: Eŭropo pour ĉiuj*] *Ĝi estiĝis kadre de la antaŭuniversitataj kursoj en la Universitato de Santiago de Compostela (Hispanio)...*,

[Book: Europe for all] It originated as part of the pre-university courses at the University of Santiago de Compostela (Spain)...

7d) *Pri tiu temo Giorgio Silfer prelegos kadre de la 32a Internacia Literatura Konferenco ...*

'Giorgio Silfer will lecture on this topic as part of the 32nd International Literary Conference...'

7e) *LF komencas aperigi la prelegojn kadre de la ĉi-jara 19a Internacia Literatura Forumo*

'LF begins to publish the lectures as part of this year's 19th International Literary Forum'

The second major pattern for *kadre de* also corresponds to a very distinctive 'discourse routine' (Tutin & Grossman 2002), which again refers to a typical Esperantist event usually expressed as *prelego* 'guest talk, lecture'. However, this pattern is different from the previous one, in that it invariably involves the *V okazi* 'to occur, take place' and an extended structure with the following (essentially obligatory) semantic elements: <[event A] + *okazi* + *kadre de* [arrangement / organisation B]>. Examples 7f-7j) give an indication of the relatively mundane (but also unique) nature of this pattern, which presumably serves a key function in the regular announcement of Esperanto events:

7f) *La jarkunveno de Internacia Scienca Asocio Esperantlingva (ISAE) Esperantlingva (ISAE) okazis en 2 partoj kadre de la Berlina UK;*

'The annual meeting of the Esperanto-Language International Scientific Association (ISAE) Esperanto-Language (ISAE) took place in 2 parts as part of the Berlin UK'

7g) *Granda sukceso estis la ĉi-jara AIS-IKU, komuna stud-sesio de AIS San-Marino kaj UEA, kiu okazis kadre de la Internacia Kongresa Universitato (IKU) de la 84a Universala Kongreso en Berlino.*

'This year's AIS-IKU, a joint study session of AIS San Marino and UEA,

which took place within the framework of the International Congress University (IKU) of the 84th Universal Congress in Berlin, was a great success.'

7h) *20 feb. en la peterburga gimnazio 271 okazis unu-kaj-duona-hora E-koncerto kadre de aranĝo, ...'* Feb. 20 a one-and-a-half-hour E-concert took place in St. Petersburg gymnasium 271 as part of an arrangement...'

7i) *La premiado okazos kadre de la esperanta kultura festo Abritus-99 ...*
The award ceremony will take place as part of the Esperanto cultural festival Abritus-99 ...'

7j) *Ĝi estis dediĉita al la Internacia Literatura Forumo, kiu okazos en Vraca en majo 2000, kadre de "Botev-tagoj"*.

'It was dedicated to the International Literary Forum, which will take place in Vraca in May 2000, as part of 'Botev days'.

Is there any substantial difference between the Complex P *en la kadro de* and the Adv P *kadre de*? As mentioned above (6.3), when *kadro* is the complement of a simple P (*en*), the phrase often refers to a physical 'frame' or spatial 'setting' (examples 3a-3c), often in a narrative context. This meaning contrasts markedly with the more abstract concept of 'framework' when the phrase is encountered as a complex P (examples 6a-6j). Furthermore, as noted above, it is significant that Google Translate regularly renders the Complex P *en la kadro de* (6a-j) as 'in the framework of', whereas the Adv P *kadre de* (7a-j) is usually translated as 'as part of' or (as I have suggested for example 7b) 'under the aegis of'. Of course, it may be that this is an effect of back-translation, since many examples of *en la kadro de / kadre de* are to be found in the translated parts of the *Tekstaro* corpus. In addition, if this exercise had been conducted in French, presumably the back-translation would only have been rendered by one expression ('dans le cadre de' being the original model for both *en la kadro de* and *kadre de*). Nevertheless, I would claim that the tendency for the English machine translation to consistently assign two different values to *en la kadro de / kadre de* suggests that both forms have developed specialised usages in Esperanto, a development which has presumably been recognised by the Google Translate engine, and is consequently reflected in the English choice of wording.

7. Conclusion

In this paper, I have examined the relationship between 'alternating' complex prepositions and their adverbial counterparts in Esperanto. The *Tekstaro* reveals a number of surprising facts about the distribution of these forms. Since Adv P constructions are usually derived from complex Ps, it might be expected that most Adv P forms emerged long after their Complex P counterparts. But while this is true for some constructions (for example *en la*

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kadro de is only ‘replaced’ by *kadre de* after the 1970s), it is not the case for all. It turns out that a core set of ‘pioneer’ Adv P expressions have been used since the earliest years of the language, often with the Adv P form being predominant from the very beginning (notably *interne de* but also *meze de*). It is also interesting to note that even when Adv P has become the predominant form, this does not mean that Complex P has been permanently replaced: in almost every case, both forms develop their own parallel contexts of use.

What does the corpus show us about the relationship between Complex P and Adv P? It is difficult to establish a clear principle to distinguish between all of these expressions. The only reliable generalisations that can be made apply to certain subgroups of related constructions. Thus, in the case of certain spatial expressions (such as *en la mezo de / meze de*, *en la interno de / interne de*, *en la kerno de / kerne de*, etc), it appears that the difference hinges on whether the user wishes to express a degree of static precision (Complex P) or dynamic contrast (Adv P). However, this distinction does not apply to other types of expression. Thus when we consider more abstract constructions such as *en la kadro de / kadre de*, a different set of contrasts come into play: here the Complex P is used to express a metaphorical transfer, from one domain into another ‘frame’ or ‘setting’, while the Adv P is used when the participants (to use a different metaphor) ‘take part in’ a specific Esperanto arrangement. It might seem that such fine-grained distinctions are impossibly specific. But it is interesting to note that precisely this distinction has been recorded by Google Translate. As mentioned above, Google Translate proposes two contrasting translations for *en la kadro de / kadre de* in English: ‘in the framework of’ vs. ‘as a part of’. To my mind, the fact that such a fine distinction has been recorded in Google’s translation memory provides tangible evidence that the Complex P / Adverbial P alternation reflects a very subtle, but also very real distinction in Esperanto.

Why do we find adverbial prepositions in such original contexts as: *Mi vivas meze de nenie* ‘I’m living in the middle of nowhere’ or *BKE okazas kadre de BEJK*, *ne la malo* ‘BKE takes place as part of BEJK, not the reverse’? The authors of these lines have not opted for these phrases because of some abstract grammatical or conceptual principle, but rather because each these phrases conveys a rhetorical effect (here, a sense of irony). But I would argue that this effect is not a property of the Adv P alone. The Adv P is only used in these phrases because it happens to be part of a longer conventional phrase, and that phrase is part of a recognised repertoire of phrases in Esperanto. In other words, each of these constructions can only ‘work’ because it mobilises scores of interlocking and deeply-entrenched lexico-grammatical patterns that are part of the proficient language user’s communicative competence. It is this ‘prefabricated language’ (Nattinger & DeCarrico 1992) that corresponds to the implicit norms of Esperanto usage, and which – I and other linguists would argue – demonstrates the extent to which Esperanto is now a living natural language used by a quasi-natural discourse community.

Bibliography

- Biel, Lucja. Phraseological profiles of legislative genres: complex prepositions as a special case of legal phrasemes in EU law and national law. *Fachsprache* 37 (3-4), 139-160, 2015.
- Brøndal, Viggo. *Præpositionernes Theori*. Ejnar Munksgaard, Copenhagen, 1940. Italian translation by Silva editrice, Milan, 1967. 36, 92 Viggo Brøndal. *Teoria delle preposizioni*. Silva editrice, Milan, [1940] 1967.
- Desagulier, Guillaume. Changes in the midst of a construction network: a diachronic construction grammar approach to complex prepositions denoting internal location. *Cognitive Linguistics* 33(2): 339–386, 2022.
- Fettes, Mark. The Esperanto Community: A Quasi-Ethnic Linguistic Minority? *Language Problems and Language Planning* 20/1: 53-59, 1996.
- Fiedler, Sabine. Standardization and self-regulation in an international speech community: the case of Esperanto. *International Journal of the Sociology of Language* 177: 67–90, 2006.
- Fiedler, Sabine. Esperanto Phraseology. *Interdisciplinary Description of Complex Systems* 13(2): 250-263, 2015.
- Firth, J. R. Linguistic analysis as a study of meaning. In Firth, J.R. 1968. *Modes of Meaning in Selected Papers of J.R. Firth 1952-59*. London: Longman. 12-26, 1957.
- Frath, Pierre. La langue comme milieu anthropologique. *La linguistique* 2(59), p. 27-53, 2023.
- Gledhill, Christopher. Frazeologio, kunokazemo kaj leksiko-gramatiko : La ekzemplo de predikato-komplemento esprimoj en Esperanto. Detlev Blanke & Ulrich Lins (red.) *La arto labori kune. Festlibro por Humphrey Tonkin*. Rotterdam: Universala Esperanto-Asocio. p. 323-338, 2010.
- Gledhill, Christopher. On the Phraseology of Grammatical Items in Lexico-grammatical Patterns and Science Writing. In Paul Thompson & Giuliana Diani (eds.) *English for Academic Purposes: Approaches and Implications*. Newcastle-upon-Tyne: Cambridge Scholars Publishing, pp 11-42, 2015.
- Gledhill, Christopher. Phraseological complexity in a simplified language: on the emergence and divergence of equivalent composite predicates and composite prepositions in Esperanto. J. Léon, S. Moret, D. Samain (réds.), *Actes du colloque SHESL HTL, Simplicité et complexité des langues dans l'histoire des théories linguistiques*. Paris 23-25 janvier 2020, (forthcoming).
- Gobbo, Federico. *Adpositional grammars: a multilingual grammar formalism for NLP*. PhD dissertation. PhD Thesis. Universit`a degli Studi dell'Insubria January 2009,
- Goldberg, Adele. *Constructions – A Construction Grammar approach to argument structure*. Chicago: Chicago University Press, 1995.
- Gross, Gaston. Sur le statut des locutions prépositives. *Modèles linguistiques*. 53: 35-40, 2006.
- Halliday, Michael A.K. [& Christian Matthiessen] *Introduction to Functional Grammar* [4th edition]. London: Routledge, 1985 [2014].
- Hoffmann, Sebastian. *Grammaticalization and English complex prepositions: A corpus-based study*. London: Routledge, 2005.
- Hunston, Susan & Gill Francis. *Pattern Grammar*. Amsterdam: John Benjamins, 2000.
- Kalocsay, Kálmán & Gaston Waringhien. *Plena analiza gramatiko de Esperanto* (5a eldono). Rotterdam: Universala Esperanto-Asocio, 1985.

Christopher Gledhill: On the Alternation between Complex Prepositions and Adverbial Prepositions in Esperanto, such as en la mezo de vs. meze de / en la kadro de vs. kadre de

- Koutny, Ilona. Esperanto im Rahmen der Sprachtypologie. In Fiedler, Sabine (ed.) *Esperanto und andere Sprachen im Vergleich. Proceedings 18 Jahrestagung der Gesellschaft für Interlinguistik*, 21.–23. November 2008. Berlin: Gesellschaft für Interlinguistik, p. 117–130, 2009.
- Koutny, Ilona. A typological description of Esperanto as a natural language. *Język. Komunikacja. Informacja / Language. Communication. Information* 10, 43–62, 2015.
- Koutny, Ilona (red.). *Esperanta Kulturo*. Poznań: Interlingvistikaj Studoj – Studia Interlingwistyki, Poznań, Universitato Adam Mickiewicz / Wydawnictwo Rys 2022.
- Kurzon, Dennis & Silvia Adler (eds.). *Adpositions. Pragmatic, semantic and syntactic perspectives*. Amsterdam, John Benjamins, 2008.
- Lamiroy, Béatrice 2001. La préposition en français et en espagnol : une question de grammaticalisation ? *Langages* 143: 91-105, 2001.
- Legallois, Dominique & Jacques François (dir.) *Autour des grammaires de constructions et de patterns*. Cahier du CRISCO n°21. Université de Caen, 2006.
- Lehmann, Christian. New reflections on grammaticalization and lexicalization, in Wischer, Ilse & Diewald, Gabriele (eds.), *New reflections on grammaticalization*. Amsterdam & Philadelphia: J. Benjamins (TSL, 49). p. 1-18, 2002.
- Nattinger, James R. & Jeanette S. DeCarrico. *Lexical Phrases and Language Teaching*. Oxford: Oxford University Press, 1992.
- Pennacchietti, Fabrizio A. La prepozicia sistemo de Esperanto. En I. Serdahelyi (ed.), *Esperantologiaj Kajeroj* 1, Budapest, ELTE, p. 137-153, 1976.
- Pennacchietti, Fabrizio A.. Propono klasifiki la prepoziciojn de esperanto, *Aktoj de la Internacia Kongresa Universitato (IKU4)* – Florenco, 2006,
- Piron, Claude. A few notes on the evolution of Esperanto. In Klaus Schubert (ed.) *Interlinguistics* (Trends in Linguistics 42) Berlino, New-York: Mouton de Gruyter p. 129-142.
- Piron, Claud. (undated). *Evolution is Proof of Life*. Online article: <http://claudepiron.free.fr/articlesenanglais/evolution.htm> (consulted 11 Jul 2023), 1989.
- Pokrovskij, Sergio. Ĉu de aŭ per? *La Ondo de Esperanto*, No 5 (55), 1999a.
- Pokrovskij, Sergio. *Lingvaj Respondoj*. Jekaterinburg: Ruslanda Esperantisto, 1999b.
- Rehbein, Ines & Genabith, Josef. German particle verbs and pleonastic prepositions. In Boban Arsenijevic & Timothy Baldwin (eds.) *Prepositions '06: Proceedings of the Third ACL-SIGSEM Workshop on Prepositions*. Association for Computational Linguistics, Trento Italy, 3 April 2006, p. 57-64, 2006.
- Schwenter, Scott A. & Elizabeth Closs Traugott. The semantic and pragmatic development of substitutive complex prepositions in English. In Andreas H. Jucker (ed.) *Historical pragmatics: Pragmatic developments in the history of English*. Amsterdam: John Benjamins Publishing Company, p. 243–273, 1995.
- Sinclair, John McH. *Corpus, concordance, collocation*. Oxford: Oxford University Press, 1991.
- Stosic, Dejan & Benjamin Fagard. Les prépositions complexes en français. Pour une méthode d'identification multicritère. *Revue Romane* 541, 8-38, 2019.
- Tutin, Agnès & Francis Grossman. Collocations régulières et irrégulières: esquisse de typologie du phénomène collocatif. *Revue française de linguistique appliquée*, 7/1: 7-25, 2002.
- Wennergren, Bertilo. *Plena Manlibro de Esperanta gramatiko*. El Cerrito: ELNA.

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<<https://bertilow.com/pmeg/>> (consulted 17 Jul 2023), 2005 [2023].

Zamenhof, Ludwik Lejzer [D-ro Esperanto]. 1887 [1987]. *Internacia Lingvo. Antaŭparolo kaj Plena Lernolibro. Unuaj Libroj por Esperantistoj*. Nagoya: Nagoja Esperanto-Centro, p. 7-41.

Zamenhof, Ludwik Lejzer. *Fundamento de Esperanto*. Paris: Librairie Hachette et compagnie, 1905 [1918].

Zamenhof, Ludwik Lejzer. Lingvaj Respondoj, *La Revuo*, Majo, 1908.

Resources:

Google, Translate Google / Google Traduction.
<<https://translate.google.com/?hl=fr&tab=TT>> (consulted 17 Jul 2023)

Wennergren, Bertilo. *Tekstaro*. <<https://tekstaro.com/>> (consulted 17 Jul 2023).