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Avelino Corral Esteban  
*Universidad Autónoma De Madrid*, [avelino.corral@uam.es](mailto:avelino.corral@uam.es)

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## A Role And Reference account of interrogative sentences In Lakota

Avelino Corral Esteban

Universidad Autónoma De Madrid  
avelino.corral@uam.es

**ABSTRACT.** *This article has investigated interrogative sentences in Lakota within the framework of Role and Reference Grammar (hereafter RRG) (Van Valin, 1995; Van Valin and LaPolla, 1997), with the aim of explaining their structure as well as finding out the restrictions on 'wh'-question formation that this language exhibits. By means of this study, we will be able to verify the close relationship that also exists between the interrogative words and the indefinite pronouns in this language, see the constraints on linking in simple 'wh'-questions and give an account of the subadjacency effects that block the formation of 'wh'-questions involving complex constructions. All in all, this paper will show the remarkable role that the interplay between several syntactic, semantic, and pragmatic features plays in the formation of interrogative sentences, hence it will prove that the RRG analysis provides an adequate explanatory account of the structure of interrogative sentences and also of the restrictions on extraction phenomena. This is very relevant because it demonstrates that these restrictions can be accounted for through the interaction of syntax, semantics and pragmatics, rather than simply through syntactic movement rules.*

**KEYWORDS.** *Interrogative sentences, 'wh'-questions, interrogative word in situ, focus structure, subadjacency, linking algorithm.*

**RESUMEN.** *Este artículo ha tratado las oraciones interrogativas en Lakota desde el punto de vista de la Gramática del Papel y la Referencia (Van Valin, 1995; Van Valin & LaPolla, 1997), con el objetivo de explicar su estructura además de dar cuenta de las restricciones que esta lengua muestra en la formación de preguntas de información. Por medio de este estudio, podremos comprobar la estrecha relación que existe entre las palabras interrogativas y los pronombres indefinidos en esta lengua, ver los problemas que presenta el algoritmo de enlace en oraciones interrogativas simples, y encontrar una explicación para los efectos de subyacencia que impiden la formación de preguntas de información las cuales contienen construcciones complejas. Por consiguiente, este artículo mostrará el importante papel que desempeña la relación entre varios aspectos sintácticos, semánticos y pragmáticos en la formación de oraciones interrogativas, de aquí que también demostrará que el análisis de la Gramática del Papel y la Referencia ofrece una explicación adecuada de la estructura de las oraciones interrogativas así como de las restricciones en fenómenos de extracción. Esto es muy relevante ya que demuestra que estas restricciones pueden ser explicadas a través de la interacción de la sintaxis, la semántica y la pragmática, y no simplemente por medio de reglas de movimiento sintáctico.*

**PALABRAS CLAVE.** *Oraciones interrogativas, preguntas de información, palabra interrogativa in situ, estructura focal, algoritmo de enlace.*

### 1. INTRODUCTION

It is widely acknowledged that RRG provides us with an excellent method of analysis to study the structure of a wide range of languages, since it relies on the relationship among syntax, semantics and pragmatics in order to unveil the common core all languages seem to share. The RRG conception of the clause, the 'layered structure of the clause' (LSC) is universal since it applies equally to all types of languages, regardless of whether they are fixed word-order or free word-order languages, head-marking or dependent-marking languages, and languages with and without grammatical

relations. Accordingly, all these hierarchically arranged syntactic units clauses are composed of are all universal aspects too. As for the non universal elements, it is possible to find clauses that have a 'precore slot' (PrCS), which is the position of 'wh'-elements in languages like English, and sentences with a 'left-detached position' (LDP), which is the position of a pre-clausal element in a left-dislocated construction. Analogously, we can also find clauses with a 'postcore slot' (PoCS), for example in verb-final languages, and sentences with a 'right-detached position' (RDP), which is the position of a post-clausal element in a right-dislocated construction. Likewise, each of the major layers (nucleus, core, clause) is modified by one or more operators, which include grammatical categories such as tense, aspect, modality and evidentiality.

## 2. THE POSITION OF THE QUESTION WORDS IN LAKHOTA

Interrogative sentences involve the clausal operator 'Illocutionary Force' (henceforth IF). This operator specifies the type of speech act, that is, whether the utterance is an assertion, a question, a command or an expression of a wish, modifying the proposition as a whole. Therefore, there are different types of IF: declarative, interrogative, imperative, and optative IF.

In order to indicate the type of speech act, Lakhota makes full use of 'gender deixis', especially in formal speech. This difference in male and female language usage is represented most commonly by the presence of enclitics which differ according to the type of sentence, and occupy the last position in the clause. In order to indicate declarative IF, this language uses a wide range of enclitics, whose choice depends on the sex of the speaker: men will employ *yeló*, *weló* (after *o*, *u*, *uŋ*), *-ló* (after e-ablaut) or *-pe ló* (following the plural suffix *-pi*) and women will use *ye*, *we* (after *o*, *u*, *uŋ*), *-le* (after e-ablaut), *-pe* (following the plural suffix *-pi*) or *kstó* (stronger assertion).

- (1) Bébela kiŋ asáŋpi kiŋ Ø-           yatké    lo  
       baby the milk the 3SG:SUB-drink DECL  
       'The baby is drinking the milk.'

The enclitics that mark questions are among the most frequent ones. These interrogative enclitics also present a distinction as to the sex of the person that is speaking, which is, men use *hwo* and women use *he*, although nowadays men also use *he* in informal situations.

- (2) Tuktél ya-                   thí he?  
       Where 2SG:SUB-live Q?  
       'Where do you live?'

The commands in Lakhota are also marked by the presence of an enclitic at the end of the clause. The imperative particles also vary according to the sex of the speaker: for men, *yo* (singular, after *a*, *aŋ*, *e*, *i*, *iŋ*), *wo* (singular, after *o*, *u*, *uŋ*), *šni yo* (singular in negative), *po* (plural), *-pi šni yo* (plural in negative); and for women, *ye* (singular, after *a*, *aŋ*, *e*, *i*, *iŋ*), *we* (singular, after *o*, *u*, *uŋ*), *šni ye* (singular in negative), *pe* (plural), *-pi šni ye* (plural in negative).

- (3) La- tké<sup>11</sup> yo!  
 2SG:SUB-drink IMP  
 'Drink it!'

Finally, this language normally expresses wish or desire by adding the enclitic *ní* at the end of the sentence.

- (4) Léčhel okhí- Ø- kahniga- pi ní  
 this way STEM-3:SUB-understand sth- PL OPT  
 'I wish they understand this.'

When it comes to studying universal aspects such as nucleus, core, periphery and clause, practically we find no cross-linguistic differences since they are all semantically motivated. Yet, when we attempt to analyze non-universal aspects, which are not semantically motivated but rather pragmatically motivated, more divergence is expected to be found. Thus, the use of operators is not identical cross-linguistically. Besides, the position that 'wh'-words, certain postposed elements, and detached phrases occupy will not be the same across languages. Nevertheless, these differences between non-universal aspects will have no bearing on the basic issue of determining core and peripheral elements.

In many languages, there are two major options for the positioning of the interrogative words in simple 'wh'-questions. Thus, these interrogative elements can occupy two different positions: they can either be placed at the beginning of the clause, which involves some type of movement, or be left in situ, that is, in the position that is associated with a non 'wh'-word that is bearing the same grammatical function as the interrogative element. Consequently, there will also be two different positions in the syntactic representation: question words that appear at the beginning of the clause will be considered as occurring in the PrCS and question words in situ will be treated as core arguments. In Lakota, the interrogative words or 't'-words do not appear in initial position or PrCS like in English, but they occur in situ, regardless of whether they stand for core arguments (e.g. *tuwá* "who", *táku* "what", *tukté* "which" or *tóna* "how much/many") or adjuncts (*tuktél* "where", *tókheške* "how", *tóhaŋ* "when" or *tákuwe* "why"). Furthermore, in this language the form of the interrogative words and the indefinite pronouns is identical. The fact that interrogative words appear in situ occupying the same position as a core argument and the coincidence that both interrogative words and indefinite pronouns share the same form brings as a consequence the possibility to find cases of ambiguity:

- (5) Thaŋké hokšíla kiŋ hé wašté- Ø- Ø- lake ló  
 my-sister boy the that STEM-3SG:SUB-3SG:OBJ-like DECL  
 'My sister likes that boy.'
- (6) Thaŋké hokšíla kiŋ hé wašté- Ø- Ø- lake he?  
 my-sister boy the that STEM-3SG:SUB-3SG:OBJ-like Q  
 'Does my sister likes that boy?'
- (7) Thaŋké tuwá wašté- Ø- Ø- lake ló  
 my-sister who/someone STEM-3SG:SUB-3SG:OBJ-like DECL  
 'My sister likes someone.'
- (8) Thaŋké tuwá wašté- Ø- Ø- lake he?

<sup>11</sup> The verb *yatkánj* "drink" triggers e-ablaut before the particle *yo*.

- my-sister who/someone STEM-3SG:SUB-3SG:OBJ-like Q  
 'Who does my sister like?' or 'Does my sister like someone?'
- (9) Tuwá            thaŋké wašté- Ø-            Ø-            lake he?  
 Who/someone my-sister STEM-3SG:SUB-3SG:OBJ-like Q  
 'Who likes my sister?' or 'Does someone like my sister?'
- \* 'Who does my sister like?' and \* 'Does my sister like someone?'

The canonical word order in Lakhota is SOV, as illustrated in the example (5). The only difference between a declarative sentence and a question lies in the presence of different IF operators, as can be seen in (7) and (8) and no other change is made in the structure of the sentence. In this language, a same word, in this case *tuwá*, can be interpreted as either a question word (e.g. “who”) or an indefinite-specific pronoun (e.g. “someone”): the choice depends on whether they appear in an interrogative (example (8)) or in a non-interrogative sentence (example (7)). Furthermore, when a question word and an interrogative IF operator co-occur, as in (9), the sentence is ambiguous since it can admit two different interpretations: one of them as a question word leading to a ‘wh’-question and another as an indefinite pronoun resulting in a yes/no question. The choice of one type or another of interrogative sentence depends on the position of the focus: if the question word is the focus of the question, then the sentence is interpreted as a ‘wh’-question, whereas if the focus falls upon another different element in the sentence, then this is interpreted as a yes/no question containing an indefinite pronoun. The striking fact about this coincidence is that it is not a language-specific feature of Lakhota, since indefinite and interrogative pronouns are not only closely related in Lakhota but also in many other languages, for example in German.

Consequently, focus is the concept that establishes a connection between ‘wh’-questions in languages with ‘wh’-words *ex situ* and ‘wh’-questions in languages with ‘wh’-words *in situ*. What both types of ‘wh’-questions have in common is that their ‘wh’-element must receive the focus of the question. The best evidence to illustrate this universal trait of language comes from the languages in which focus is obligatorily displaced to a specific syntactic position (e.g. the PrCS), that is, when the ‘wh’-phrase appears in the initial position of a clause. This is undoubtedly one of the most common types of focus position and can be observed in many of the languages documented in Kiss (1995a, 1998a). This fact suggests that ‘wh’-questions and focus constructions are structurally related.

Likewise, according to my native consultant Gene Thin Elk, it is also very common to distinguish between a ‘wh’-question and a yes/no question containing an indefinite pronoun by means of the addition of the enclitic *čá/hč́i(ŋ)* right after the ‘t’-word, when the interpretation of the ‘t’-word as indefinite pronoun is intended, since the meaning of this particle denotes a participant in particular. In comparison with the former method, the example in (10b) is more emphatic than the same sentence where the question word does not receive the focus and is not accompanied by the enclitic *hč́iŋ*.

- (10) a. Tuwé ó-            Ø-            ma-            kiya o-            Ø-            kíhi huwó?  
           who STEM-3SG:SUB-1SG:OBJ-help STEM-3SG:SUB-be able to Q  
           'Who can help me?'
- b. Tuwé            hč́iŋ ó-            Ø-            ma-            kiya o-            Ø-            kíhi huwó?  
           someone STEM-3SG:SUB-1SG:OBJ-help STEM-3SG:SUB-be able to Q  
           'Can anyone help me?'

If we analyze this language-specific feature, that is, the positioning of the 'wh'-word in English and Lakota, two languages that illustrate the two types of languages concerning the position of question words aforementioned, some similarities can be observed. English is a lexical-argument language whose 'wh'-words appear in PrCS and therefore they undergo 'wh'-movement. By contrast, Lakota is a head-marking language, which represents all the core arguments of the verb as bound morphemes within the verb complex and therefore the referents of these pronominal arguments are outside the core. Accordingly, in this language, the 'wh'-words appear in situ, that is, they occupy the same position as that of an NP that corefers with a pronominal marker, hence this position does not involve any type of movement.

Although this position, which is often labelled Extra-Core Slot (ECS), appears to be identical to the PrCS, they are only structurally identical (e.g. they are both direct daughters of a clause node), since there are some underlying differences between them. On the one hand, the PrCS is the clause-initial position where there is usually no pause separating it from the rest of the clause and where both core arguments and adjuncts functioning as question words appear in this position in both dependent-marking languages and head-marking languages, such as English and Cheyenne respectively. On the other hand, the ECS is a position that only hosts question words which function as question words in lexical-argument languages like Lakota. In contrast, in this language, when a question word functions as an adjunct, it is placed in the periphery of the core, in clause-initial position, that is, in the position where adjuncts typically occur in Lakota. This contrast is illustrated in examples (11) and (12) respectively:

- (11) Táku čhaŋksáyuha kiŋ Ø - Ø - čhiŋ hwo?  
 What policeman the 3SG:SUB-3SG:OBJ-want Q  
 'What did the policeman want?'

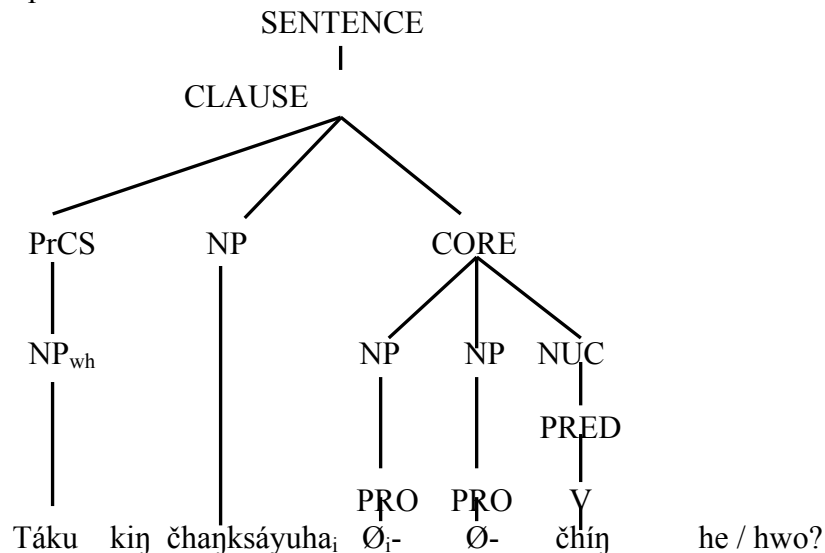


Figure 1: Question word in Lakota represented in the ECS

- (12) Tuktél čhaŋksáyuha kiŋ Ø - thí hwo?  
 Where policeman the 3SG:SUB-live Q  
 'Where does the policeman live?'

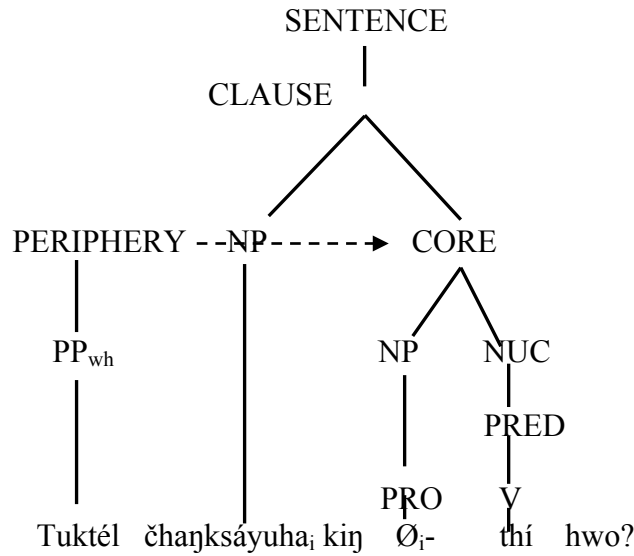


Figure 2: Question word in Lakshota represented in the periphery<sub>CORE</sub>

Consequently, in languages like English, PrCS is the location of topicalized elements in sentences like “Football I don’t like” and also of question words, which undergo a ‘wh’-movement and subsequently appear in a focus position. If this highlighted element appears in final position in the clause, then it will be represented in the Post-Core Slot (PoCS), which is the same position as the PrCS, with the only difference that this topicalized element appears after the core. Conversely, in a language like Lakshota, whose question words remain in situ and where the obligatory arguments appear as affixes in the verbal complex, all the question words that stand for core arguments will be situated in the structurally identical ECS, that is, their position branches from clause and is core-external. The following chart shows the main differences between the PrCS and ECS:

	PrCS	ECS
<b>Number of elements</b>	one	As many as arguments in the core
<b>Position in the clause</b>	fixed	Unrestricted
<b>Type of clauses they can occur in</b>	Main clauses	Main and embedded clauses
<b>Type of element</b>	Argument or adjunct (Question words or topicalized elements)	Argument (RPs)
<b>Type of language</b>	Both head-marking and dependent-marking languages	Only head-marking languages

Table 1: Differences between elements in PrCS and ECS

Consequently, although there is a coincidence between the PrCS and ECS in terms of structure, the concept behind each is different, since these positions depend on the morphosyntactic features of each language.

Likewise, just like in English, question words in Lakota can also appear within a subordinate clause. Thus, some verbs can be complemented by a dependent clause headed by a question word, such as: *táku*, *tuktél*, *tóna*, *tókheške* or *tuwá*. As explained above, these 't'-words can only be interpreted as question words in interrogative sentences, since they would function as indefinite pronouns in declarative sentences. Nevertheless, in these complement clauses, although they are indeed declarative sentences, they include an embedded 'wh'-clause, whose interrogative element behaves similarly as in a 'wh'-question since it receives a focus position, thereby satisfying the aforementioned rule.

These complement clauses, like their English counterparts, also behave like an NP and have the same function as an obligatory argument of the matrix predicate. As for the formation of these complement clauses in Lakota, their question word occupies the first position and there is usually an article like *kiŋ* or *héci* at the end of the subordinate clause functioning as a CLM:

- (13) Táku tókh- Ø- uŋ kiŋ slol- Ø- wá- ye šni  
 what do something-3SG:SUB-STEM CLM STEM-3SG:OBJ-1SG:SUB-know NEG  
 'I don't know what he did.'
- (14) Tákuwe héch- Ø - uŋ kiŋ o- Ø- wá- kahnige šni  
 why do that-3SG:SUB-STEM CLM STEM-3SG:OBJ-1SG:SUB-understand NEG  
 'I don't understand why he did that.'
- (15) Tókheskhe hécha- m- uŋ héci<sup>12</sup> i- Ø- ma- yuŋge  
 how do that-1SG:SUB-STEM CLM STEM-3SG:SUB-1SG:OBJ-ask  
 'He asked me how I did it.'
- (16) Tuwé kiŋ waŋ- Ø- blá- ke šni  
 who CLM STEM- 3SG:OBJ-1SG: SUB- see NEG  
 'I didn't see who it was.'

This language can also make use of another method in order to overcome the aforementioned case of ambiguity. Thus, sometimes it is possible to distinguish overtly between the interpretation of a question word as an interrogative word or as an indefinite pronoun through the use of the word *waŋži*<sup>13</sup>, which is added to the right of the question word:

- (17)  
 Hé tuwé waŋ- Ø- Ø- yáŋke kiŋ slol- Ø- wa- ye šni  
 he who STEM- 3SG:OBJ-3SG:SUB- see CLM STEM-3SG:OBJ-1SG:SUB-know NEG  
 'I don't know who he saw.'
- (18)  
 Hé tuwé waŋži waŋ- Ø- Ø- yáŋke héci slol- Ø- wa- ye šni  
 he someone STEM- 3SG:OBJ-3SG:SUB-see CLM STEM-3SG:OBJ-1SG:SUB-know NEG  
 'I don't know whether he saw someone.'

(19)

<sup>12</sup> The article *héci* marks topics unknown to the speaker.

<sup>13</sup> This word is used in reference to a hypothetical topic and therefore it usually appears in questions, commands, wishes, or sentences in future.



Tuwé waŋži hé waŋ- Ø- Ø- yáŋke héči slol- Ø- wa- ye šni  
 someone he STEM-3SG:OBJ-3SG:SUB-see CLM STEM-3SG:OBJ-1SG:SUB-know NEG  
 'I don't know whether someone saw him.'

In the example (17) the 't'-word *tuwá* is interpreted as a question word and therefore it is not accompanied by the enclitic *hči(ŋ)*. Nevertheless, in (18) and (19) the presence of this enclitic guarantees that the 't'-word be understood as "someone" rather than as "who". It is also very interesting to notice the presence of the word *hé*, not only because this demonstrative pronoun appears in these three examples functioning as the third person singular personal pronoun, equivalent to the English personal pronoun "he", but also because this fact appears to contradict the view of Lakhota as a head-marking language. Nevertheless, the presence of a third person singular participant continues being coded by a bound morpheme (although in the case of a third person core argument, this pronominal marker is always realized covertly) and this situation is only exceptional, since the use of the demonstrative as a lexical personal pronoun only occurs to avoid ambiguity in the assignment of semantic roles. Thus, as the predicate *wanyan̄ka* has two third person singular participants as obligatory arguments and this language represents this kind of participants with null pronominal markers, it is necessary to include *hé* to mark overtly the position of the participant represented in English by "he" and consequently to know the semantic role of this participant as well as that of the question word in (17) or the indefinite pronoun in (18) and (19).

### 3. AN ACCOUNT OF THE FORMATION OF LAKHOTA 'WH'-QUESTIONS

Questions, especially 'wh'-questions, have always been an important topic in syntactic theory for many different reasons, for example: the position and the case of the 'wh'-element, the participant that the interrogative element makes reference to, the filling of the slot in the LS, etc. In Lakhota there is no nominal case marking<sup>14</sup> but, owing to its head-marking character, it shows verb coding instead, since all the obligatory arguments are represented by verbal affixes. The study of questions in this language presents very striking facts about their formation, especially regarding the positioning of its interrogative elements. Accordingly, the interrogative pronouns *táku* "what" and *tuwá* "who" can have two different positions, depending on whether they function as actor or or undergoer of the predicate:

(20)

Wičhítanaškaŋškaŋ othí kiŋ ektá ni-ikhiyela thí tuwá waŋ- Ø- Ø- yaŋka hwo?  
 cinema the in your neighbour who STEM-3SG:SUB-3SG:OBJ-see Q  
 'Who did your neighbour see in the cinema?'

<sup>14</sup> Some Lakhota nouns are very exceptionally marked by a nominal suffix: for instance, *othúŋwahe-ta* 'in town'.

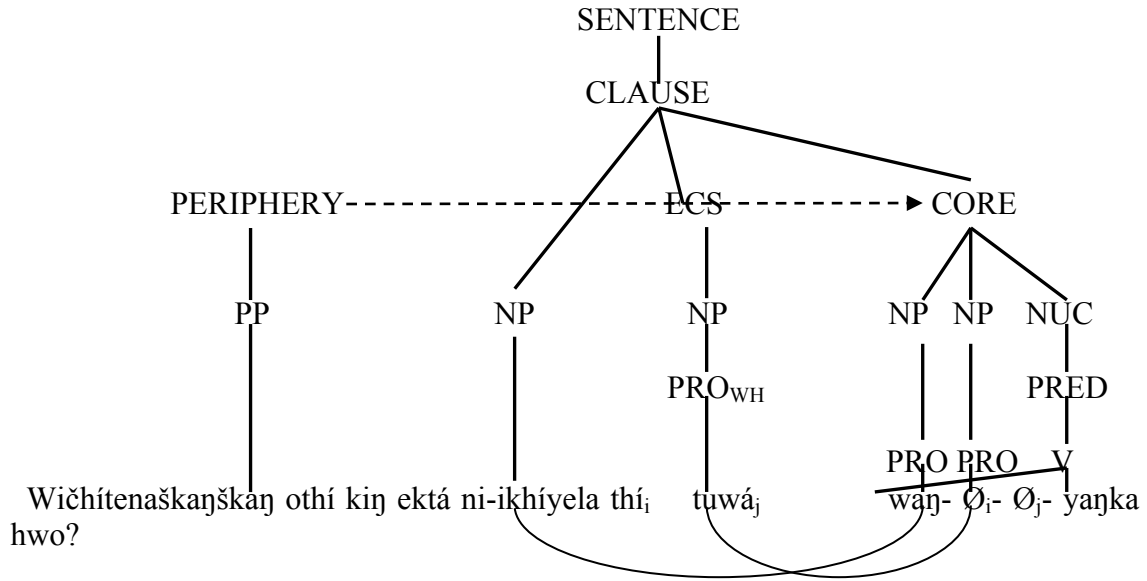


Figure 3: 'Wh'-word in Lakhota functioning as Undergoer

In the example (20) we can observe how the first NP *ni-ikhíyela thí* functions as the actor of the sentence and the question word *tuwá* acts as the undergoer of the sentence. Accordingly, the word representing the object follows the subject, thereby respecting the canonical word order for Lakhota SOV. This contrasts with the position of the English question words, which always appear in clause-initial position when they are in an interrogative sentence.

(21)

Tuwá wičhítenaškaŋškaŋ othí kiŋ ektá ni-ikhíyela thí waŋ- Ø - Ø- yaŋka hwo?  
 Who cinema the in your neighbour STEM-3SG:SUB-3SG:OBJ-see Q  
 'Who saw your neighbour in the cinema?'

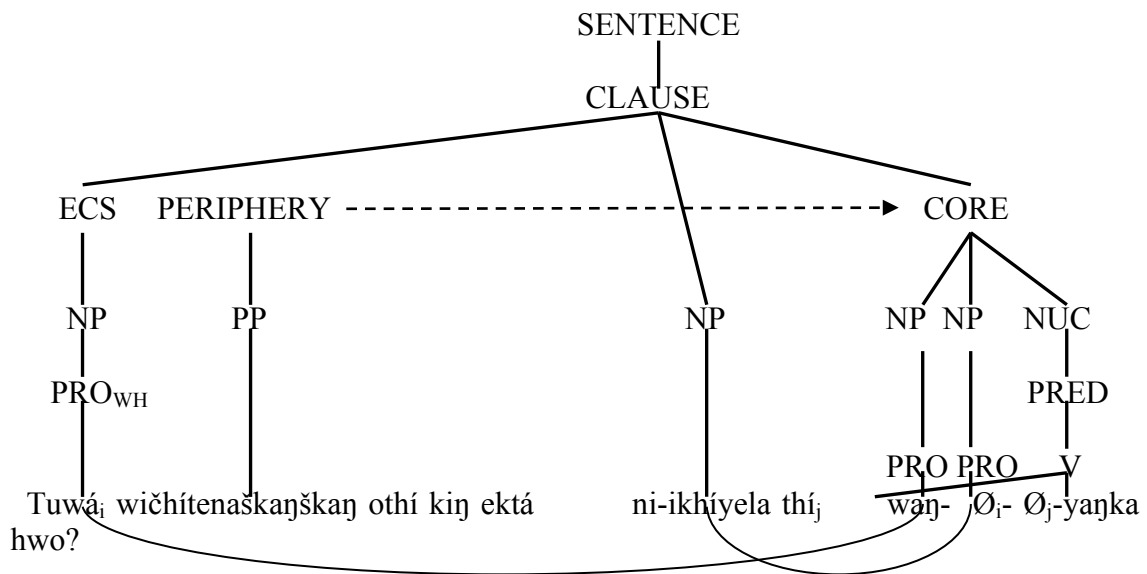


Figure 4: 'Wh'-word in Lakhota functioning as Actor

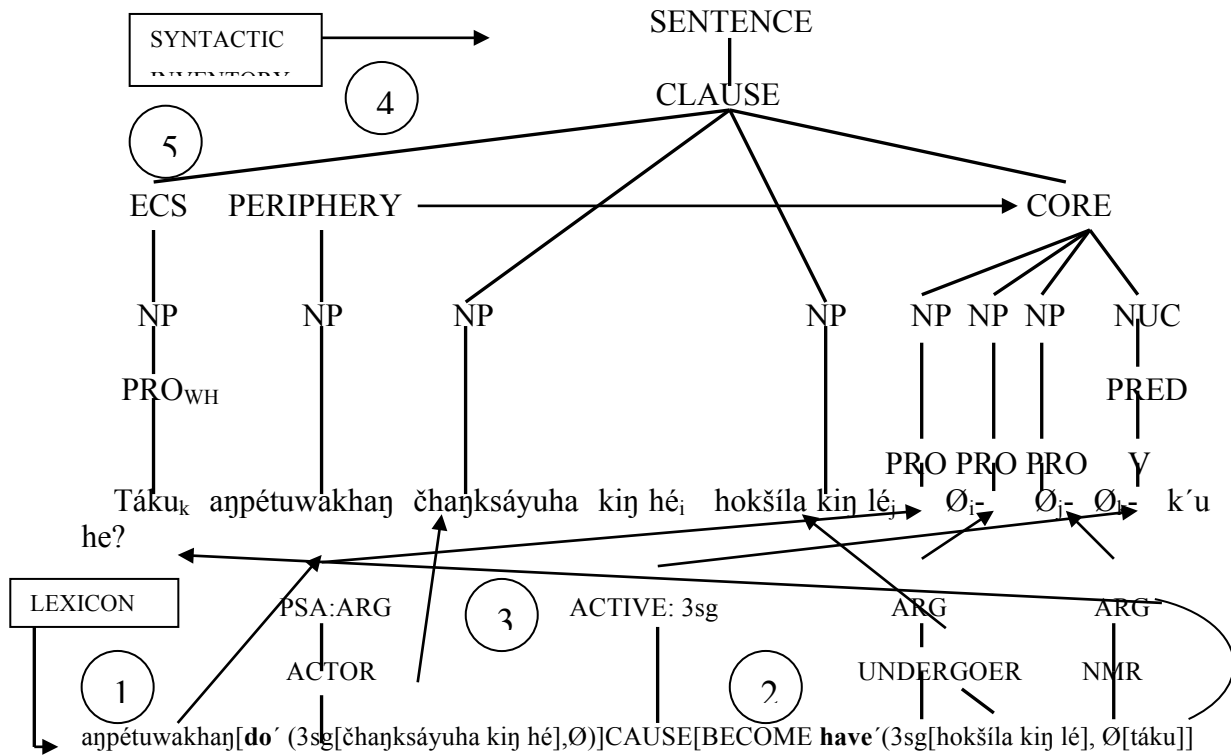
As we can see in (21), taking the canonical word order SOV in Lakhota into consideration, if the question word *tuwá* is placed before the other NP *ni-ikhíyela thí* (regardless of whether there is an adjunct preceding or following it), it functions as the subject of the sentence, since the general rule implies that the first potential actor in a clause is interpreted as the actor or agent of the action. In this example, the NP *ni-ikhíyela thí* functions as the object, rather than the subject like in (20) and therefore follows the subject (as well as the optional adjunct). Therefore, when there may be ambiguity, it is very important to bear in mind the word order not to confound the meaning of the sentences. In case no possible ambiguity could exist, as in the case of the sentence (22b), the word order can be altered without affecting the meaning of the sentence:

- (22) a. John táku Ø- Ø- chíŋ he?  
 John what 3SG: SUB-3SG:OBJ-want Q  
 'What does John want?'
- b. Táku John Ø- Ø- chíŋ he?  
 What John 3SG: SUB-3SG: OBJ-want Q  
 \* 'What wants John?' / 'What does John want?'

For obvious reasons, it is not possible to interpret the expected translation “\*what wants John?”, which would be the correct interpretation in accordance with the canonical order SOV that rules in Lakhota.

Once a description of the grammatical structure of interrogative sentences has been presented, an example of the linking algorithm in a Lakhota ‘wh’-question will be offered in order to give an account of some typical problems that normally appear concerning the linking of the syntactic and semantic representations in this type of interrogative sentences:

- (23)  
 Táku aŋpétuwakhaŋ čhaŋksáyuha kiŋ hé hokšíla kiŋ lé Ø- Ø- Ø- k’u he?  
 what Sunday policeman the that boy the this 3SG:SUB-3SG:OBJ-3SG:OBJ give Q  
 'What did that policeman give this boy on Sunday?'



**Figure 5: Semantics to syntax linking algorithm in a 'wh'-question with a three-place predicate in Lakhota**

As Lakhota is a head-marking language, its obligatory arguments are realized by pronominal markers within the core attached to the verbal stem and they corefer with independent NPs outside the core. In this language, just like in the rest of Native American languages, the concept of animacy plays a crucial role in grammar, which can be noticed, for instance, in the order of the affixes, hence with three-place predicates like *k'u* the three affixes in the verb follow the fixed order: Actor + Recipient + Patient. Accordingly, the interrogative pronoun corefers with the rightmost core argument within the core. Taking into account that the RPs are optional as arguments of the verb and are only used when context demands them because all the core arguments are marked by agreement affixes on the verb, the verbal affix standing for this inanimate core argument will be then linked to the slot of the LS. Furthermore, owing to the preference shown by this language for animate participants over inanimate participants, when it comes to assigning the semantic macroroles, it exhibits the marked undergoer choice and therefore here the ditransitive verb *k'u* has the agent and the recipient as actor and undergoer semantic macroroles respectively, the patient realized by the question word being the non-macrorole argument.

Likewise, an important distinction between Lakhota and English can be seen in the structure of the core in 'wh'-questions including a question word functioning as an obligatory argument. In English, as the obligatory arguments are always realized by NPs, rather than by pronominal affixes, the presence of the 'wh'-word in the PrCS involves the reduction of one NP argument in the core. In Lakhota, by contrast, such an NP reduction does not take place, as can be observed in this ditransitive structure, where the three obligatory pronominal markers are present, despite the fact that the interrogative element, which makes reference to an obligatory argument of the predicate, is also placed outside the core.

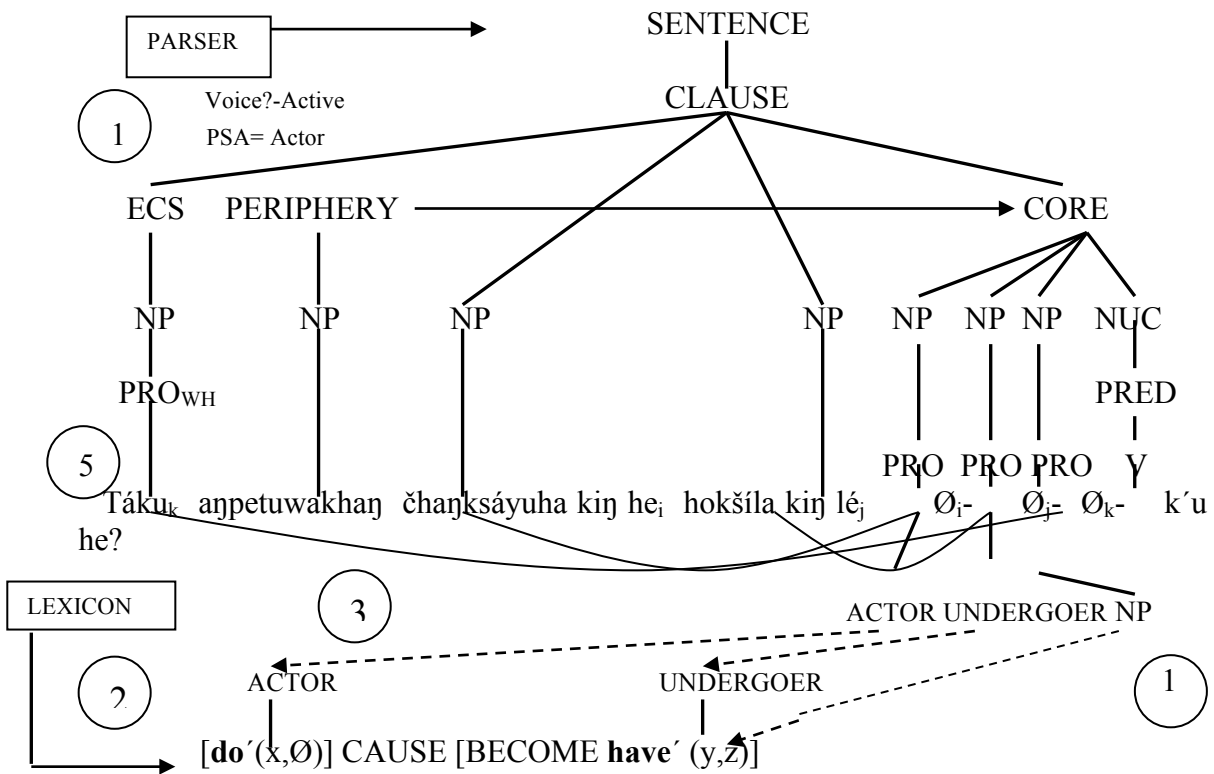


Figure 6: Syntax to semantics linking algorithm in a 'wh'-question with a three-place predicate in Lakhota

As noted above, this language varies the canonical word order for pragmatic reasons. For instance, in Figure 6 as the position of the 't'-word depends on the function it performs in the clause, here *táku* should be interpreted as the subject of the clause because of its clause-initial position. Nevertheless, analogously to the example (22b), this sentence is unambiguous because, according to the meaning denoted by the predicate *k'u*, it is not possible to regard *táku* as its subject, the only possible function being the direct object, and therefore its position does not have to respect the canonical word order for this language, where the direct object in a ditransitive construction like this should occupy the right-most position with respect to the subject and indirect object, that is, S+IO+DO+V. Instead of the default position, here *táku* appears in clause-initial position for pragmatic reasons, since it is in this position that an element receives more focus.

As a summary, in a language like Lakhota where the question words appear in situ and occupy the ECS branching from the clausal node (or the periphery<sub>CORE</sub> in case they function as adjuncts). Thus, the linking principle for 'wh'-questions will consist in assigning the [+wh] XP to the normal position of a [-wh] XP with the same function, except in some situations where the context helps us distinguish the semantic roles of the participants with so much clarity that it makes unnecessary to respect the canonical word order. In English, in contrast, the [+wh] XP is always mapped into the PrCS through 'wh'-movement.

#### 4. EXTRACTION PHENOMENA IN LAKHOTA 'WH'-QUESTIONS INVOLVING COMPLEX CONSTRUCTIONS

Unlike simple sentences, where there are hardly any restrictions concerning the formation of 'wh'-questions, the extraction of an element out of certain syntactic configurations in complex constructions in order to form questions lead to the existence of some restrictions. Chomsky in 1973 attempted to provide a theoretical basis to explain these extraction restrictions and included all of these under the term of 'subjacency', whose basic idea is that movement transformations ('wh'-movement and NP-movement) cannot move an element across more than one bounding node in a single move. This principle works perfectly in English, since in this language the interrogative elements represent obligatory participants move out of the core into the PrCS, and NP and S (IP) represent the bounding nodes. Therefore, if we attempt to apply this reasoning to a language like Lakota, which presents no 'wh'-movement because its question words appear in the same position as that of an obligatory argument, we could think that, presumably, there should not be any subjacency effects. Nevertheless, these subjacency effects do exist, as can be observed in another example including a relative clause:

(24) a.

Wičhaša waŋ šuŋkawakháŋ kiŋ hená ophé- Ø-wičha- thuŋ kiŋ slol- Ø- yá- ye ye  
 man a horse the those STEM-3SG.SUB-3PL.OBJ-buy the STEM-3SG.OBJ-2SG.SUB-know DECL  
 'You know the man that bought those horses.'

a'. Wičhaša waŋ táku ophé- Ø- wičha- thuŋ kiŋ slol- Ø- yá- ye ye  
 man a something STEM-3SG.SUB-3SG.OBJ-buy the STEM-3SG.OBJ-2SG.SUB-know DECL  
 'You know the man that bought something.'

a''.

Wičhaša waŋ táku ophé- Ø- wičha- thuŋ kiŋ slol- Ø- yá- ye  
 hwo?

man a what/something STEM-3SG.SUB-3SG.OBJ-buy the STEM-3SG.OBJ-2SG.SUB-know Q  
 \* 'What do you know the man that bought?' / 'Do you know the man that bought something?'

In the example (24a') the undergoer of the relative clause has been replaced by *táku* "what/something", and, owing to the presence of the IF marker *ye*, which denotes a declarative sentence, we have to interpret this sentence as one having an indefinite inanimate undergoer. In the example (24a''), the sentence has the question particle *hwo* and therefore must be interpreted as a question. Yet, the only possible interpretation is a yes/no question where the 'wh'-word *táku* is interpreted as an indefinite-specific pronoun. Thus, we can see that it is not possible to form a 'wh'-question if the question word functions as a semantic argument in the relative clause, although the element does not cross more than one bounding node, since its question words do not occur in the PrCS but rather in the same position as a normal NP argument. Consequently, this language shows subjacency effects despite not fulfilling the subjacency principles. This means that there must be something else in addition to 'movement' in order to explain these restrictions.

A feature shared by these two languages is that it is not possible to form 'wh'-questions when the interrogative pronoun is linked to an argument position within a construction

involving a relative clause. This occurs despite the fact that Lakota relative clauses are, unlike in English, embedded within a complex NP with a lexical head noun.

Van Valin (1991; 1993; 1995; 2003) explains these restrictions on the formation of 'wh'-questions in terms of the potential focus domain. There is then a general principle governing the scope of the potential focus domain in complex sentences: "The potential focus domain extends into a subordinate clause if and only if the subordinate clause is a direct daughter of (a direct daughter of) the clause node which is modified by the illocutionary force operator" (Van Valin 1993b: 121). Consequently, this rule establishes a general restriction on questions in Lakota because it posits that a subordinate clause will be within the potential focus domain only if it is a direct daughter of the clause node, which is affected by the IF operator, and therefore the element questioned must always occur in a clause which is within the potential focus domain of the sentence. This holds for languages where the question words remain in situ but, however, a remark should be made on this rule when applied to languages like English whose 'wh'-words undergo movement and therefore appear displaced: it is not the position in the PrCS but the core-internal position that the core argument, which the 'wh'-word is linked to, occupies that must occur in the potential focus domain. Consequently, despite the differences that exist in the formation of relative clauses in English and Lakota, which present head-external and head-internal relative clauses respectively, this principle can be applied to both languages, since in both of them relative clauses are not a direct daughter of the clause node modified by the IF. The following figure shows the representation of the example (24a''), which illustrates why it is impossible to extract an element out of a relative clause:

(24a'')

Wičhaša waŋ táku ophé- Ø- wičha- thuŋ kiŋ slol- Ø- yá- ye  
 hwo?

man a what/something STEM-3SG:SUB-3SG:OBJ-buy the STEM-3SG:OBJ-2SG:SUB-know Q  
 'Do you know the man that bought something?'

\* 'What do you know the man that bought \_?'

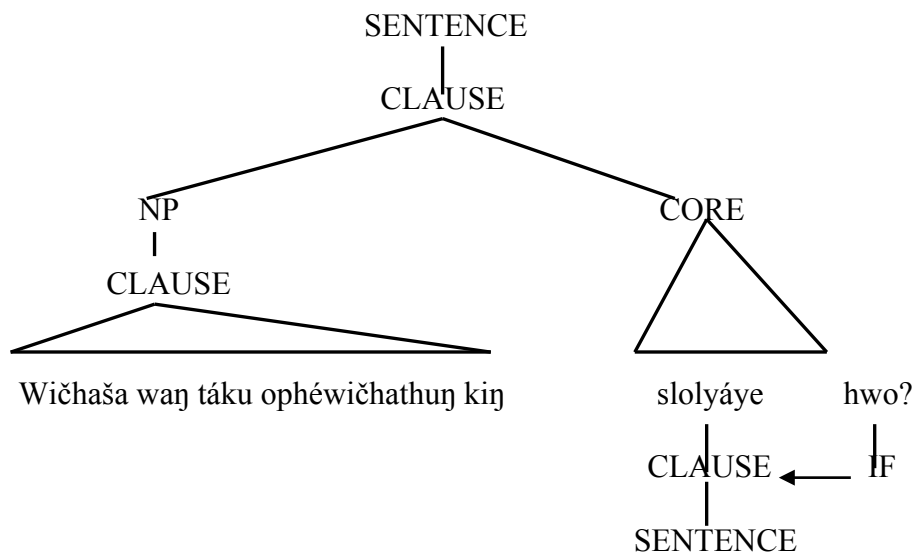


Figure 7: Representation of a relative clause in Lakota (NP subordination)

As is clear from the example above the embedded clause is not a direct daughter of the clause which is modified by the IF operator and therefore it bears no direct relationship to the matrix clause. Rather, it is embedded into an NP position, which means that it is out of the PDF of the matrix clause.

We now turn to restrictions in predicate-based complex constructions. Out of the eleven possible juncture-nexus types, Lakhota exhibits all of them except for nuclear coordination, nuclear subordination and sentential subordination. Nuclear junctures entail a single clause since they comprise a complex core containing two nuclei junctures that function as a complex predicate, and consequently, in terms of question formation, nuclear cosubordination and ad-nuclear subordination linkage types would behave just like simple sentences, which show no restriction on question formation:

- (25) a. Kim wáglutapi kiŋ šá - Ø- Ø- yé  
 table the become red-3SG:SUB-3SG:OBJ-CAUS  
 'Kim painted the table red.'  
 a'. Kim táku šá - Ø- Ø- yé he?  
 what become red-3SG:SUB-3SG:OBJ-CAUS Q  
 'What did Kim paint \_ red?'
- (26) a. Wičhíŋčala kiŋ thab( 'óihpeyapi)škáta- Ø- Ø<sub>i</sub>- haŋ- pi  
 girls the play basketball- 3:SUB-3SG:OBJ-ASP-PL  
 'The girls are playing basketball.'  
 a'. Wičhíŋčala kiŋ táku škáta- Ø- Ø<sub>i</sub>- haŋ- pi he?  
 girls the play - 3:SUB-3SG:OBJ-ASP-PL Q  
 'What are the girls playing \_?'

Core junctures involve a single clause containing more than one core, each with its own nucleus and its own set of core arguments, and therefore they also behave like simple sentences as far as question formation is concerned, hence core cosubordination, and core coordination do not present any restriction on the formation of 'wh'-questions:

- (27) a. Kim thiyópa kiŋ Ø- yugáŋ i- Ø- yúthe kta héčha  
 door the 3SG:OBJ-open STEM-3SG:SUB-try must  
 'Kim must try to open the door.'  
 a'. Kim táku Ø- yugáŋ i- Ø- yúthe kta héčha he?  
 what 3SG:OBJ-open STEM-3SG:SUB-try must Q  
 'What must Kim try to open \_?'
- (28) a. Thúnkašila hugmíyaŋ nahómni pi waŋ ophé-Ø- thuŋ Ø- ma- ší he?  
 my-grandfather bike a STEM-3SG:OBJ-buy 3SG:SUB-1SG:OBJ-tell Q  
 'Did my grandfather tell me to ride his horse?'  
 a'. Thúnkašila táku ophé- Ø- thuŋ Ø- ma- ší he?  
 my-grandfather what STEM-3SG:OBJ-buy 3SG:SUB-1SG:OBJ-tell Q  
 'What did my grandfather tell me to buy \_?'

Finally, with constructions exhibiting the clausal subordination, clausal coordination and sentential coordination linkage combinations, which involve the joining of units that are structurally independent, obviously it is only possible to form individual 'wh'-questions from each unit taken separately, but not from the whole sentence:



(29) a. Othúnwahe ektá Paul Ø- yé na wóyute ophé- Ø- Ø- thuḡ  
 town to 3SG:SUB-go and food STEM- 3SG:SUB-3SG:OBJ-buy  
 'Paul went to town and bought food.'

a'. \* Othúnwahe ektá Paul Ø- yé na táku ophé- Ø- Ø- thuḡ he?  
 town to 3SG:SUB-go and what STEM- 3SG:SUB-3SG:OBJ-buy Q  
 \*'What did Paul go to town and buy \_?'

(30) a.

Wičhaša kiḡ hé Ø- wašté na ohíḡniyaḡ iyúha čhanté-Ø- uḡ- kiya- pi kte  
 man the that 3SG:SUB-be good and always all STEM-3SG:OBJ-1.SUB-love-PL FUT  
 'That man is good and we will always love him.'

a'.

\*Wičhaša kiḡ hé Ø- wašté na ohíḡniyaḡ iyúha tuwá čhanté-Ø- uḡ- kiya- pi kte he?  
 man the that 3SG:SUB-be good and always all who STEM-3SG:OBJ-1.SUB-love-  
 PL FUT Q

\*'Who is that man is good and \_ will always love him?'

(31) a. Sam iḡs, hékta Anpétu Wakhán Mary waḡ-Ø- Ø- yaḡka na, Paul iḡs,  
 as for last Sunday STEM-3SG:SUB-3SG:OBJ-see and as for  
 htálehaḡ waḡ-Ø- bl- áke  
 yesterday STEM-3SG:OBJ-1SG:SUB-see

'As for Sam, Mary saw him last Sunday, and as for Paul, I saw him yesterday.'

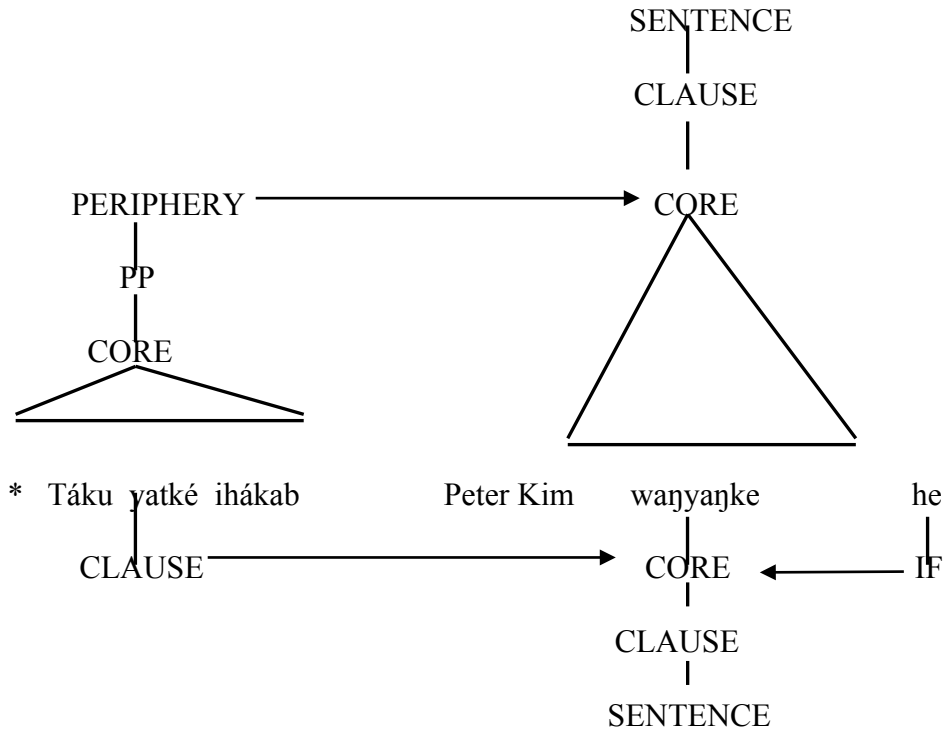
a'. Sam iḡs, hékta Anpétu Wakhán Mary waḡ-Ø- Ø- yaḡka na, Paul iḡs,  
 as for last Sunday STEM-3SG:SUB-3SG:OBJ-see and as for  
 htálehaḡ waḡ-Ø- bl- áke he?  
 yesterday STEM-3SG:OBJ-1SG:SUB-see Q

\*'Who, as for Sam, did Mary see him last Sunday, and as for Paul, \_ saw him  
 yesterday?'

Other constructions that do not permit the extraction of an element in order to form a 'wh'-question either, are adverbial subordinate clauses. This type of subordinate clauses can be divided into two different groups according to the juncture-nexus linkage type exhibited. Thus, on the one hand, place and time adverbial subordinate clauses display the ad-clausal core subordination linkage combination and, on the other hand, concessive, reason and conditional adverbial subordinate clauses exhibit the ad-clausal subordination linkage type. Nevertheless, these two types of adverbial clauses share something in common: all these grammatical structures do not satisfy the principle above either because either they are sister of a core node, in the first case, or they are a sister of the clause node, in the second case, rather than a daughter of the clause node. As a result of this, extraction out of these constructions is impossible as well:

(32) a. Mniḡiḡa kiḡ y- Ø- atké ihákab Peter Kim waḡ- Ø- Ø- yaḡke he?  
 beer the 3SG:SUB-3SG:OBJ-drink after STEM-3SG:SUB-3SG:OBJ-see Q  
 'Did Peter see Kim after she drank the beer?'

a'. \* Peter Kim táku y- Ø- atké ihákab waḡ- Ø- Ø- yaḡke he?  
 what 3SG:SUB-3SG:OBJ-drink after STEM-3SG:SUB-3SG:OBJ-see Q  
 \*'What did Peter saw Kim after she drank \_?'

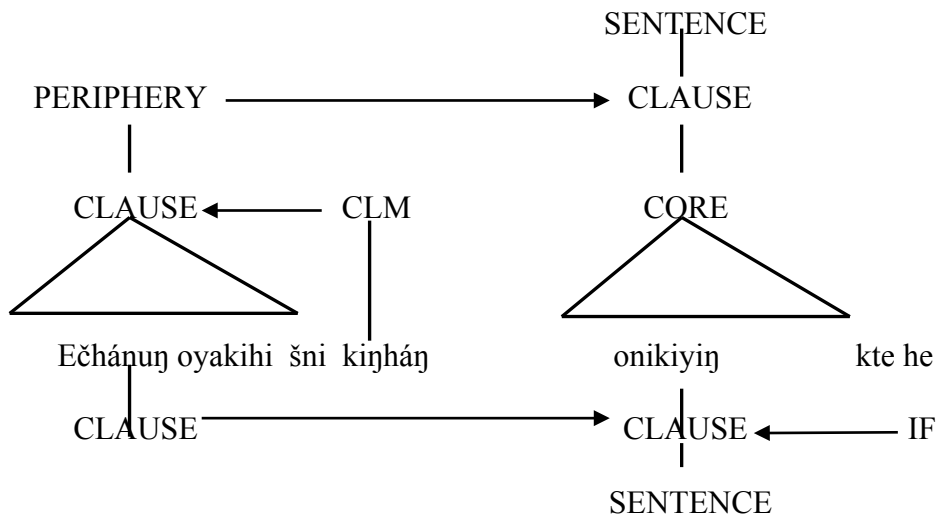


**Figure 8: Representation of an adverbial subordinate clause in Lakota (ad-core subordination)**

(33)

Ečh- án- uŋ o- yá- kihi šni kiŋháj o- Ø- ni- kiyiŋ kte he?  
 STEM-2SG:SUB-do sth. STEM-2SG:SUB-be able to NEG if STEM-3SG:SUB-2SG:OBJ-help FUT  
 IF

'If you can't do it, will he help you?'  
 \*'What will he help you, if you can't do \_?'



**Figure 9: Representation of an adverbial subordinate clause in Lakota (ad-clausal subordination)**

In Figures (8) and (9) there is an embedded clause that functions as an adjunct modifier of the matrix core and matrix clause respectively and consequently it bears no direct relationship to it either, thereby lying outside the scope of the IF operator, which implies that it is not possible to extract an element out of this subordinate clause in order to form a 'wh'-question.

In contrast, a situation where the principle stated above is satisfied occurs with the extraction of an element out of complement clauses. A striking situation is the one involving subject complement clauses. In an English grammatical structure involving a subject complement, extraction is impossible because the embedded clause appears as a direct core argument and consequently is not a direct daughter of the matrix clause. Nevertheless, as Lakhota is a head-marking language, only the pronominal marker appears within the core, since the embedded clause is represented branching from the clause node and therefore this construction permits extraction. English normally solves this situation by replacing the subordinate clause with a cataphoric subject "it" and placing the subordinate clause as an extraposed subject in post-core position, that is, branching from the clause node:

- (34)
- a. Mnípiga kiŋ y- Ø- atké kiŋ iyúha yuš'inye- Ø - wičha- yé  
 beer the 3SG:SUB-3SG:OBJ-drink CLM all be frightened-3SG:SUB-3PL:OBJ-CAUS  
 'That she drank a beer shocked everybody.' /  
 'It shocked everybody that she drank a beer.'
- a'. Táku y- Ø- atké kiŋ iyúha yuš'inye- Ø - wičha- yé he?  
 what 3SG:SUB-3SG:OBJ-drink CLM all be frightened-3SG:SUB-3PL:OBJ-CAUS Q  
 'What did that she drank \_ surprise everybody?' /  
 'What did it shock everybody that she drank \_ ?'

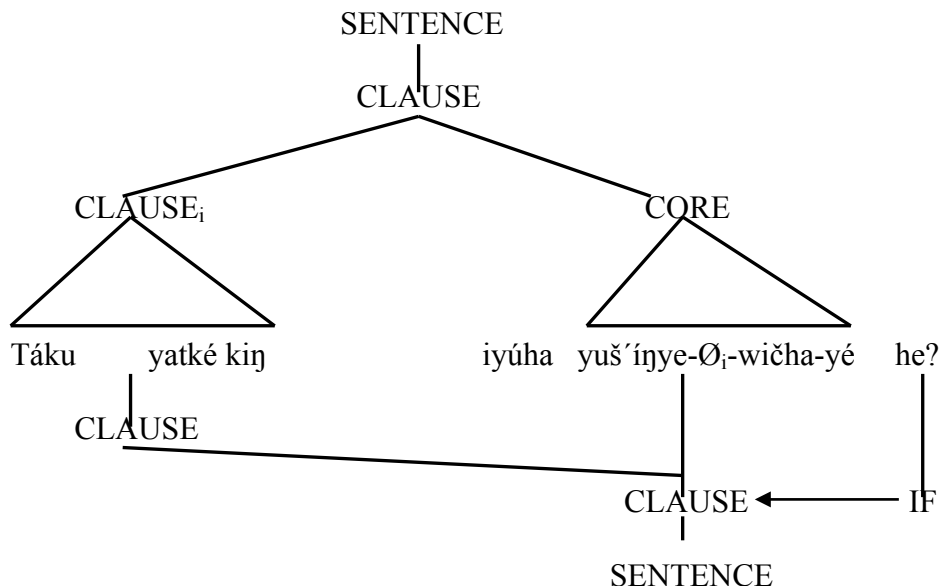


Figure 10: Representation of a 'that'-complement clause in Lakhota (daughter core subordination)

Object complement clauses pose no problem of extraction since these constructions display the clausal subordination juncture-nexus type and then are a direct daughter of

the clause node, hence they permit the extraction of an element out of the embedded clause and the subsequent formation of a 'wh'-question:

- (35) a. Peter Ø- wašté k<sup>15</sup>-é- h- a yelo.  
 3SG:OBJ-be good DEM-STEM-2SG:SUB-say DECL?  
 'You said that Peter is good.'  
 a'. Tuwá Ø- wašté k-é- h- a he?  
 Who/someone 3SG:OBJ-be good DEM-STEM-2SG:SUB-say Q?  
 'Who did you say \_ is good?'

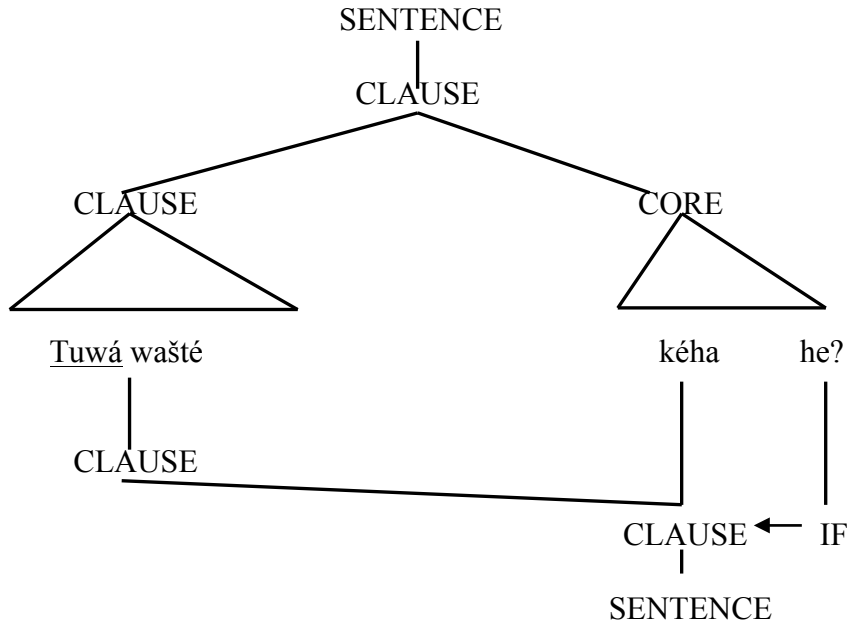


Figure 11: Representation of a 'that'-complement clause in Lakhota (daughter clausal subordination)

In this example, the embedded clause is a direct daughter of the clause modified by the IF operator, and therefore the internal constituents of the embedded clauses are included in the potential focus domain.

### 5. CONCLUSION

Through the comprehensive analysis of 'wh'-questions provided by this paper, it turns out evident the robustness of this theoretical framework, which demonstrates its universal orientation by being able to represent comparable constructions in English and Lakhota analogously, despite the fact that these two languages construct 'wh'-questions in a very different way. All things considered, the divergence between these languages is largely due to the different morphosyntactic properties they have, especially with respect to the fact that English is a dependent-marking language and Lakhota, in contrast, is a head-marking language and also to the position that the interrogative element occupies in the 'wh'-questions of each of these languages. Nevertheless, these constructions in both languages seem to share the same semantic and pragmatic features, as is shown by the linking of the interrogative element and the

<sup>15</sup> The Lakhota verb *kéya* is used in indirect speech and it is formed by a demonstrative pronoun *ká*, which makes reference to an object that is not present, and *eyá* "say something"

focus structure, which perform a remarkable role in the formation and interpretation of 'wh'-questions. Likewise, we can observe that what is common to these two languages is the crucial role of pragmatics, more specifically of the potential focus domain, in constraining question formation, despite their manifest syntactic differences, which proves the representational flexibility and typological adequacy of this approach.

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