

## Chapter 14

# Evidence for a VP constituent in Hocąk

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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.

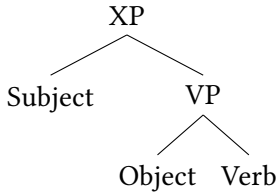
## 1 Introduction

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).

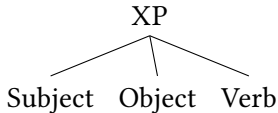


(1)



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 §2, we outline previous analyses that argue in favor of a flat structure for various Siouan languages, and then discuss how the Hocąk data compare. §3 reviews arguments for a VP in other Siouan languages, and shows that similar arguments can be made for Hocąk. In §4, we provide four new arguments in favor of a VP analysis of Hocąk. §5 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). §2.1 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 §2.2, we review the previous arguments for a flat VP structure in Siouan languages. Then in §2.3, we show that Hocąk displays all three of the prototypical characteristics of being a nonconfigurational language.

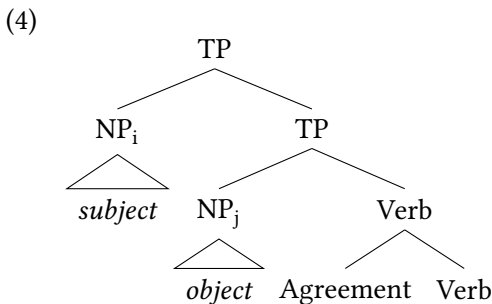
### 2.1 Nonconfigurationality and pronominal arguments: Hale (1983) and Jelinek (1984)

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

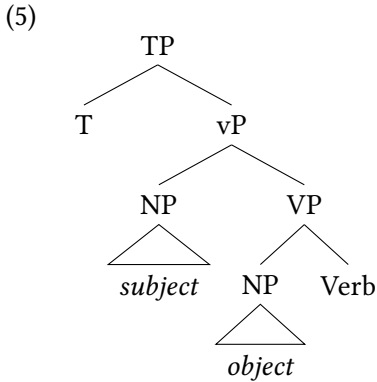
Hale's approach makes use of two levels of representation: *lexical structure* (LS) and *phrase structure* (PS). Hale argues that all languages are configurational at LS; that is, the subject asymmetrically c-commands the object. However, this asymmetry is not realized at the level of PS in nonconfigurational languages: the phrase structure is flat. This is the definition of configurationality that is most adopted by Siouanists. For example, Boyle (2007) 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.



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.



Example (5) shows that the subject and object are not in adjunct positions: they do not adjoin to the TP (or Sentence). Following Chomsky (1995), 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: Williamson (1984), 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.

Williamson (1984) 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 wqyqke ki ilukcha he?*  
 Mary who see COMP you.think Q  
 ‘Who do you think that Mary saw?’ (Williamson 1984: 281, (64a))
- (7) *Tuwa hel naži 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) *∅-tha-khóla-ku ki tuwá wqyáka 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 Hocak data

Hale (1983) and Jelinek (1984) 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 Baker (1996).

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)–(12e).

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

- e. *Ruwj, hinukra, wažqirera.*  
 Ø-*ruwj hinuk-ra wažqire-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,*) *hocičihižq (hinukhižq,) wiiwagaxhižq (hinukhižq,*  
*hinuk-hižq hociči-hižq hinuk-hižq wiiwagax-hižq hinuk-hižq*  
 woman-INDEF boy-INDEF woman-INDEF pencil-INDEF woman-INDEF  
*hok’u.*  
 Ø-*hoku*  
 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 šujukra hoxataprookeeja haja.*  
*wijuk-ra šujuk-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. *Hoxataprookeeja 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 *šujukra*. 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. *Wjukra šuqk že'e haja.*  
*wjuk-ra šuqk že'e Ø-haja*  
 cat-DEF dog that 3S/O-see  
 'The cat saw that dog.'
- b. *Že'e wjukra šuqk haja.*  
*že'e wjuk-ra šuqk Ø-haja*  
 that cat-DDEF dog 3s/o-see  
 'The cat saw that dog.'

Discontinuous constituents are expected under the analyses of nonconfigurationality by Hale (1983) and Jelinek (1984), 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 Baker (1996). 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 homqkij.*  
*Ee Bryan-ga hi'uni hii-ra Ø-homqkij*  
 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 hiraperesšanq.*  
*Ee Hunter-ga Meredith-ga Ø-haja-ra Ø-hiraperes-šanq*  
 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 Baker (1996) to be nonexistent in nonconfigurational languages. Instead, reflexive and reciprocal meanings are expressed morphologically on the verb, as seen in (18):



- (18) *Meredithga anaga Hunterga hokikijire.*  
*Meredith-ga anaga Hunter-ga <kiki>hoji-ire*  
 Meredith-PROP and Hunter-PROP <REFL>hit-3S.PL  
 ‘Meredith and Hunter hit each other.’

Third, according to Baker (1996), 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 *hanqqc* ‘all/every’ and *hižqkišqñq* ‘each’ trigger plural agreement on the verb.

- (19) a. *Bryanga waisgap sguu xuwuxuwura hanqq waruucšqñq.*  
*Bryan-ga waisgap sguu xuwuxuwu-ra hanqq wa-Ø-ruuc-šqñq*  
 Bryan-PROP cookie-DEF all 3O.PL-3S-eat-DECL  
 ‘Bryan ate every cookie/all of the cookies.’
- b. *Hocįcįra hižqkišqñq waisgap sguu xuwuxuwuhižq ruucire.*  
*hocįcį-ra hižqkišqñq waisgap sguu xuwuxuwu-hižq 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 (20b), respectively.

- (20) a. *Wawaahiwira hqqke wažq hiiranj.*  
*wa<ha>hohi-wi-ra hqqke wažq hii-ire-nj*  
 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. *Hqqkižq niįtašjak taaxura karasgepnj.*  
*hqqke-hižq niįtašjak taaxu-ra Ø-kara-rasgep-nj*  
 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’ųni hiira peežega haja?*  
*hi’ųni hii-ra peežega Ø-haja*  
 mother 3POSS-DEF who 3S/O-see

- b. *Peežega hi'ųni hiira haja?*  
*peežega hi'ųni 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: Boyle (2007), Graczyk (1991), West (2003)

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, West (2003) shows that in Assiniboiné 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 hokšína že yúda.*  
*banana a boy DET ate*  
 'The boy ate a banana (not the apple).' (preferred translation) or  
 'A banana ate the boy' (West 2003: 49)

The same is true of Hidatsa. Boyle (2007) 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.’ (Boyle 2007: 214)
- (24) *Masúgash buushígesh éegaac.*  
*masúka-š puusihke-š ékaa-c*  
 dog-DET.D cat-DET.DDET see-DECL  
 ‘The cat sees the dog.’ (Boyle 2007: 214)

Graczyk (1991) 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.’ (Graczyk 1991: 101)
- (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.’ (Graczyk 1991: 103)

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 Assiniboine, 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. West (2003) and Boyle (2007) use the scope of enclitics to argue for a VP constituent. Boyle (2007) demonstrates that the Hidatsa habitual enclitic *-?ii* takes scope over both verbs in the example in (27) below:

- (27) *Doosha wiri?éeraga adá?a k<sup>h</sup>úuiidoog?*  
*tooš<sup>h</sup>a wiri-éeraka atá-a k<sup>h</sup>úu-?ii-took*  
 how sun-DEM appear-CONT come.up-HAB.SG.SPEC  
 ‘How does the Sun always appear and come up? (he wondered)’ (Boyle 2007: 223)

The situation is the same in Assiniboine. 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 hīkná 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.' (West 2003: 39)

The sentence in (28) cannot mean 'the women cooked the food and usually sewed the clothes' (West 2003). If Assiniboine 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 Boyle (2007) and West (2003) 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 Assiniboine.

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. Boyle (2007) 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.' (Boyle 2007: 217)

West (2003) provides similar data from Assiniboine 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' (West 2003: 34)

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 Assiniboine 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 Boyle (2007) for Hidatsa, Graczyk (1991) for Crow, and West (2003) for Assiniboine yield the same results when applied to Hocak.

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

- (31) *Wijukra šųųkra haja.*  
*wijuk-ra šųųk-ra ∅-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, Boyle (2007) and West (2003) provided evidence from enclitic scope to show that Hidatsa and Assiniboine have a VP constituent. The same proves true in Hocak. In (32)-(34) below, the enclitics *gįnį* ‘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 wahiigįnį.*  
*Hunter-ga too-ra tuuc wa-∅-hii=gįnį*  
 Hunter-PROP potato-DEF be.cooked 3O.PL-3S-CAUS=already  
 ‘Hunter already cooked the potatoes.’
- b. *Hunterga toora tuuc wahii anąga*  
*Hunter-ga too-ra tuuc wa-∅-hii anąga*  
 Hunter-PROP potato-DEF be.cooked 3O.PL-3S-CAUS and  
*warucgįnį.*  
*wa-∅-ruuc=gįnį*  
 3O.PL-3S-eat=already  
 ‘Hunter already cooked the potatoes and ate them.’
- (33) a. *Matejaga tookewehiege.*  
*Mateja-ga ∅-tookewehi=ege*  
 Mateja-PROP 3s/o-be.hungry=might  
 ‘Mateja might (very well) get hungry.’
- b. *Matejaga tookewehi anąga kerege.*  
*Mateja-ga ∅-tookewehi anąga ∅-kere=ege*  
 Mateja-PROP 3s-be.hungry and 3s-leave=might  
 ‘Mateja might (very well) get hungry and leave.’

- (34) a. *Bryanga niĵtaŝjak taaxu ruwižeeži.*  
*Bryan-ga niĵtaŝjak taaxu Ø-ruwi=žeeži*  
 Bryan-PROP coffee 3s/o-buy=wish  
 ‘Hopefully Bryan will buy coffee.’
- b. *Bryanga niĵtaŝjak taaxu ruwi anaga huŷk’užeeži.*  
*Bryan-ga niĵtaŝjak taaxu Ø-ruwi anaga <hĵ>Ø-hok’u=žeeži*  
 Bryan-PROP coffee 3s/o-buy and <10>3s-give=wish  
 ‘Hopefully Bryan will buy coffee and give it to me.’

If Hocak 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, Boyle (2007) and West (2003) showed that coordination targets VPs in Hidatsa and Assiniboine, providing further evidence for a configurational analysis of these languages. Coordination also targets VPs in Hocak, as shown in (35) and (36) below. In these examples, the subject of the first conjunct, *wqk-wažoonĵra* ‘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) *Wqkwažoonĵra hkukura ruxe ankaga t’eehii.*  
*wqkwažoonki-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) *Wqkwažoonĵra huŷcra guuc anaga t’ee.*  
*wqkwažoonĵ-ra huŷc-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 Hocak targets a constituent that excludes the subject; namely, the VP.

## 4 New Evidence for a VP in Hocak

### 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 *hoxataprookeeja* ‘in the woods’ appearing between the object and the verb.

- (37) *Wjukra šuukra hoxataprookeeja haja.*  
*wjuk-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 (38c) 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 (39b), respectively. These sentences cannot have the reading in (38a), where only the dog can be in the woods.

- (39) a. *Hoxataprookeeja, wjukra šuukra haja.*  
*hoxatap-rook-eeja wjuk-ra šuuk-ra Ø-haja*  
 woods-inside-there cat-DEF dog-DEF 3s/O-see  
 ‘In the woods, the cat saw the dog.’  
 b. *Wjukra šuukra haja, hoxataprookeeja.*  
*wjuk-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 Johnson (2013), Hocak displays a process of VPE in which the light verb *u* replaces the verb and the object, to the exclusion of the subject (40):

- (40) *Cecilga wažqtirehižq ruwı kjane anąga nee ŝge haųų kjane.*  
*Cecil-ga wažqtire-hižq ∅-ruwı kjane anąga nee ŝge ha-uų 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 *u* targets the entire VP rather than just the object.

- (41) a. *Cecilga xjanąre waši anąga Bryanga ŝge u.*  
*Cecil-ga xjanąre ∅-waši anąga Bryan-ga ŝge ∅-u*  
 Cecil-PROP yesterday 3S-dance and Bryan-PROP also 3S-do  
 ‘Cecil danced yesterday, and Bryan did too.’
- b. *Cecilga ciinąk eja wažqtirehižq ruwı anąga Bryanga*  
*Cecil-ga ciinąk eja wažqtire-hižq ∅-ruwı anąga Bryan-ga*  
 Cecil-PROP city there car-INDEF 3S/O-buy and Bryan-PROP  
*ŝge u.*  
*ŝge u.*  
 also ∅-u 3S-do  
 ‘Cecil bought a car in the city, and Bryan did too.’
- c. *Cecilga hinųkra hakižu waši anąga Bryanga ŝge*  
*Cecil-ga hinųk-ra hakižu ∅-waši anąga Bryan-ga ŝge*  
 Cecil-PROP woman-DEF be.with 3S-dance and Bryan-PROP also



*uy*.

Ø-*uy*

3s-do

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

Constructions with *uy* 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 ex:jrs:42b. ACD would not be possible if *uy* were a *pro*-form, since the head of the relative clause is the object of the elided verb phrase.

- (42) a. *Meredithga waagaxra ruwi, nuɲige wiiwagaxra haqke*  
*Meredith-ga waagax-ra Ø-ruwi nuɲige wiiwagax-ra haqke*  
 Meredith-PROP paper-DEF 3s/o-buy but pencil-DEF NEG  
*uyɲi.*  
 Ø-*uy-ni*  
 3s-do-NEG  
 ‘Meredith bought paper but didn’t (buy) pencils.’
- b. *Bryanga ruwi, jaagu Meredithga uyra.*  
*Bryan-ga Ø-ruwi jaagu Meredith-ga Ø-uy-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)–(43c) show that ellipsis sites are licit inside adjunct clauses.

- (43) a. *Bryanga haqke niɲtaʃjak taaxu ruwiɲi, nuɲige*  
*Bryan-ga haqke niɲtaʃjak taaxu Ø-ruwi-ni nuɲig*  
 Bryan-PROP NEG coffee 3s/o-buy-NEG but  
*Meredithga uyra yaaperesʃqna.*  
*Meredith-ga Ø-uy-ra <ha>hiperes-ʃqna*  
 Meredith-PROP 3s-do-comp <1s>know-decl  
 ‘Bryan didn’t buy coffee, but I know Meredith did.’
- b. *Bryanga uy kjanegi Meredithga Hunterga (niʃge)*  
*Bryan-ga Ø-uy kjanegi Meredith-ga Hunter-ga niʃge*  
 Bryan-PROP 3s-do fut-if Meredith-PROP Hunter-PROP also

*gišja hii kjane.*

*∅-gišja hii kjane.*

3s/O-visit FUT

‘Meredith will visit Hunter if Bryan will.’

- c. *Bryanga haqke uunige Meredithga (nišge) haqke*  
*Bryan-ga haqke ∅-uun-ge Meredith-ga nišge 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 Ross (1969), 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 ∅-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 ∅-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 hižqkišqna.*  
*hoo-hižq Ø-gisik-ire, wqak-ra hižqkišqna*  
 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 Johnson (2014) and Johnson & Rosen (2014) 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 (Williams 2008: 507). 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 maqsra paras gistakšqna.*  
*Meredith-ga maqs-ra paras Ø-gistak-šqna*  
 Meredith-PROP metal-DEF flat 3S/O-hit-DECL  
 ‘Meredith hit the metal flat.’
- b. *Cecilga wažqirera šuuc hogiha.*  
*Cecil-ga wažqire-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 & Rappaport Hovav (1995) 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 gistakšqna.*  
*Rocky-ga wanj-ra šuuc Ø-gistak-šqna*  
 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 nqqwq.*  
*hinuk-ra nij-ra teek Ø-nqqwq*  
 woman-DEF throat-DEF sore 3s/o-sing  
 (Intended: ‘The woman sang her throat sore.’)

- b. \* *Henryga waguirera paras nqakšqnq.*  
*Henry-ga waguire-ra paras Ø-nqak-šqnq*  
 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 *nqawq* ‘sing’ and *nqak* ‘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.

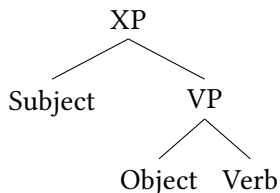
Assuming Perlmutter’s (1978) unaccusative hypothesis, the single argument of an unaccusative verb is internal to the VP, whereas the argument of an unergative verb is VP-external. The contrast between (48) and (49) provides evidence that Hocak has an unaccusative-unergative split:<sup>1</sup> if there 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).

<sup>1</sup> To the best of our knowledge, such a split has not been previously observed in Hocak. However, see Williamson (1984) and West (2003), among others, for possible unaccusative-unergative splits in Lakota and Assiniboine, respectively.

(50)



## 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 Boyle (2007) for Hidatsa, Graczyk (1991) for Crow and West (2003) for Assiniboine 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 Hocak examples are:

1, 2, 3	first, second, third person	O	object agreement
COMP	complementizer	POSS	possessive
DECL	declarative	Q	question
DEF	definite	PROP	proper noun
DUR	durative	PST	past tense
FUT	future	isi PL	plural
INDEF	indefinite	REFL	reflexive
NEG	negative	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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