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.

Contents

Preface

This volume presents a group of papers representing a range of current work on Siouan[1] languages, in memory of our colleague Robert L. Rankin, a towering figure in Siouan linguistics throughout his long career, who passed away in February of 2014.

Beyond honoring a beloved colleague, our aim in this volume is to bring a variety of issues in Siouan linguistics to the attention of the linguistic community. The Siouan language family is a large and important one, with branches geographically distributed over a broad swath of the North American plains and parts of the southeastern United States. This puts it in contact historically with several other families of languages: Algonquian, Iroquoian, Caddoan, Uto-Aztecan, and Muskogean. Siouan languages are, or were historically, spoken by the members of at least 25 ethnic/political groups. One Siouan language, Lakota, is among the handful of indigenous North American languages with younger speakers today. Siouan languages have occasionally risen to prominence in general linguistics, for instance in the study of reduplication (Shaw 1980); and Omaha and Crow (Apsaalooke) have lent their names to two of the basic categories of kinship systems in anthropology. Nonetheless, the Siouan family has been underrepresented in the descriptive and typological literature, and most of the languages in the family are severely understudied. The majority of work on Siouan languages is unpublished, existing only in the form of conference papers or manuscripts.[2] This volume is a step toward making information on Siouan languages more broadly available and encouraging deeper investigation of the myriad issues they raise.

From the perspective of linguistic typology, Siouan languages have many notable features. Many of these features stand to challenge typological generalizations. Here we briefly sketch a few of the most characteristic features of the Siouan family.

[1] "Siouan" is not to be confused with "Sioux", a controversial term referring to Lakota and Dakota people, rarely to Nakota/Nakoda people too, but never correctly to people of other traditionally Siouan-language-speaking communities.

[2] Many of these unpublished works are collected in the electronic Siouan Archive, maintained by John Boyle at the University of California at Riverside.

All Siouan languages possess a rich variety of applicative affixes, confirming Polinsky's (2013) observation that applicatives are common in North America and adding another language family to her list of applicative-rich families in the area. **Helmbrecht2006** divides the applicatives into three templatic slots: locative applicatives, benefactive applicatives, and applicative markers; all of the Siouan languages sampled by Helmbrecht possess at least two applicative morphemes.

All Siouan languages are strongly head-final, and the consensus among syntacticians working with Siouan languages is that all but the supraclausal projections (and even some of these) are underlyingly head-final in Siouan languages, contra Kayne's (1994) Antisymmetry theory.

All Siouan languages have head-internal relative clauses. A series of strong claims regarding the typological implications of head-internal relative clauses (cf. Cole 1987; Murasugi 2000), including purported distinctions between "Japanese-type" and "Lakota-type" constructions (cf. Watanabe 2004; Williamson 1987; Bonneau 1992), propelled Lakota into the debates of theoretical syntax. It has been pointed out that head-internal relative clauses of the kind found in Lakota and other Siouan languages lack the island restrictions found in other languages. On the other hand, **Murasugi2000** argues that languages with head-internal relative clauses must also have head-external relative clauses, which is not true in Siouan languages.

All Siouan languages have verbal affixes which index subject possession of or relationship with the object. They vary with respect to contexts of obligatoriness of these affixes.

Many Siouan languages have grammaticalized systems of speaker-gender marking, with gender-specific morphology for speech-act markers, address terms, and kinship lexemes.[3] Such usage varies depending on stuational factors, however, especially in the case of speech-act markers; see for instance Trechter (1995).

Many Siouan languages have a modal CCV morpheme shape. This does not necessarily imply a preference for CCV phonetic realizations, but may indicate such a preference in the distant past. Another unusual prosodic feature is the preference for second-syllable stress in most Siouan languages. Hoocąk may be the only attested language with default third-syllable stress in the world.

Most Siouan languages have ejective stops. The Dhegiha branch is notable for a four-way glottal-state distinction in its stop series (voiced/lenis, tense/pre-aspirated, ejective and aspirated). Outside of the Dhegiha branch are many Siouan languages which have the unusual feature of a phonemic voicing distinction in

[3] In the case of kinship terms, lexical choice is driven by the gender of the "ego" deictic center, which coincides with speaker gender when there is 1st-person inflection.

fricatives but not in stops.

Verbs play some typologically unusual, prominent roles in Siouan languages. Diachronically, many grammatical items which rarely grammaticalize from verbs in other languages tend to derive from verbs in Siouan languages. For instance, Rankin (1977) documents the derivation of classifiers and articles from verbs. In some Siouan languages, the source verbs and target grammatical items continue to exist in parallel with substantial semantic overlap. The Omaha positional article *t^{h}o^{n}* 'obviative animate specific standing', for instance, is homophonous with the root of *át^{h}o^{n}* 'stand on'.

This diachronic tendency is mirrored by synchronic flexibility. Siouan languages tend to verb freely — to use nearly any open-class stem as a verb. Thus Lakota *wimačhaša* 'I am a man' is derived from the nominal stem *wičhaša* 'man/person' with the 1st-person stative pronominal ma-.

Dhegiha articles (which have many features in common with positional classifiers in e.g. Mayan languages; see Gordon, 2009) are homophonous with postverbal and postclausal functional items like subordinating conjunctions and aspect and evidentiality markers. They have considerable semantic overlap with them too, a fact which comprises another area of blurriness between nominal and verbal syntax: In Ponca, *niáshi^{n}ga-ama* may mean 'the [proximate animate plural specific] people', but also may mean either 'they are people' or 'I am told s/he was a person'. Plurality is a part of the semantics of -ama in both the nominal and the first clausal interpretation. To make matters more interesting, these kinds of ambiguity are not always easily resolved by context alone, and may suggest a "simultaneity" (cf. Woolard 1998) at work as part of speakers' competence.

This flexibility, that is, the ability of one and the same root to function in both nominal and verbal contexts, has led to some discussion on the status and quality of the noun/verb distinction in Siouan languages (see e.g. Helmbrecht, 2002, and Ingham, 2001).

Nominal arguments in general are not required in Siouan languages, thematic relations being signaled by pronominal or agreement markers within the verb — including zero markers. This makes Siouan languages relevant to debates about the existence of "pronominal argument" languages (Jelinek 1984) and to the related issues of whether there are languages with truly nonconfigurational or flat structure. The preponderance of evidence in Siouan is for the existence of hierarchical structure, specifically including a VP (for instance, West, 1998; Johnson, this volume; Johnson et al, this volume; and Rosen, this volume).

Although Siouan languages have many remarkable features in common, they vary on many others. Some Siouan languages have noun incorporation, while

others do not. Some Siouan languages have stress-accent systems, and others have pitch-accent systems. Dhegiha languages are notable in having as many as eleven definite/specific articles indexing features such as animacy, proximacy/obviation (or case), posture/position, number, visibility, motion and dispersion; meanwhile other Siouan languages have no fully grammaticalized articles at all.

Some Siouan languages reflect longtime cultural presence on the Plains, while others are located as far east as the Atlantic Coast, and many more show cultural aspects of both regions. Dhegiha-speaking peoples (Quapaw, Osage, Kaw, Omaha and Ponca, and likely Michigamea as well (Kasak (this volume), Koontz 1995) likely lived at the metropolis at Cahokia, perhaps at a time before any of the descendant groups had separated, and have many Eastern Woodlands-style features of traditional governance and religion, in sharp contrast with the more Plains-typical cultural features of close Lakota and Dakota neighbors and relatives.

One seemingly minor but in fact quite significant issue in Siouan linguistics is the matter of language names and their spelling. Often this involves a self-designation in competition with a name imposed by outsiders. Even when an autonym gains currency among linguists there is sometimes no agreed spelling; so for instance the Otoe self-designation is written Jiwere or Chiwere. For the most part in this volume the choice of language designations has been left to the individual chapter authors. However, after a volume reviewer pointed out that the language of the Ho-Chunk or Winnebago people was spelled no less than ten different ways in various chapters, we encouraged authors to choose one of the two spellings used on the tribe's web site: Ho-Chunk or Hoocąk. Most have voluntarily complied. In a related move, we decided to retranscribe all Lakota data throughout the volume using the now-standard orthography of the *New Lakota Dictionary* (Ullrich et al, 2008).

The volume is divided into four broad areas (Historical, Applied, Formal/Analytical, and Comparative/Cross-Siouan) described in more detail in separate introductions to each part of the volume. Part I consists of five chapters on historical themes: Ryan Kasak evaluates the evidence for a relationship between Yuchi and Siouan; David Kaufman discusses the participation of some Siouan languages in a Southeastern sprachbund; Rory Larson summarizes current knowledge of Siouan sound changes; and Kathleen Danker and Anthony Grant investigate early attempts to write Hoocąk, Kanza, and Osage. Part II opens with Linda Cumberland's interview with Robert Rankin about his work with Kaw language programs. Jimm Goodtracks, Saul Schwartz, and Bryan Gordon present three different perspectives on Baxoje-Jiwere language retention. Justin McBride ap-

plies formal syntax to the solution of a pedagogical problem in teaching Kaw. This applied-linguistics section ends with Jill Greer's sketch grammar of Baxoje-Jiwere. Part III contains formal analyses of individual Siouan languages. David Rood proposes an analysis of /b/ and /g/ in Lakota using the tools of autosegmental phonology and feature geometry. John Boyle elucidates the structure of relative clauses in Hidatsa. Meredith Johnson, Bryan Rosen, and Mateja Schuck, in a series of three interrelated chapters, discuss syntactic constructions in Hoocąk including resultatives and VP ellipsis, which they argue show the language has VP and an adjective category. Part IV consists of three chapters which take a broader view of grammar, considering data from across the Siouan family. Catherine Rudin compares coordination constructions across Siouan; Bryan Gordon does the same with information structure and intonation, and Johannes Helmbrecht with nominal possession constructions.

All four of the areas represented by this volume are ones to which Bob Rankin contributed. His scholarly publications centered primarily around Siouan historical phonology, but included works ranging from dictionaries to toponym studies, from philological investigation of early Siouanists to description of grammaticalization pathways. He was deeply involved in language retention efforts with the Kaw Language Project. Other interests included archeology, linguistic typology, Iroquoian and Muskogean languages, and the history of linguistics.

Bob was a major figure in Siouan linguistics, a mentor to nearly all living Siouanists, and a mainstay of the annual Siouan and Caddoan Linguistics Conference meetings for decades. Trained in Romance and Indo-European linguistics, with a specialty in Romanian (Ph.D. University of Chicago 1972), he shifted gears soon after leaving graduate school, and became an expert in Siouan languages, especially the Dhegiha branch, with special focus on Kaw. From the mid 1970s through the end of his life, he devoted himself to Siouan studies, both practical and scholarly. His long association with the Kaw Tribe led to a grammar and dictionary of that language (see Cumberland, this volume), and he also produced a grammar of Quapaw, and briefly conducted field work on Omaha-Ponca and Osage. At the University of Kansas he directed dissertations on Lakota (Trechter, 1995) and Tutelo (Oliverio, 1996) as well as several M.A. theses on Siouan languages, and taught a wide variety of courses including field methods and structure of Lakota and Kansa as well as more theoretical courses in phonology, syntax, and historical linguistics. Perhaps Bob's greatest gift to the field was his encouragement of others. At conferences and on the Siouan List email forum, he was unfailingly patient and encouraging, answering all questions seriously, explaining linguistic terms to non-linguist participants and basic facts of Siouan

languages to general linguists with equal enthusiasm and lack of condescension.

Following his untimely passing, a special session was held at the 2014 Siouan and Caddoan Linguistics Conference to organize several projects in Bob's honor: The first of these was publication of the Comparative Siouan Dictionary, an immense project comparing cognates across all the Siouan languages, undertaken by Rankin and a group of colleagues in the 1980s. It had been circulated in various manuscript forms but never published. Thanks to David Rood (another founding member of the CSD project), with help from Iren Hartmann, the CSD is now available online (Rankin et al, 2015). The second project was a volume of Bob's conference papers and other previously unpublished or less accessible work, to be collected and edited by a group headed by John P. Boyle and David Rood; that volume, tentatively titled *Siouan Studies: Selected Papers by Robert L. Rankin*, is currently in progress. The third project was a volume of Siouan linguistic work in Bob's memory, which has taken the shape of the present volume.

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Part I

Historical Linguistics and Philology

Chapter 1

A description of verb-phrase ellipsis in Hocąk

Meredith Johnson

In this paper, I argue that Hocąk displays verb phrase ellipsis (VPE) and provide the first thorough description of this phenomenon. VPE in Hocąk displays the two defining characteristics of VPE cross-linguistically: it targets all VP-internal material, and it is licensed by a functional head. In the case of Hocąk, I propose that the licensing head is active *v*. Furthermore, Hocąk VPE also shows many other traits of VPE in other languages: the ellipsis site can be found in coordinated and adjacent clauses in addition to embedded and adjunct clauses, VPE is insensitive to the the contents of the VP, and VPE gives rise to both strict and sloppy readings. Lastly, I argue that VPE in Hocąk is derived by deletion of a full-fledged VP, and that the ellipsis site cannot be analyzed as a null *pro* form. KEYWORDS: [Hoocąk, verb phrase, ellipsis, VPE, light verb]

1 Introduction

This purpose of this paper is to both argue that Hocąk displays verb phrase ellipsis (VPE) and to provide the first thorough description of this phenomenon. In VPE constructions, a VP goes unpronounced when there is an appropriate antecedent VP and a licensing head that identifies the gap. Both of these properties can be seen in the examples of VPE in Hocąk in (**??**) below. In each example, the VP in the second conjunct is interpreted as identical to the VP in the first conjunct, even though the former has no phonological realization. Instead, the light verb *ųų* takes the place of the VP.[1]

[1]

./langsci/graphics/langsci_shinelogo_bocolor.pdf

Meredith Johnson. 2016. A description of verb-phrase ellipsis in hocąk. In Catherine Rudin & Bryan J. Gordon (eds.), *Advances in the study of siouan languages and linguistics*, 3–27. Berlin: Language Science Press. DOI:??

(1) a. *Cecilga* [*vp wažątirehižą ruwį*] *kjane anąga nee šge* [*ha'ųų*]
Cecil-ga wažątire-hižą ∅-ruwį kjane anąga nee šge ha-ųų
Cecil-PROP car-INDEF 3S/O-buy FUT and I also 1S-do
kjane.
kjane
FUT
'Cecil will buy a car, and I will too.'

b. *Cecilga* [*vp xjanąre waši*] *anąga Bryanga šge* [*ųų*].
Cecil-ga xjanąre ∅-waši anąga Bryan-ga šge ∅-ųų
Cecil-PROP yesterday 3S-dance and Bryan-PROP also 3S-do
'Cecil danced yesterday, and Bryan did too.'

Throughout this paper, I rely on the set of diagnostics of VPE established by Goldberg (2005), and subsequently used for Indonesian by Fortin (2007). Goldberg (2005) uses characteristics of English VPE to establish a typology of VPE crosslinguistically, noting that "English VP Ellipsis has a characteristic set of behavioral traits, the confluence of which is not found in other types of null anaphora" (Goldberg 2005: 27).

Goldberg developed this set of traits in order to diagnose verb-stranding verb phrase ellipsis (VVPE) in a variety of languages, including Hebrew, Irish and Swahili. In VVPE, the verb has undergone raising before the remainder of the VP is elided. On the surface, VVPE can be ambiguous between a null object analysis or VPE analysis; thus, some of her diagnostics serve to distinguish these two approaches. An example of VVPE in Hebrew is provided in (**??**):

(2) *Tazmini et Dvora la-misiba? Kvar hizmanti.*
invite.2fut Dvora to.the-party already invite.1pst
'Will you invite Dvora to the party? I already invited (Dvora to the party).'
(Goldberg 2005: 14)

Hocąk VPE does not face this problem: there is an overt light verb standing in for the VP, much like English VPE. Nonetheless, the data from Hocąk are consistent with all of the characteristics that Goldberg argues are diagnostic of VPE crosslinguistically. Furthermore, I show that these traits also distinguish VPE from other elliptical phenomena found in Hocąk, including gapping, stripping and null complement anaphora.

This paper is structured as follows. In §**??**, I establish that putative VPE in Hocąk displays the two most important characteristics of VPE: it targets all VP-internal material, and it is licensed by a functional head. In the case of Hocąk,

I propose that the licensing head for VPE is active *v*. In §??, I show that Hocąk VPE displays other traits that have been attributed to VPE crosslinguistically. §?? demonstrates that VPE in Hocąk must be analyzed as a deletion process, rather than a null *pro* form. §?? concludes the paper.

2 Establishing the presence of VPE in Hocąk

In this section, I show that the construction that I argue instantiates VPE in Hocąk displays the two defining characteristics of VPE. In 2.1, I demonstrate that the ellipsis site includes all VP-internal material. In 2.2, I show that VPE is subject to the presence of an appropriate licensing head.

2.1 *ųų* targets the VP

VPE is possible with both intransitive and transitive verbs, as seen in (3-4) below. (3a) and (3b) show that *ųų* can target intransitive VPs. In the examples in (??) with transitive verbs, the direct object is also included in the ellipsis site.

(3) a. *Cecilga* [*vp kere*] *anąga Matejaga šge* [*ųų*] .
Cecil-ga Ø-kere, anąga Mateja-ga šge Ø-ųų
Cecil-Prop 3s-leave and Mateja-Prop also 3s-do
'Cecil left, and Mateja did too.'

b. *Meredithga* [*vp nįįp*] *anąga Sarahga šge* [*ųų*] .
Meredith-ga Ø-nįįp anąga Sarah-ga šge Ø-ųų
Meredith-Prop 3s-swim and Sarah-Prop also 3s-do
'Meredith swam, and Sarah did too.'

(4) a. *Matejaga* [*vp waisgap sguuhižą rook'į*] *anąga Sarahga šge*
Mateja-ga waisgap sguu-hižą Ø-rook'į anąga Sarah-ga šge
Mateja-Prop cake-Indef 3s/o-bake and Sarah-Prop also
[*ųų*] .
Ø-ųų
3s-do
'Mateja baked a cake, and Sarah did too.'

b. *Meredithga* [*vp waaruchižą hogiha*] *anąga Bryanga šge*
Meredith-ga waaruc-hižą Ø-hogiha anąga Bryan-ga šge
Meredith-Prop table-Indef 3s/o-paint and Bryan-Prop also

[*ųų*] .
∅-ųų
3s-do
'Meredith painted a table, and Bryan did too.'

VPE can also target other internal arguments. Both indirect objects and resultative phrases are typically analyzed as VP-internal (see e.g., Larson 1988 and **LevinEtAl1995**), and they are also subject to VPE. The ditransitive example in (**??**) shows that both a direct object and indirect object can be contained in the ellipsis site.

(5) *Cecilga* [*vp Meredithga wiiwagaxhižą hok'ų*] *anąga Matejaga*
Cecil-ga Meredith-ga wiiwagax-hižą ∅-hok'ų anąga Mateja-ga
Cecil-Prop Meredith-Prop pencil-Indef 3s/o-give and Mateja-Prop
šge [*ųų*] .
šge ∅-ųų
also 3s-do
'Cecil gave Meredith a pencil, and Mateja did too.'

In (**??**), we see examples of VPE with resultative constructions in which the direct object and result have both been elided.

(6) a. *Cecilga* [*vp ważątirehiža šuuc hogiha*] *anąga Bryanga šge*
Cecil-ga ważątire-hiža šuuc ∅-hogiha anąga Bryan-ga šge
Cecil-Prop car-Indef red 3s/o-paint and Bryan-Prop also
[*ųų*] .
∅-ųų
3s-do
'Cecil painted a car red, and Bryan did too.'

b. *Meredithga* [*vp mąąshiža paras gistak*] *anąga Matejaga šge*
Meredith-ga mąąs-hiža paras ∅-gistak anąga Mateja-ga šge
Meredith-Prop metal-Indef flat 3s/o-hit and Mateja-Prop also
[*ųų*] .
∅-ųų
3s-do
'Meredith hit metal flat, and Mateja did too.'

VPE also targets various adjuncts. (7a)-(b) shows that VPE targets VPs containing temporal adjuncts.

(7) a. *Cecilga* [*vp xjanąre waši*] *anąga Bryanga šge* [*ųų*] .
Cecil-ga xjanąre Ø-waši anąga Bryan-ga šge Ø-ųų
Cecil-PROP yesterday 3s-dance and Bryan-PROP also 3s-do
'Cecil danced yesterday, and Bryan did too.'

b. *Meredithga* [*vp hąąpte'e kšeehižą ruuc*] *anąga Matejaga*
Meredith-ga hąąpte'e kšee-hižą Ø-ruuc anąga Mateja-ga
Meredith-PROP today apple-INDEF 3s/o-eat and Mateja-PROP
šge [*ųų*] .
šge Ø-ųų
also 3s-do
'Meredith ate an apple today, and Mateja did too.'

In (8a) and (b), locative adjuncts are included in the ellipsis site.

(8) a. *Cecilga* [*vp hosto eja waši*] *kjane anąga Bryanga šge*
Cecil-ga hosto eja Ø-waši kjane anąga Bryan-ga šge
Cecil-PROP gathering there 3s-dance FUT and Bryan-PROP also
[*ųų*] *kjane.*
Ø-ųų kjane
3s-do FUT
'Cecil will dance at the gathering, and Bryan will too.'

b. *Cecilga* [*vp ciinąk eja ważątirehižą ruwį*] *anąga Bryanga*
Cecil-ga ciinąk eja ważątire-hižą Ø-ruwį anąga Bryan-ga
Cecil-PROP city there car-INDEF 3s/o-buy and Bryan-PROP
šge [*ųų*] .
šge Ø-ųų
also 3s-do
'Cecil bought a car in the city, and Bryan did too.'

(??) exemplifies VPE with a comitative.

(9) *Cecilga* [*vp hinųkra hakižu waši*] *anąga Bryanga šge* [*ųų*]
Cecil-ga hinųk-ra hakižu Ø-waši anąga Bryan-ga šge Ø-ųų
Cecil-PROP woman-DEF be.with 3s-dance and Bryan-PROP also 3s-do
.

'Cecil danced with the woman, and Bryan did too.'

(10a)-(c) demonstrate that various manner adverbs can also be subject to VPE.

(10) a. *Bryanga* [*vp teejąki nįįtašjak taaxu racgą*] *anąga Sarahga šge*
Bryan-ga teejąki nįįtašjak taaxu Ø-racgą anąga Sarah-ga šge
Bryan-Prop often coffee 3s-drink and Sarah-Prop also
[*ųų*] .
Ø-ųų
3s-do
'Bryan often drinks coffee, and Sarah does too.'

b. *Cecilga* [*vp pįįhį mąąnį*] *anąga Bryanga šge* [*ųų*] .
Cecil-ga pįįhį Ø-mąąnį anąga Bryan-ga šge Ø-ųų
Cecil-Prop quietly 3s-walk and Bryan-Prop also 3s-do
'Cecil walked carefully/quietly, and Bryan did too.'

c. *Meredithga* [*vp hikųhe nįįtašjak taaxu racgą*] *anąga Bryanga*
Meredith-ga hikųhe nįįtašjak taaxu Ø-racgą anąga Bryan-ga
Meredith-Prop quickly coffee 3s-drink and Bryan
šge [*ųų*] .
šge Ø-ųų
also 3s-do
'Meredith drank coffee quickly, and Bryan did too.'

In all of the examples in (??)-(??), the adjunct in the antecedent VP is interpreted as being present in the ellipsis site, indicating that *ųų* targets the entire VP rather than just the object(s).

Lastly, complement clauses can also be included in VPE. The example in (??) has two possible interpretations: either that Meredith also bought a car, or that Meredith also said that Cecil bought a car. Under the second reading, VPE targets the matrix clause, eliding the verb and its complement clause.

(11) *Bryanga* [*vp Cecilga wažątirehižą ruwįže ee*] *anąga*
Bryan-ga Cecil-ga wažątire-hižą Ø-ruwį-že Ø-ee anąga
Bryan-Prop Cecil-Prop car-Indef 3s/o-buy-comp 3s-say and
Meredithga šge [*ųų*] .
Meredith-ga šge Ø-ųų
Meredith-Prop also 3s-do
'Bryan said that Cecil bought a car, and Meredith did too.'

2.2 Licensing of VPE

The main characteristic that distinguishes VPE from other elliptical processes is the presence of an overt licensing head located in the inflectional domain above

the VP. VPE in English can be licensed by a variety of functional elements, such as *do* in (12a), *be* in (12b), *have* in (12c), *can* in (12d) and *will* in (12e). The obligatory presence of an inflectional head has led previous researchers to argue that VPE is licensed by T/Infl. (Bresnan 1976, Sag 1976, Zagona 1988, Lobeck 1995)

(12) a. Lily wore a skirt, and Molly **d**id too.
b. Lily is reading a book, and Molly **i**s too.
c. Lily hasn't finished the book, but Molly **h**as.
d. Lily can ride a bike, and Molly **c**an too.
e. Lily will leave, and Molly **w**ill too.

In contrast, there is no such inflectional head found with stripping or gapping. Stripping is an elliptical phenomenon in which an entire clause is elided except for a single element that is stranded. This is illustrated in (13a). In gapping constructions, the verb (and other potential material) is left unpronounced, while there are two elements that are stranded. An example of gapping can be seen in (13b).

(13) a. Lily came over, and Molly too.
b. Lily brought bagels, and Molly danishes.

In Hocąk, the licensing requirement on VPE is different: VPE is conditioned solely by the presence of the light verb *ųų*. We have seen this in all of the instances of VPE given above. The examples in (??)-(??) illustrate that *ųų* is indeed a light verb: it productively combines with both nouns and verbs to create complex predicates. Based on its distribution, I assume that *ųų* realizes the functional head *v*. (Examples 14–18:Hartmann 2012)

(14) a. mąąnąąpeja
'warrior'
b. mąąnąąpeja ųų
'be in the military'

(15) a. nąąwąǧoǧo
'fiddle'
b. nąąwąǧoǧo ųų
'play the fiddle'

(16) a. waruc
'food'
b. waruc ųų
'cook, prepare food'

(17)

a. waagax
'paper, letter'

b. waagax ųų
'write (a letter)'

(18) a. hooxiwi
'cough' (verb)

b. hooxiwi ųų
'have a cold'

Tense and modals can be present in VPE constructions; however, they are never obligatory. When present, tense and modals always co-occur with the light verb *ųų*. (19a) shows that the future tense marker *kjane* can follow *ųų*, while (19b) and (c) demonstrate that the modals *nąga* and *s'aare* can also appear after *ųų*. When *ųų* is omitted, the result is ungrammatical.

(19) a. *Cecilga ważątirehižą ruwį kjane anąga nee šge *(ha'ųų)* ***k****jane.*
Cecil-ga ważątire-hižą ∅-ruwį kjane anąga nee šge ha-ųų **k**jane
Cecil-PROP car-INDEF 3S/O-buy FUT and I also 1S-do FUT
'Cecil will buy a car, and I will too.'

b. *Meredithga hąąke ważątirera pįį'ų ruxuruknį nųnįge Matejaga*
Meredith-ga hąąke ważątire-ra ∅-pįį'ų ruxuruk-nį nųnįge Mateja-ga
Meredith-PROP NEG car-DEF 3S/O-FIX-NEG but Mateja-PROP
(ųų)* ***n**ą.*
∅-ųų **n**ą
3s-do can
'Meredith can't fix the car, but Mateja can.'

c. *Meredithga hąąke nįįtašjak taaxu ruwįnį nųnįge Matejaga*
Meredith-ga hąąke nįįtašjak taaxu ∅-ruwį-nį nųnįge Mateja-ga
Meredith-PROP NEG coffee 3S/O-buy-NEG but Mateja-PROP
(ųų)* ***s**'aare.*
∅-ųų **s**'aare
3s-do must
'Meredith didn't buy coffee but Mateja must have.'

Thus, we see that T/Infl does not play the same role in VPE licensing in Hocąk as it does in other languages. However, VPE in Hocąk is constrained by the type of predicate. As the examples in (**??**) show, VPE is not licensed with non-agentive verbs:

(20) a. * *Meredithga kšee gipį anąga Bryanga šge ųų.*
Meredith-ga kšee ∅-gipį anąga Bryan-ga šge ∅-ųų
Meredith-PROP apple 3s-like and Bryan-PROP also 3s-do

Intended: 'Meredith likes apples, and Bryan does too.'

b. * *Cecilga wįįxra waaja anąga Meredithga šge ųų.*
Cecil-ga wįįx-ra wa-∅-haja anąga Meredith-ga šge ∅-ųų
Cecil-PROP duck-DEF 3o.pl-3s-see and Meredith-PROP also 3s-do
Intended: 'Cecil saw the ducks, and Meredith did too.'

c. * *Meredithga hoišą anąga Bryanga šge ųų.*
Meredith-ga ∅-hoišą anąga Bryan-ga šge ∅-ųų
Meredith-PROP 3s-busy.STAT and Bryan-PROP also 3s-do
Intended: 'Meredith is busy, and Bryan is too.'

d. * *Cecilga hįįcge nųnįge Bryanga hąąke ųųnį.*
Cecil-ga ∅-hįįcge nųnįge Bryan-ga hąąke ∅-ųų-nį
Cecil-PROP 3s-tired.STAT but Bryan-PROP NEG 3s-do-NEG
'Cecil is tired, but Bryan isn't.'

Like other Siouan languages, Hocąk exhibits an active-stative alignment pattern: the active set of verbal person markers is used to index the subject of transitive verbs and active intransitive verbs, while the stative set is used to index the object of transitive verbs and the subject of stative intransitive verbs. This alignment pattern interacts with VPE in revealing ways. While VPE is banned with most stative intransitive verbs, such as those in (20c) and (20d), VPE is possible with certain stative intransitives when they have an agentive reading. *Hokąre* 'to fall in' is normally a stative intransitive verb, but it is possible to use it in VPE contexts if the subject falls *deliberately*, as in (??). In this context, *ųų* takes the *active* person marker set. In (21b), the verb takes the second person active marker *š-*; the stative marker *nį-* is not permitted. The marker *nį-* is the one that would typically be found on the verb *hokąre*, as shown in (??).

(21) a. *Meredithga nįį eeja hokąre anąga Bryanga šge ųų.*
Meredith-ga nįį eeja ∅-hokąre anąga Bryan-ga šge ∅-ųų
Meredith-PROP water there 3s-fall.in and Bryan-PROP also 3s-do
'Meredith fell into the water (deliberately), and Bryan did too.'

b. *Meredithga nįį eeja hokąre anąga (nee) šge š'ųų/*nį'ųų.*
Meredith-ga nįį eeja ∅-hokąre anąga nee šge š-'ųų/nį-'ųų
Meredith-PROP water there 3s-fall.in and you also 2s-do
'Meredith fell into the water (deliberately), and you did too.'

(22) *Honįkąre.*
<nį>hokąre
<2s>fall.in.stat

'You fell in(to something).' (Hartmann 2012)

This restriction on VPE is not due to lexical properties of *ųų*: when *ųų* functions as a light verb, it can form non-agentive verbs, as in (**??**):

(23) a. hooxiwi ųų 'have a cold' (stative intransitive)

b. roo taakac ųų 'have a fever' (stative intransitive)

c. paaxšišik ųų 'have an upset stomach' (stative intransitive) (Hartmann 2012)

To formalize this restriction on VPE in Hocąk, I adopt Merchant's (2001) proposal that ellipsis takes place when a so-called '[E]-feature' is present on the relevant licensing head. In the case of Hocąk, I propose that an [E]-feature is present only on the agentive *v* head.[2] This accounts for the fact that VPE is solely conditioned by the presence of the light verb (or *v*) *ųų*, and furthermore that only agentive verbs can be elided: if there is a non-agentive *v* present, then ellipsis will not be licensed.

This conclusion is in line with other research that argues that *v* is responsible for licensing VPE crosslinguistically. Many recent approaches to ellipsis have argued for a link between phases and elliptical phenomena (Holmberg 2001, van Craenenbroeck 2004, Gengel 2007, Yoshida & Gallego 2008, Gallego 2009, among others). Specifically, they propose that ellipsis results when a phasal head (e.g. *v*, C, D) licenses deletion of its complement. These theories are a natural development of Chomsky's (**Chomsky2001**; 2000; 2004) theory of phases: if ellipsis is PF-deletion, it follows that the units that are sent cyclically to the PF interface are precisely the ones that can be targeted for deletion. More concretely, Rouveret (2012) adopts the phasal analysis of ellipsis, and puts forward a theory to predict which languages permit VPE. He argues that *v* always has an uninterpretable [tense] feature, and that, in languages with VPE, the [tense] feature is valued on *v* phase-internally. Rouveret proposes that the elements that license

[2] This agentivity requirement on a process that affects the VP is not completely unique to Hocąk. For example, Hallman (2004) notes that English *do so* replacement is restricted to agentive VPs, even though other uses of *do* are not subject to this constraint (e.g., *Max loves studying French, and Mary does (*so) too.*) Rouveret (2012) also shows that VPE in Welsh is licensed uniquely by the light verb *gweund*, and furthermore that VPE is not permitted with stative predicates. The only possibility with stative VPs is VVPE. However, Rouveret also shows that *gweund* is also incompatible with stative predicates in its non-elliptical uses. This contrasts with the behavior of *ųų* in Hocąk and *do* in *do so* in English.

VPE are all merged in *v*, and subsequently move to Infl. All of these approaches are compatible with the Hocąk data, with the caveat that VPE is more restricted in Hocąk: it is only licensed by active *v*.

3 Crosslinguistic characteristics of VPE

In the previous section, I demonstrated that Hocąk displays the two defining characteristics of VPE: the elliptical process in question targets the entire VP, and is conditioned by the presence of a licensing head. Goldberg (2005) discusses five other characteristics of VPE that are not shared by other elliptical phenomena, which are listed in (**??**):

(24) Characteristics of VPE
   a. Possible in both coordinated and adjacent CPs
   b. Insensitive to contents of elided VP
   c. Ellipsis site can be in a syntactic island
   d. Ellipsis site can be embedded
   e. Presence of strict and sloppy readings

In the subsections that follow, I show that Hocąk VPE also generally conforms to this typology. In the areas where Hocąk appears to differ from English, I demonstrate that this is due to other differences between the two languages that are independent of ellipsis.

3.1 Ellipsis licensed in both coordinated and adjacent CPs

Goldberg (2005) notes that English VPE is possible with a variety of sentence types. VPE is licit when the antecedent VP and elided VP are found in conjoined CPs (25a), in adjacent CPs uttered by the same speaker (25b), and when the antecedent is in a question and the ellipsis site in the answer (25c). In this section, I show that the same is true in Hocąk.

(25) a. Lily hates beets, but Molly doesn't.
   b. Lily hates beets. Molly does too.
   c. Who hates beets? Molly does.

All of the examples of VPE we saw in section 2 involved two clauses joined by the coordinator *anąga* 'and'. VPE is also possible with disjunction, as seen in (**??**) with *nųnįge* 'but'.

(26) a. *Cecilga ważątirehižą ruwį nųnįge nee hąąke ha'ųųnį.*
Cecil-ga ważątire-hižą ∅-ruwį nųnįge nee hąąke ha-ųų-nį
Cecil-Prop car-Indef 3s/o-buy but I Neg 1s-do-Neg
'Cecil bought a car, but I didn't.'

b. *Sarahga hąąke haas gihinį nųnįge Matejaga ųų.*
Sarah-ga hąąke haas ∅-gihi-nį nųnįge Mateja-ga ∅-ųų
Sarah-Prop Neg berry 3s-pick-Neg but Mateja-Prop 3s-do
'Sarah didn't pick berries, but Mateja did.'

(**??**) shows that VPE is also licit in adjacent CPs. In each example, the antecedent VP is found in the first sentence while the ellipsis site is in the second sentence.

(27) a. *Meredithga waaruchižą hogiha. Bryanga šge ųų.*
Meredith-ga waaruc-hižą ∅-hogiha Bryan-ga šge ∅-ųų
Meredith-Prop table-Indef 3s/o-paint Bryan-Prop also 3s-do
'Meredith painted a table. Bryan did too.'

b. *Meredithga hąąke waisgap sguu xuwuxuwuhižą ruucnį. Bryanga ųų.*
Meredith-ga hąąke waisgap sguu xuwuxuwu-hižą ∅-ruuc-nį Bryan-ga ∅-ųų
Meredith-Prop Neg cookie-Indef 3s/o-eat-Neg Bryan-Prop 3s-do
'Meredith didn't eat a cookie. Bryan did.'

Lastly, VPE also occurs in question-answer pairs in Hocąk. In (28a), a yes-no question contains the antecedent VP and the answer contains the gap. (28b) demonstrate that the same holds of *wh*-questions.

(28) a. *Question: Nįįtašjak taaxu šuruwį? Answer: Ha'ųų.*
nįįtašjak taaxu šu-ruwį ha-ųų
coffee 2s-buy 1s-do
Q: 'Did you buy coffee?' A: 'I did.'

b. *Question: Peežega Cecilga gišja hii? Answer: Bryanga ųų.*
peežega Cecil-ga ∅-gišja hii Bryan-ga ∅-ųų.
who Cecil-Prop 3s/o-visit Bryan-Prop 3s-do
Q: 'Who visited Cecil?' A: 'Bryan did.'

3.2 Ellipsis and the contents of the VP

Goldberg (2005) distinguishes VPE from null complement anaphora (NCA) based on the type of constituent that is elided. In NCA, a matrix verb is stranded and its complement is elided. However, NCA is constrained by the contents of the VP: only propositions can be elided. This is illustrated by the contrast between the grammatical NCA examples in (29a) and (c) and the ungrammatical examples in (29b) and (d):

(29) a. Pat doesn't know **t**hat Terry is moving to Japan, but Robin knows.
b. * Pat doesn't know **h**ow to speak Inuktitut, but Robin knows.
c. Pat forgot **t**o close the door, but Robin remembered.
d. * Pat forgot **t**he answer, but Robin remembered. (Fortin 2007: 245)

In contrast, the grammaticality of VPE is not dependent on the contents of the VP. The examples in (**??**) show that VPE is possible regardless of whether the complement of the VP expresses a proposition or not.

(30) a. Pat doesn't know **t**hat Terry is moving to Japan, but Robin does.
b. Pat doesn't know **h**ow to speak Inuktitut, but Robin does.
c. Pat forgot **t**o close the door, but Robin didn't.
d. Pat forgot **t**he answer, but Robin didn't.

As Fortin (2007) points out, this diagnostic does not serve to distinguish VPE from NCA in languages with null objects. Hocąk allows both null subjects and objects, as seen in (31b):

(31) a. *Wijųkra šųųkra hoxataprookeeja haja.*
Wijųk-ra šųųk-ra hoxatap-rook-eeja ∅-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 ∅-haja
woods-inside-there 3s/o-see
'[The cat] saw [the dog] in the woods.' (**JohnsonEtAl2013**)

Thus, it is not surprising that both propositional and non-propositional verbal complements can be null in Hocąk. In (**??**), the complement of the verb *hiperes* 'know' can be null both when it is a proposition (32a) or an embedded question (32b). Likewise, both propositional (33a) and DP object (33b) complements of *wakikųnųnį* 'forget' surface as null.

(32) a. *Sarahga Meredithga rookhožura ruucra hiperes, anąga*
Sarah-ga Meredith-ga rookhožu-ra ∅-ruuc-ra ∅-hiperes anąga
Sarah-Prop Meredith-Prop pie-Def 3s/o-eat-Comp 3s-know and
Matejaga šge hireperesšąną.
Mateja-ga šge ∅-hiperes-šąną
Mateja-Prop also 3s-know-Decl
'Sarah knows that Meredith ate the pie, and Mateja knows too.'

b. *Sarahga jaagu'ų Meredithga kerera hiperes, anąga Matejaga*
Sarah-ga jaagu'ų Meredith-ga ∅-kere-ra ∅-hiperes anąga Mateja-ga
Sarah-Prop why Meredith-Prop 3s-leave-Comp 3s-know and Mateja-Prop
šge hiperesšąną.
šge ∅-hiperes-šąną
also 3s-know-Decl
'Sarah knows why Meredith left, and Mateja knows (why Meredith left) too.'

(33) a. *Bryanga nįįtašjak taaxu ruwįra wakikųnųnį, nųnįge Meredithga*
Bryan-ga nįįtašjak taaxu ∅-ruwį-ra ∅-wakikųnųnį nųnįge Meredith-ga
Bryan-Prop coffee 3s-buy-Comp 3s-forget but Meredith-Prop
hąąke wakikųnųnįnį.
hąąke ∅-wakikųnųnį-nį
Neg 3s-forget-Neg
'Bryan forgot to buy coffee, but Meredith didn't forget.'

b. *Bryanga waisgap sguura wakikųnųnį, nųnįge Meredithga hąąke*
Bryan-ga waisgap sguu-ra ∅-wakikųnųnį nųnįge Meredith-ga hąąke
Bryan-Prop cake-Def 3s/o-forget but Meredith-Prop Neg
wakikųnųnįnį.
∅-wakikųnųnį-nį
3s/o-forget-Neg
'Bryan forgot the cake, but Meredith didn't forget (the cake).'

Thus, this particular diagnostic does not work for Hocąk due to independent factors. The complement of verbs like 'know' and 'forget' can always be null, presumably due to the availability of object *pro* drop.[3]

[3] A full comparison of NCA and VPE is not possible in Hocąk. VPE with verbs like 'know' and 'forget' is ungrammatical (examples omitted for space purposes) since these verbs are non-agentive.

3.3 Ellipsis in syntactic islands

Goldberg (2005) notes that the ellipsis site in VPE constructions can be inside an adjunct island, while gapping is not permitted in adjuncts. This is shown by the contrast between (34a) and (b) below:

(34) a. Lily finished her sandwich before Molly did.
b. * Lily finished the sandwich before Molly the pizza.

The same contrast is found in Hocąk. The examples in (**??**) show that the gap in VPE constructions can be found inside adjunct clauses (which precede the main clause in these examples). In (35a), the ellipsis site is in the clause headed by 'if', in (35b) the ellipsis site is in the clause headed by 'because', and in (35c) it is in the clause headed by 'before.'

(35) a. *Bryanga ųų kjanegi Meredithga Hunterga (nišge) gišja hii*
Bryan-ga Ø-ųų kjane-gi Meredith-ga Hunter-ga (nišge) Ø-gišja hii
Bryan-PROP 3s-do FUT-if Meredith-PROP Hunter-PROP also 3s/o-visit
kjane.
kjane
FUT
'Meredith will visit Hunter if Bryan will.'

b. *Bryanga hąąke ųųnįge Meredithga (nišge) hąąke*
Bryan-ga hąąke Ø-ųų-nį-ge Meredith-ga (nišge) hąąke
Bryan-PROP NEG 3s-do-NEG-because Meredith-PROP also NEG
Hunterga gišja hiinį.
Hunter-ga Ø-gišja hii-nį
Hunter-PROP 3s/o-visit-NEG
'Meredith didn't visit Hunter because Bryan didn't.'

c. *Keenį Sarahga ųųnį Matejaga waisgap sguu xuwuxuwuhižą*
keenį Sarah-ga Ø-ųų-nį Mateja-ga waisgap sguu xuwuxuwu-hižą
before Sarah-Prop 3s-do-Neg Mateja-Prop cookie-INDEF
ruucšąną.
Ø-ruuc-šąną
3s/o-eat-DECL
'Mateja ate a cookie before Sarah did.'

In contrast, gapping is ungrammatical in adjuncts. (**??**) illustrates that the the gap cannot be located in an adjunct clause headed by 'if' (36a), 'because' (36b) or 'before' (36c).

(36) a. * *Matejaga rookhožuhižągi Meredithga waisgap sguuhižą rook'į*
Mateja-ga rookhožu-hižą-gi Meredith-ga waisgap sguu-hižą ∅-rook'į
Mateja-Prop pie-Indef-if Meredith-Prop cake-Indef 3s/o-bake
kjane.
kjane
Fut
Intended: 'Meredith will bake a cake if Mateja will bake a pie.'

b. * *Sarahga važą honąkipįnįhižąge Matejaga važątirehižą ruwį.*
Sarah-ga važą honąkipįnį-hižą-ge Mateja-ga važątire-hižą ∅-ruwį
Sarah-Prop bicycle-Indef-because Mateja-Prop car-Indef 3s/o-buy
Intended: 'Mateja bought a car because Sarah bought a bicycle.'

c. * *Keenį Bryanga waisgap sguu xuwuxuwuhižąnį Meredithga*
keenį Bryan-ga waisgap sguu xuwuxuwu-hižą-nį Meredith-ga
before Bryan-Prop cookie-Indef-neg Meredith-Prop
kšeehižą ruucšąną.
kšee-hižą ∅-ruuc-šąną
apple-Indef 3s/o-eat-Decl
Intended: 'Meredith ate an apple before Bryan ate a cookie.'

3.4 Ellipsis in embedded clauses

Goldberg (2005) also shows that the ellipsis site in VPE constructions can be inside an embedded clause, while this is not true of other types of ellipsis. (37a) demonstrates that VPE is licit in an embedded clause, while (37b)-(c) illustrate that neither gapping nor stripping are possible in an embedded clause.

(37) a. Lily went to the zoo, and I think (that) Molly did too.
b. * Lily went to the zoo, and I think (that) Molly the aquarium.
c. * Lily went to the zoo, and I think (that) Molly too.

In Hocąk, VPE is licit in the complement clause of various matrix verbs, including 'know' (38a), 'want' (38b), 'think' (38c) and 'say' (38d).

(38) a. *Bryanga hąąke nįįtašjak taaxu ruwįnį, nųnįge Meredithga*
Bryan-ga hąąke nįįtašjak taaxu ∅-ruwį-nį nųnįge Meredith-ga
Bryan-Prop Neg coffee 3s-buy-Neg but Meredith-Prop
ųųra yaaperesšąną.
∅-ųų-ra <ha>hiperes-šąną
3s-do-Comp <1s>know-Decl
'Bryan didn't buy coffee, but I know Meredith did.'

b. *Meredithga hąąke Hunterga gišja hiinį nųnįge Bryanga*
Meredith-ga hąąke Hunter-ga ∅-gišja hii-nį nųnįge Bryan-ga
Meredith-Prop Neg Hunter-Prop 3s/o-visit-Neg but Bryan-Prop
ųų roogų.
∅-ųų ∅-roogų
3s-do 3s-want
'Meredith didn't visit Hunter, but Bryan wants to.'

c. *Matejaga hąąke važą honąkipįnįhižą ruwįnį, nųnįge Cecilga*
Mateja-ga hąąke važą honąkipįnį-hižą ∅-ruwį-nį nųnįge Cecil-ga
Mateja-Prop Neg bicycle-Indef 3s/o-buy-Neg but Cecil-Prop
ųųže yaare.
∅-ųų-že <ha>hire
3s-do-comp <1s>think
'Mateja didn't buy a bicycle, but I think Cecil did.'

d. *Sarahga hąąke waarucra hogihanį, nųnįge Meredithga*
Sarah-ga hąąke waaruc-ra ∅-hogiha-nį nųnįge Meredith-ga
Sarah-Prop Neg table-Def 3s/o-paint-Neg but Meredith-Prop
ųųže ee.
∅-ųų-že ∅-ee
3s-do-Comp 3s-say
'Sarah didn't paint the table, but Meredith said she did.'

Unlike English, Hocąk does not exhibit any constraint on gapping in embedded contexts. (39a) and (b) show that the gap can be embedded under the verbs *hire* 'think' and *ee* 'say', respectively.

(39) a. *Meredithga važą honąkipįnįhižą ruwį anąga Bryanga važątirehižą*
Meredith-ga važą honąkipįnį-hižą ∅-ruwį anąga Bryan-ga važątire-hižą
Meredith-Prop bicycle-Indef 3s/o-buy and Bryan-Prop car-Indef
yaare.
<ha>hire
<1s>think
'Meredith bought a bicycle, and I think that Bryan bought a car.'

b. *Meredithga kšeehižą ruuc anąga Matejaga važązihižą*
Meredith-ga kšee-hižą ∅-ruuc anąga Mateja-ga važązi-hižą
Meredith-Prop apple-Indef 3s/o-eat and Mateja-Prop orange-Indef

hihe.
<ha>ee
<1s>say
'Meredith ate an apple and I said that Mateja ate an orange.'

The examples in (??) show that Hocąk exhibits stripping. (40a) illustrates stripping with an object remnant after the coordinator 'and', while the example in (40b) has an object remnant with disjunction. (40c) shows that stripping is also possible with a subject remnant after the coordinator.

(40) a. *Sarahga šųųkhižą haja, anąga wijukhižą šge.*
Sarah-ga šųųk-hižą ∅-haja anąga wijuk-hižą šge
Sarah-Prop dog-Indef 3s/o-see and cat-Indef also
'Sarah saw a dog, and a cat too.'

b. *Meredithga hąąke kšeehižą ruucnį, nųnįge waisgap sguu xuwuxuwuhižą.*
Meredith-ga hąąke kšee-hižą ∅-ruuc-nį nųnįge waisgap sguu xuwuxuwu-hiž
Meredith-Prop Neg apple-Indef 3s/o-eat-Neg but cookie-Indef
'Meredith didn't eat an apple, but a cookie.'

c. *Bryanga nįįtašjak taaxu racgą, anąga Matejaga šge.*
Bryan-ga nįįtašjak taaxu ∅-racgą anąga Mateja-ga šge
Bryan-Prop coffee 3s-drink and Mateja-Prop also
'Bryan drank coffee, and Mateja too.'

As is the case in English and other languages, stripping is ungrammatical in embedded clauses in Hocąk. This is shown in (41a) for an object remnant with conjunction, (41b) for an object remnant with disjunction and (41c) for a subject remnant with conjunction.

(41) a. * *Matejaga wažahe gipį, anąga kšeexete šge yaare.*
Mateja-ga wažahe ∅-gipį anąga kšeexete šge <ha>hire
Mateja-Prop banana 3s-like and pineapple also <1s>think
Intended: 'Mateja likes bananas, and I think (she likes) pineapple too.'

b. * *Bryanga hąąke wažątirehižą ruwįnį, nųnįge Cecilga wažą honąkipįnįh*
Bryan-ga hąąke wažątire-hižą ∅-ruwį-nį nųnįge Cecil-ga wažą honąkipįnį-
Bryan-Prop Neg car-Indef 3s/o-buy-Neg but Cecil-Prop bicycle-Indef
ee.
∅-ee
3s-say
Intended: 'Bryan didn't buy a car, but Cecil said (he bought) a bicycle.'

c. * *Sarahga waisgap sguuhižą rook'į, anąga Bryanga Meredithga*
Sarah-ga waisgap sguu-hižą ∅-rook'ị anąga Bryan-ga Meredith-ga
Sarah-Prop cake-Indef 3s/o-bake and Bryan-Prop Meredith-Prop
šge ee.
šge ∅-ee
also 3s-say
Intended: 'Sarah baked a cake, and Bryan said Meredith (baked a cake) too.'

To conclude, the possibilities of having an ellipsis site in embedded contexts differ between English and Hocąk: VPE and gapping are not differentiated by embedding, but VPE and stripping are. However, gapping and VPE are still distinguished in adjunct clauses: as we saw in 3.3, VPE is grammatical in adjunct clauses (??) while gapping is not (??).

3.5 Presence of strict and sloppy readings

Another characteristic of VPE is the fact that elided pronouns and anaphors give rise to two different identity readings. The English example in (??) is ambiguous. Under the so-called "strict" reading, the referent of the pronoun is identical in both the antecedent and elided VP. Under the "sloppy" reading, the pronoun behaves like a variable, and the referent of the anaphor is different for each conjunct.

(42) Lily saw herself in the mirror, and Molly did too.
Strict reading: Molly saw Lily in the mirror.
Sloppy reading: Molly saw herself in the mirror.

Fortin 2007 shows that stripping also gives rise to both strict and sloppy readings, as in the example in (??). However, there is another possible interpretation for the second conjunct: the remnant can be interpreted as the object of the stripped clause. Fortin terms this additional reading the "object reading." This third reading is unique to stripping constructions, as the remnant DP in VPE is always interpreted as the subject of the elided constituent.

(43) Lily saw herself in the mirror, and Molly too.
Strict reading: Molly saw Lily in the mirror.
Sloppy reading: Molly saw herself in the mirror.
Object reading: Lily saw Molly in the mirror.

In Hocąk, strict and sloppy readings are available with both VPE and stripping, while the additional "object reading" is possible only with stripping. In the examples in (??), the antecedent VP contains a possessed object. (44a) is an instance of VPE, and the second conjunct has two possible interpretations: either Hunter visited Bryan's mother (strict reading) or Hunter visited his own mother (sloppy reading). In (44b), the second conjunct contains a stripping ellipsis site. Both the strict and sloppy readings are available, but the object reading is also possible: the sentence could mean that Bryan visited Hunter.

(44) a. *Bryanga hi'ųnį hiira homąkįnį anąga Hunterga šge*
Bryan-ga hi'ųnį Ø-hii-ra Ø-homąkįnį anąga Hunter-ga šge
Bryan-Prop mother 3s-poss-def 3s/o-visit and Hunter-Prop also
ųų.
Ø-ųų
3s-do
'Bryan visited his mother, and Hunter did too.'

b. *Bryanga hi'ųnį hiira homąkįnį anąga Hunterga šge.*
Bryan-ga hi'ųnį Ø-hii-ra Ø-homąkįnį anąga Hunter-ga šge
Bryan-Prop mother 3s-poss-def 3s/o-visit and Hunter-Prop also
'Bryan visited his mother, and Hunter too.'

The examples in (??) show that the same readings are possible with reflexives. The second conjunct of (45a) contains a VPE gap, and it has two interpretations: either Meredith hit Mateja (sloppy) or Meredith hit herself (strict). In the stripping example in (45b), both strict and sloppy readings are possible, but so is the "object reading" under which Mateja hit Meredith.

(45) a. *Matejaga hokijį anąga Meredithga šge ųų.*
Mateja-ga Ø<kii>hojį anąga Meredith-ga šge Ø-ųų
Mateja-Prop 3s<Refl>hit and Meredith-Prop also 3s-do
'Mateja hit herself, and Meredith did too.'

b. *Matejaga hokijį anąga Meredithga šge.*
Mateja-ga Ø<kii>hojį anąga Meredith-ga šge
Mateja-Prop 3s<Refl>hit and Meredith-Prop also
'Mateja hit herself, and Meredith too.'

Thus, while strict and sloppy readings are available with both VPE and stripping, stripping constructions have the additional reading that Fortin 2007 calls the "object reading".

4 Deletion vs. pro-form analysis

In the previous two sections, I presented arguments that Hocąk exhibits VPE. In this section, I further argue that VPE in Hocąk is derived by a deletion process. There are two main approaches to any given elliptical phenomena: the ellipsis site is either a deleted phrase or a null *pro*-form. Here, I extend two arguments in favor of a deletion approach of English VPE to Hocąk. First, I show that extraction from the ellipsis site is possible. Second, I demonstrate that ellipsis sites can contain the antecedent to a pronoun outside of the gap.

Fiengo & May (1994) argue that English VPE is best analyzed as VP deletion. Their argument is based on cases of object extraction from the ellipsis site. In (46a), we see that the object of the second clause has undergone *wh*-movement out of the ellipsis site. (46b) illustrates the phenomenon known as antecedent-contained deletion (ACD). In ACD constructions, the ellipsis site is found inside of a relative clause and is licensed under identity with the matrix VP. The head of the relative clause (here, *everyone*) is the object of the elided VP. In both (46a) and (46b), movement of the object in the elided VP has taken place. This is not expected under a *pro*-form analysis of VPE: a *pro*-form has no internal structure, and thus there should be no object position inside the ellipsis site that the extracted object could have originated in. In contrast, a deletion analysis posits a full-fledged VP in the ellipsis site which undergoes deletion at a later stage in the derivation. In the examples in (**??**), the object originated inside the elided VP, and underwent movement before deletion took place.

(46) a. I know which book Max read, and **w**hich book Oscar didn't.
b. Dulles suspected everyone who Angleton did. (Fiengo & May 1994: 229, 257)

Likewise, Hocąk constructions with *ųų* cannot be analyzed as a *pro*-form, as object extraction is permitted. (47a) shows that focused elements can be extracted from the ellipsis site, and (47b) exemplifies the movement of *wh*-words from the ellipsis site.[4]

(47) a. *Meredithga waagaxra ruwį, nųnįge **w**iiwagaxra hąąke ųųnį.*
Meredith-ga waagax-ra ∅-ruwį, nųnįge wiiwagax-ra hąąke ∅-ųų-nį
Meredith-PROP paper-DEF 3s/o-buy but pencil-DEF NEG 3s-do-NEG
'Meredith bought the paper, but the pencil, she didn't.'

[4] Like other Siouan languages, Hocąk is a *wh*-in-situ language. However, *wh*-words can undergo focus driven movement.

b. *J̌aagu Bryanga ruwįra yaaperesšąną, nųnįge jaagu Hunterga*
Jaagu Bryan-ga ∅-ruwį-ra <ha>hiperes-šąną nųnįge jaagu Hunter-ga
what Bryan-PROP 3s/o-buy-COMP <1s>know-DECL but what Hunter-PROP
ųųra hąąke yaaperesnį.
∅-ųų-ra hąąke <ha>hiperes-nį
3s-do-COMP NEG <1s>know-NEG
'I know what Bryan bought, but I don't know what Hunter did.'

As the example in (**??**) shows, ACD is also grammatical in Hocąk. ACD would not be possible if *ųų* were a *pro*-form, since the head of the relative clause is the object of the elided VP.

(48) *Bryanga ruwį, jaagu Meredithga ųųra.*
Bryan-ga ∅-ruwį jaagu Meredith-ga ∅-ųų-ra
Bryan-PROP 3S/O-buy what Meredith-PROP 3S-do-COMP
'Bryan bought what(ever) Meredith did.'

The second argument in favor of a deletion analysis of VPE in Hocąk comes from so-called "missing antecedents." **HankamerSag1976** demonstrate that the gap in English VPE constructions can contain the antecedent to a pronoun. In the non-elliptical example in (49a), the DP *a camel* in the second conjunct serves as the antecedent for the pronoun *it* in the third conjunct. In (49b), the VP in the second conjunct is elided, resulting in a missing antecedent for the pronoun *it*. Nonetheless, the sentence is still grammatical. It is important to note that the instance of *a camel* in the first conjunct cannot be the antecedent for the pronoun *it*: as (**??**) shows, DPs under the scope of negation cannot serve as antecedents for pronouns.

(49) a. I've never ridden a camel, but Ivan's ridden a camel$_i$, and he says it$_i$ stank horribly.

b. I've never ridden a camel, but Ivan has, and he says it$_i$ stank horribly. (**HankamerSag1976**)

(50) * I've never ridden a camel$_i$, and it$_i$ stank horribly. (**HankamerSag1976**)

HankamerSag1976 argue that the grammaticality of the example in (49b) points to a deletion analysis of VPE. These facts are not readily explained under a *pro*-form analysis: since the ellipsis site would not have internal structure at any

point in the derivation, the elided VP in (49b) would never contain the antecedent for the following pronoun.

Examples of VPE with missing antecedents are also grammatical in Hocąk. In (51a), the DP *kšeexetehižą* 'a pineapple' in the second conjunct is the antecedent for the null pronominal subject of the verb *sguu* 'sweet'. In (51b), the VP containing the antecedent is elided, and the resulting sentence is grammatical. Like English, a pronoun cannot find its antecedent in a negated clause (**??**).

(51) a. *Hąkaga kšeexetehižą haacnį, nųnįge Matejaga kšeexetehižą*
hąkaga kšeexete-hižą ∅<ha>ruuc-nį nųnįge Mateja-ga kšeexete-hižą
never pineapple-Indef 3s<1s>eat-Neg but Mateja-Prop pineapple-Indef
ruuc, anąga sguu ee.
∅-ruuc anąga ∅-sguu ∅-ee
3s/o-eat and 3s-sweet 3s-say
'I never ate a pineapple, but Mateja ate a pineapple, and she said it was sweet.'

b. *Hąkaga kšeexetehižą haacnį, nųnįge Matejaga ųų, anąga*
hąkaga kšeexete-hižą ∅<ha>ruuc-nį nųnįge Mateja-ga ∅-ųų anąga
never pineapple-Indef 3s<1s>eat-Neg but Mateja-Prop 3s-do and
sguu ee.
∅-sguu ∅-ee
3s-sweet 3s-say
'I never ate a pineapple, but Mateja did, and she said it was sweet.'

(52) * *Hąkaga kšeexetehižą haacnį anąga sguu.*
hąkaga kšeexete-hižą ∅<ha>ruuc-nį anąga ∅-sguu
never pineapple-Indef 3s<1s>eat-Neg and 3s-sweet
'I never ate a pineapple, and it was sweet.'

Both the extraction facts and pronoun antecedent facts point to an analysis in which the contents of elided VPs in Hocąk are present syntactically, and that the omission of elided VPs is due to a deletion process.

5 Conclusion

In this paper, I examined an elliptical phenomenon that I argue instantiates VPE in Hocąk. This process targets all VP-internal material, including direct objects, indirect objects, result phrases, temporal adjuncts, locative adjuncts, comitatives, manner adverbs and complement clauses. VPE is conditioned by the presence of

a licensing head, which I showed is the light verb *ųų* in Hocąk. However, Hocąk VPE is constrained in that the antecedent verb must be active. I propose that this restriction is due to the fact that active *v* is the licenser. This elliptical process displays many other traits that Goldberg (2005) and Fortin (2007) demonstrate are characteristic of VPE crosslinguistically. I also briefly discussed that Hocąk VPE should be analyzed as VP deletion, rather than a VP *pro*-form. This paper constitutes the first in depth description of VPE in Hocąk, and contributes to the literature on the properties of VPE crosslinguistically.

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Abbreviations

1, 2, 3 = first, second, third person; COMP = complementizer; DECL = declarative; DEF = definite; FUT = future; INDEF = indefinite; NEG = negative; O = object agreement; PL = plural; POSS = possessive; PROP = proper name; PST = past tense; REFL = reflexive; S = subject agreement stat = stative verb.

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