

# Advances in the study of Siouan languages and linguistics

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Edited by

Catherine Rudin & Bryan J. Gordon

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To Bob, whose knowledge was matched only by his  
generosity.



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## **Part I**

# **Historical Linguistics and Philology**



# Chapter 1

## Evidence for a VP constituent in Hocąk

Meredith Johnson, Bryan Rosen and Mateja Schuck

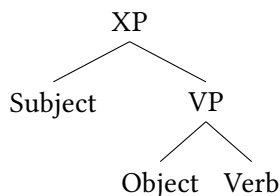
Since at least Williamson 1984, there has been a debate over the configurationality of Siouan languages (Boyle 2007; Graczyk 1991; West 2003; Van Valin 1985; 1987). In this paper, we argue that a nonconfigurational approach does not account for the asymmetries between subjects and objects in Hocąk. We propose that Hocąk is a configurational language in that the language has a verb phrase (VP): the object and the verb form a constituent to the exclusion of the subject. This structure captures the differences between subjects and objects with respect to locative scope, quantifier scope, verb phrase ellipsis, and resultatives. KEYWORDS: [Hocąk, configurationality, verb phrase, subject-object asymmetries]

### 1 Introduction

Since at least Williamson 1984, there has been a debate over the configurationality of Siouan languages (Boyle 2007; Graczyk 1991; West 2003; Van Valin 1985, 1987). The purpose of this paper is to weigh in on this issue with evidence (based on original fieldwork) from Hocąk. By providing novel data from locative scope, quantifier scope, verb phrase ellipsis, and resultatives, we argue that Hocąk has a verb phrase (VP). This adds empirical support for previous studies that have argued that Siouan languages have a verb phrase (e.g., Boyle 2007; Graczyk 1991; West 2003).

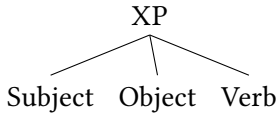
The crucial observation that we make in this paper is that there exist a number of subject-object asymmetries. To account for these data, we propose a syntax for Hocąk that consists minimally of the structure shown in (1).

(1)



By contrast, we argue that a flat, nonconfigurational structure such as the one in (2) cannot adequately account for the data (cf. Van Valin 1985; 1987; Williamson 1984).

(2)



This paper is organized as follows. In §??, we outline previous analyses that argue in favor of a flat structure for various Siouan languages, and then discuss how the Hocąk data compare. §?? reviews arguments for a VP in other Siouan languages, and shows that similar arguments can be made for Hocąk. In §??, we provide four new arguments in favor of a VP analysis of Hocąk. §?? concludes the paper.

## 2 Arguments in Favor of a Flat Structure

In this section, we provide background on the nature of configurationality in the context of Hocąk (and other Siouan languages). §?? outlines the previous nonconfigurational accounts (Hale 1983 and Jelinek 1984) that stand in contrast to the configurational account that we propose in this paper. In §??, we review the previous arguments for a flat VP structure in Siouan languages. Then in §??, we show that Hocąk displays all three of the prototypical characteristics of being a nonconfigurational language.

### 2.1 Nonconfigurationality and Pronominal Arguments: Hale1983 and Jelinek1984

Since Hale 1983, nonconfigurational languages have been typologically characterized by the three traits given in (3):

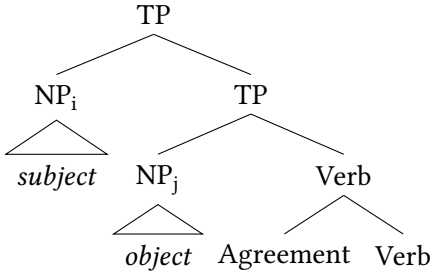
- (3) Properties of nonconfigurational languages
  - i. Free word order
  - ii. Extensive null anaphora
  - iii. Presence of discontinuous constituents

Hale's approach makes use of two levels of representation: *lexical structure* (LS) and *phrase structure* (PS). Hale argues that all languages are configurational

at LS; that is, the subject asymmetrically c-commands the object. However, this asymmetry is not realized at the level of PS in nonconfigurational languages: the phrase structure is flat. This is the definition of configurationality that is most adopted by Siouanists. For example, Boyle2007 claims that Hidatsa is a configurational language on the grounds that there are subject-object asymmetries that are indicative of a VP constituent. (See also Van Valin 1985; 1987; Williamson 1984, and West 2003.)

Another formal account of nonconfigurationality is Jelinek's (1984) *Pronominal Argument Hypothesis* (PAH). According to the PAH, person markers are the actual arguments of the verb, while the overt NPs are adjuncts adjoined high in the clause, as in (4). We use "TP" (Tense Phrase) for the phrase that represents the sentence level.

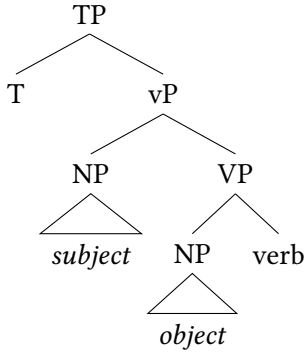
(4)



The overt NPs, when present, are coindexed with the person markers. Since adjuncts are known to have freer distribution of word order than arguments, the “free” word order in nonconfigurational languages is accounted for. Adjuncts are also never obligatory, explaining the possibility of *pro*-drop of all NPs in nonconfigurational languages. Lastly, this proposal accounts for the presence of apparent discontinuous constituents in nonconfigurational languages. Jelinek proposes that more than one adjunct NP can be coindexed with a given person marker. Thus, what appear to be discontinuous NPs are actually two separate NPs that correspond to the same argument.

In contrast, a configurational language is one that does show subject-object asymmetries and has a VP constituent, as depicted in (5) below.

(5)



Example (5) shows that the subject and object are not in adjunct positions: they do not adjoin to the TP (or Sentence). Following Chomsky1995 we assume that the subject is base-generated in a position outside of the VP, which we label “vP.” The object merges as an argument of the verb inside the VP. Thus, by “VP” we refer to the constituent that contains the object, the verb, and perhaps other modifier material. Crucially, the subject is not considered part of the VP.

## 2.2 Previous Analyses: Williamson1984 Van Valin (1985, 1987)

In this section, we discuss arguments in favor of a nonconfigurational analysis of Siouan languages that have been put forth in previous works.

Williamson1984 argues that Lakota is nonconfigurational because it lacks the subject-object asymmetries traditionally associated with the Empty Category Principle (ECP). Long distance *wh*-extraction of the subject over an overt complementizer is possible in Lakota; that is, the language does not display *that*-trace effects. Long distance extraction out of *wh*-islands from subject position is also allowed in Lakota. Examples (6)-(8) below illustrate these facts:

- (6) *Mary tuwa wəyqə ki ilukcha he*  
 Mary who see COMP you.think Q  
 ‘Who do you think that Mary saw?’ (Williamson 1984:281, (64a))
- (7) *Tuwa hel nažj he ki ilukcha he?*  
 who there stand DUR COMP you-think Q  
 ‘Who do you think that was standing there?’ (Williamson 1984:281, (65a))
- (8) *Tohq tuwa u pi ki slolyaya he?*  
 when who come PL COMP you.know Q  
 ‘Who do you know when is coming?’ (Williamson 1984:281, (66a))

In a language with subject-object asymmetries, long-distance *wh*-extraction of the subject should not be possible, as doing so would constitute a violation of the ECP (as evidenced by the ungrammaticality of the English translations in (7)-(8)). Because Lakota appears to allow long-distance *wh*-extraction from subject position, Williamson argues that the language has no subject-object asymmetry and thus lacks a VP constituent.

Van Valin (1985, 1987) also argues for a nonconfigurational analysis of Lakota on the basis of the lack of Weak Crossover and Binding Condition C effects. First, let us consider the diagnostic from Weak Crossover (WCO). A WCO violation occurs when a pronoun is coreferential with the *wh*-trace in subject or object position and neither one c-commands the other (Sportiche 1985). (9) illustrates an English example of WCO: the *wh*-word *who* undergoes movement from an object position (represented by a trace, “t”) to the left edge of the clause. *Who* must “cross over” the co-indexed pronoun *his*. Since *who* and *his* cannot refer to the same person, the sentence is ungrammatical.

- (9) \*Who<sub>i</sub> does his<sub>i</sub> mother love t<sub>i</sub>?

Thus in a language with a VP node, a coreferential reading between the *wh*-word and possessive pronoun in the sentence in (10) below would be expected to be unavailable.

- (10) Ø-*tha-khóla-ku ki tuwá wáyqka he*  
 3-poss-friend-poss the who 3sg.see.3sg Q  
 ‘Who<sub>i</sub> did his<sub>i</sub> friend see?’ (Van Valin 1987:379)

Because the construction in (9) does not cause a WCO violation in Lakota, Van Valin argues that no subject-object asymmetry exists in the language, and thus it does not possess a VP.

Van Valin additionally cites the lack of Binding Condition C (BCC) violations in Lakota as evidence that the language lacks a subject-object asymmetry. This is due to the fact that binding conditions crucially rely on a c-command relationship between anaphors, pronouns and r-expressions. Van Valin argues that since there appear to be no BCC violations in Lakota, the subject must not c-command the object. This falls out of an analysis where both NPs are attached at the TP (or sentence) level. We return to BCC violations in the next section.

## 2.3 Hocąk Data

Hale1983 and Jelinek1984 identify three properties that they claim are common to all nonconfigurational languages: free word order, extensive null anaphora,

and discontinuous constituents. Below, we show that Hocak does display each of the three classic signs of nonconfigurationality put forth by Hale and Jelinek, as well as a number of additional characteristics of nonconfigurational languages proposed by Baker1996

First, NP arguments may appear in a variety of orders. This is expected in an analysis under which there is a flat structure and all NPs are adjuncts adjoined at the TP (or sentence) level. SOV word order is the most common in Hocak, as in (11). Any variation in word order has discourse-informational effects, as hinted at by the English translations given in the examples below. As shown in (12a), a participant displaced to the left serves a topic or focus function, whereas participants displaced to the right are interpreted as anti-topics (e.g., “backgrounded” or discourse-old), as shown in (12b)-(e).

- (11) *Hinukra wažqtirera ruwı*  
 hinuk-ra wažqtire-ra Ø-ruwı  
 lady-DEF car-DEF 3s/o-buy  
 ‘The lady bought the car.’
- (12) a. *Wažqtirera, hinukra ruwı*  
 wažqtire-ra hinuk-ra Ø-ruwı  
 car-DEF lady-DEF 3s/o-buy  
 ‘The car, the lady bought it.’
- b. *Wažqtirera ruwı, hinukra*  
 wažqtire-ra Ø-ruwı hinuk-ra  
 car-DEF 3s/o-buy lady-DEF  
 ‘Someone bought the car, (it was) the lady.’
- c. *Hinukra ruwı, wažqtirera*  
 hinukra Ø-ruwı, wažqtire-ra  
 lady-DEF 3s/o-buy car-DEF  
 ‘the lady bought something, (it was) the car.’
- d. *Ruwı, wažqtirera, hinukra*  
 Ø-ruwı wažqtire-ra hinuk-ra  
 3s/o-buy car-DEF lady-DEF  
 ‘Someone bought something, (it was) the car, the lady.’
- e. *Ruwı, hinukra, wažqtirera*  
 Ø-ruwı hinuk-ra wažqtire-ra  
 3s/o-buy lady-DEF car-DEF  
 ‘Someone bought something, (it was) the lady, the car.’



It is also possible for NP arguments to have freedom of placement among each other. The default order of arguments in a ditransitive construction is Agent > Indirect Object > Direct Object; however, their order can vary. This is shown below in (13), where the subject NP *hinukhižq* ‘a woman’ can appear in several different positions.

- (13) (*Hinukhižq*,) *hocic̣hižq* (*hinukhižq*,) *wiiwagaxhižq* (*hinukhižq*,)  
*hinuk-hižq hocic̣i-hižq hinuk-hižq wiiwagax-hižq hinuk-hižq*  
 woman-INDEF boy-INDEF woman-INDEF pencil-INDEF woman-INDEF  
*hok’u.*  
 Ø-hoḳu  
 3s/o-give  
 ‘A woman gave a boy a pencil.’

Second, NPs corresponding to arguments can be freely omitted in Hocak. Examples of this are shown below in (14), where the agent and patient/theme arguments are omitted:

- (14) a. *Wijukra šuykra hoxataprookeja haja*  
*wijuk-ra šuyk-ra hoxatap-rook-eeja Ø-haja*  
 cat-DEF dog-DEF woods-inside-there 3s/o-see  
 ‘The cat saw the dog in the woods.’  
 b. *Hoxataprookeja haja*  
*hoxatap-rook-eeja Ø-haja*  
 woods-inside-there 3s/o-see  
 ‘It (the cat) saw it (the dog) in the woods.’

Sentence (14b) is grammatical and can (under the right discourse context) have the equivalent meaning to (14a); however, it is missing the agent and patient/theme NPs *wijukra* and *šuykra*. This is also expected under Hale’s (1983), Jelinek’s (1984), and Baker’s (1996) analyses: NPs have adjunct status and thus are not obligatory.

Hocak also displays discontinuous constituents. Demonstratives and quantifiers may be separated from the head noun, as shown in (15) with *že’e* ‘that’:

- (15) a. *Wijukra šuyk že’e haja*  
*wijuk-ra šuyk že’e Ø-haja*  
 cat-DEF dog that 3s/o-see  
 ‘The cat saw that dog.’

- b. *Že'e wijukra šųųk haja*  
*že'e wijuk-ra šųųk Ø-haja*  
 that cat-DEF dog 3s/o-see  
 'The cat saw that dog.'

Discontinuous constituents are expected under Hale's (1983) and Jelinek's (1984) analyses of nonconfigurationality, due to the fact that NPs have the status of adjuncts. Hale and Jelinek propose that multiple adjuncts can be associated with the same argument in a given sentence. Thus, the demonstrative and head noun in (15b) are actually two separate NPs that both correspond to the object.

In addition to Hale's (1983) classic characteristics of nonconfigurationality, Hocak displays four additional traits of nonconfigurational languages discussed by Baker1996 First, Hocak does not display BCC effects within clauses. As discussed in the previous section, this lack of BCC effects is expected when there is no asymmetry between the subject and the object In (16) below, coreference between the subject 'he' and the possessor 'Bryan' is grammatical.

- (16) *(Ee) Bryanga hi'uni hiira homąkįi.*  
*Ee Bryan-ga hi'uni hii-ra Ø-homąkįi*  
 he Bryan-PROP mother POSS-DEF 3s/o-visit  
 'He<sub>i</sub> visited Bryan<sub>i</sub>'s mom.'

However, as Baker shows to be true in other nonconfigurational languages, Hocak does display BCC effects across clauses. In (17), coreference between the matrix subject 'she' and the embedded object 'Meredith' is impossible.

- (17) *(Ee) Hunterga Meredithga hajara hiraperessąnq.*  
*Ee Hunter-ga Meredith-ga Ø-haja-ra Ø-hiraperes-şąnq*  
 she Hunter-PROP Meredith-PROP 3s/o-see-COMP 3s-know-DECL  
 She<sub>i/j</sub> knows that Hunter saw Meredith<sub>i</sub>.'

Second, Hocak lacks NP anaphors, which are also argued by Baker1996 to be nonexistent in nonconfigurational languages. Instead, reflexive and reciprocal meanings are expressed morphologically on the verb, as seen in (18):

- (18) *Meredithga anąga Hunterga hokikįjire.*  
*Meredith-ga anąga Hunter-ga <kiki>hojį-ire*  
 Meredith-PROP and Hunter-PROP REFL-hit-3s.PL  
 'Meredith and Hunter hit each other'

Third, according to Baker1996 nonconfigurational languages should lack both universal quantifiers that are grammatically singular and negative quantifiers. Hocak does not have a universal quantifier that is grammatically singular. In (19) below, both *hanqac* ‘all/every’ and *hižakišqna* ‘each’ trigger plural agreement on the verb.

- (19) a. *Bryanga waisgap sguu xuwuxuwura hanq waruucšqna.*  
 Bryan-ga waisgap sguu xuwuxuwu-ra hanaa wa-Ø-ruuc-šana  
 Bryan-PROP cookie-DEF all 3O.PL-3S-eat-DECL  
 ‘Bryan ate every cookie/all of the cookies.’
- b. *Hociçira hižakišqna waisgap sguu xuwuxuwuhiž ruucire.*  
 hocic-ira hižakišana waisgap sguu xuwuxuwu-hiž ruuc-ire  
 boy-DEF each cookie-INDEF eat-3S.PL  
 ‘Each boy ate a cookie.’

Hocak also does not possess negative quantifiers: instead, the equivalents to ‘nothing’ and ‘nobody’ are expressed through a combination of clausal negation and indefinite pronouns. This is shown in (20a) and (b), respectively.

- (20) a. *Wawaahiwira haqke waž hiiran.*  
 wa<ha>hohi-wi-ra haake waž hii-ire-ni  
 3O.PL<1S>beat-1/2PL-COMP NEG thing do-3S.PL-NEG  
 ‘When we beat them, they didn’t score at all.’ (Hartmann 2012)
- b. *Haqkiž nijašjak taaxura karasgepn.*  
 haake-hiž nijašjak taaxu-ra Ø-kara-rasgep-ni  
 NEG-INDEF coffee-DEF 3S-own-drink.up-NEG  
 ‘Nobody finished his coffee.’

Finally, Hocak lacks WCO effects. In (21) below, a coreferential reading between the possessive pronoun and the object *wh*-word is grammatical.

- (21) a. *Hi’uni hiira peežega haja?*  
 hi’uni hii-ra peežega Ø-haja  
 mother 3POSS-DEF who 3S/O-see
- b. *Peežega hi’uni hiira haja?*  
 peežega hi’uni hii-ra Ø-haja  
 who mother 3POSS-DEF 3S/O-see  
 ‘Who<sub>i</sub> did his<sub>i</sub> mother see?’

Recall from the previous subsection that Van Valin (1985, 1987) uses the lack of BCC and WCO effects in Lakota to argue for a nonconfigurational syntax. While Hocąk also lacks BCC and WCO effects, we argue that this does not constitute conclusive evidence of the lack of a VP constituent in the language. In the remainder of the paper, we provide other arguments that strongly favor a VP analysis for Hocąk. We leave an explanation for the lack of BCC and WCO effects in Hocąk for future research.

### 3 Arguments in Favor of a VP

#### 3.1 Previous Analyses: Boyle2007 Graczyk1991 West2003

In the previous section, we presented arguments in favor of a nonconfigurational, VP-less analysis in several Siouan languages. In this section, we present arguments in favor of a configurational analysis of Siouan languages (that is, arguments in favor of a VP analysis). The first piece of evidence comes from word order restrictions. Recall that one of Hale's (1983) and Jelinek's (1984) typifying characteristics of nonconfigurational languages is free word order. Across Siouan languages, neutral word order is SOV. Several Siouanists have argued that other word orders have discourse-informational effects, and thus that word order is not actually free in these languages. For example, **West2003** shows that in Assiniboine sentences with OSV word order, the fronted object has a preferred focus reading; otherwise, the first argument is interpreted as the subject. This is shown below in (22).

- (22) *škóšobena wāží hokšina že yúda*  
banana a boy DET ate  
'The boy ate a banana (not the apple).' (preferred translation) or  
'A banana ate the boy' (**West2003**)

The same is true of Hidatsa. **Boyle2007** shows that unmarked word order is SOV, with exceptions occurring in topicalization or focus constructions. This is shown below in (23) with neutral SOV word order and (24) OSV order:

- (23) *buushígesh washúgash éegaac*  
 puušihke-š mašúka-š éekaa-c  
 cat-DET.D dog-DET.D see-DECL  
 ‘The cat sees the dog.’ (Boyle2007)

- (24) *masúgash buushígesh éegaac*  
 masúka-š puusihke-š éekaa-c  
 dog-DET.D cat-DET.DDET see-DECL  
 ‘The cat sees the dog.’ (Boyle2007)

Graczyk1991 observes that SOV is neutral word order for Crow as well, and that other word orders have discourse-informational effects. This is shown below, where (25) has neutral word order, and (26) has OVS word order:

- (25) *shikáak-kaatee-sh ashé hii-ák*  
 boy-DIMIN-DET home reach-ss  
 ‘The little boy reached home’ (Graczyk1991)
- (26) *iaxp-úua ítchi-kiss-uua-sh kootáa hii-k hinne talée-sh*  
 their.feather-PL good-sport-PL-DET entirely reach-DECL this oil-DET  
 ‘It entirely covered their beautiful feathers, this oil’ (Graczyk1991)

In (26), OSV word order is used to deemphasize the discourse-old subject *talee* ‘oil’, and emphasize the object *iaxp* ‘their feather’. Based on these word order restrictions, West, Boyle and Graczyk all argue that Assiniboiné, Hidatsa and Crow are configurational.

The second piece of evidence that has been previously used to show the presence of a VP in Siouan languages comes from enclitics. West2003 and Boyle2007 use the scope of enclitics to argue for a VP constituent. Boyle2007 demonstrates that the Hidatsa habitual enclitic *-ʔii* takes scope over both verbs in the example in (27) below:

- (27) *“doosha wiriʔéeraga adáʔa kʰúuiidoog”*  
*“tooš<sup>h</sup>a wiri-éeraka atá-a kʰúu-ʔii-took”*  
 how sun-DEM appear-CONT come.up-HAB.SG.SPEC  
 “How does the Sun always appear and come up?” (he wondered) (Boyle2007)

The situation is the same in Assiniboiné. In (28) below, the aspectual clitic *s’a* scopes over both verbs, not just to the one to which it is attached:

- (28) *Wiyá-bi žé-na woyúta spāyá-bi hikhá hayábi gaǵéǵe-bi s’a*  
 woman-PL the-PL food cook-PL conj clothes sew-PL HAB  
 ‘The women usually cooked the food and sewed the clothes’ (West2003)

The sentence in (28) cannot mean ‘the women cooked the food and usually sewed the clothes’ (West 2003). If Assiniboiné had no VP, this reading should not be possible: the clitic should only be able to scope over the verb it is attached to. Both **Boyle2007** and **West2003** argue that the clitics head a functional projection that c-commands the coordinated elements, which are VPs. Thus, enclitic scope provides evidence in support of the existence of a VP in Hidatsa and Assiniboiné.

It has been argued for other Siouan languages (Boyle 2007, West 2003) that coordination itself targets VPs, since coordination can target a constituent that includes the object and verb. In contrast, coordination can never target the subject and verb to the exclusion of the object. **Boyle2007** shows that in Hidatsa, the subject of the second clause must be the same as the subject of the first clause in (29):

- (29) *Alex wía ikáaa réec*  
 Alex wía ikáa-a rée-c  
 Alex woman see-CONT leave-DECL  
 ‘Alex saw the woman and (Alex/\*the woman) left.’ (**Boyle2007**)

**West2003** provides similar data from Assiniboiné to support a configurational analysis, as shown in (30) below:

- (30) *Wíyā že [wicá še wayága] hīkná [céya]*  
 woman DET man the see conj cry  
 ‘The woman saw the man and cried’  
 \*‘The woman saw the man and he cried’ (**West2003**)

As in Hidatsa, the subject of the second conjoined verb *céya* ‘cry’ in (30) can only be *wíyā* ‘the woman’. In a nonconfigurational language, either NP should be able to be the subject of the second verb; thus Boyle and West argue that Hidatsa and Assiniboiné are configurational and have a VP constituent.

### 3.2 Hocąk Data

In the previous subsection, we presented previous arguments for a configurational analysis of several Siouan languages. In this section, we show that the tests used by **Boyle2007** for Hidatsa, **Graczyk1991** for Crow, and **West2003** for Assiniboiné yield the same results when applied to Hocąk.

First, word order is crucial to disambiguate subjects and objects in Hocąk. In (31) below, the first argument is interpreted as the subject:

- (31) *Wijukra šųųkra haja.*  
 wijuk-ra šųųk-ra Ø-haja  
 cat-DEF dog-DEF 3s/o-see  
 ‘The cat saw the dog’  
 ≠ ‘The dog saw the cat’

A reading in which the dog saw the cat is also possible for (31), but only when the first argument is followed by an intonational pause.

As shown in the previous section, Boyle2007 and West2003 provided evidence from enclitic scope to show that Hidatsa and Assiniboiné have a VP constituent. The same proves true in Hocak. In (32)-(34) below, the enclitics *gini* ‘already’, *ege* ‘might’ and *žeeži* ‘hopefully’ take scope over both coordinated verbs in the (b) examples, even though they are only attached to the second verb.

- (32) a. *Hunterga toora tuuc wahiigini.*  
 Hunter-ga too-ra tuuc wa-Ø-hii=gini  
 Hunter-PROP potato-DEF be.cooked 3O.PL-3S-CAUS=already  
 ‘Hunter already cooked the potatoes.’  
 b. *Hunterga toora tuuc wahii anaga warucgini.*  
 Hunter-ga too-ra tuuc wa-Ø-hii anaga wa-Ø-ruuc=gini  
 Hunter-PROP potato-DEF be.cooked 3O.PL-3S-CAUS and 3O.PL-3S-eat=already  
 ‘Hunter already cooked the potatoes and ate them.’
- (33) a. *Matejaga tookewehiege.*  
 Mateja-ga Ø-tookewehi=ege  
 Mateja-PROP 3s/o-be.hungry=might  
 ‘Mateja might (very well) get hungry.’  
 b. *Matejaga tookewehi anaga kerege.*  
 Mateja-ga Ø-tookewehi anaga Ø-kere=ege  
 Mateja-PROP 3s-be.hungry and 3s-leave=might  
 ‘Mateja might (very well) get hungry and leave.’
- (34) a. *Bryanga ništašjak taaxu ruwžeeži.*  
 Bryan-ga ništašjak taaxu Ø-ruwi=žeeži  
 Bryan-PROP coffee 3s/o-buy=wish  
 ‘Hopefully Bryan will buy coffee.’

- b. *Bryanga nįįtašjak taaxu ruwį anaga hųųk'ųžeeži.*  
 Bryan-ga nįįtašjak taaxu Ø-ruwį anaga <hį>Ø-hok'ų=žeeži  
 Bryan-PROP coffee 3s/o-buy and <1o>3s-give=wish  
 'Hopefully Bryan will buy coffee and give it to me.'

If Hocąk lacked a VP, this pattern would be unexpected: the clitics should only be able to scope over the verb to which they are attached. Instead, the clitics in the (b) examples above take scope over both coordinated verb phrases. This indicates that the constituent that clitics scope over is a VP, and that these enclitics attach at the VP level.

Lastly, Boyle2007 and West2003 showed that coordination targets VPs in Hidatsa and Assiniboiné, providing further evidence for a configurational analysis of these languages. Coordination also targets VPs in Hocąk, as shown in (35) and (36) below. In these examples, the subject of the first conjunct, *wąąkwąžoonįra* 'the hunter', must also be the subject of the second conjunct. Example (36) is especially revealing, as the only possible meaning is not as pragmatically plausible: it would (arguably) be more likely for the bear to die in that scenario.

- (35) *Wąąkwąžoonįra hkukura ruxe ankaga t'eehii.*  
 wąąkwąžoonki-ra hkukuc-ra Ø-ruxe ankaga Ø-t'ee-hii  
 hunter-DEF bear-DEF 3s/o-chase and 3s-die-CAUS  
 'The hunter chased and killed the bear.'
- (36) *Wąąkwąžoonįra hųųcra guuc anaga t'ee.*  
 wąąkwąžoonį-ra hųųc-ra Ø-guuc anaga Ø-t'ee  
 hunter-DEF bear-DEF 3s/o-shoot and 3s-die  
 'The hunter shot the bear and [the hunter] died.'

If there was no subject-object asymmetry, either 'hunter' or 'bear' should be a possible subject for the second conjuncts in (35) and (36). Thus, these examples show that coordination in Hocąk targets a constituent that excludes the subject; namely, the VP.

## 4 New Evidence for a VP in Hocąk

### 4.1 Scope of Locatives

The first piece of new evidence for a VP involves the interpretation of locative adjuncts. The neutral position of locative adjuncts is shown in (37) with *hoxat-aprookeeja* 'in the woods' appearing between the object and the verb.



- (37) *Wijukra šuukra hoxataprookeeja haja.*  
 wijuk-ra šuuk-ra hoxatap-rook-eeja Ø-haja  
 cat-DEF dog-DEF woods-inside-there 3s/o-see  
 ‘The cat saw the dog in the woods.’

The translation in (37) is ambiguous. The English sentence has three possible interpretations, as outlined in (38) below.

- (38) a. The cat is in the woods, and it saw the dog. The dog is not in the woods.  
 b. The dog is in the woods, and the cat saw the dog. The cat is not in the woods.  
 c. Both the cat and the dog are in the woods, and the cat saw the dog.

In Hocak, however, only the interpretations in (38b) and (c) are available for (37); that is, the locative adjunct must describe the location of the object. This is true even if the locative *hoxataprookeeja* ‘in the woods’ is clause-initial or clause-final, as in (39a) and (b), respectively. These sentences cannot have the reading in (38a), where only the dog can be in the woods.

- (39) a. *Hoxataprookeeja, wijukra šuukra haja.*  
 hoxatap-rook-eeja wijuk-ra šuuk-ra Ø-haja  
 woods-inside-there cat-DEF dog-DEF 3s/o-see  
 ‘In the woods, the cat saw the dog.’  
 b. *Wijukra šuukra haja, hoxataprookeeja*  
 wijuk-ra šuuk-ra Ø-haja hoxatap-rook-eeja  
 cat-DEF dog-DEF 3s/o-see woods-inside-there  
 ‘The cat saw the dog in the woods.’

A nonconfigurational analysis cannot readily account for this subject-object asymmetry: if Hocak had a flat structure, we would not expect the locative to be able to modify only the object.

Alternatively, we argue that the object NP is the unique complement to the verb. We account for the scope facts by suggesting that the locative phrase can merge in two locations. If the locative adjoins to the VP (that is, the constituent that contains the object and the verb) then the reading in (38b) is available: the locative only has scope over the object. On the other hand, if the locative adjoins to a position above the VP, then the reading in (38c) is obtained: the locative then scopes over both arguments.

## 4.2 Verb Phrase Ellipsis (VPE)

As first discussed by Johnson2013 Hocak displays a process of VPE in which the light verb *uŋ* replaces the verb and the object, to the exclusion of the subject (40):

- (40) *Cecilga waŋq̄tirehiŋq̄ ruw̄i kjane anaga nee ŋge haŋu kjane.*  
 Cecil-ga waŋq̄tire-hiŋq̄ Ø-ruw̄i kjane anaga nee ŋge ha-ŋu kjane  
 Cecil-PROP car-INDEF 3s/o-buy FUT and I also 1s-do FUT  
 ‘Cecil will buy a car, and I will too.’

The examples in (41) show that VPE also targets certain adjuncts. (41a) shows that VPE targets VPs containing temporal adjuncts. In (41b), a locative adjunct is included in the ellipsis site. (41c) exemplifies VPE with a comitative. In all of these examples, the adjunct in the antecedent VP is interpreted as being present in the ellipsis site, indicating that *uŋ* targets the entire VP rather than just the object.

- (41) a. *Cecilga xjanqre waŋi anaga Bryanga ŋge uŋ.*  
 Cecil-ga xjanqre Ø-waŋi anaga Bryan-ga ŋge Ø-ŋu  
 Cecil-PROP yesterday 3s-dance and Bryan-PROP also 3s-do  
 ‘Cecil danced yesterday, and Bryan did too.’
- b. *Cecilga ciinək eja waŋq̄tirehiŋq̄ ruw̄i anaga Bryanga*  
 Cecil-ga ciinək eja waŋq̄tire-hiŋq̄ Ø-ruw̄i anaga Bryan-ga  
 Cecil-PROP city there car-INDEF 3s/o-buy and Bryan-PROP  
*ŋge uŋ.*  
*ŋge uŋ.*  
 also Ø-ŋu 3s-do  
 ‘Cecil bought a car in the city, and Bryan did too.’
- c. *Cecilga hinəkra hakiŋu waŋi anaga Bryanga ŋge uŋ.*  
 Cecil-ga hinək-ra hakiŋu Ø-waŋi anaga Bryan-ga ŋge Ø-ŋu  
 Cecil-PROP woman-DEF be.with 3S-dance and Bryan-PROP also 3s-do

‘Cecil danced with the woman, and Bryan did too.’

Constructions with *uŋ* cannot be analyzed as a *pro*-form, as object extraction is permitted. (42a) shows that focused elements can be extracted from the ellipsis site. Furthermore, antecedent-contained deletion (ACD) is also possible (42b).

ACD would not be possible if *uɥ* were a *pro*-form, since the head of the relative clause is the object of the elided verb phrase.

- (42) a. *Meredithga waagaxra ruwɪ, nɯnige wiiwagaxra haqke*  
Meredith-ga waagax-ra Ø-ruwɪ nɯnige wiiwagax-ra haqke  
Meredith-PROP paper-DEF 3s/o-buy but pencil-DEF NEG  
*uɯnɪ.*  
Ø-ɥɥ-nɪ  
3s-do-NEG  
‘Meredith bought paper but didn’t (buy) pencils.’
- b. *Bryanga ruwɪ, ɟaagu Meredithga uɥra.*  
Bryan-ga Ø-ruwɪ ɟaagu Meredith-ga Ø-ɥɥ-ra  
Bryan-PROP 3s/o-buy what Meredith-PROP 3S-do-COMP  
‘Bryan bought what(ever) Meredith did.’

VPE is also permitted in embedded clauses and adjuncts, which is also inconsistent with a *pro*-form analysis. (43a) exemplifies VPE in an embedded clause, and (43b)-(c) show that ellipsis sites are licit inside adjunct clauses.

- (43) a. *Bryanga haqke niɟtaʃjak taaxu ruwɪnɪ, nɯnige*  
Bryan-ga haqke niɟtaʃjak taaxu Ø-ruwɪ-nɪ nɯnɪg  
Bryan-PROP NEG coffee 3s/o-buy-NEG but  
*Meredithga uɥra yaaperesʃanɔ.*  
Meredith-ga Ø-ɥɥ-ra <ha>hiperes-ʃanɔ  
Meredith-PROP 3s-do-COMP <1s>know-DECL  
‘Bryan didn’t buy coffee, but I know Meredith did.’
- b. *Bryanga uɥ kjanegi Meredithga Hunterga (niʃge)*  
Bryan-ga Ø-ɥɥ kjane-gi Meredith-ga Hunter-ga niʃge  
Bryan-PROP 3s-do FUT-if Meredith-PROP Hunter-PROP also  
*giʃja hii kjane.*  
Ø-giʃja hii kjane.  
3s/o-visit FUT  
‘Meredith will visit Hunter if Bryan will.’
- c. *Bryanga haqke uɯnige Meredithga (niʃge) haqke*  
Bryan-ga haqke Ø-ɥɥ-nɪ-ge Meredith-ga niʃge haqke  
Bryan-PROP NEG 3s-do-NEG-because Meredith-PROP also NEG

*Hunterga gišja hiinj.*  
 Hunter-ga gišja hii-nj  
 Hunter-PROP 3s/O-visit-NEG  
 ‘Meredith didn’t visit Hunter because Bryan didn’t.’

The presence of VPE constitutes strong evidence for a configurational analysis of Hocak: in a flat structure, there is no VP constituent that can be targeted by ellipsis. Since at least Ross1969 the presence of VPE in English has been used as an argument in favor of a VP constituent that contains the verb and object to the exclusion of the subject. Hocak also displays VPE, which leads us to conclude that Hocak must have a VP constituent.

### 4.3 Quantifier Scope

Another piece of evidence in favor of a configurational analysis of Hocak comes from quantifier scope. As discussed in Johnson 2014 and Johnson & Rosen 2014, linear order determines the scope of quantified phrases in Hocak. In a sentence with SOV word order, the subject obligatorily distributes over the object. This is shown below in (44a), where the sentence can only describe a situation in which each man caught a different fish. However, the interpretation changes with SVO word order: (44b) can only describe a situation in which each man caught the same fish. Lastly, in a sentence with OVS word order, the subject scopes over the object, as shown in (44c).

- (44) a. *Wqakra hižakišqna hoohižq gisikire.*  
 wqak-ra hižakišqna hoo-hižq Ø-gisik-ire.  
 man-DEF each fish-INDEF 3O-catch-3S.PL  
 ‘Each man caught a fish.’ (each > a; \*a > each)
- b. *Wqakra hižakišqna gisikire, hoohižq.*  
 wqak-ra hižakišqna Ø-gisik-ire, hoo-hižq.  
 man-DEF each 3O-catch-3S.PL fish-INDEF  
 ‘Each man caught a fish.’ (a > each; \*each > a)
- c. *Hoohižq gisikire, wqakra hižakišqna.*  
 hoo-hižq Ø-gisik-ire, wqak-ra hižakišqna.  
 fish-INDEF 3O-catch-3S.PL man-DEF each  
 ‘Each man caught a fish.’ (each > a; \*a > each)

These facts cannot be adequately accounted for if the subject and object are in a flat structure in Hocak: there is no principled way that linear order could

account for the interpretation of the sentences in (44). In contrast, the interpretation of basic SOV word order in (44a) is straightforwardly explained under a VP analysis: the subject is higher than the object and thus scopes over it. Furthermore, we follow **Johnson2014** and Johnson & **Rosen2014** and propose that postverbal objects (44b) and subjects (44c) obligatorily take wide scope because they undergo movement that targets a position high in the clause.

#### 4.4 Resultatives and the Direct Object Restriction

We now turn to an argument from resultatives in Hocak. Resultatives are complex predicates that put together a means predicate (i.e., a verb) and a result predicate, where neither is licensed by a conjunction or an adposition (**Williams2008**). As seen in (45), Hocak exhibits resultatives: (45a) shows that the result *paras* ‘flat’ is immediately to the left the verb *gistak* ‘hit’, and a similar example is shown in (45b) with the result *šuuc* ‘red and the verb *hogiha* ‘paint’.

- (45) a. *Meredithga mąqsra paras gistakşqnq.*  
 Meredith-ga mąqs-ra paras Ø-gistak-şqnq  
 Meredith-PROP metal-DEF flat 3s/O-hit-DECL  
 ‘Meredith hit the metal flat.’  
 b. *Cecilga wažqtirera šuuc hogiha.*  
 Cecil-ga wažqtire-ra šuuc Ø-hogiha  
 Cecil-PROP car-DEF red 3s/O-paint  
 ‘Cecil painted the car red.’

Subjects and objects behave differently in the resultative construction. First, only the object can be modified by the result. Second, only prototypical unaccusative verbs can be used in the resultative construction. We use both of these pieces of evidence to support our claim that there is a VP constituent in Hocak.

It has previously been observed for other languages, such as English, that the resultative predicate must be linked to the “deep” object of the verb. Levin & Rapaport **Hovav1995** refer to this constraint as the *Direct Object Restriction* (henceforth, DOR). In particular, the restriction states that only the object of a transitive verb or the subject of an unaccusative verb can be modified by the result predicate. In contrast, a result predicate cannot be linked to the subject of an unergative verb. Consider the representative English examples below in (46).

- (46) a. John hammered the metal flat. (transitive)  
 b. The water froze solid. (unaccusative)

- c. \*The dog barked hoarse. (unergative; ungrammatical as resultative)

Hocak resultatives obey the DOR. This restriction is shown in (47) with the transitive verb *gistak* ‘hit’.

- (47) *Rockyga wanjra šuuc gistakšqnaq.*  
 Rocky-ga wani-ra šuuc Ø-gistak-šana  
 Rocky-PROP meat-DEF red 3s/O-hit-DECL  
 = ‘Rocky hit the meat red.’  
 ≠ ‘Rocky hit the meat red and he was red as a result.’

Since *wanjra* ‘the meat’ is in object position, it can be modified by the result, while the subject of matrix verb Rocky cannot. Thus, (47) establishes a clear subject-object asymmetry. If Hocak had a flat structure, we would not expect the result to only be able to modify the object. In other words, the asymmetry would be difficult to explain without the presence of a VP constituent.

Furthermore, only unaccusative (as opposed to unergative; cf. Perlmutter 1978) verbs are compatible with resultatives in Hocak. This is demonstrated by the contrast between (48) and (49).

- (48) a. *Xaigirara sgaasgap ziibre.*  
 xaigira-ra sgaasgap Ø-ziibre  
 chocolate-DEF sticky 3s-melt  
 ‘The chocolate melted sticky.’  
 b. *Waisgapra seep taaxu.*  
 waisgap-ra seep Ø-taaxu  
 bread-DEF black 3s-burn  
 ‘The bread burned black.’
- (49) a. \**Hinukra nijra teek naqwaq.*  
 hinuk-ra niji-ra teek Ø-naqwaq  
 woman-DEF throat-DEF sore 3s/O-sing  
 Intended: ‘The woman sang her throat sore.’  
 b. \**Henryga waguirera paras naqkšqnaq.*  
 Henry-ga waguire-ra paras Ø-naqk-šana  
 Henry-PROP shoe-DEF flat 3s/O-run-DECL  
 Intended: ‘Henry ran the shoe(s) flat.’

Prototypical unaccusatives, such as *ziibre* ‘melt’ and *taaxu* ‘burn’, can serve as the matrix verb of resultatives in (48). On the other hand, prototypical unergative

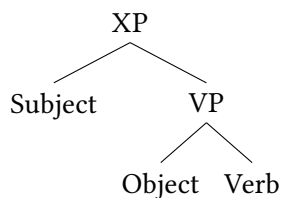
verbs, such as *nq̣qwq* ‘sing’ and *nq̣qk* ‘run’, cannot, as in (49). Compare the Hocak examples in (49) to the English example in (46c). (46c) is ungrammatical because there was no object present for the result predicate to modify. In contrast, while the Hocak examples in (49) have an object, they are still ungrammatical.

Assuming Perlmutter’s (1978) unaccusative hypothesis, the single argument of an unaccusative verb is internal to the VP, whereas the argument of an unergative verb is VP-external. The contrast between (48) and (49) provides evidence that Hocak has an unaccusative-unergative split:<sup>1</sup> if there were no such distinction between unaccusative and unergative verbs, (49) would be expected to be grammatical, contrary to fact. If the Hocak VP were flat, we would not expect unergative verbs with resultatives to be ungrammatical. As a result, this shows that the VP in Hocak is not flat: we conclude that the data in this section provides further evidence for a VP in Hocak.

#### 4.5 Structure of the Hocak VP

In the sections above, we have seen that Hocak shows subject-object asymmetries with respect to word order, the enclitic scope, and coordination. These same subject-object asymmetries have been previously documented in other Siouan languages. We also demonstrated that the facts from VPE, resultatives and the scope of adjuncts and arguments constitute additional subject-object asymmetries. The fact that we find so many asymmetries between the subject and object indicates that the subject and the object do not both form a constituent with the verb. Instead, we argue that these facts can be accounted for if the object is the complement of the verb in a VP constituent. The subject is base generated in a phrase that is external to the VP, which we tentatively label “XP.” A basic transitive verb phrase is represented in (50).

(50)



<sup>1</sup> To the best of our knowledge, such a split has not been previously observed in Hocak. However, see Williamson1984 and West2003 among others, for possible unaccusative-unergative splits in Lakota and Assiniboine, respectively.

## 5 Conclusion

The question of whether Siouan languages are configurational or nonconfigurational has been under debate for the past three decades. In this paper, we have presented new evidence to support a configurational analysis of Hocąk. We first showed that the tests previously used by **Boyle2007** for Hidatsa, **Graczyk1991** for Crow and **West2003** for Assiniboiné to argue in favor of a VP constituent are also applicable in Hocąk. Next we presented novel evidence from locative scope verb phrase ellipsis, quantifier scope, and resultative constructions which further support our claim that a VP constituent exists in Hocąk.

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## Abbreviations

The abbreviations used in the Hocąk examples are: 1, 2, 3 = first, second, third person; comp = complementizer; decl = declarative; Def = definite; DUR = durative; fut = future; indef = indefinite; neg = negative; o = object agreement; poss = possessive; Q = question; prop = proper noun; pst = past tense; pl = plural; refl = reflexive; s = subject agreement; sg = singular. The glosses for data from other languages follow the conventions of the works they are drawn from.

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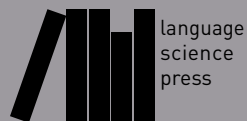
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