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Parameters of SPATIAL ORIENTATION

Evidence from Romance

1. Introductory remarks


In an operational approach to language universals and typology, such as the UNITYP framework, SPATIAL ORIENTATION is a dimension of linguistic problem solving. Onomasiologically speaking, i.e. starting from the functions that are fulfilled or from the concepts expressed (deductive approach), it is the dimension of all kinds of local relations, where objects and situations are localised in space. Semasiologically speaking, i.e. starting with forms and examining their meaning (inductive approach), it is the dimension of local adverbs, deictic elements, and, above all (prototypically), adpositions. On the other hand, adpositions (and similarly, deictic elements) have other functions too (cf. Raible 1992), but they play their most important role in the field (dimension) of spatial (and metaphorically, temporal) orientation.

In the UNITYP framework, dimensions are seen as cognitive-conceptual continua, on which problem-solving techniques are ordered between the poles of maximal indicativity and maximal predicativity. The first of the two refers to the lack of morphosyntactic material for establishing the local relation. The concepts are taken for granted or implicit in the construction. The predicative pole, on the other hand, is characterized by a huge amount of morphosyntactic material ("machinery") and the concepts are established overtly (for details, cf. Seiler 1990).

A local relation can be seen as a relation between a located object in a situation and a local reference point (*locale*), established by an intervening element, called locator (cf. Stolz forthcoming). The continuum of SPATIAL ORIENTATION must now account for more or less elaborated locators, for the absence of an overt locator, or for the fact that it is inherent in the situation or the local reference point, if not in both.

Table 1:

located object - situation - (locator) - local reference point
 actant of
 the situation
 [(=) situation]



The problem that we face now is to find parameters that determine the order of the techniques (different manifestations of the locator) on the continuum of SPATIAL ORIENTATION. I will propose a discovery procedure for such parameters in what follows, with a focus on adpositions as the most prominent instance of the dimension. It is more than plausible to assume that the parameters hold for other manifestations of SPATIAL ORIENTATION as well. We shall come back to a more global perspective at the end.

2. A grammaticalization scale of adpositions

The parameters we are looking for are characteristics of the prototype of SPATIAL ORIENTATION. The more the speaker moves away from a pre-established or implicit SPATIAL ORIENTATION, the prototype of the cognitive-conceptual continuum, the more elaborated structure s/he has to use. This principle has been exemplified with other dimensions of the UNITYP model. I shall not illustrate it once again, but rather take it as a starting point (axiom) for the ensuing argumentation.

The different degrees of structural elaboration can also be considered as given. The following grammaticalization scale can be established on simple morphosyntactic grounds. It is actually based on Lehmann's grammaticalization scale for case affixes (1985) and is not totally free of arbitrary cut-off points, since there are no clear-cut borderlines between the different grammaticalization levels and most of them can be subdivided more subtly.

Table 2: Grammaticalization scale of adpositions

- L1: 0
- L2: suprasegmental location markers
- L3: local case/classifier affixes
- L4: local clitics (e.g.: classifiers)
- L5: local connectors ("empty adpositions")
- L6: adpositions
- L7: adpositional groups
- L8: complex adpositional constructions

In the Romance languages, on which I have based the corpus of the present study (mainly French and Rumanian), there are adpositional elements only at L1 and L5 to L8 of the scale. Here are examples for each level:

Table 3: Examples of French prepositions

L5: à, de

L6: dans, sur

L7: de chez

L8: au-dessus de, face à

It should be noted that historically an element at a certain level often derives from a higher-level element, e.g. *à* (L5) < latin *ad* (L6), *dans* (L6) < latin *de-intus* (L7/8).

We now have to examine under which conditions the speaker chooses elements on a higher or lower level of the scale. These conditions will show concomitant characteristics which are the parameters of the cognitive-conceptual continuum.

Let us summarize the way of argumentation, in order to make sure that there is no circularity in it:

- a) Starting point (axiom): variation on cognitive-conceptual continuum involves more or less morphosyntactic elaboration ("machinery");
- b) morphosyntactically (and diachronically) founded grammaticalization scale (scale of morphosyntactic elaboration);
- c) conditions for choice on the scale => cognitive-conceptual parameters.

The axiom we start with is a plausibility assumption. From the point of view of cognitive science, it is concerned with the relation between conceptual processability and morphosyntactic elaboration.

3. Parameters of SPATIAL ORIENTATION

As has been said before the discovery procedure that I follow in this section is to try and find the circumstances under which the speaker chooses adpositional elements at the L1 and L5 to L8 level of grammaticalization. We start with those cases that allow for a low level of grammaticalization (ideally L1) and proceed from lower to higher levels.

3.0. Locality

A local connector is sufficient or can even be left out if we deal with a location verb and the spatial reference point (*locale*) is a typical locality (e.g. a place name). This is the case in the following example from French, where the verb *habiter* means 'to dwell / live in a place':

- (1) J' habite (à) Paris.
 1S.SJ dwell in Paris

'I live in Paris.'

Without the preposition, the place name looks like a direct-object noun phrase, but when it is pronominalized, the local pronoun *y* is preferred (2) over the pronoun *le*, which would stand for a direct object (3):

- (2) J' y habite.
 1S.SJ there dwell

'I live there.'

The following version is at best unusual:

- (3) ?Je I' habite.
 1S.SJ 3S.O dwell.PRS.S

'I live there.' *lit.*: 'I dwell it.'

When the *locale* is atypical, a more elaborated structure is used; this is the case when we deal with an animated or even human point of reference, as in (4):

- (4) ?Il m' habite.
 3S.M.SJ 1S.O dwell.PRS.S

'He/it lives in me.'

One would usually say:

- (4)' Il habite en moi.
 3S.M.SJ dwell.PRS.S in me

'He/it lives in me.'

Or (cf. 3.1. below)

- (4)" Il habite (dans) mon coeur / âme.
 3S.M.SJ dwell.PRS.S within my heart / soul

'He/it lives in me (i.e. in my heart / soul).'

Sometimes, however, we find constructions such as (5), esp. in literature (my emphasis):

- (5) Je me souviens très bien du jour où la vague de la révolte
qui m'habitait a atteint son sommet. (Camus)

'I remember the day very well when the impetus of rebellion *that was living in me* reached its highest point.'

Locality of the *locale* (and of the situation as a whole) can be seen as a basic characteristic of SPATIAL ORIENTATION. It is always present in the prototypical construction in this functional domain.

3.1. Inanimacy

This takes us to another point: even if the *locale* is not the prototype of a place, it will still show some characteristics of a local reference point. The most important is inanimacy: a place is normally an inanimate entity. That is the reason why the French local pronoun *y* can only stand for inanimate prepositional phrases, at least in the standard language:

- (6) *y* [-anim] 'there'

A contrastive analysis reveals the importance of the inanimacy parameter for prepositional constructions in French (and, similarly, in other Romance languages). The following examples show translations from German into idiomatic French:

- (7) (i) ein Brief an dich
IDF letter to 2S.ACC
(ii) une lettre à ton adresse
IDF letter to 2S.POSS address

'a letter to/for you'

This construction is characterized by the use of a supportive noun (here: *adresse*). In the following example, the noun (*part*) is semantically empty:

- (8) (i) [Grüß ihn] von mir.
greet.IMP.S 3S.ACC from 1S.DAT
(ii) [...] de ma part
from 1S.POSS side

'[greetings] from me'

If we disregard the unstressed pronouns which can only stand for objects, Rumanian does not distinguish between nominative and accusative case, with the exception of the three pronouns under (9), which normally substitute animate or ideally human prepositional complements. Instead of 'accusative', it would be better to speak of a prepositional case:

(9) RUM: accusatives: mine, tine, sine

'me, you, him/her/itself/themselves'

The existence of such pronouns with respect to the general nominative/accusative syncretism shows us again the exceptional status of inanimacy with prepositions.

3.2. Reference

The comparison between more and less elaborated constructions of SPATIAL ORIENTATION reveals a further ingredient of the continuum:

When the *locale* is definite, the empty preposition *à* (local connector) is possible in French:

(10)	vacances	à	la	ferme	'holidays on the farm'
	holidays	at	ART	farm	

It is replaced by the less grammaticalized preposition *dans*, when it is indefinite:

(11)	vacances	dans	une	ferme	'holidays on a farm'
	holidays	in	IDF	farm	

In this case the speaker has to employ a preposition instead of the local connector. As the *locale* is a *reference* point, its tendency towards definiteness comes as no surprise.

- "Zero article"

In this respect, we can reconsider what the grammarians of Rumanian have sometimes called "zero article" (cf. Beyrer *et al.* 1987).

A simple noun does not take the article after a preposition (or, according to certain grammarians, it takes the "zero article"):

(12)	la	institut	'at the institute'
	at	institute	

However, if the noun is modified in some way or other the "zero article" is no longer sufficient. It has to be replaced by the definite article:

(13)	la	institut-ul	de	lingvistică
	at	institute-ART.M	of/from	linguistics

'at the linguistic institute'

- (14) la institut-ul de lingvistica românească
at insitute-ART.M of/from linguistics:ART.F Rumanian:F

'at the institute of Rumanian linguistics'

An unmodified prepositional complement is by default considered to be determined (definite). That is not the case after the preposition *cu* ('with'):

- (15) cu tren-ul 'by train'
with train-ART.M

The use of the definite article with simple (unmodified) prepositional complements after *cu* can be explained by the comitative function of the preposition: the comitative has nothing to do with SPATIAL ORIENTATION, where the referential character of the *locale* is the unmarked case; its function is rather the introduction of supplementary actants or participants (which may be seen to be part of an underlying secondary predication). Such participants can be determined or not, just like all other participants.

The absence of an article in Rumanian may be compared with a similar phenomenon in French: here *en* is used with the article only in proper names (18) or idiomatic expressions (19). It normally goes without any overt determiner:

- (16) en ville
 in town
- 'in town'

Normally, it has to be substituted by *dans* if one wants to determine the prepositional complement:

- (17) dans la ville (de Paris)
in ART.F town of Paris

'in the city of Paris'

The following are exceptions (*en* with article):

- | | | |
|------|---------------------------|---|
| (18) | ...-en-l'île | 'on the island' (<i>in place names</i>) |
| (19) | en l'air, en l'honneur de | 'in the air, in honor of' |

In comparison with the preposition *dans*, *en* is less grammaticalized and thus nearer to the category of local connectors on our grammaticalization scale. Historically, this is corroborated by the fact that the latter goes back to a primary preposition (lat. *in*), whereas *dans* developed out of a complex preposition (lat. *de-intus*).

- Coalescence

Another consequence of the default referentiality of the *locale* is the phenomenon of coalescence between preposition and article, which can be found in the majority of the Romance languages (and in others, e.g. Germanic, as well):

(20) au, du 'to the', 'from the'

(21) IT: a + il -> al, di + il -> del, in + il -> nel etc.

In Italian, coalescence is obligatory with primary local prepositions (including *di*):

(22) a, da, di, in, su

It is optional with the comitative preposition:

(23) IT: con il / col 'with'

This fact is certainly connected with what happens in Rumanian with *cu*.

In Old Italian and Occitan, the preposition *per* also shows coalescence, which is not surprising, since the meaning of this preposition is mainly local:

(24) Occitan (and Old IT): pel 'through', 'for', 'by'

3.3. Stativity and ablativity

It seems that stative meaning is more basic than non-stative and in particular ablative. In Rumanian for example, the morphological means for expressing ablativity are more complex than those for stative relations: It is quite usual to use prepositional groups for the former:

(25) RUM: Vine de la oraş
come.3S from at town
PRS

'He is coming from the town.'

A parallel in French can be seen in the following:

(26) Il vient de chez lui.
3S.M.SJ come.3S from at_[house] 3S.M
PRS

'He is coming from his house.'

In both cases, the ablative is expressed on the basis of the stative by adding a general ablative preposition.

3.4. Contact and non-containment

In the following example we can take it for granted that there is contact between the located object and its *locale*:

- (27) Les clef-s sont sur la table.
 ART:P key-P be.3P on ART table
 PRS

'The keys are on the table.'

Otherwise, a more complex construction would be necessary:

- (28) au--dessus de la table 'above the table'
 at:ART--above of ART table

Contact between located object and *locale* can be considered as more basic than non-contact.

But in certain contexts, elaborated locative constructions such as *au-dessus de* in French are not necessary to express non-contact, since it is clear from the context:

- (29) L' oiseau plane sur la vallée.
 ART bird fly.3S on the valley
 PRS

'The bird flies / is flying over the valley.'

Similarly, containment does not need to be expressed in the following two examples:

- (30) Le policier arriva, un bâton à la main.
 ART policeman arrive.3S IDF club in ART hand
 PRT.PFV

'The policeman came with a club in the hand.'

- (31) L' affaire était en bonne-s main-s.
 ART matter be.3S in good-P hand-P
 PRT.IPFV

'The matter was in good hands.'

In (32), however, the containment relation is emphasized:

- (32) Il tenait un bâton dans la main.
 3S.M.SJ hold.3S IDF club within ART hand
 PRT.IPFV

'He held a club in his hand.'

Examples (33) - (35) show some alternatives the speaker can choose from in order to express containment more overtly:

- | | | |
|------|------------------------|---------------------|
| (33) | à Paris | 'in Paris' |
| (34) | dans Paris | 'within Paris' |
| (35) | à l'intérieur de Paris | 'inside (of) Paris' |

The following example shows a further step of prepositional accumulation in Rumanian (cf. 25) in order to establish a relation of non-containment:

- | | | | | | | |
|------|------|---------|------|-------|----|------|
| (36) | RUM: | Vine | de | pe | la | oraș |
| | | come.3S | from | about | at | town |
| | | PRS | | | | |

'He comes from about the town.'

The example shows that the Rumanian preposition *la* (similarly to French *à*) is semantically unmarked where containment is concerned. The same holds for Italian *in*, as the following examples show:

- | | | |
|------|------------------------|-----------------------------------|
| (37) | IT: in sella, in testa | 'in the saddle, on/(in) the head' |
|------|------------------------|-----------------------------------|

4. SPATIAL ORIENTATION as a continuum

By comparing more or less elaborated constructions expressing local relations (with the help of a morphosyntactically and diachronically established grammaticalization scale), we have found parameters of the functional domain (dimension) of SPATIAL ORIENTATION. I have summarized them in the following table:

Table 4: The parameters of SPATIAL ORIENTATION

- | | |
|-----|-----------------------------|
| P0: | locality |
| P1: | inanimacy |
| P2: | reference |
| P3: | stativity (non-ablativity) |
| P4: | contact and non-containment |

From an onomasiological point of view, the parameters P1 to P4 are ingredients of P0. The more the speaker deviates from the prototype of a local construction (characterized by the presence of P0, which implies P1 to P4), the less parameters are fulfilled.

We said at the beginning that adpositional elements are not the only means for expressing SPATIAL ORIENTATION. They should rather be seen as located at the center (turning point) of a more global continuum (cf. table 5) where they associate themselves with more marginal phenomena, such as local affixes and local classifiers (to the left), which do not exist

in Romance languages, and preverbal elements (to the right), a category which has lost most of its functionality in Romance.

On the cognitive-conceptual level, the continuum that I propose goes from a SPATIAL ORIENTATION centered around the *locale* (the point of *reference*) to one which can be called 'orientation through the situation' (the *predication*). On the morphosyntactic level, the continuum goes from nominal to verbal marking (given that we deal with languages, such as Romance, that have a clear-cut distinction of nouns and verbs).

Table 5: A continuum of SPATIAL ORIENTATION

a) cognitive-conceptual level

sphere of reference		sphere of predication	
<---	orientation at <i>locale</i>	--->	orientation by locator
			--->
			through situation

b) morphosyntactic level

L1	---	L2-L3	L4	L5-L8	preverbs	---	L1
sphere of nominal morphosyntax							sphere of verbal morphosyntax

Whereas the cognitive-conceptual level is universal, the morphosyntactic level may look different according to the language type (although there will always be a certain similarity). The place that a morphosyntactic manifestation of a technique occupies on the continuum of SPATIAL ORIENTATION can be established with the help of the parameters (for their rôle on the continuum and for the relation between the cognitive-conceptual level and the linguistic level, which I call 'morphosyntactic' here, cf. Seiler 1992).

From a typological point of view, the Romance languages mainly employ the techniques around the center of the continuum, whereas Latin makes vast use of more marginal means (case affixes and preverbs). The typological change between Latin and Romance is centripetal. Between Romance and Creole languages the evolution continues to the right hand side of the continuum: The existence of only one local connector is compensated by more predicative means of SPATIAL ORIENTATION ('through the situation'), as for example verb serialization. Through decreolization, the Creoles return to the Romance strategies, i.e. to the more central means on the continuum.

5. Conclusion

The main point of the present paper was to present a discovery procedure for cognitive-conceptual parameters of SPATIAL ORIENTATION. It consisted in the comparison of more or less grammaticalized morphosyntactic manifestations of this dimension and their concomitant characteristics, i.e. under which conditions a certain degree of grammaticalization is adequate. The approach is inductive and deductive at the same time, since we asked ourselves about the functional nature of the parameters as well (parameters P1 to P4: ingredients of P0).

The discovery procedure can equally be applied to other functional domains (dimensions) of linguistic activity. Circularity of argumentation is avoided by an axiomatic starting point (relation between conceptual processability and morphosyntactic elaboration). The starting point is a weak (plausible) axiom. It is at this point that non-linguistic evidence is needed, which would allow for the cognitive foundation of linguistic argumentation.

Abbreviations

ACC	accusative
ART	definite article
DAT	dative
F	feminine
IDF	indefinite article
IMP	imperative
IPFV	imperfective
IT	Italian
M	masculine
O	object
P	plural
PFV	perfective
POSS	possessive
PRS	present
PRT	past
RUM	Rumanian
S	singular
SJ	subject

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