

A lexical account of Sorani Kurdish prepositions

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Abstract

In Sorani Kurdish dialects, the complement of a preposition can generally be realized either as a syntactic item (NP, independent pronoun or PP) or a bound personal morpheme (clitic/affix). However, the affixal realization of the complement gives rise to a range of specific phenomena. First, some prepositions display two different phonological forms depending on the realization of their complement: the variant combining with a syntactic item is referred to as ‘simple’, while the variant combining with an affixal complement is called ‘absolute’. Furthermore, unlike syntactic complements, which are always realized locally, the affixal complement of an absolute preposition can have a non-local realization, attaching to a host with which it has no morphosyntactic relations. In order to deal with these facts, this paper proposes a classification of Sorani prepositions along two lines: the affixal versus non-affixal realization of the complement on the one hand and its local versus non-local realization on the other hand. All cases of non-local realization receive a lexical account, either in terms of argument composition or in terms of linearization constraints on domain objects.

1 Introduction

Sorani Kurdish dialects¹ have a rich class of prepositions and prepositional collocations with a complex syntactic behavior. This situation results from two factors. The first one involves the historical constitution of this class: the initial set of prepositions has progressively been enriched with elements borrowed from other classes, such as substantives, which generally combine with primary prepositions to form compound prepositions. Some of them, however, have undergone a grammaticalization process and can function as prepositions by themselves. These ‘new’ prepositions have nevertheless preserved a part of their nominal properties and differ with respect to their morpho-syntactic properties from primary prepositions.

The second factor concerns the realization of the complement: some prepositions allow for a clitic (affixal) realization of their complement, while others do not. Furthermore, the alternation of the form of the complement can give rise to an allomorphic variation of the preposition itself. Finally, depending on the preposition, the clitic complement does not necessarily attach to the preposition and can be realized at distance.

In order to account for these properties, this paper suggests a classification of Sorani Kurdish prepositions along two dimensions: the affixal versus non-affixal

[†]I am especially indebted to Amr Ahmed, my principal informant for the Kurdish data, for his patient and enthusiastic contribution to this study. I am also grateful to Olivier Bonami, for his valuable comments and suggestions.

¹Sorani is one of the two principal branches of Kurdish, the other one being Kurmanji. Sorani dialects are spoken in Iraq and Iran, by about five million speakers. The dialect under study in this paper is the one spoken in the region of Suleymaniye, in Irak.

realization of the complement on the one hand and its local versus non-local realization on the other hand. The clitic realization of the complement is argued to be an instance of affixation and a lexicalist account is outlined for all cases of non-local realization of the clitic, either in terms of argument composition or in terms of constraints on the linearization of domain objects.

2 Preposition classes in Sorani

Within Sorani prepositions, a first distinction can be established between primary prepositions and non-primary prepositions (i.e. prepositions resulting from: i) the combination of a primary preposition and another lexical unit, a substantive or adverb for instance; ii) grammaticalization of other lexical units, such as substantives for instance). Primary prepositions are in turn divided into two subclasses, simple prepositions and absolute prepositions (Mackenzie, 1961).

2.1 Primary prepositions: Simple versus absolute distinction

The members of this class (Table (1)) constitute the original set of Kurdish prepositions descending from Proto-Iranian prepositions.

Primary prepositions		
Simple	Absolute	
<i>ba</i>	<i>pê</i>	'to', 'with', 'at'
<i>bê</i>	–	'without'
<i>bo</i>	(<i>bo</i>)	'for'
<i>-a</i>	<i>-ê</i>	'to'
<i>la</i>	<i>lê</i>	'of', 'in'
<i>tâ</i>	–	'until'
<i>da</i>	<i>tê</i>	'to', 'with', 'at'
<i>lagal</i>	(<i>lagal</i>)	'with'

Table (1)

As one may notice, some of these prepositions display two phonological variants referred to as 'simple' and 'absolute' by Mackenzie (1961). The simple variant does not bear lexical stress and undergoes proclisis, while the absolute variant is accentuated. The relation between the two variants can be viewed as an allomorphic variation triggered by clitic versus non-clitic (non-affixal) realization of the complement:²

²The term 'clitic' is used here in a pre-theoretical sense to designate one of the two sets of bound personal morphemes in Sorani and does not entail a syntactic view of these items. These forms resemble 'special clitics' (see Zwicky (1977) and Anderson (1992), among others) with respect to their placement properties: they do not occur in the canonical syntactic position they would be expected to occur and can attach to a variety of hosts. As it has been argued in detail by Samvelian (2006),

‘Corresponding to the simple *ba, wa, la, da, -a*, there are the following ‘absolute’ forms, employed when the form governed is other than an independent noun or pronoun: *pê, wê, lê, tê, -ê* (Mackenzie, 1961, p. 123).’

‘These forms [i.e. absolute prepositions] must be used when the preposition governs a pronoun expressed as an affix (Edmonds, 1955, p. 496).’

Simple prepositions combine with syntactic items (NP or independent pronoun), but never with a clitic:³

- (1) (a) *min ba Narmîn/to da-lê-m*
 (I) to Narmin/you IPFV-tell.PRS-1.SG
 ‘I am telling to Narmin.’
 (b) *Âzâd la jêr mêz da-xaw-ê*
 Azad to under table IPFV-sleep.PRS-3.SG
 ‘Azad is sleeping under the table.’
 (c) **ba=t da-lê-m*
 à-2.SG IPFV-say.PRS-1.SG
 (putatively) ‘I am telling you.’

By contrast, absolute prepositions take a clitic complement:

- (2) *pê=t da-lê-m*
 to=2.SG IPFV-say.PRS-1.SG
 ‘I am telling you.’
 (3) **pê Narmîn/to da-lê-m*
 to Narmin/*you IPFV-say.PRS-1.SG
 (putatively) ‘I am telling Narmin/you.’

Furthermore, as will be discussed in detail in section (4), unlike simple prepositions whose complement is always realized locally (i.e. within the PP), absolute prepositions allow for a non-local realization of their clitic complement.

Table (1) requires some further comments. Two prepositions, *bê* ‘without’ and *tâ* ‘until’, do not display an absolute variant. The prepositions *bo* ‘for, to, towards’ and *lagal* ‘with’, which are generally considered as simple prepositions, can nevertheless combine with a clitic complement without displaying phonological variation. This is the reason why, in this study, they also occur in the column of absolute

despite some degree of syntactic transparency, these forms are best regarded as affixes, on a par with the other paradigm of bound personal forms in Sorani, verbal personal endings, which always attach to the verb. In this paper, the label ‘clitic’ is nevertheless maintained for convenience sake in order to distinguish the members of the two sets of bound personal forms.

³Abbreviations: COP = copula, DEF = definite, EZ = ezafe, INDEF = indefinite, IPFV = imperfective, OBL = oblique, PST = past, PERF = perfect, PL = plural, PRS = present, SG = singular.

prepositions. Finally, *-a* ‘to’, and its absolute variant *-e*, both enclitics, have an extremely limited distribution and always occur after a verb:

- (4) Sîrwân kitêb-aka da-dat=a Narmîn
 Sirwân book-DEF.SG IPFV-give.PRS=to Narmin
 ‘Sirwan is giving the book to Narmin.’

Primary prepositions have more or less a weak semantic content. They generally introduce subcategorized complements of verbs (ex. (1-a), (2) and (4)), but also some temporal and locative circumstances (ex. (5)). In order to express a more specific semantic content, Sorani uses either compound prepositions (i.e. a combination of a simple preposition and a nominal or adverbial item) or circumpositions (i.e. combination of a preposition and a postposition).

- (5) (a) la Pârîs dost-akân dît
 at Paris friend-DEF.PL see.PST
 ‘She/he met her/his friends in Paris.’
 (b) ba şaw Sîrwân da-xaw-ê u ba roj îş
 at night Sirwan IPFV-sleep.PRS-3.SG and at day work
 da-k-â(t)
 IPFV-do.PRS-3.SG
 ‘Sirwan sleeps during the night and works during the day.’

2.2 Non-primary prepositions (compound and nominal prepositions)

The combination of the simple prepositions *la*, *ba* and *a* with nominal and adverbial elements such as *sar* ‘head’, *pişt* ‘back’, *bar* ‘side’, *paş* ‘ahead’, etc. gives rise to ‘compound prepositions’ (Mackenzie, 1961):

- (6) (a) kitêb-aka la sar mêz-a
 book-DEF.SG to head table-COP.3.SG
 ‘the book is on the table.’
 (b) Sîrwân xo=y la pişt Alî şârd-awa
 Sirwan self-3.SG to behind Ali hide.PST-PERF
 ‘Sirwan has hidden himself behind Ali.’
 (c) çû-m=a sar çom-î Ancîna
 go-1.SG-to head river-EZ Ancina
 ‘I went to the river Ancina.’ (Bassols-Codina, 1992)

Kurdish grammars generally consider combinations such as *la sar* to be single items and provide their inventory. Nevertheless, it is not always clear whether these combinations are definitely lexicalized as single lexical units, in which case the whole sequence is opaque for the purposes of syntax and behaves like a single preposition, or whether each item functions as an independent word, i.e. a preposition, in itself. In this case, the simple preposition combines with the PP headed

by *sar* or *pišt*.

The first alternative is supported by the fact that, in many cases, the simple preposition cannot be dropped:

- (7) (a) *kitêb-aka sar mêz-a
book-DEF.SG on table-COP.3.SG
'The book is on the table.'
(b) *Sîrwân xoy pišt Alî šârd-awa
Sirwan self behind Ali hide.PAS-PERF
(putatively) 'Sirwan has hidden himself behind Ali.'

This tends to prove that *sar* and *pišt* do not function as prepositions by themselves. However, in some other cases, the simple preposition is either optional or excluded:

- (8) (a) (la) pâš awa
(at) after this
'after this'
(b) kišt-u-kâl=yân jêr âw bû
culture=3.PL under water is.PST
'The cultures were inundated.' (Lit. The cultures were under water)
(Edmonds, 1955, p. 500)

I will not take a definite stand on this issue here, which requires further investigation. For the purpose of classification, I will consider that sequences like *la sar*, *la pâš*, and *-a sar* in (6) form a single syntactic unit, a compound preposition, while in (8), *pišt* and *jer* are prepositions by themselves. They will be referred to as nominal prepositions.

Like absolute prepositions, compound and nominal prepositions can combine with a clitic complement. However, unlike the former, they do not allow for a non-local realization of their clitic complement.

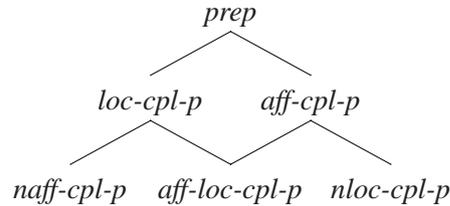
- (9) (a) Sirwân xoy la pišt=im sârd-awa
Sirwan himself at behind=1.SG hide.PST-PERF
'Sirwan has hidden himself behind me.'
(b) (la) pâš=im
(à) après=1.SG
'after me'

3 Preposition types and hierarchy

On the basis of the facts just examined, the type hierarchy in (10) is proposed for Sorani prepositions. This hierarchy gives rise to three maximal types. The supertype *prep* has two subtypes, *loc-cpl-p*, a preposition whose complement is realized locally, and *aff-cpl-p*, a preposition whose complement is realized as an

affix.

(10) Preposition types and hierarchy



Each type has in turn two subtypes. The type *loc-cpl-p* allows for its complement to have an affixal or a non-affixal realization, which gives respectively *aff-loc-cpl-p* and *naff-cpl-p* maximal types. The prepositions of type *aff-cpl-p* have either their complement realized locally, *aff-loc-cpl-p*, or non-locally, *nloc-cpl-p*. Note that unlike the *aff-loc-cpl-p* type, which inherits from both *loc-cpl-p* and *aff-cpl-p* supertypes, *naff-cpl-p* and *nloc-cpl-p* types inherit from only one supertype, respectively *loc-cpl-p* and *aff-cpl-p*. This type hierarchy has two consequences: first the non-affixal complement of a preposition has always a local realization, and second the non-local realization for the complement of a preposition is necessarily affixal. Here are some examples of each maximal type:

- (11) *naff-cpl-p*: *ba Narmîn* ‘to Narmin’, *la sar mēz* ‘on the table’
- (12) *aff-loc-cpl-p*: *pê=t* ‘to you’, *la pišt=it-awa* ‘behind you’
- (13) *nloc-cpl-p*: *pê* ‘to’

Simple prepositions are always of type *naff-cpl-p*. Compound and nominal prepositions are either *naff-cpl-p* or *aff-loc-cpl-p*, depending on whether their complement is realized as a syntactic item or as an affix. Finally, absolute prepositions are of type *aff-loc-cpl-p*, in case their complement is realized locally, or of type *nloc-cpl-p*, if their complement is realized at distance.

Constraint (14) applies to all prepositions by default and requires that the members of the ARG-ST list occur also on the COMPS list:

(14) Default argument realization for prepositions

$$prep \rightarrow [\text{ARG-ST} / \boxed{\quad}, \text{COMPS} / \boxed{\quad}]$$

The following constraints are associated to specific types:

- (15) *aff-cpl-p* \rightarrow [ARG-ST <aff>]
- (16) *naff-cpl* \rightarrow [ARG-ST < canon >]
- (17) *aff-loc-cpl* \rightarrow [COMPS < >]

Constraint (15) and (16) state respectively that, if a preposition is of type *aff-cpl-p*, then the members of its ARG-ST are of type *aff* (*affixal*) and, if a preposition is of

type *naff-cpl-p*, then the members of its ARG-ST list are of type *canon* (*canonical*). Finally, constraint (17) requires that the COMPS list of an *aff-loc-cpl-p* be empty.

4 The non-local realization of the clitic complement

As mentioned previously, the clitic complement of an absolute preposition can have a non-local realization. However, this realization is subject to strict constraints and is limited to two cases: the complement either occurs with the verb or attaches to the right edge of the constituent immediately preceding the preposition.

These two possibilities are in complementary distribution:

1. The first only occurs with transitive verbs in the past tenses.
2. The second occurs either with transitive verb in the present tenses or with intransitive verbs (regardless of the tense).

The two cases of non-local attachment will receive two different lexical treatments. Attachment to the verb will be considered as an instance of argument (Abeillé et al. (1998), Hinrichs and Nakazawa (1994), Miller and Sag (1997), Tseng (2004), among others), while attachment to a constituent preceding the preposition will be accounted for in terms of linearization constraints on DOMAIN objects (Crysmann (2002), Crysmann (2003) and Kathol (2000)).

4.1 Attachment to the verb

When an absolute preposition occurs in a past transitive construction and introduces an argument of the verb, the complement of the preposition occurs on the verb and not on the preposition. The significant fact is that, contrary to what would be expected, the complement is not realized as a ‘clitic’ in this case, but as a ‘verbal personal ending’. The latter constitutes, along with the clitics, the two paradigms of bound personal forms in Sorani. Before going through the description of this case of attachment, a brief presentation of these two paradigms would be useful.

Apart from independent pronouns, Sorani displays two other paradigms of personal morphemes, which are bound forms:

Independent Pronouns		
	Sg	Pl
1	<i>min</i>	<i>(h)êma</i>
2	<i>to</i>	<i>êwa</i>
3	<i>awa</i>	<i>awân</i>

Table 2

Clitics		
	Sg	Pl
1	-(i)m	-mân
2	-(i)t	-tân
3	-î/-y	-yân

Table 3

Verbal endings		
	Sg	Pl
1	-(i)m	-în
2	-î	-(i)n
3	-ê(t)/Ø	-(i)n

Table 4

When used in relation with a verb, these bound forms assume the same functions and are in complementary distribution in the following way:

1. With transitive and intransitive verbs in the present tenses and only intransitive verbs in the past tenses, personal endings realize subject agreement and are compulsory. Clitics, if present, are generally interpreted as the direct object of the verb.
2. With transitive verbs in the past tenses, a reversed pattern is observed. Clitics realize subject-verb agreement and are compulsory. Personal verbal endings, if present, are interpreted as a direct object.

The two paradigms differ with respect to their placement properties:

- a. Personal endings always attach to a verb and follow the verbal stem. These are word-level affixes.
- b. Clitics, roughly speaking, attach to the right edge of the ‘verbal phrase’ (i.e. an instance of the so-called ‘second position’ clitics). When the verb is the first member of the VP, the clitic interrupts the verb (i.e. endoclititic) and is placed after the first morpheme of the verb.

The examples in (18) illustrate the situation described in (1) above. The personal ending is placed after the verbal stem and realizes subject-verb agreement. Note that the subject is realized independently, either as a pronoun or an NP. A clitic occurs in (18-c), a present transitive construction, which refers to the direct object of the verb. Note that, in this case, the clitic alternates (i.e. is in complementary distribution) with an NP or an independent pronoun, in other words, clitic doubling is excluded.

- (18) (a) bê to na-ro-**m**
without you NEG-go.PST-1.SG
‘I won’t go without you.’
- (b) Azad u Narmîn lugal Ali hat-**in**
Azad and Narmin with Ali come.PST-3.PL
‘Azad and Narmin came with Ali.’
- (c) min ba Narmîn=**î** (ba kurdî) da-lê-**m**
I to Narmin=3.SG (in Kurdish) IPFV-tell.PRS-1.SG
‘I am telling it to Narmin (in Kurdish).’

The examples in (19) illustrate the situation described in (2) above. In both examples, the clitic is attached to the right edge of the NP which realizes the direct object. Note that in (19-a) no personal verbal ending is present. In (19-b), by contrast, the NP realizing the direct object is doubled by a personal verbal ending. Thus, although doubling is possible in this case, it is by no means obligatory.

- (19) (a) (min) kitêb-êk=**im** bo Narmîn kirî
 (I) book-INDEF.SG=1.SG for Narmin buy.PST
 ‘I bought a book for Narmin.’
 (b) bâzîrgân-akân asp-akân=**yân** da-kirî(-**in**)
 tradesman-DEF.PL horse-DEF.PL=3.PL IPFV-buy.PST-(3.PL)
 ‘The tradesmen were buying the horses.’ (Blau, 1980, p. 71)

It should be mentioned at this point that the facts just discussed can receive a totally different account such that personal endings would regularly be considered as agreement-markers while clitics would be regarded as bound pronouns realizing one of the arguments of the verb (Patient or Agent). This analysis, which is reminiscent of split ergativity, is the one suggested by Mackenzie (1961), who considers that the NP referring to the Agent argument of the verb in the past transitive construction ‘is in no way equivalent to a Subject, in concord with the verbal form’ (p. 107). The clitic in this case is an ‘agential affix’ and the verbal construction is referred to as an ‘agential construction’ by Mackenzie.

Mackenzie’s view is supported by historical facts. Indeed, like Kurmanjî, Sorani has gone through a stage of morphological ergativity with oblique case-marking of the Agent and object-agreement in the past transitive construction, even though almost all Sorani dialects have lost the oblique case-marking. Furthermore, this view has the advantage of providing a unified account for each set of personal bound morphemes. The forms in Table (4) are always regarded as inflectional verbal affixes and function as agreement-markers, while the forms in Table (3), i.e. clitics, regularly realize a verbal argument and are thus bound pronominals.

However, as argued by Samvelian (2006), despite its advantages, Mackenzie’s analysis faces problems, the main one being that it does not account for the fact that the clitic is obligatory in the past transitive construction, regardless of the presence of a noun phrase or an independent pronoun referring also to the Agent. Consequently, I will assume that the clitic in the past transitive construction is an agreement marker, and not a bound pronominal.

Let us return now to absolute prepositions in the past transitive construction. As mentioned previously, the complement of the preposition can be realized non-locally, but in this case, it necessarily occurs on the verb and is realized as a verbal personal ending (i.e. forms in Table (4)) and not as a clitic (i.e. forms in table (3)).

- (20) (a) rojbâş=**yân** **lê** kird-**în**
 good-morning=3.PL to do.PST-1.PL
 ‘They wished us good morning.’

- (b) *rozjbâš=yân **lê** kird=**mân**
 good-morning-3.PL to do.PST=1.PL
 (putatively) 'They wished us good morning.'
- (21) (a) pâra-yêk-î zor-î **lê** wargirt-**im**
 money-INDEF.SG-EZ much-3.SG from take.PST-2.PL/3.PL
 'He received a great amount of money from you/them.'
- (b) *pâra-yêk-î zor-î **lê** wargirt=**tân/yân**
 money-INDEF.SG-EZ much-3.SG from take.PST=2.PL/3.PL
 (putatively) 'He received a great amount of money from you/them.'

When the direct object is also realized as a bound morpheme, the verbal stem bears two personal endings. The order in which the two affixes are placed seems to be subject to variation in different dialects and even within the same dialect. Edmonds (1955), for instance, claims that the affix corresponding to the complement of the absolute preposition precedes the affix corresponding to the direct object:

- (22) Xwâ **bo=y** nard-**im-î(t)**
 God to=3.SG send.PAST-1.SG-2.SG
 'God sent you to me.' (Edmonds, 1955)

While Mackenzie (1961) gives the reverse order:

- (23) **lê=y** sand-in-**în**
 for=3.SG take.PAST-3.PL-1.PL
 'He took them for us.' (Mackenzie, 1961, p.116)
- (24) xwâ dâ=m-î-**n=ê**
 God give.PAST=1.SG-3.SG-2.PL=to
 'God gave me to you.'

To sum up, in the past transitive construction, the complement of the preposition behaves very much like a direct complement of the verb. The metamorphosis of the clitic into a personal ending constitutes a problem for a syntactic view of the clitic, and rather calls for a morphological account, where both the clitic and the personal ending are considered as affixes realizing the same exponent in two different forms, according to the head to which the affix is adjoined.

The realization of the argument of the preposition on the verb can then be viewed as an instance of argument composition. The subcategorization requirements of the absolute preposition are inherited by the verb, and the affixal argument of the absolute preposition is realized as an affixal argument of the verb. The lexical rule in (25) applies to verbs that subcategorize for a PP complement. A verb that subcategorizes for a PP complement can instead subcategorize for two complements: the preposition itself and the element corresponding to the unsaturated complement of the preposition.

(25) Argument composition lexical rule

$$\begin{aligned} & \left[\begin{array}{l} \textit{verb} \\ \text{COMPS } \langle \dots [\text{HEAD } \textit{prep}, \text{COMPS } \langle \rangle] \dots \rangle \end{array} \right] \\ \implies & \left[\text{COMPS } \langle \dots \left[\begin{array}{l} \text{HEAD } \textit{prep} \\ \text{COMPS } \langle \square \rangle \end{array} \right] \dots \rangle \circ \langle \square \rangle \right] \end{aligned}$$

Recall that clitics are assumed to be affixes, on a par with personal verbal endings, and are thus handled morphologically. This implies that personal affixes (*pers-aff*) have two subtypes in Sorani Kurdish, *cl-pers-aff* (clitic personal affixes) and *v-pers-aff* (verbal personal affixes). The information transmitted to the verb is that one of the members in its COMPS list is an affix (i.e. *affixal synsem*). The concrete form of the affix is not transmitted, since it is calculated by morphological realizational schemata involving the verbal conjugation (see Crysmann (2002)).

4.2 The clitic precedes the preposition

With intransitive verbs or with transitive verbs in the present tenses, the clitic complement of the preposition can attach to the right edge of the constituent that immediately precedes the preposition. Thus, although the clitic is not phonologically attached to the preposition, it must nevertheless be noted that it always occurs adjacent to it.⁴

- (26) (a) rojbâš=**yân** lê a-kâ
 good-morning=3.PL to IPFV-say.PRS
 ‘He wishes them ‘Good Morning’.’
 (b) êma=**y** tê nâ-ç-în
 we=3.SG to NEG-go.PRS-3.PL
 ‘We do not go there.’ (Edmonds, 1955, p. 498)

Consequently, unlike the previous case, this placement does not involve a real non-local realization, but rather two different possibilities in the linearization of the preposition and its affixal argument.

In order to handle this case, I will adopt a linearization-based account worked out by Crysmann (2003) on the basis of Kathol (2000). The main idea behind this approach is that the relationship between word-level signs and the word order domain object they contribute need not to be isomorphic and that word-level signs can contribute more than one domain object into syntax. The clitic is introduced in the lexical entry of the absolute preposition, even though the two items are not strictly ordered. Linearization constraints provide then different order possibilities. The clitic can thus be placed before or after the preposition, but being an enclitic it always attaches to the left. Consequently, when preceding the preposition, it forms

⁴Thackston (2006) claims that the clitic and the preposition can be separated by one or more items, but he gives no convincing example illustrating this possibility.

a prosodic unit with the word it follows, and not with the preposition, with which it has a morphotactic relation.

It is first assumed that prepositions of type *aff-loc-cpl-p* contribute two domain objects in their DOM list. Prepositions of type *naff-loc-p* and *nloc-cpl-p*, like ordinary lexical items contribute one domain object by default.⁵

(27) Constraint on *aff-loc-cpl-p*

$$\left[\begin{array}{l} \text{aff-loc-cpl-p} \\ \text{DOM} \langle \langle [\text{PHON } \boxed{1}] \rangle \rangle \circ \langle \langle [\text{PHON } \boxed{2}] \rangle \rangle \\ \text{M} \langle \langle \left[\begin{array}{l} \text{prep} \\ \text{PHON } \boxed{1} \end{array} \right] \rangle \rangle \oplus \langle \langle \left[\begin{array}{l} \text{p-cl-aff} \\ \text{PHON } \boxed{2} \end{array} \right] \rangle \rangle \end{array} \right]$$

In line with Crysmann (2002), I use the feature M(ORPH) to represent the internal morphological structure of words. This feature, which takes a list of elements of type *morphe* as its value, is valid only for lexical items (i.e. not for *phrases*). Like *lexemes*, *affixes* are considered as *morphes*. In other words, *affixes* and *lexemes* are the two subtypes of *morphe*. However, unlike *lexemes*, *affixes* are not signs. Objects of type *morphe* have minimally the feature PH(ONETIC), but only *lexemes* are specified for the feature M(ORPH).

The morphological schema in (28) introduces the clitic in the lexical entry of the absolute preposition and thus produces an ‘affixed preposition’. It further registers the consequence of this affixation on the COMPS list of the preposition. The clitic is identified as the argument of the absolute preposition and is discharged from the COMPS list of the preposition, which is now empty. Note that the preposition and the clitic are not strictly ordered, and thus the clitic can either precede or follow the preposition. Since the clitic corresponds to a distinct DOM object, discontinuous realization of the clitic and the preposition is rendered possible.

(28) Clitic affixation morphological schema

$$\left[\begin{array}{l} \text{aff-loc-cpl-p} \\ \text{DOM} \langle \langle \left[\begin{array}{l} \text{PHON } \boxed{1} \\ \boxed{3} \text{ SS|LOC} \left[\begin{array}{l} \text{CAT|HEAD } n \\ \text{CONT } \textit{ppro} \end{array} \right] \end{array} \right] \rangle \rangle \circ \langle \langle [\text{HEAD } \boxed{2}] \rangle \rangle \\ \text{M} \langle \langle \left[\begin{array}{l} \text{p-cl-aff} \\ \text{PHON } \boxed{1} \end{array} \right] \rangle \rangle \circ \text{LIST} \\ \text{SS|LOC} \left[\begin{array}{l} \text{HEAD } \boxed{2} \text{ [aff-loc-cpl-p]} \\ \text{VAL|COMPS } \langle \rangle \\ \text{ARG-ST } \langle \boxed{3} \rangle \end{array} \right] \end{array} \right]$$

⁵As one may have noticed, absolute prepositions are not the only lexical items displaying such a property in Sorani Kurdish. Verbs also can contribute more than one domain object, given the fact that clitics can have a non-local realization when used in relation with a verb, either as agreement or argument markers.

Constraints in (29) and (30) provide the two linearization possibilities for the clitic and the preposition:

(29) Adjacency constraint

$$\left[\text{DOM} \langle \boxed{1} [\text{HEAD } \textit{aff-loc-cpl-p}, \text{COMPS} \langle \boxed{2} \rangle] \rangle \right] \rightarrow \\ \left[\langle \boxed{2} \textit{p-cl-aff} \rangle \circ \textit{list} \right] \\ \left[\text{DOM} \langle \boxed{1}, \boxed{2} \rangle \circ \textit{list} \right] \vee \left[\text{DOM} \langle \boxed{2}, \boxed{1} \rangle \circ \textit{list} \right]$$

This constraint requires that the preposition and the clitic be adjacent, when the clitic follows the preposition.

The following constraint restricts the realization of the clitic before the preposition to either intransitive verbs or to the present tense:

(30) Constraint on the verbal tense and construction

$$\left[\text{clause}, \text{DOM} \langle \boxed{1} [\text{HEAD } \textit{aff-loc-cpl-p}, \text{COMPS} \langle \boxed{2} \rangle] \rangle \right] \rightarrow \\ \left[\langle \boxed{2} \textit{p-cl-aff} \rangle \circ \textit{list} \right] \\ \left[\text{HEAD } \textit{verb} \text{VFORM } \textit{present} \right] \vee \left[\text{HEAD } \textit{verb} \text{VFORM } \textit{intransitive} \right]$$

5 Conclusion

In this paper, I have proposed a classification of Sorani prepositions along two lines, the affixal versus non-affixal realization of the complement, on the one hand, and its local versus non-local realization on the other. I have then outlined a lexical analysis of all cases of non-local realization, either in terms of argument composition or in terms of linearization constraints on DOMAIN objects.

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