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 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.

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 (1) 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) a. Cecilga [VP wažątirehižą ruwij] kjane anąga nee šge [ha’ųų]
   Cecil-ga wažątire-hižą ʔ-ruwij 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.’
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):

(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 §2, 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 §3, I show that Hocąk VPE displays other traits that have been attributed to VPE crosslinguistically. §4 demonstrates that VPE in Hocąk must be analyzed as a deletion process, rather than a null pro form. §5 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 ŭų targets the VP

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

(3) a. *Cecil-ga* [VP *kere*] *anąga Mateja-ga* šge [ųų].
   *Cecil-leave and Mateja-done* 3s
   ‘Cecil left, and Mateja did too.’

b. *Meredith-ga* [VP *nįįp*] *anąga Sarah-ga* šge [ųų].
   *Meredith-swim and Sarah-done* 3s
   ‘Meredith swam, and Sarah did too.’

(4) a. *Mateja-ga* [VP *waisgap sguuhi'į*] *anąga Sarah-ga* šge
   *Mateja-bake and Sarah-done* 3s/o
   ‘Mateja baked a cake, and Sarah did too.’

b. *Meredith-ga* [VP *waaruchi'į*] *anąga Bryan-ga* šge
   *Meredith-paint and Bryan-done* 3s/o
   ‘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
Levin & Rappaport Hovav (1995), and they are also subject to VPE. The ditransitive example in (5) shows that both a direct object and indirect object can be contained in the ellipsis site.

(5) *Cecilga* [VP *Meredithga wiiwagaxhižą hok’ų*] *anąga*
*Meredith-*ga wiiwagax-hižą ∅-hok’ų *anąga*

*Meredith-PROP* pencil-INDEF 3s/o-give and

*Matejaga* šge *[ųų]*.
*Mateja-ga* šge ∅-ųų
*Mateja-PROP* also 3s-do

‘Cecil gave Meredith a pencil, and Mateja did too.’

In (6), we see examples of VPE with resultative constructions in which the direct object and result have both been elided.

(6) a. *Cecilga* [VP *wažątirehiža šuuc hogiha*] *anąga* *Bryan-ga* šge
*Cecil-*ga wažątire-hiža šuuc ∅-hogiha *anąga* Bryan-*ga* šge
*Cecil-PROP* car-INDEF red 3s/o-paint and *Bryan-PROP* also [ųų].
∅-ųų s-do

‘Cecil painted a car red, and Bryan did too.’

b. *Meredithga* [VP *mqashi ža paras gistak*] *anąga* *Matejaga*
*Meredith-*ga mqaš-hiža paras ∅-gistak *anąga* Mateja-*ga*
*Meredith-PROP* metal-INDEF flat 3s/o-hit and *Mateja-PROP*
šge *[ųų]*.
šge ∅-ųų
also 3s-do

‘Meredith hit metal flat, and Mateja did too.’

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

(7) a. *Cecilga* [VP *xjanqre waši*] *anąga* *Bryan-ga* šge *[ųų]*.
*Cecil-*ga xjanqre ∅-waši *anąga* Bryan-*ga* šge ∅-ųų
*Cecil-PROP* yesterday 3s-dance and *Bryan-PROP* also 3s-do

‘Cecil danced yesterday, and Bryan did too.’

b. *Meredithga* [VP *haqpte’e kšeehižą ruuc*] *anąga*
*Meredith-*ga hqapte’e kšee-hižą ∅-ruuc *anąga*
*Meredith-PROP* today apple-INDEF 3s/o-eat and *Mateja-PROP*
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Matejaga šge [uŋ].
Mateja-ga šge ø-uŋ
also 3s-do
'Meredith ate an apple today, and Mateja did too.'

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

(8) a. Cecilga [VP hosto eja waši] kjane anąga Bryan-ga
     Cecil-ga hosto e ja ø-waši kjane anąga Bryan-ga
     Cecil-PROP gathering there 3s-dance FUT and Bryan-PROP
     šge [uŋ] kjane.
     šge ø-uŋ kjane
     also 3s-do FUT
     'Cecil will dance at the gathering, and Bryan will too.'

b. Cecilga [VP ciinąk eja wažatirehižą ruwį] anąga
   Cecil-ga ciinąk eja wažatire-hižą ø-ruwį anąga
   Cecil-PROP city there car-INDEF 3s/o-buy and
   Bryan-ga šge [uŋ].
   Bryan-ga šge ø-uŋ
   Bryan-PROP also 3s-do
   'Cecil bought a car in the city, and Bryan did too.'

(9) exemplifies VPE with a comitative.

(9) Cecilga [VP hinųkra hakižu waši] anąga Bryan-ga šge
    Cecil-ga hinųk-ra hakižu ø-waši anąga Bryan-ga šge
    Cecil-PROP woman-DEF be.with 3s-dance and Bryan-PROP also
    [uŋ].
    ø-uŋ
    3s-do
    'Cecil danced with the woman, and Bryan did too.'

(10) demonstrates that various manner adverbs can also be subject to VPE.

(10) a. Bryan-ga [VP teejaki nijetašjak taaxu racgą] anąga Sarah-ga
      Bryan-ga teejaki nijetašjak taaxu ø-racgą anąga Sarah-ga
      Bryan-PROP often coffee 3s-drink and Sarah-PROP
      šge [uŋ].
      šge ø-uŋ
      also 3s-do
      'Bryan often drinks coffee, and Sarah does too.'
In all of the examples in (7)–(10), the adjunct in the antecedent VP is interpreted as being present in the ellipsis site, indicating that $u\check{u}$ targets the entire VP rather than just the object(s).

Lastly, complement clauses can also be included in VPE. The example in (11) 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.

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 $\text{do}$ in (12a), $\text{be}$ in (12b), $\text{have}$ in (12c), $\text{can}$ in (12d) and $\text{will}$ 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 did too.  
    b. Lily is reading a book, and Molly is too.
c. Lily hasn’t finished the book, but Molly has.
d. Lily can ride a bike, and Molly can too.
e. Lily will leave, and Molly will 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 ūū. We have seen this in all of the instances of VPE given above. The examples in (14)–(18) illustrate that ūū is indeed a light verb: it productively combines with both nouns and verbs to create complex predicates. Based on its distribution, I assume that ūū realizes the functional head v (Hartmann 2012: Examples 14–18).

(14) a. mąqnąqpeja
    ‘warrior’
    b. mąqnąqpeja ūū
    ‘be in the military’

(15) a. nąqwaŋoŋo
    ‘fiddle’
    b. nąqwaŋoŋo ūū
    ‘play the fiddle’

(16) a. waruc
    ‘food’
    b. waruc ūū
    ‘cook, prepare food’

(17) a. waagax
    ‘paper, letter’
    b. waagax ūū
    ‘write (a letter)’
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 (19c) demonstrate that the modals ną and s’aare can also appear after ųų. When ųų is omitted, the result is ungrammatical.

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 (20) show, VPE is not licensed with non-agentive verbs:

   Meredith-ga kšee ų-gipi anąga Bryan-ga šge ų-ųų  
   Meredith-PROP apple 3s-like and Bryan-PROP also 3s-do  
   (Intended: ‘Meredith likes apples, and Bryan does too.’)
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b. *Cecilga wįįxra waaja anąga Meredithga šge ŭų.  
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 ŭų.  
Meredith-PROP 3S-busy.stat and  
Bryan-PROP also 3s-do  
(Intended: ‘Meredith is busy, and Bryan is too.’)

d. *Cecilga hijcge nūŋige Bryanga hąąke ŭųų.  
Cecil-PROP 3S-tired.stat but  
Bryan-PROP neg 3s-do-neg  
(Intended: ‘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 (21). In this context, ŭų takes the active person marker set. In (21b), the verb takes the second person active marker š-; the stative marker nj- is not permitted. The marker nj- is the one that would typically be found on the verb hokąre, as shown in (22).

(21)  a. Meredithga nįį eeja hokąre anąga Bryanga šge ŭų.  
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/*nj’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 \( \text{ųų} \): when \( \text{ųų} \) functions as a light verb, it can form non-agentive verbs, as in (23):

(23)  
   a. \text{hooxiwi } \text{ųų} \text{ 'have a cold' (stative intransitive)}
   
   b. \text{roo taakac } \text{ųų} \text{ 'have a fever' (stative intransitive)}
   
   c. \text{paaxšišik } \text{ųų} \text{ '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.\(^1\) This accounts for the fact that VPE is solely conditioned by the presence of the light verb (or \( v \) \( \text{ųų} \), 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 (2000; 2001; 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 VPE are all merged in \( v \), and subsequently move to Infl. All of these approaches are compat-

\(^1\) This agentivity requirement on a process that affects the VP is not completely unique to Hocąk. For example, Hallman (2004) notes that English \textit{do so} replacement is restricted to agentive VPs, even though other uses of \textit{do} are not subject to this constraint (e.g., \textit{Max loves studying French, and Mary does (*so) too.}) Rouveret (2012) also shows that VPE in Welsh is licensed uniquely by the light verb \textit{gweund}, and furthermore that VPE is not permitted with stative predicates. The only possibility with stative VPs is VVPE. However, Rouveret also shows that \textit{gweund} is also incompatible with stative predicates in its non-elliptical uses. This contrasts with the behavior of \textit{ųų} in Hocąk and \textit{do} in \textit{do so} in English.
ible 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):

\begin{enumerate}
\item Possible in both coordinated and adjacent CPs
\item Insensitive to contents of elided VP
\item Ellipsis site can be in a syntactic island
\item Ellipsis site can be embedded
\item Presence of strict and sloppy readings
\end{enumerate}

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.

\begin{enumerate}
\item Lily hates beets, but Molly doesn’t.
\item Lily hates beets. Molly does too.
\item Who hates beets? Molly does.
\end{enumerate}

All of the examples of VPE we saw in §2 involved two clauses joined by the coordinator anąga ‘and’. VPE is also possible with disjunction, as seen in (26) with nųnįge ‘but’.

\begin{enumerate}
\item Lily hates beets, but Molly doesn’t.
\item Lily hates beets. Molly does too.
\item Who hates beets? Molly does.
\end{enumerate}
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(26) a. Cecilga wažqtrehižq ruwij nûnîge nee hâqke ha’înî.
   Cecil-ga wažqtre-hižq 0-ruwij nûnîge nee hâqke ha-ûû-nî
   ‘Cecil bought a car, but I didn’t.’

b. Sarahga hâqke haas gihiñi nûnîge Matejaga ûû.
   Sarah-ga hâqke haas 0-gihi-nî nûnîge Mateja-ga 0-ûû
   ‘Sarah didn’t pick berries, but Mateja did.’

(27) 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.

   Meredith-ga waaruċi-hižq 0-hogiha Bryan-ga šge 0-ûû
   ‘Meredith painted a table. Bryan did too.’

b. Meredithga hâqke waisp gap xuwuxuwuhižq ruucnî.
   Meredith-ga hâqke waisp gap xuwuxuwu-hižq 0-ruuc-nî
   ‘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.

   njitaśjak taaxu šu-ruwij ha-ûû
   coffee 2s-buy 1s-do
   Q: ‘Did you buy coffee?’ A: ‘I did.’

   peezega Cecil-ga 0-gişja hii Bryan-ga 0-ûû.
   who Cecil-PROP 3s/o-visit Bryan-PROP 3s-do
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 (29c) and the ungrammatical examples in (29b) and (29d):

(29)  
   a. Pat doesn’t know that Terry is moving to Japan, but Robin knows.  
   b. * Pat doesn’t know how to speak Inuktitut, but Robin knows.  
   c. Pat forgot to close the door, but Robin remembered.  
   d. * Pat forgot the 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 (30) show that VPE is possible regardless of whether the complement of the VP expresses a proposition or not.

(30)  
   a. Pat doesn’t know that Terry is moving to Japan, but Robin does.  
   b. Pat doesn’t know how to speak Inuktitut, but Robin does.  
   c. Pat forgot to close the door, but Robin didn’t.  
   d. Pat forgot the 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.' (Johnson, Rosen & Schuck 2013: 7)
Thus, it is not surprising that both propositional and non-propositional verbal complements can be null in Hocąk. In (32), 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,
Sarah-ga Meredith-ga rookhožu-ra ∅-ruuc-ra ∅-hiperes
Sarah-PROP Meredith-PROP pie-DEF 3s/o-eat-COMP 3s-know
anąga Matejaga šge hireperesšąnąq.
anąga Mateja-ga šge ∅-hiperes-šąnąq
and 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
Sarah-ga jaagu’ų Meredith-ga ∅-kere-ra ∅-hiperes anąga
Sarah-PROP why Meredith-PROP 3s-leave-COMP 3s-know and
Matejaga šge hiperesšąnąq.
Mateja-ga šge ∅-hiperes-šąnąq
Mateja-PROP also 3s-know-DECL
‘Sarah knows why Meredith left, and Mateja knows (why Meredith left) too.’

(33) a. Bryanga nižtašjak taaxu ruwi-ra wakikųnųnį, nunige
Bryan-ga nižtašjak taaxu ∅-ruwi-ra ∅-wakikųnųnį nunige
Bryan-PROP coffee 3s-buy-COMP 3s-forget but
Meredithga hąąke wakikųnųnįnį.
Meredith-ga hąąke ∅-wakikųnųnį-nį
Meredith-PROP NEG 3s-forget-NEG
‘Bryan forgot to buy coffee, but Meredith didn’t forget.’

b. Bryanga waisgap sguura wakikųnųnį, nunige Meredithga
Bryan-ga waisgap sguu-ra ∅-wakikųnųnį nunige Meredith-ga
Bryan-PROP cake-DEF 3s/o-forget but Meredith-PROP
hąąke wakikųnųnįnį.
NEG 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.2

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 (34b) 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 (35) 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 ʔuŋ kjanegi Meredithga Hunterga (nišge)
    Bryan-ga ʔuŋ kjane-gi Meredith-ga Hunter-ga (nišge)
    Bryan-PROP 3s-do fut-if' Meredith-PROP Hunter-PROP also
    gišja hii kjane.
    ʔ-gišja hii kjane
    3s/o-visit fut
    'Meredith will visit Hunter if Bryan will.'

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

---

2 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.
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c. Keenį Sarahga үүнį Matejaga
keenį Sarah-ga 鬯-үү-ңį Mateja-ga
before Sarah-PROP 3s-do-NEG Mateja-PROP
waisgap sguu xuwwuxuwuhižą  ruucšąņą.
waisgap sguu xuwwuxuwwu-hižą 鬯-ruuc-şąņą
cookie-INDEF 3s/o-eat-DECL
‘Mateja ate a cookie before Sarah did.’

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

(36) a. *Matejaga rookhožuhiżągi Meredithga waisgap sguuhižą
Mateja-ga rookhožu-hižą-gi Meredith-ga waisgap sguu-hižą
Mateja-PROP pie-INDEF-if Meredith-PROP cake-INDEF
rook’į kjane.
 thỏ-rook’į kjane
3s/o-bake FUT
(Intended: ‘Meredith will bake a cake if Mateja will bake a pie.’)

b. *Sarahga wažą honąkipįnihįžąge Matejaga wažątirehižą
Sarah-ga wažą honąkipį-hižą-ge Mateja-ga wažątire-hižą
Sarah-PROP bicycle-INDEF-because Mateja-PROP car-INDEF
ruwį.
 thọ-ruwį
3s/o-buy
(Intended: ‘Mateja bought a car because Sarah bought a bicycle.’)

c. *Keenį Bryan-ga waisgap sguu xuwwuxuwuhižąңį Meredithga
keenį Bryan-ga waisgap sguu xuwwuxuwu-hižą-ңį Meredith-ga
before Bryan-PROP cookie-INDEF-NEG Meredith-PROP
kšeehižą ruucšąņą.
kšee-hižą thọ-ruuc-şąņą
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)–(37c) 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.  
   b. 
   c.  
   d.  

"Bryan didn’t buy coffee, but I know Meredith did."

"Meredith didn’t visit Hunter, but Bryan wants to."

"Mateja didn’t buy a bicycle, but I think Cecil did."

"Sarah didn’t paint the table, but Meredith said she did."
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Unlike English, Hocąk does not exhibit any constraint on gapping in embedded contexts. (39a) and (39b) show that the gap can be embedded under the verbs hire ‘think’ and ee ‘say’, respectively.

(39)  
a. Meredithga wažą honąkipįnižą ruwj anaga Bryanga  
Meredith-ra wažą honąkipįnižą ⟨⟩-ruwj anaga Bryan-ŋa  
Meredith-PROP bicycle-INDEF 3s/o-buy and Bryan-PROP  
wažątirehižą yaare.  
wazątirehižą <ha>hire  
car-INDEF <1s>think  
‘Meredith bought a bicycle, and I think that Bryan bought a car.’  
b. Meredithga kšeehižą ruuc anaga Matejaga  
Meredith-ra kšee hižą ⟨⟩-ruuc anaga Mateja-ŋa  
Meredith-PROP apple-INDEF 3s/o-eat and Mateja-PROP  
wažązihižą hihe.  
wazązihižą <ha>ee  
orange-INDEF <1s>say  
‘Meredith ate an apple and I said that Mateja ate an orange.’

The examples in (40) 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 šųųkhįžę haja, anaga wijukhižę źge.  
Sarah-ŋa šųųk hiżę ⟨⟩-haja anaga wijukhižę źge  
Sarah-PROP dog-INDEF 3s/o-see and cat-INDEF also  
‘Sarah saw a dog, and a cat too.’  
b. Meredithga haqke kšeehižą ruucnj, nunige  
Meredith-ra haqke kšee-hižą ⟨⟩-ruuc nj nunige  
Meredith-PROP NEG apple-INDEF 3s/o-eat NEG  
waisgap sugu xuwxuxuwuhižą.  
waisgap sugu xuwxuxuwu-hižą  
but  
‘Meredith didn’t eat an apple, but a cookie.’  
c. Bryanga njitašjak taaxu račgą, anaga Matejaga šge.  
Bryan-ŋa njitašjak taaxu ⟨⟩-račgą anaga Mateja-ŋa 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, nąnige Cecila 
Bryan-ga hąąke wažątire-hižą ∅-ruwį-nį nąnige Cecila-ga 
Bryan-PROP NEG car-INDEF 3s/o-buy-NEG but Cecila-PROP 
wažą honąkipinįhižą ee. 
wažą honąkipinį-hižą ∅-ee 
bicycle-INDEF 3s-say
(Intended: 'Bryan didn’t buy a car, but Cecila said (he bought) a bicycle.')

c. *Sarahga waisgap sguuhižą rook’į, anaga Bryanga 
Sarah-ga waisgap sguu-hižą ∅-rook’į anaga Bryan-ga 
Sarah-PROP cake-INDEF 3s/o-bake and Bryan-PROP 
Meredithga šge ee. 
Meredith-ga šge ∅-ee 
Meredith-PROP 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 (35) while gapping is not (36).

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 (42) 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
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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 (43). 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 Hocãk, 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 (44), 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’ųŋi hiira homąkįnį anąga Hunterga šge
    Bryan-ga hi’ųŋi ʔ-hii-ra ʔ-homąkįnį anąga Hunter-ga šge
    Bryan-PROP mother 3S-poss-def 3S/o-visit and Hunter-PROP also
    ʔ-ųų
    3S-do
    ‘Bryan visited his mother, and Hunter did too.’

b. Bryanga hi’ųŋi hiira homąkįnį anąga Hunterga šge.
    Bryan-ga hi’ųŋi ʔ-hii-ra ʔ-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 (45) 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 Meredith ga šge uų.  
Matej-PROP 3s<REFL>hit and Meredith-PROP also 3s-do  
‘Mateja hit herself, and Meredith did too.’

b. Matejaga hokijį anąga Meredith ga šge.  
Matej-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
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full-fledged VP in the ellipsis site which undergoes deletion at a later stage in the derivation. In the examples in (46), the object originated inside the elided VP, and underwent movement before deletion took place.

(46)  a. I know which book Max read, and which 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.3

(47)  a. Meredithga waagaxra ruwį, nųnįge wiiwagaxra hąqke
     Meredith-ga waagax-ra пустое место, nųnįge wiiwagax-ra hąqke
     Meredith-prog paper-DEF 3s/o-buy but pencil-DEF NEG
     Ṽųnį.
     Ṽų-ųų-nǐ
     3s-do-NEG
     ‘Meredith bought the paper, but the pencil, she didn’t.’
     b. Jaagu Bryanga ruwįra yaaperesšąną, nųnįge jaagu
     Jaagu Bryan-ga пустое место ruwį-ra <ha>hiperessąną nųnįge jaagu
     what Bryan-prog 3s/o-buy-comp <1s>know-DECL but what
     Hunterga Ṽųra hąqke yaaperesnį.
     Hunter-ga пустое место Ṽų-ra hąqke <ha>hiperes-nį
     Hunter-prog 3s-do-comp NEG <1s>know-NEG
     ‘I know what Bryan bought, but I don’t know what Hunter did.’

As the example in (48) 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 Ṽųra.
     Bryan-ga пустое место ruwį jaagu Meredith-ga пустое место Ṽų-ra
     Bryan-prog 3s/o-buy what Meredith-prog 3s-do-comp
     ‘Bryan bought what(ever) Meredith did.’

3 Like other Siouan languages, Hocąk is a wh-in-situ language. However, wh-words can undergo focus driven movement.
A description of verb-phrase ellipsis in Hocąk

The second argument in favor of a deletion analysis of VPE in Hocąk comes from so-called “missing antecedents.” Hankamer & Sag (1976) 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 (50) 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, and he says it stank horribly.

b. I’ve never ridden a camel, but Ivan has, and he says it stank horribly. (Hankamer & Sag 1976: 403)

(50) *I’ve never ridden a camel, and it stank horribly. (Hankamer & Sag 1976: 404)

Hankamer & Sag (1976) 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 (52).

(51)  a. Hąkaga kšeexetehižą haacnj, nunige Matejaga
hąkaga kšeexete-hižą ʔ<ha>-ruuc-nį nunige Mateja-ga
never pineapple-INDEF 3S<1S>eat-NEG but Mateja-PROP
kšeexetehižą ruuc, anąga sguu ee.
kšeexete-hižą ʔ-ruuc anąga ʔ-sguu ʔ-ee
pineapple-INDEF 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 hąkaga never
hąkaga hąkaga ʔ-ha-
never
haacnj, haacnj,
but
nunige Matejaga nunige Matejaga
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b. Hąkaga kšeexethižą haacnį, nunǐge Matejaga ụụ, hąkaga kšeexete-hižą (ə<ha>-ruuc-nį nunǐge Mateja-ga (ə)-ụụ never pineapple-indef 3s<1s>eat-NEG but Mateja-PROP 3s-do
anąga sguu ee.
anąga (ə)-sguu (ə)-ee
and 3s-sweet 3s-say
‘I never ate a pineapple, but Mateja did, and she said it was sweet.’

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 ụụ 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 ụ 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

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<th>Abbreviation</th>
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<tr>
<td>1, 2, 3</td>
<td>first, second, third person</td>
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<td>COMP</td>
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STAT = stative verb.

References


