

A COMPARATIVE ANALYSIS OF THREE-PLACE PREDICATES IN LAKHOTA WITHIN THE RRG FRAMEWORK

AVELINO CORRAL ESTEBAN*

Universidad Autónoma de Madrid

ABSTRACT. *This paper provides a Role and Reference Grammar (hereafter RRG) (Van Valin and LaPolla 1997) study of transitivity in Lakhota, putting special emphasis on the analysis of three-place predicates and the coding alternations they enter into. Since there exists a reasonable range of typological variation regarding the realization of this type of predicates morpho-syntactically, the main aim of this paper will be the classification of this language into one of the three major ditransitive alignment types posited by Dryer (1986) on the basis of which of the two semantic roles, that is, the Patient or Recipient, is treated like the monotransitive Undergoer. In order to achieve this goal, some obstacles concerning the fact that Lakhota is a pronominal-argument language and, consequently, all their obligatory arguments appear coded as pronominal affixes within the verb will have to be overcome. In the final section, a representation of the bidirectional linking algorithm will be offered in order to confirm the validity of this theory to represent comparable structures in different languages in an analogous way.*

KEY WORDS. *Three-place predicate, ditransitive verb, semantic macrorole, pronominal-argument language, linking algorithm.*

RESUMEN. *Este artículo proporciona un estudio de la transitividad en Lakhota de acuerdo con el marco de la Gramática del Papel y la Referencia (Van Valin and LaPolla 1997), haciendo hincapié en el análisis de predicados triádicos y las alternancias de codificación que admiten. Debido a que existe bastante variación tipológica en cuanto a la realización de este tipo de predicados morfo-sintácticamente, el principal objetivo de este trabajo será la clasificación de esta lengua en uno de los tres tipos más importantes de alineamiento ditransitivo propuestos por Dryer (1986) teniendo en cuenta cuál de los dos papeles semánticos, es decir, Paciente o Recipiente, es tratado como el Padeedor monotransitivo. Para lograr esta meta, algunos obstáculos relacionados con el hecho de que el Lakhota es una lengua de argumento pronominal y, como consecuencia, todos sus argumentos obligatorios aparecen codificados como afijos pronominales dentro del verbo tendrán que ser superados. En la sección final, se ofrecerá una representación del algoritmo de enlace bidireccional para confirmar la validez de esta teoría para representar estructuras comparables en diferentes lenguas de forma análoga.*

PALABRAS CLAVE. *Predicado triádico, verbo ditransitivo, macropapel semántico, lengua de argumento-pronominal, algoritmo de enlace.*

1. INTRODUCTION

Traditionally, verbs have been usually classified in terms of their transitivity into three categories: intransitive verbs, (mono)transitive verbs, and ditransitive verbs, according to the number of objects that they require syntactically. Unlike the transitivity of a verb, which only considers the objects, there is a related concept denominated the valence of a verb, which considers all the arguments the verb takes, including both the subject of the verb and all of the objects. RRG adopts this latter concept in order to classify predicates into three groups. Thus, one-place predicates are accompanied by only one core argument (i.e. the subject), two-place predicates have two core arguments (i.e. the subject and the direct object), and three-place predicates include up to three core arguments. These core arguments can appear realized as either NPs or pronominal markers within the verb. Furthermore, this theory distinguishes between two different types of valence, namely syntactic valence and semantic valence, and they do not need to coincide. For instance, in a passive sentence, the syntactic valence of the verb is reduced from two to one since the by-phrases are peripheral adjuncts rather than obligatory core arguments of the passive verb. Yet, they continue to be semantic arguments of the verb because the predicate requires an actor NP, which is represented by that adjunct.

2. SYNTACTIC TRANSITIVITY IN LAKHOTA

Lakhota verbs fall into several categories and classes, although, for the sake of clarity, they are usually classified into only two groups, namely stative verbs and active verbs, which are distinguished mainly by the type of personal pronouns they take. The majority of stative verbs are one-place predicates and normally present Object personal pronouns, which are realized as bound morphemes within the verb:

1 st . person singular	ma-...
2 nd . person singular	ni-...
3 rd . person singular	∅-...
1 st . person dual	uŋ(k) ¹ -...
1 st . person plural	uŋ(k)-...-pi
2 nd . person plural	ni-...-pi
3 rd . person plural	...-pi / ∅ ²

Table 1. Object personal pronouns realized as bound morphemes in stative verbs.

Although in most languages stative verbs allow only one participant, that is, they are mostly intransitive, in Lakhota there is also a large number of stative verbs that permit two

participants. This special coding of constituents is accompanied by the addition of the prefix *i-* to the verbal stem:

- (1) a. *Ĉhaŋté-ma- wašte*
 STEM- 1SG:OBJ- be glad
 ‘I am happy.’
 a’. *Iĉhaŋté-Ø- ma- wašte*
 STEM- 3SG:OBJ-1SG:OBJ-be glad
 ‘I am glad about it.’

The other most important group of Lakhota verbs is called active verbs and they are formally known for not taking the Object personal pronouns, such as the affixes *ma-* and *ni-*, just as the stative verbs do. This second group of verbs is more heterogeneous than the first one and can be classified into three different classes: Class 1, Class 2 and Class 3. As for their transitivity, these active verbs can be both one-place and two-place predicates and, therefore, they can present only Subject personal pronouns or both Subject and Object personal pronouns:

	Class 1		Class 2		Class 3	
	Subject	Object	Subject	Object	Subject	Object
1 st . person singular	wa-...	ma...	bl-...	ma...	m-...	ma...
2 nd . person singular	ya-...	ni...	l-...	ni...	n-...	ni...
3 rd . person singular	Ø...	Ø...	Ø...	Ø...	Ø...	Ø...
1 st . person dual	uŋ(k)-...		uŋ(k)-...		uŋ(k)-...	
1 st . person plural	uŋ(k)-...-pi		uŋ(k)-...-pi		uŋ(k)-...-pi	
2 nd . person plural	ya-...-pi	ni...pi	l-...-pi	ni...pi	n-...-pi	ni...pi
3 rd . person plural	Ø...-pi	wičha..pi Ø...-pi	Ø...-pi	wičha..pi Ø...-pi	Ø...-pi	wičha..pi Ø...-pi

Table 2. Subject and Object personal pronouns realized as bound morphemes in the three classes of active verbs.

Likewise, unlike English, where verbs can be used both in its intransitive and transitive use without altering its form, in Lakhota most active verbs modify their stem depending on their transitivity. In this language, the intransitive use of the verb denotes a more abstract or general meaning than the transitive one and its intransitive interpretation is normally marked with the prefix *w(a)-* attached to the verbal stem³:

- (2) a. *Haŋp'íkčeka* Ø- Ø- *kagége*
 moccasin 3SG:SUB-3SG:OBJ-sew
 'He/she sews / is sewing moccasins.'
 a'. *Wa-* Ø- -*kagége*
 ABS-3SG:SUB-sew
 'He/she sews / is sewing.'

In a construction involving the presence of a two-place predicate, both the subject and the object need to be marked and within the verbal complex these affixes appear together one after the other giving rise to multiple combinations, which are shown in the chart below⁴:

Object Subject	me	you (sing.)	he/she/it/them (inan.)	us	you (pl.)	they (anim.)
I		čhi...	Øwa...		čhi...pi	wičhawa...
you	maya... mayal... mayan...		Øya... Øl... Øn...	uŋya...pi uŋl...pi uŋn...pi		wičhaya... wičhal... wičhan...
he/she/it	Øma...	Øni...	ØØ...	Øuŋ...pi	Øni...pi	Øwičha...
we		uŋni...pi	Øuŋ...pi		uŋni...pi	wičhaŋ...pi
you	maya...pi mayal...pi mayan...pi		Øya...pi Øl...pi Øn...pi	uŋya...pi uŋl...pi uŋn...pi		wičhaya...pi wičhal...pi wičhan...pi
they	Øma...pi	Øni ...pi	ØØ...pi	Øuŋ ...pi	Øni ...pi	Øwičha...pi

Table 3. Subject and Object personal pronouns realized as bound morphemes in transitive active verbs in Lakhota

From the combinations of affixes that appear in the chart above it is obvious that the order of these affixes in a transitive construction depends on the person of the participants involved, rather than on the syntactic function the participants may play. There appears to be a preference for the first person over the second person, and in turn a preference for the third person over the other first and second persons. Thus, this layout represents the special arrangement of the pronominal markers within the verb complex, whose order appears to override the universal ranking of the local or Speech Act participants (first and second person) over the non-local or non-Speech Act participants (third persons). The reason for this exceptional situation could rest on the fact that the verb always occupies the final position in the clause in this language and

therefore this type of hierarchy should then be read from right to left. Thus, the proximity to the predicate would be the factor that gives more prominence to the local participants than to the third person referents. The only exceptions are: one, the combination of a first person singular subject and a second person singular object is represented by a single affix, the portmanteau *čhi-*; and two, in this language there are also transitive stative verbs, where both the actor and undergoer are realized by the same kind of pronominal markers, namely, the Object pronominal pronouns: *ma-* , *ni-*, \emptyset - *uŋ(k)-...-pi*, *ni-...-pi*, $-\emptyset/pi$:

- (3) *Iyó- ni- ma- kipi*
 STEM-2SG:OBJ-1SG:OBJ-please
 ‘You please me.’

This exception could be accounted for by stating that, when there is a coincidence in the use of the same kind of affixes, these affixes will follow instead the canonical order of constituents in Lakhotá, that is, SUB + OBJ + Verb (henceforth SOV). The problem arises when it comes to deciding what order the affixes follow if the two participants are third person singular. I opt for the order SUB - OBJ - Verb as a reflection of the order of constituents in the canonical order in Lakhotá.

In the following transitive sentences, owing to the absence of an overt morphological marker for the third person singular, it is necessary to keep in mind that the canonical word order in this language is SOV in order to avoid a possible ambiguity. Thus, this order Subject-Object-Verb, or rather Actor-Undergoer-Verb must be obligatorily followed in cases where there may be ambiguity between the two semantic macroroles, as in:

- (4) *Wašiču kiŋ thatháŋka waŋ \emptyset - \emptyset - kté*
 white man the buffalo a 3SG:SUB- 3SG:OBJ- kill
 ‘The white man killed a buffalo.’
- (5) *Thatháŋka waŋ wašiču kiŋ \emptyset - \emptyset - kté*
 buffalo a white man the 3SG:SUB- 3SG:OBJ- kill
 ‘A buffalo killed the white man.’

In these two sentences, word order is essential for the understanding of the sentence. If we did not respect the canonical order SOV, there would be ambiguity and, as a consequence, the sentence would have two different meanings.

In the following examples, we observe that when the pronominals are clear enough for us to distinguish between the arguments, the word order can be altered for pragmatic reasons, without causing any ambiguity:

- (6) a. *Wašiču kiŋ thatháŋka óta \emptyset - wičha - kté*
 white man the buffalo many 3SG:SUB-3PL:OBJ- kill
 ‘The white man killed many buffalos.’

- a'. *Thatháŋka óta wašiču kiŋ Ø- wičha - kté*
 buffalo many white man the 3SG:SUB-3PL:OBJ- kill
 'The white man killed many buffalos.' (lit. 'Many buffalos the white man killed.')

Although these two sentences show different word order, the meaning is the same because, thanks to the information that affixes on the verb provide, we are able to distinguish clearly which NP functions as actor and which one as undergoer: the only NP that can function as actor is *Wašiču kiŋ*, since it agrees with the number expressed in the verb. In contrast, the NP *thatháŋka óta* expresses plural number by means of the determiner *óta* "many" and can only be the undergoer. Therefore, in this occasion, word order appears to reflect discourse information.

The Lakota language has a rich morphology in terms of verbal affixes, but not as rich as to avoid cases of ambiguity. The plural suffix *-pi* can appear only once in each verb and therefore either the subject or the object may be marked as plural. As a result of this, three of the verbal forms involving two personal affixes turn out to be ambiguous: *uŋ..pi*, *uŋni...pi*, and *uŋya...pi/uŋl...pi/uŋn...pi*:

- (7) *Waŋ- Ø- úŋ- yaŋka-pi*
 STEM- 3SG:OBJ-1:SUB-see- PL
 'We saw him/her/it.'
- (8) *Waŋ- Ø- úŋ- yaŋka-pi*
 STEM- 3SG:SUB-1:OBJ-see- PL
 'He/she/it saw us.'
- (9) *Waŋ- Ø- úŋ- yaŋka-pi*
 STEM- 3:SUB-1PL:OBJ-see- PL
 'They saw us.'

As the third person singular pronoun is not overtly expressed, the three verbal forms in each of these examples are identical, despite the fact that they present participants performing different grammatical functions. If a further participant is added, more cases of ambiguity may arise. Thus, the class of verbs which raises more problems is the class of verbs sometimes referred to as ditransitive verbs.

In the analysis of these ditransitive verbs we can also attest the great importance that animacy plays on the grammar of Native American languages. These constructions consist of three different participants or obligatory core arguments: one of these arguments would be the agent of the action expressed by the verb and would function as the subject, another would be the patient or theme and would function as the direct object (normally an inanimate entity), and the other one would be the beneficiary or recipient of the action performed by the agent and would function as the indirect object of the clause.

This is a situation that appears cross-linguistically and therefore the analysis of ditransitive verbs appears to be very simple but quite the opposite. In a pronominal-

argument language like Lakota, where only its pronominal affixes occupy the obligatory argument positions, there are some issues that need to be solved, for example:

- Does the word order of the NPs decide the semantic macrorole played by each participant, or, in contrast, is the order of the verbal affixes that rules the choice of the semantic macroroles?

Prototypically, according to what the Default Macrorole Assignment Principles posit, despite the fact that a three-place predicate has three obligatory arguments, there are only two semantic macroroles, namely: an agent-type argument is the actor, and a patient-type argument is the undergoer. For three-place predicates there is no third macrorole: the theoretical label for the third argument in a ditransitive predication would be that of “non-macrorole direct core argument”.

Default Macrorole Assignment Principles
<p>a. Number: the number of macroroles a verb takes is less than or equal to the number of arguments in its logical structure:</p> <ol style="list-style-type: none"> 1. If a verb has two or more arguments in its LS, it will take two macroroles. 2. If a verb has one argument in its LS, it will take one macrorole. <p>b. Nature: for verbs which take one macrorole:</p> <ol style="list-style-type: none"> 1. If the verb has an activity predicate in its LS, the macrorole is actor. 2. If the verb has a non-activity predicate in its LS, the macrorole is undergoer.

Table 4. Default Macrorole Assignment Principles (Van Valin and LaPolla 1997: 152-153)

In lexical-argument languages, like English, it is very easy to find an answer to the question above, because, in this type of languages, all the obligatory arguments of the predicate are realized by means of independent NPs and therefore word order is crucial for the assignment of the semantic macroroles. Further evidence for this assumption can also be seen in cases that include a ditransitive verb. This situation, which appears illustrated in (10), includes three core arguments realized as independent NPs and the different positioning of these three NPs result in two possible arrangements: the first one would be the default or unmarked option which illustrates an oblique construction where the subject (actor) is placed first, then the direct object (undergoer) and finally the indirect object (non-macrorole); the second one would be a double object construction, which represents the marked option and involves the exchange of position between the objects with respect to the oblique construction:

- (10) a. This woman [Actor] gave a book [Undergoer] to her father → unmarked
 a'. This woman [Actor] gave her father [Undergoer] a book → marked
 LS: [do'(this woman, Ø)] CAUSE [BECOME have'(her father, book)]

This first example (10a) shows the effect of the unmarked undergoer assignment to the arguments in the LS, according to the Actor-Undergoer Hierarchy (hereafter AUH):

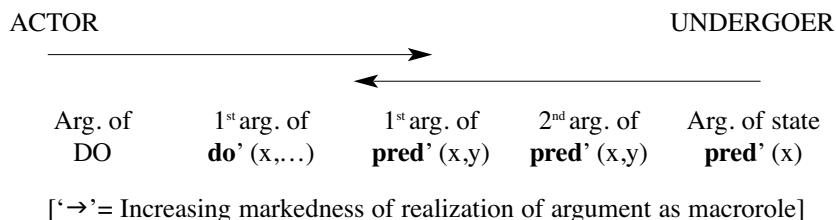


Figure 1. The Actor-Undergoer Hierarchy [AUH] (Van Valin 2005: 61)

The Theme-Possessed argument, which appears as second argument of the state predicate **have'**, is the undergoer (and functions as direct object). Conversely, the second example (10a') shows a marked undergoer choice, since it is the recipient, that is, the first argument of the state predicate **have'**, the argument that appears as the undergoer. This variation in the undergoer choice is called the dative-shift alternation and violates the AUH.

As for Lakhota, if we took the order of constituents, rather than that of the verbal affixes, into account, then it would appear that the order in which the independent NPs are placed in a clause is the factor that governs the choice of the undergoer. Thus, there also appears to be a similar alternation to the dative-shift alternation in English, given that the order of the NPs can also be altered⁵:

- (11) a. *Wiŋyaŋ kiŋ lé atkúku wówapi waŋ k'u*
 woman the this her-father book a give
 'This woman gave her father a book.'
 a'. *Wiŋyaŋ kiŋ lé wówapi kiŋ atkúku k'u*
 woman the this book the her-father give
 'This woman gave a book to her father.'

Likewise, despite the two different structures, the LS of this sentence would be the same for the two examples:

LS : **do'**(wiŋyaŋ kiŋ lé,Ø) CAUSE [BECOME **have'**(atkúku,wówapi waŋ)]
 agent recipient, theme

Nevertheless, given that the Lakhota language is a pronominal-argument and head-marking language where the core arguments of a predicate are realized by verbal morphemes whose grammatical marks show grammatical relations, this question is more

difficult to be solved. Therefore, it seems necessary to check if this variation in the order of the independent NPs is accompanied by a similar modification in the arrangement of the verbal affixes:

- (12) *Wówapi waŋ uŋ- ni- k'u-pi*
 book a 1:SUB-2SG:OBJ-give-PL
 'We gave a book to you.' / 'We gave you a book.'
- (13) *Wówapi waŋ uŋ- ya- k'u-pi*
 book a 1:OBJ-2SG:SUB-give-PL
 'You gave a book to us.' / 'You gave us a book.'
- (14) *Wówapi waŋ wičha- wa- k'u*
 book a 3PL:OBJ-1SG:SUB-give
 'I gave a book to them.' / 'I gave them a book.'

In the examples (12-14) only the overt pronominal markers have been included. The two overt pronominal markers representing the actor and undergoer appear to follow the hierarchy 3-1-2 faithfully and therefore it seems clear that the order of these affixes within the core is fixed. Consequently, it is the order of these affixes that appears to assign the semantic macroroles in a ditransitive construction and, by contrast, a different order of the NPs may be due to pragmatic context.

Before dealing with the issue of the existence or not of dative-shift alternation in Lakhota, as there are three direct core arguments and there are only two semantic macroroles, with this kind of predicate, it seems convenient to discuss on the number of participants that are coded as pronominal markers in a construction like this. Consequently, a further issue concerning ditransitive constructions can be specifically raised for this language: the presence or the absence of a null third person singular marker within the core. As illustrated in the examples (12-14), the question of whether there exists or not a null pronominal marker \emptyset correferencing with the inanimate patient is trivial. It could be hypothesized that in Lakhota the number of pronominal markers in the verbal complex does not match the number of obligatory arguments a predicate requires. Rather, the number of pronominal markers could be directly related to the number of semantic macroroles the predicate includes. Thus, ditransitive clauses would only present two verbal affixes, representing the two only semantic macroroles, that is to say, actor and undergoer.

According to this, in Lakhota ditransitive constructions, the marker for the direct object, say, the non-macrorole argument, which is normally inanimate, does not appear and the verb behaves, syntactically speaking, like a monotransitive verb. Consequently, there would be two pronominal markers, which would represent both the actor and the undergoer semantic macroroles by means of verbal affixes. In turn, these participants would perform the syntactic functions of subject and indirect object respectively and therefore this language would show a preference for the indirect object over the direct

object in this construction. Here it is the point at which animacy comes into play, since the syntactic function of direct object is usually realized by an inanimate referent.

However, this problem becomes much more complicated when the clause includes three third person singular participants:

- (15) a. *John Mary wówapi waŋ* Ø- Ø- Ø- *k'u*
 book a 3SG:? - 3SG:? - 3SG:?-give
 ‘John gave Mary a book.’
 a’. *John wówapi waŋ Mary* Ø- Ø- Ø- *k'u*
 book a 3SG: ? - 3SG: ? - 3SG: ?-give
 ‘John gave Mary a book.’

All the participants in (15) share the feature of being third person singular NPs and in Lakhota there is no overt pronominal marker that represents this feature morphologically. Therefore, it does not seem very logical to think that only one of the null markers, the one that corefers with the patient, is missing and the other two are present but not overtly expressed, or that it does not exist but the ones standing for the actor and undergoer do. Or it is still more illogical to think that this marker does not exist and there is no third person singular pronominal marker, not even for the marking of the obligatory core arguments.

Then, in order to solve this problem, two further questions can be formulated:

- Are the three pronominal affixes, which stand for the actor, undergoer and non-macrorole argument, syntactically realized in the verbal complex?
- And, if so, which is the order of the affixes within the verbal complex?

It seems obvious that, if we understand that a three-place predicate like *k'u* requires three core arguments, then these three core arguments, rather than only two of them, should be represented by three pronominal affixes within the verbal complex. Assuming that all obligatory arguments must be realized inside the core, the three pronominal affixes that stand for the actor, recipient, and patient must be present in this construction, although, as the patient is usually third person singular, it is difficult to attest the presence of three affixes at a time. In sum, although it is a null marker, it must exist. In ditransitive constructions, the Lakhota verb has the three obligatory arguments represented by means of three verbal affixes, rather than only two.

Now the question is to know how many of them can appear in the same core. There is evidence that shows that in Lakhota two forms of the same affix cannot be used in the same clause. As it was illustrated in the examples (7-9) and (12-13), the plural suffix $-pi^{\delta}$ can only appear once per clause. Consequently, in sentences with two third person plural animate participants, the realization of these participants as pronominal markers would only include the plural marker $-pi$ once, for example: in combinations like $\emptyset- uŋ- \dots -pi$ “they ... us” or “we ...them”.

This appears to be sufficient evidence to claim that there can only be one null marker \emptyset , which can appear correferencing only one, two or even up to three third person singular participants simultaneously. In transitive constructions, when two or more affixes are identical, only one of them will be signalled, since two (or three) identical affixes, despite coding two (or three) different arguments, will not occur in the same core. Consequently, Lakhotá, for the sake of simplicity and economy, makes use of syncretism seeking not to repeat the same affix twice:

- (16) *Wičhaša kiŋ lé hokšila kiŋ hená šúŋka waŋ \emptyset - wičha- k'u.*
 man the this boy the those dog a 3SG:SUB/3SG:OBJ-3PL:OBJ-give
 ‘This man gave those boys a dog.’
- (17) *Wičhaša kiŋ lé šúŋka núŋpa hokšila kiŋ \emptyset - wičha- k'u.*
 man the this dog two boy the 3SG:SUB/3SG:OBJ-3PL:OBJ-give
 ‘This man gave the boy two dogs.’
- (18) *Wičhaša kiŋ lé šúŋka núŋpa hokšila kiŋ hená \emptyset - wičha- k'u.*
 man the this dog two boy the those 3SG:SUB-3PL:OBJ/3PL:OBJ-give
 ‘This man gave those boys two dogs.’

In each of the two first examples (16) and (17) the prefix *wičha* codes a different syntactic function: in the first example it corresponds to the participant *hokšila kiŋ hená*, which functions as the indirect object of the verb, and in the second example it corresponds to another different participant *šúŋka núŋpa*, which on this occasion functions as the direct object of the verb. Much more striking is (18), where an example of syncretism is illustrated by using the same affix *wičha* representing two different third person animate arguments that play the syntactic functions of direct object *šúŋka núŋpa* and indirect object *hokšila kiŋ hená*.

As was explained above, in this language the order of affixes depends on the person of the participants and follows a quite rigid hierarchy, namely 3-1-2. Thus, in a monotransitive construction, it is easy to dilucidate the order of two third person singular markers thanks to the application of this hierarchy in most of cases, for example: (“I”-“he/she/it/them”) \emptyset -*wa-* / \emptyset -*bl-* / \emptyset -*m-*, (“you”-“he/she/it/them”) \emptyset -*ya-* / \emptyset -*l-* / \emptyset -*n-*, (“we”-“he/she/it/them”) \emptyset -*uŋ-pi*, (“you”-“he/she/it/them”) and \emptyset -*ya-pi/ \emptyset -l-pi/ \emptyset -n-pi*. However, there are two situations when this hierarchy is not applied: first, when the person of two or more participants coincides, that is, (“he/she/it”-“he/she/it/them”) \emptyset - \emptyset and (“they”-“he/she/it/them”) \emptyset - \emptyset -*pi*; second, with a transitive stative predicate, where the two participants use the same kind of affixes (i.e. Object personal pronouns) and therefore, if we used that hierarchy, it would not be possible to specify the semantic role of each participant. Then, I posit that the pronominal affixes, in these exceptional situations, are arranged in the same order as the NP arguments, that is, respecting the canonical word order in Lakhotá SVO or Actor-Undergoer-Verb.

We now turn to discuss whether this language presents dative-shift alternation or not. The basic order of constituents SOV should be expanded in order to include the other object (i.e. the direct object). Then the order of affixes would be SUB-OBJ-OBJ-Verb, where SUB stands for the actor, the first OBJ represents the undergoer, and the second OBJ indicates the non-macrorole argument:⁷

- (19) *Ĉhaġnúġpa kiġ lé atéwaye kiġ* Ø- Ø- *ma-* *k'u*
 pipe the this my father 3SG:SUB-3SG:OBJ-1SG:OBJ-give
 'My father gave me this pipe.'
- (20) *Ĉhaġnúġpa kiġ lé wičhá-* Ø- *wa-* *k'u*
 pipe the this 3PL:OBJ-3SG:OBJ-1SG:SUB-give
 'I gave them this pipe.'
- (21) *Ĉhaġnúġpa kiġ lé* Ø- Ø- *ya-* *k'u*
 pipe the this 3SG:OBJ-3SG:OBJ-2SG:SUB-give
 'You gave him / her this pipe.'

In this construction there normally appears an inanimate patient and therefore, as the recipient of the action is animate, then the recipient will be the undergoer and the patient the non-macrorole argument. Likewise, word order variations will be related to pragmatic factors.

In a supposed case involving a three-place predicate that requires three human or animate participants, the order of affixes would remain the same, but the word order of the independent NPs would play a crucial role in the assignment of semantic macroroles, since then there would be three different choices for the assignment of both actor and undergoer. The order of the independent NPs is constrained only by the basic rule that says that the first potential actor is interpreted as the actor and its default position is the clause-initial position. As this language appears to follow the marked option assigning the semantic macrorole undergoer to the recipient, then the first object, the one representing the recipient, would be the undergoer, and the second object, the other one representing the patient or theme, would be the non-macrorole argument. This fact reflects again the outstanding role that animacy plays in the assignment of semantic roles:

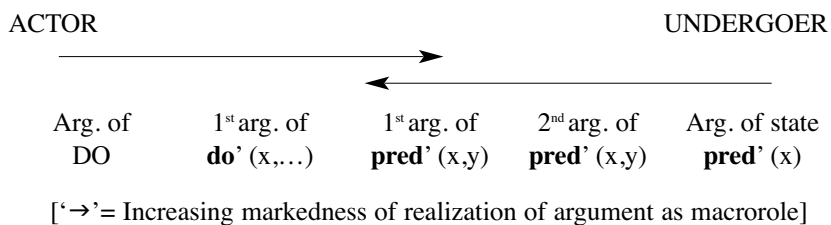
- (22) a. *Wiġyaġ kiġ lé tha-hokšičala matho kiġ* Ø- Ø- Ø- *kipázo.*
 woman the this her-baby bear the 3SG:SUB-3SG:OBJ-3SG:OBJ-show
 'This woman showed her baby the bear.'
- a'. !!!*Wiġyaġ kiġ lé matho kiġ tha-hokšičala* Ø- Ø- Ø- *kipázo.*
 woman the this bear the her- baby 3SG:SUB-3SG:OBJ-3SG:OBJ -show
 !!!'This woman showed the bear her baby.' / 'This woman showed her
 baby the bear.'

In this situation, the hierarchy 3-1-2 cannot be applied because they are all third person participants. Furthermore, the application of the fixed order Actor -Undergoer-non-

macrorole argument in the pronominal markers does not serve either to specify which NP corefers with which null marker. Thus, only the word order of constituents is able to distinguish between the semantic roles of the participants. Nevertheless, despite the fact that these two options in (22a) and (22a') are possible, there is always a preferred interpretation, whose choice is closely related to pragmatic context, since, for instance, in (22) it seems more normal "to show the bear to the baby" than "to show a baby to the bear".

In sum, variations in the word order of the constituents for pragmatic reasons in a ditransitive construction can only occur when the patient is inanimate and therefore it is easy to assign the semantic macroroles. These changes in the order of constituents would reflect situations where one of the constituent becomes more topical. Nevertheless, when the patient is also animate, variations in the word order of the constituents could result in a different interpretation of the sentence since the patient and recipient of the action would exchange their functions. In Lakhota, on those occasions, there will always be one preferred option, which is unequivocally shared by both the speaker and hearer, since this option will be the more accepted interpretation according to pragmatic factors (i.e. world knowledge).

Dryer (1986) calls primary-secondary object languages these languages whose only pattern that occurs with three-place predicates corresponds to the marked option, that is to say: on the one hand, the recipient of a ditransitive verb is marked in the same way as the single object of a monotransitive verb and is called the primary object, and on the other hand, the patient of ditransitive verbs has its own marking, and is called the secondary object. Consequently, the actor is the highest ranking argument and the undergoer is the second highest ranking argument. This view requires a revision of the AUH (presented in Figure 1), since it seems necessary to add some principles that account for the different undergoer choice in some languages:



- Actor selection: Highest ranking argument in LS
- Undergoer selection:
- Principle A: Lowest ranking argument in LS
 - Principle B: Second highest ranking argument in LS
 - Principle C: Either Principle A or Principle B

Figure 2. The revised Actor-Undergoer Hierarchy [AUH] (Van Valin 2005: 126)

According to these principles, there are two patterns of undergoer selection: the direct-indirect object pattern yielded by the Principle A and the primary-secondary object pattern yielded by the Principle B. Furthermore, there exists the possibility for a language to permit both of the Principles A and B, which is posited by the Principle C. A language like French would conform to Principle A, as only the lowest ranking argument (i.e. the patient) can be the undergoer and another one like English would show Principle C since it allows for a choice of direct object assignment: it can choose either option by using word order to treat the ditransitive patient or recipient like the object of a monotransitive verb. Lakhota, owing to the fact that shows preference for the recipient over the patient as undergoer, appears to show Principle B.

This discussion boils down to the fact that the macrorole status is determined irrespective of the thematic roles but its choice of arguments is not random either. According to the AUH, the assignment of macrorole functions to the arguments is conditioned by the argument positions in the LS of a particular verb. Consequently, it points out that, given the LS of a two-place predicate, the leftmost argument will be the actor, and the rightmost argument will be the undergoer. With a three-place predicate, we see that this is not always true, reflecting a fundamental asymmetry in the AUH: the leftmost argument in an LS is always the actor, but the rightmost argument is only the default choice for the undergoer. This possible variation in the selection of the undergoer has to do with the dative shift alternation, which English, but not Lakhota, appears to show. In Lakhota, the order of the independent NPs can vary in ditransitive constructions but this variation does not affect the assignment of semantic macroroles, rather it is only a matter of topicalization, where one argument receives a more salient position than it would in a neutral situation. Even in these cases with three animate participants, where word order helps to assign semantic macroroles, only one of the options turns out to be the acceptable version.

The following figures illustrate an example of the linking algorithm with a ditransitive construction:

- (23) *Wówapithoksu kiŋ mi-čhúŋkši wówapi oh'áŋkho kiŋ lé Ø- Ø- Ø- k'u*
 postman the my-daughter postcard the this 3SG:SUB-3SG:OBJ-3SG:OBJ give
 'The postman gave my daughter this postcard.'

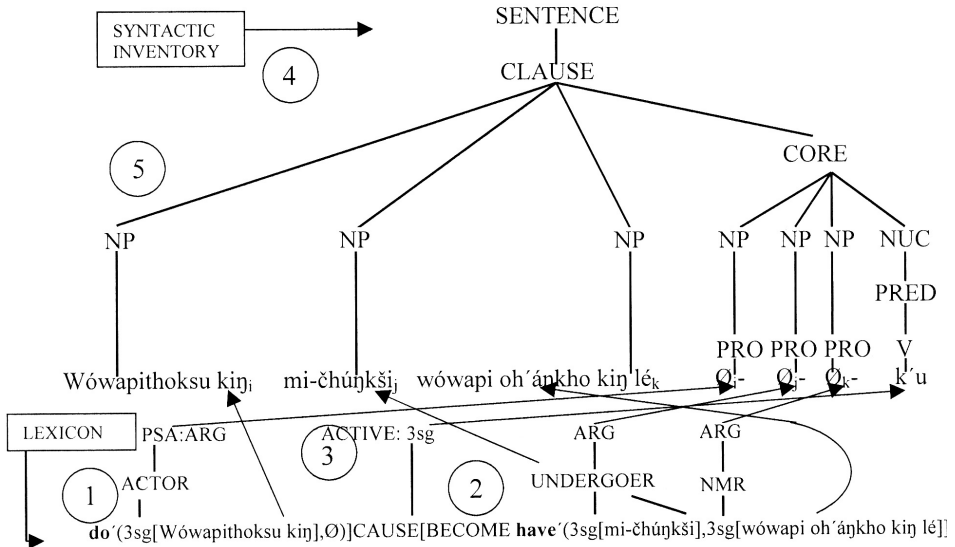


Figure 3. Linking algorithm of a ditransitive construction in Lakota (semantics-to-syntax)

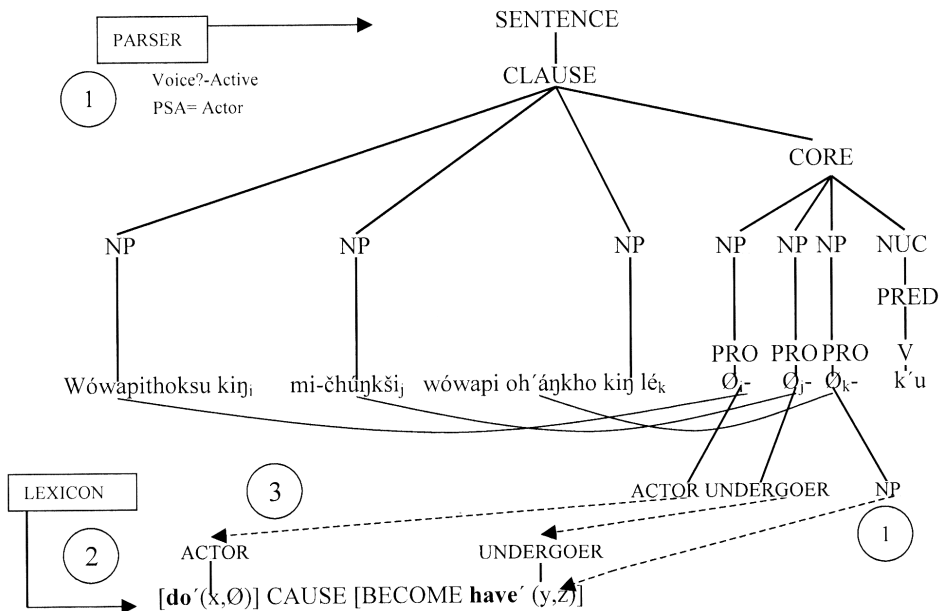


Figure 4. Linking algorithm of a ditransitive construction in Lakota (syntax-to-semantics)

The leftmost argument in the LS *wówapithoksu kiŋ* is selected as the actor and occupies the core-initial position because the sentence is active voice. As for the other semantic macrorole, although the rightmost argument *wówapi oh'áŋkho kiŋ lé* should be the undergoer, a different argument appears selected as undergoer, namely the second rightmost argument *mi-čhúŋkši*. What has happened to the direct object *wówapi oh'áŋkho kiŋ lé* is that, although it was the default choice for undergoer, it has been ‘passed over’ in favour of a higher ranking argument. This is an effect of the preference for the second highest-ranking argument as undergoer that this language has. Although the three obligatory arguments share the same person and number and therefore there are three null bound markers within the core, animacy influences in the choice of the animate recipient as the undergoer and the inanimate patient as the non-macrorole argument.

Other potential ditransitive structures in which the three participants do not match the agent-recipient-patient pattern are generally not coded as ditransitives, as exemplified by the following examples including locatives:

- (24) *Wáglotapi kiŋ él wówapi kiŋ hé é- Ø- Ø- uŋpapi*
 table the on book the that STEM-3SG:SUB-3SG:OBJ-put
 ‘They put that book on the table.’

In (24) a locative noun co-occurs with an agent and a patient, which looks like an instance of a monotransitive construction but, however, the presence of the locative element turns out to be obligatory, hence this structure is considered to include a three-place predicate.

The following example shows a problematic situation provoked by the presence of a benefactive participant in another pseudo-ditransitive structure:

- (25) *Haŋpíkčeka kiŋ lená wé- Ø- čage*
 moccasin the these 1SG:SUB-3SG:OBJ-make something for
 ‘I made those moccasins for him.’

This predicate references only the two animate participants, that is, the agent and the beneficiary, leaving the inanimate apparently unmarked. This highlights again the enormous importance given to the criterion animacy in these languages. Nevertheless, a problematic case arises when discussing the existence of a pronominal marker for the inanimate participant. It is clear that this predicate “make” requires a patient and therefore it must be a direct core argument but, however, the verb appears not to reference this third participant and only has markers for the agent and beneficiary. Wolvengrey (2011: 145) posits, in an analogous situation for Plains Cree – another Algonquian language – that this verb gives preference to the animate participants over the inanimate ones and therefore it is a VTA verb that only references the two highest ranking participants, leaving the patient unmarked. This assumption would conflict with this theory owing to the fact that a direct core argument of the predicate would become an optional element since it does not

corefer with a pronominal marker within the verb complex. It could then be argued that the marker for this inanimate patient could have existed in earlier stages of these languages but it is not visible now since it has become fused together with the other morphemes into the verb itself through the changes occurred during the historical development of these languages. Thus, the Lakhota verb to render “make something for somebody” is *kíčaga*, which presents the beneficiary marker *kí-* plus the verb *kága* meaning “make”. The etymology of this verb turns out to be so obscure nowadays that even the first person singular affix *wa-* appears coded as *we-* in the verb. Consequently, considering the changes undergone by words throughout their historical development, this problematic situation can be accounted for by assuming that the presence of a marker standing for the inanimate patient must have existed formerly, although it is not possible for us to see it in the current form of this predicate.

In sum, Lakhota shows preference for the marked option and therefore the recipient and beneficiary outrank the patient. This is a question of animacy since recipient and beneficiary participants tend to be more ‘human’ than patients. This fact is illustrated in the following table that shows the relationship between the semantic functions and animacy:

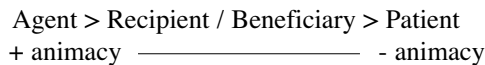


Figure 5. The Semantic Function / Animacy Scale

The Semantic Function part of this scale matches the case-role hierarchy posited by Givón (1984: 134) with the only difference that Givón includes Dative referring to both Recipient and Beneficiary. As for the Animacy part, it involves that the more to the left the semantic function is situated, the more it will tend to be realized by humans, whereas the more to the right the semantic function is situated, it will be more likely to be performed by inanimate participants. Thus, agents, recipients and beneficiaries are prototypically animate, while patients may or may not be. In conclusion, this Semantic Function / Animacy Scale treats recipients and beneficiaries as more prominent than patients due to the importance given to the animate referents.

3. CONCLUSION

In this paper I have presented the Role and Reference Grammar approach to the study of the transitivity in Lakhota. This study describes the main properties of properties of intransitive, monotransitive and ditransitive verbs in this language, paying special attention to the latter, since it will compare and contrast the way that English and Lakhota realize structures including these verbs. This will result in the consideration of English and Lakhota as two languages that follow Principle C, which permits both the direct-indirect object and the primary-secondary object pattern, and Principle B, which only yields the

primary-secondary object pattern, respectively. Furthermore, in this language it is the affixes, rather than the independent NPs, that affect the assignment of the semantic macroroles. Likewise, the position of these affixes follows the hierarchy 3-1-2. Only in those cases where the participants show a coincidence of person, that hierarchy will be discarded in favour of using the canonical word order of Subject + Object + Verb in order to identify the semantic macroroles that each participant plays in the clause. The findings obtained in this paper prove that RRG is a theory of universal grammar that can make strong cross-linguistic claims and furthermore it is flexible enough to identify and account for the distinctive features of the different linguistic systems.

NOTES

* Correspondence to: Avelino Corral Esteban. c/ Laín Calvo N° 16 2º A. Madrid 28011. E-mail: avelino.corral@uam.es. Financial support for this research has been provided by the DGI, Spanish Ministry of Science and Innovation, grant FFI2011-29798-C02-01/FILO.

1. In the first person dual and first person plural, a consonant *-k-* is added when the next word begins with a vowel.
2. The plural of inanimate arguments of verbs is marked by means of the reduplication of the last syllable of the verb.
3. There are exceptional cases in Lakota where the difference between the intransitive and transitive use of a predicate is marked with a radical change in the verbal stem: e.g. *lowáy* “sing” vs *ahýaya* = “sing something”.
4. This chart has been taken from the *New Lakota Dictionary* (LLC 2008: 716) although, subsequently, it has been modified.
5. There are some speakers who maintain that the subject must be in the first position and then either of the objects. For them, these sentences would be synonymous:
Wičhaša kiŋ hokšila kiŋ mathó kiŋ k'u = *wičhaša kiŋ mathó kiŋ hokšila kiŋ k'u*
However, there are those who claim that the correct order is subject + indirect object + direct object, these two sentences would be different. Here is the translation of each of them:
The man gave the bear to the boy ≠ the man gave the boy to the bear
6. The third person plural animate marker *wičha-* can only appear once within the same core as well, as will be seen in the example (18).
7. For the sake of clarity, I will include this null marker \emptyset in the gloss as many times as the number of direct core arguments.

REFERENCES

- Dryer, M. S. 1986. “Primary object, secondary objects, and antitativity”. *Language* 62: 808-845.
- Givón, T. 1984. *Syntax: A Functional-Typological Introduction*, vol. 1. Amsterdam: John Benjamins.
- New Lakota Dictionary*. 2008. Bloomington: Lakota Language Consortium.
- Van Valin, R. 2005. *Exploring the Syntax-Semantics Interface*. Cambridge: Cambridge University Press.
- Van Valin, R. and R. J. LaPolla. 1997. *Syntax. Structure, Meaning and Function*. Cambridge: Cambridge University Press.
- Wolvengrey, A. 2011. *Semantic and Pragmatic Functions in Plains Cree Syntax*. Utrecht: LOT.