NOMINAL VS ADPOSITIONAL ADJUNCTS

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Abstract

In this paper, we analyze the use of noun phrases as adjuncts, without adpositional marking. We first compare languages with and without a case system (with: Old French, Romanian, German, Russian, Polish and Finnish; without: Modern French, Italian, English, Bulgarian). We show that the use of these nominal adjuncts (NAs) is highly constrained, and that semantics in particular play an important role: NAs appear frequently with temporal meanings, in all of these languages; whereas those with spatial meanings seem more constrained, less frequent and mostly appear in languages that have a case system.

We then go on to analyze in greater detail the conditions of use of these NAs, with a corpus study on Old French, which helps us confirm the hypothesis that semantics play a major role, more than other constraints which we take the trouble to evaluate: word order, presence of articles and modifiers, context.

Keywords: nominal adjunct, adpositional adjunct, case marking, space, time, manner.

1. Introduction: are nominal adjuncts case-sensitive?

In many languages, morphemes called 'adpositions' function as the heads of adjuncts. They are generally grammaticalized, and placed before or after the NP they head – being then called respectively pre- and postpositions (along with a few other variants). They clearly differentiate adjuncts from direct objects. However, even in languages where adjuncts are normally headed by an adposition, there are counterexamples. NPs, for instance, can function as temporal adjuncts, as in *I finished last year*, which can stand for either of the two glosses below:

- 1. Last year, I finally finished working on [whatever we were talking about]
- 2. [Yesterday evening / this morning], I finally finished working on last year's files.

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The elements in square brackets are thematic elements, which the context normally provides: thus, in context, there is rarely any ambiguity. Still, it is important to note that this kind of construction, which we will call "nominal adjunct" (NA), is *per se* ambiguous. The research question we address in this paper is the following: what license these constructions?

We will try to answer this question with a contrastive and diachronic study. First, we will compare languages which have a case system with other languages, which do not have one. This will allow us to evaluate the impact of case marking on the use of NAs. We will show that there is no clear-cut opposition, since case-marking does not always allow them, while the absence thereof does not impede their use. Still, there is a clear tendency for languages without case marking to restrict NAs to temporal uses (see Kahane 2010; these are the largest group of NAs in English, cf. Larson 1985, Quirk et al. 1985: 526), while languages having case marking tend to avoid adpositional adjuncts (or AAs) for temporal uses.

Secondly, having shown that case marking does play an important part in these constructions, we will study more closely the case of Old French, which is particularly interesting because it has minimal case marking – only two cases exist, one, marked, mostly used for subjects (and all functions linked to the subject) and one, unmarked, for all other uses, including those usually associated to the marked case. It is thus half-way between languages with and without case marking. The comparative study of Old and Modern French will also enable us to detect the impact of the loss of case-marking on NAs.

2. Nominal adjuncts in languages with and without case marking

The goal of this first section is to describe², from a contrastive point of view, the phenomenon of *NAs* which we outlined in the introduction (and which has not yet, to our knowledge, been studied in a typological perspective). The languages taken into consideration here are all European, and mostly Indo-European: the perspective is thus rather *contrastive* than typological, but this is only the first stage of our research. Where possible, we compared pairs of closely related languages, one with and one without case marking. The languages we studied are listed in *Table 1* below.

² The data were gathered in three phases: philological research, discussion with native speakers and internet search of all constructions under study (in order to evaluate the relative frequency of each one). I wish to thank here all speakers who helped me: E. Havu, J. Zlatev, A. Kopecka, A. Mardale, C. Scarlat, M. Cerati, F. Zinelli, C. Coy, P. Koch, D. Marzo, K. McClure, J. Komater, D. Golossov, not to mention anonymous travellers who willingly answered my questions on their native language in various countries.

Table 1

Sample of languages selected for this study

Language group	with case marking (number of cases)	without
Romance	Old French (2), Romanian (4)	Modern French, Italian
Germanic	German (4)	English
Slavic	Polish (6), Russian (6)	Bulgarian
Finno-Ugric	Finnish (12-16)	/

2.1. Syntactic and semantic ambiguity

The existence of NAs in languages with case marking is not surprising: our hypothesis is that the frequency of NAs (very low e.g. in English, according to Boisson 1998: 217) and their freedom of use depends partly on the complexity of the case system; with a more complex case system should come more frequent and freer NAs.

Our sample of languages allows us to test this hypothesis, since they range from zero (Modern French, Italian, English and Bulgarian) to twelve cases (Finnish – which actually has somewhere between twelve and sixteen cases³).

The first step in the study of such constructions is to see to what extent they are homogeneous. Examples 3 to 5 below show that their semantics vary to a great extent, from time (3) to space (4), to manner (5) (see Larson 1985 and for Old French Buridant 2000: 101-103):

- 3. il chevaucha le premier jor jusqu'à un suen chastel (La mort Artu, p. 55) "(On) the first day, he rode to his castle"
- 4. A tant es vous un cevalier Qui le cemin venoit vers ex (L'âtre périlleux, v. 2851) "There came a knight, coming towards them on the path"
- 5. Il sunt le grant pas dedenz l'encloistre entré (Vie de St Thomas Becket, v. 5459) "They quickly went into the enclosure".

These three types of NAs are not equally represented in the sample languages; in particular, they do not appear as freely or as frequently in languages without case marking. In order to determine the degree of freedom of NAs, we used test-sentences and checked their behavior concerning the following criteria: word order (see Thompson & Longacre 1985: 172), definiteness, presence of modifiers (quantifiers or adjectives) and semantics. We tested temporal and spatial adjuncts, leaving aside for now the manner adjuncts, which are certainly interesting but very rare, even in languages with case marking.

³ We chose not to consider Vocative as a case. In Finnish, some postpositions are sometimes counted as case markings. In Romanian, Nominative-Accusative and Genitive-Dative respectively are generally homonymous.

2.2. Temporal adjuncts

We set up a test-sentence with two variants (a. and b., below), in order to compare the strategies languages use to introduce a temporal adjunct in a sentence. These adjuncts can be marked by case, headed by an adposition, be both marked by case and headed by an adposition, and they can also have no mark whatsoever (at least on the surface level). The test-sentence is as follows:

- (a) he slept all day
- (b) he didn't sleep all night.

The presence (or possible use) of the modifier *all* should facilitate the use of NAs. We looked for equivalents of (a) and (b), with nominal or (a') and (b') adpositional adjuncts, in each language:

- a'. he slept all through the day
- b'. he didn't sleep all through the night.

As we can see in *Table 2* below, there is a clear difference between languages with and without case marking: temporal adjuncts can take both forms (NA and AA) in languages without case marking, whereas languages with case marking clearly have a preference for temporal NAs. Note that AAs are often grammatically correct in those languages, but often felt as awkward by speakers, and simply not used, or rarely so.

Table 2
Use of temporal NAs and AAs (sentences (a) and (b))

Townsuel adjuncts	Number of cases	NAs		AAs	
Temporal adjuncts	Number of cases	a.	b.	a.	b.
English, French, Italian, Bulgarian	0	+	+	+	+
Old French, Romanian, German, Polish, Russian, Finnish	2-16	+	+	_	_

Our data seem to indicate that these constructions are generally quite free to move about in the sentence, and that the presence of the definite article and of modifiers or deictics (*every, first, this*) make the use of NAs easier. However, NAs can be licensed even without these facilitating elements.

2.3. Spatial adjuncts

We now turn to spatial adjuncts. The test sentences we use for this part of the study are (c), (d) and (e) below:

- (c) he came the long way
- (d) he took the highway
- (e) he came through the woods.

As we can see in the case of English, these sentences sometimes contain neither AAs nor NAs: sentence (d), in English, contains what could syntactically be considered a direct object. We looked for equivalents of these sentences with NAs, AAs (c') and other complements:

c'. %he came **the long way round**.

The results show that the use of spatial NAs is much more restricted than it was for temporal adjuncts (see *Table 3*). Their use is not always licensed, even in languages with a case system; and when it is, constraints of word-order, of definiteness and of presence of modifiers apply. In languages which have no case marking, the use of spatial NAs is possible, but very rare.

Table 3
Use of spatial NAs (sentences (c), (d) and (e))

Spatial adjuncts	Cococ	Cases NAs		AAs or o		s or oth	other	
Spatial adjuncts	Cases	c.	d.	e.	c.	d.	e.	
English	0	+	_	_	+	+	+	
French, Italian, Bulgarian	0	_	_	_	+	+	+	
Old French	2	+	+	_	+	_	+	
Romanian	4	_	_	_	+	+	+	
German	4	+	-	-	-	+	+	
Polish	6	+	+	+	+	-	+	
Russian	6	_	_	+	+	+	+	
Finnish	12-16	+	+	_	_	+	+	

There is a notable difference between the three sentences: sentence (c) can be expressed with NAs in four languages, sentence (d) in three, sentence (e) only in Polish and Russian.

In conclusion of this section, these data enable us to make the following hypotheses:

- a. unlike that of *temporal* NAs, the use of *spatial* NAs is more or less restricted to languages which have case marking;
- b. even in languages with a complex case system, these constructions are highly constrained and highly idiomatic they vary greatly from one language to the other, even between closely related languages (see Polish and Russian, in our sample);
- c. the presence of case marking clearly has an impact on the use and frequency of NAs, but the relationship between these two elements (case marking and NAs) seems to be quite complex.

An important point in that respect is that the complexity of the case system does not correlate directly with the frequency of spatial NAs. The case of Old French is particularly striking: though its case system is minimal, it has (in our Data) more spatial NAs than German, Romanian and Russian, and as many as Finnish! In order to solve this mystery, we will take a closer look, in the next section, at Old French. It should also help us see the respective weight of the different constraints we showed play a role in the use of NAs.

3. A closer look: NAs in Old French

The goal of this section is to try to understand why Old French so readily accepts the use of NAs, and to determine the importance of various constraints bearing on their use. These constraints are morpho-syntactic (word order, case marking, presence/absence of modifiers) and semantic (i.e. of the noun heading the noun phrase) in nature (see Boisson 1998). To do so, we designed a corpus study with three different corpora, which we describe in detail in section 3.1 below.

3.1. Corpus and methodology

Our goal here was to determine a) the overall frequency and diversity of NAs, as compared to AAs; and b) their precise conditions of use. In order to do this, we defined three corpora, using them for different tasks.

The first corpus is quite short (30 000 words); it consists of part of the *Suite du Merlin*. We used it to look manually for all NAs, in order to spot different types of NAs existing in Old French. The second corpus is larger (150 000 words); it consists of three texts of the 12th and 13th centuries, pertaining to different genres: epic (*Chanson de Roland*), novel (*La mort le roi Artu*) and historical (*Mémoires*, Commynes). We used this second corpus to study all occurrences of three nouns, which appear both in AAs and NAs: *part* "place, region", *jor* "day" and *chemin* "path". The choice of these nouns was guided by their frequency and semantics: *part* is exclusively spatial, *jor* exclusively temporal, and *chemin* has both spatial and manner uses. The third corpus is much larger (3 million words), and consists of the whole BFM database (see Reference section). We used it to carry a *quantitative* analysis of AAs vs NAs.

3.2. Case marking

In Old French, which has two cases (Object and Subject), NAs systematically appear with the Object Case. A similar construction with the Subject Case necessarily receives a different interpretation, as in (6) below:

6. *uns jors venra, fiers et estous, qui bien nos vengera de tous (Eracle,* v. 5583) "one day will come, bold and fierce, which will avenge us all".

The data presented in the previous section show that likewise, in the languages of our sample with case marking, NAs never appear with the Nominative.

3.3. Semantics

One characteristic of NAs clearly separates them from adpositional phrases: in Old French, at least, they never constitute a paradigm, since only one case is available for these constructions. Adpositional phrases, on the other hand, often constitute a paradigm, sometimes quite a large one. The use of different adpositions, simple or complex, enables the speaker to express a variety of meanings, even remaining in a given semantic domain, while leaving the rest of the sentence unchanged, as (7) below demonstrates for the temporal domain:

7. {during / in / in the course of / until / since ...} the year 1968.

Since there is apparently only one realization possible for each NA, its semantics should depend mostly on the context – even more so than for AAs, which are already quite dependent on context for semantic interpretation. Our corpus study confirms this hypothesis, for all types of NAs: as we will see, spatial ones systematically take on meanings of goal (including fictive motion, cf. Talmy 1996) or location, while temporal ones only take on meanings of localization or duration, to the exclusion of all other meanings.

3.3.1. The noun part in NAs and AAs

The construction *cele part* appears in NAs with two distinct meanings: localization (8) and goal – (9) fictive motion and (10), metaphorical:

- 8. *cele part cuidoit il bien trouver ses anemis* "there, he thought, he would find his enemies" (*La suite du Merlin*)
- 9. Eneas garda cele part
 "Eneas looked his way" (Roman d'Eneas, v. 9230)
- 10. Ses cuers adés cele part tire ou la reïne se remaint. "His heart pulled him to where the queen was" (Chevalier de la charrette, v. 4692).

When it appears in AAs, the meanings of those adjuncts are more varied and precise. The prepositions used in those constructions are de "of,

from", à "at", de vers "from", par "by, through", devers and vers "towards, around", or en "in, into". The meanings include localization (par tut la part "in the whole region") and goal (devers cele part "in that direction") but also other meanings such as inclusion (en la part doree, (11)):

11. si se tret en la part doree de sa meson "She goes into the golden part of her house" (Roman de la Rose, v. 6090).

3.3.2. The noun jorn in NAs and AAs

The same remarks can be made concerning adjuncts formed around the noun *jorn*. NAs with *jorn* are quite frequent, as we shall see, but they exclusively take on meanings of temporal localization and duration, as in (12-13):

- 12. Entur midi chantout sa messe chascun jur "Around noon, each day, he sang mass" (Vie de saint Thomas Becket, v. 3901)
- 13. Dure bataille, fort estur demenerent trestuit le jor "They fought the whole day a hard and fierce battle" (*Tristan*, Thomas, v.776).

AAs formed on the same base have more varied meanings: besides temporal localization and duration, *jor* can indicate the *terminus ad quem* (14) or the *terminus a quo*, with various meaning nuances:

14. Si nus çó ne mustrums devant le jur, de felenie purrum estre chalengiez. "If we do not show them **before the (next) day**, they can charge us with treachery" (*Quatre livres des Reis*, p. 187).

3.3.3. Conclusion

This analysis was conducted with four nouns in all: *part, voie, chemin* and *jorn. Table 4* below shows the variety of adpositional phrases containing these nouns, in the three texts of our second corpus (*Roland, Artu, Mémoires*).

Table 4

AAs containing the nouns part, voie, chemin and jorn, in corpus 2

Text	Roland	Artu	Mémoires
Part	à, de	à, de, en	à, de, en
voie/chemin	en, enmi	a, en, par, hors de	a, en, par
Jorn	puis, ultre, tresqu'a, a, de	de, en, dedenz, des	à, puis, auparavant, par, avant (11 types)

The use of these nouns as NAs is therefore not due to the impossibility to use them in adpositional phrases.

3.4. Frequency of NAs and AAs

From what we have seen of their limited semantic scope, we could expect NAs to be less frequent than their adpositional counterparts. The use of the adjuncts studied in the previous section shows that this is not always the case. Semantics seem to play a role, but in quite a different way: while spatial adjuncts tend to be AAs, temporal adjuncts tend to be NAs (*Table 5*). In fact, in this corpus, for the nouns *voie*, *chemin* and *jor*, temporal uses make up almost 95 % of the occurrences.

Noun	Adjunct type	Roland	Artu	Mémoires	Total
voie, chemin	AAs	4	15	3	22
	NAs	2	3	5	10
Jor	AAs	8	60	16	84
	NAs	8	117	29	156

3.5. Word order

The tests we ran on our data show that word order does not act as a strong constraint on NAs. We studied the preverbal vs postverbal use of NAs in *part* and *jorn*. Most occurrences appear in post-verbal position (150 out of 191 for *part*, 94 out of 145 for *jorn*), but more than a fourth of occurrences are preverbal. NAs can even appear in sentence-initial position (as in (1)); we counted these occurrences as preverbal.

The fact that position varies seems enough to discard position as a primary factor in the use of NAs. We have to add, though, that preverbal occurrence of NAs seems to be a marked position, i.e. with topicalization; the best translation of (8) would thus be "for **that is where** he thought ...".

3.6. Context of use: NAs and main verbs

The distribution of NAs and the way they combine (or not) with main verbs seems to be a much better indication of what constraints might bear on those constructions. In this respect, temporal and spatial adjuncts behave very

differently: while temporal adjuncts are quite free to combine with any type of verb, spatial (and manner) adjuncts only combine with certain types of verbs.

We studied, on corpus 2, the use of each type of adjunct with main verbs, classing the verbs in broad semantic categories: movement, localization, state, opinion, action, etc. The categorization we used for verbs is quite heuristic, but it served our purpose. It showed, as we can see in *Table 6*, that spatial adjuncts only occur with movement and localization verbs, including verbs of fictive motion (*regarder* "look", for instance). Manner adjuncts only combine with movement verbs. Temporal adjuncts, though, combine with a variety of verbs: action verbs (*bailler* "entrust", *ferir* "hit", etc.), state verbs (*demourer* "remain", etc.), opinion verbs (*estre avis* "think"), etc.

 ${\it Table~6}$ Main verbs in clauses with different NAs in corpus 2

Type of NA	verbs it combines with in the corpus	
Temporal	avenir, bailler, chevaucher, deffaire, demourer (23 types)	
Manner	s'en aler, chevaucher, venir, laisser courre, s'en retorner	
Spatial	aler, amener, chevaucher, courir, demourer (23 types)	

We repeated this test on a greater scale, using corpus 3, counting all verbs which combine with NAs formed on the noun *part*. The results are a little different, as shown in *Table 7*, since there are a few verbs of action (*crier* "shout", *oïr parler* "hear (someone talking) about") or other types of verbs (e.g. *connaître* "know, recognize"). Still, movement verbs are much more frequent than any other type of verb: they make up approximately 90 % of the main verbs combining with spatial adjuncts.

Table 7
Main verb of the clauses containing NAs with the noun part, in corpus 3

Number of occurrences	Verbs
10	aller, venir, torner
≤ 10	amener, (re)garder, corir, s'adrecer, s'en aller
≤ 5	aporter, avoir a faire, chevaucher (11 types)
1 occ.	anveier, approcher, arriver, assambler, avaler (55 types)

3.7. NAs and modifiers

We also studied the presence of modifiers. Our hypothesis was that the use of NAs was greatly facilitated when a modifier is present. Various types of modifiers can be found with NAs, as we can see in (15-17) below; mainly adjectives (15), demonstratives (16) and quantifiers (17):

- 15. il arriverent le jor meïsmes en la terre de Bretaigne "They arrived the same day in Brittany" (La mort le roi Artu, p. 253)
- 16. A tierce, le jor de Noël, sont ilueques tuit asanblé...
 "They met there at nine in the morning, on Christmas day" (Erec et Enide, v. 6636)
- 17. Un jor el bois alez estoie ... "I went into the wood, one day..." (Perceval le Gallois, v. 3827).

A simple statistical analysis on corpus 2 showed that most NAs appear with at least one modifier, whatever its semantic type, as we can see in *Table 8*.

 $\label{eq:Table 8} Table~8~$ Determiners and modifiers in NAs with voie, chemin, part, jorn (corpus 2)

Norma in NA	Text			
Noun in NA	Roland	Artu	Mémoires	
voie, chemin	ø, ces	le, son	le, son	
part	quel	quel, ceste, cele, nule	cele, quelque, nule	
Jor	le, chascun, tute, cest	celui, chascun, le, nul (10 types)	ce, chascun, le, nul, tous, (7 types)	

We ran the same test on the whole database for NAs formed on the noun *jor*. Results are quite similar, with a large range of articles and modifiers (*Table 9*).

Table 9
Determiners and modifiers in NAs with the noun jorn (corpus 3)

Definite article	alone (le)	85
	with a modifier or cataphora	66
Indefinite article or	Numeral	7
Demonstrative	(alone)	21
	+ numeral	1
tout ("all, each")		33
No article or modifier		5
Total	218	

Modifiers are therefore not mandatory in NAs: there are quite a few occurrences with no modifier whatsoever.

3.8. A closed paradigm?

The texts of our database contain many NAs, and though most of them are formed on a core set of nouns (mainly *part*, *lieu*, *voie*, and *chemin*), other nouns can enter similar constructions, as shown in *Table 10*.

Table 10

Nouns forming NAs, in corpus 3

Semantic domain	Nouns forming NAs		
Manner	aleure, ambleure, oirre		
Space	chemin, doit, lanche, liue, part, sentele, toise, valee, voie		
Time	aage, ans, eure, ier, jornees, jour, matin, nuit, pieche, semainne. soir, tans		

Though this list might not be exhaustive, it shows two things: on the one hand, it does not seem to be a closed paradigm; on the other, if we compare this list to that of nouns appearing in AAs, it is clearly more restrictive. For instance, we listed some of the nouns appearing in adpositional phrases headed by *par* "by, through", in our database (corpus 3): there are many more nouns than we could find in NAs: *leus, terre, contree, monde, vile, cité, palés, mer, rue, voie, sentiers, trace, chemin, riviere, porte, fenestre, mur, chans, forest, bois, montaingne, plaingne, vigne, vergier (24 types).*

4. Conclusion

To conclude, we wish to insist on the fact that, while the contrastive approach enabled us to show the (relative) importance of case marking, the corpus study allowed us to investigate various issues in this connection, such as case selection, semantics, frequency, word order, context of use (main verbs and modifiers) and paradigm. Here are the main points we hope to have made clear:

- NAs with temporal meaning are found even in languages without case marking; they are more frequent than AAs in languages with case marking.
- NAs with spatial or manner meanings are almost excluded in languages without case marking; even in languages with case marking, they are rare and idiomatic.
- There is no *one* constraint licensing the use of Nas, which results from the conjunction of an array of constraints. Some factors have a facilitating effect on the use of NAs: context (modifiers and main verbs), paradigm, word order (postverbal position) and semantics (the meanings available to NAs are quite limited).

The most striking result is the difference between spatial and temporal adjuncts, maybe due to the fact that temporal nouns are less likely to be interpreted as arguments of the verb, being much more abstract entities than spatial nouns. They thus do not need an adposition to indicate their function, as the semantics tell us they are to be understood as adjuncts. Example (1-2) would thus automatically be understood as *Last year*, *I finished [this or that]*; only a specific context allows it to be understood otherwise.

REFERENCES

BFM Database: Base du Français Médiéval, Icar, ENS-LSH.

Bloom, P., M. Peterson, L. Nadel, M. Garrett (eds.), 1996, Language and Space, Cambridge, MIT Press.

Boisson, C., 1998, « Les adverbiaux sans préposition », in S. Rémi-Giraud, A. Roman (eds.) 1998: 215-259.

Buridant, C., 2000, Grammaire nouvelle de l'ancien français, Paris, Sedes.

Cornish, F., 2001, «L'inversion 'locative' en français, italien et anglais », in Cahiers de Grammaire, 6, pp. 101-123.

Fuchs, C., 2006, « Locatif initial et position du sujet nominal », in Lingvisticæ Investigationes, 29(1), pp. 61-74.

Kahane, S., 2010, «Entre adverbes, noms et pronoms: le cas des modifieurs temporels », in *CMLF 2010*, http://dx.doi.org/10.1051/cmlf/2010173.
Larson, R., 1985, "Bare-NP Adverbs", in *Linguistic Inquiry*, 16(4), pp. 595-621.

Magnus, I., 2006, « L'ordre des constituants dans la phrase en français et en néerlandais », in Lingvisticæ Investigationes, 29(1), pp. 125-135.

Marchello-Nizia, C., 1995, L'évolution du français, Paris, Armand Colin.

Prévost, S., 2003, « Les compléments spatiaux », in Travaux de Linguistique, 47, pp. 51-78.

Quirk, R., S. Greenbaum, G. Leech, J. Svartvik, 1985, A comprehensive grammar of the English language, London and New York, Longman.

Rémi-Giraud, S., A. Roman (eds.), 1998, Autour du circonstant, Lyon, PUL.

Shopen, T. (ed.), 1985, Language typology and syntactic description, II, Cambridge, CUP.

Skårup, P., 1975, « Les premières zones de la proposition en ancien français », in Revue Romane, special issue 6.

Talmy, L., 1996, "Fictive motion in language and 'ception", in P. Bloom, M. Peterson, L. Nadel, M. Garrett (eds.) 1996: 211-276.

Thompson, S., R. Longacre, 1985, "Adverbial clauses", in T. Shopen (ed.) 1985: 171-234.