(Para-)Adpositional Morphosyntax in Siouan: A Case Study of Lakhota-Dakota-Nakota, Catawba, and Crow[*]

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Abstract: This paper examines the morphosyntactic status of adpositions and their kin in three Siouan languages—the Lakhota-Dakota-Nakota variety continuum, Crow, and Catawba—in hopes of providing a more nuanced account of the grammar of adpositions in Siouan. The data and analyses herein illustrate the need for linguistic examinations of Siouan adpositions to include applicative systems, as well as demonstrate that the descriptive work to date has been insufficient in regard to adpositional and applicative morphosyntax in these languages. This paper evidences far more diversity within the adpositional morphosyntax of Western Siouan languages than typically granted. Additionally, it demonstrates that the Eastern Siouan branch is not as dissimilar an outlier as it is often portrayed.

Keywords: adpositions, applicatives, Catawba, Crow, Lakhota, Dakota, Nakota

1. Introduction

1.1. Background

The data and analysis presented here explore the morphosyntactic status and behavior of adpositions and related constructions in three phylogenetically distant Siouan languages: the Lakhota-Dakota-Nakota language continuum (LDN henceforth), Catawba, and Crow. The result of this exploration is a more nuanced description of the grammar of adpositions in Siouan. Adpositional morphosyntax is understudied and often overlooked by linguists. Hagège (2010) draws attention to this throughout his monograph on the typology of adpositions. In addition to true adpositions, this study investigates applicatives. Throughout this paper, I refer to Siouan applicatives as an example of para-adpositional morphology. I do so because they are intimately related to adpositions and, as I discuss in section 1.3, are not true applicatives (*in Siouan*). Many Siouan languages do not have an extensive history of formal descriptions; this is especially true out-

side of the Dakotan subbranch.[1] Moreover, research on Siouan languages conducted before the 1960s is often difficult to parse, as authors adhered to unique, individualistic systems of phonetic description. This paper lies at the intersection of these understudied areas.

The Siouan languages—which constitute one of the world's primary language families—are traditionally split into two groups: Eastern (Catawban) and Western (Siouan "Proper"). The Eastern Siouan group split off from Proto-Siouan as long as 4,000 years ago and contains only two known languages: Catawba and Woccon, the latter of which is poorly attested (Kasak 2016:7, Rudin & Gordon 2016:3). The first linguistic group to separate from Proto-Western Siouan was the Missouri River Valley subbranch, whose modern descendants are Crow and Hidatsa. This split was followed by the Mandan language,[2]

The relationships described above and illustrated in figure 1 are still being refined and reanalyzed. Yuchi—a language isolate spoken in present-day Oklahoma—has long been postulated to be a distant member of the Siouan family (notably by Sapir in 1929), but this theory is not widely accepted (Kasak 2016, Mithun 1999). In a recent manuscript, Kasak (2020a) augments the evidence in support of this postulation, providing two computational analyses of Siouan-Catawban-Yuchi phylogeny. Kasak's findings indicate not only that Mandan is more closely related to Crow and Hidatsa than to any other Siouan language, but also that Yuchi appears to be much more closely related to the Catawban languages (and thus the Siouan languages) than previously thought. Both new models suggest that Yuchi should be considered a subbranch of Eastern Siouan (Catawban), not a third subbranch of Proto-Siouan.

Adpositions, though nearly ubiquitous in human language, have not been subject to the same intensity and rigor of linguistic evaluation that many other word classes such as nouns and verbs have. Hagège (2010:2) goes as far as stating that his book was the first published monograph focused on adpositions and the typology thereof. However, much meaningful linguistic research on adpositions had been conducted before his work. Asbery's dissertation (2008) focused on the morphosyntax of case and adpositions. Hewson & Bubenik (2006) proposed a diachronic account of adpositions in the Indo-European language family. Hagège mentions the work of Kurzon & Adler (2008), but simply remarks that their work has a narrower scope than his own. However, it is their claim that extensive further research is necessary for linguists to arrive at an adequate theory of adpositional morphosyntax that Hagège appears to be echoing Kurzon & Adler (2008:1-3). The aforementioned research gap is certainly present in Siouan. There has yet to be a comparative study that examines adpositions in the Siouan language family. The *raison d'être* of this study is to contribute synchronic analyses of the (para-)adpositional morphosyntax of LDN, Catawba, and Crow that—when examined together—provide insights for the study of historical and comparative Siouan linguistics, as well as the typological study of adpositions more generally.

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[1]That being said, Siouan linguistics has flourished over the past half-century, contributing not only to our understanding of Siouan languages but also to our understanding of linguistic theory. This period of scholarly vibrancy produced many of the works referenced herein.

[2]It should be noted that Mandan is frequently linked as a group with Crow and Hidatsa (Kasak 2016:8) which was in turn followed by the branching of the Ohio River Valley (Southeastern) and Mississippi River Valley subgroups. The Dakotan languages were the first to diverge from the Mississippi River Valley subbranch. Subsequently, the Winnebago-Chiwere and Dhegiha constituents of the Mississippi River Valley subbranch separated, forming their own subfamilies (Rudin & Gordon 2016:3, Park 2012:1-2). This is illustrated in figure 1, which uses data from Ullrich (2018:23), Rudin & Gordon (2016:3), and Kasak (2016:8).[3]

Figure 1: Siouan phylogeny
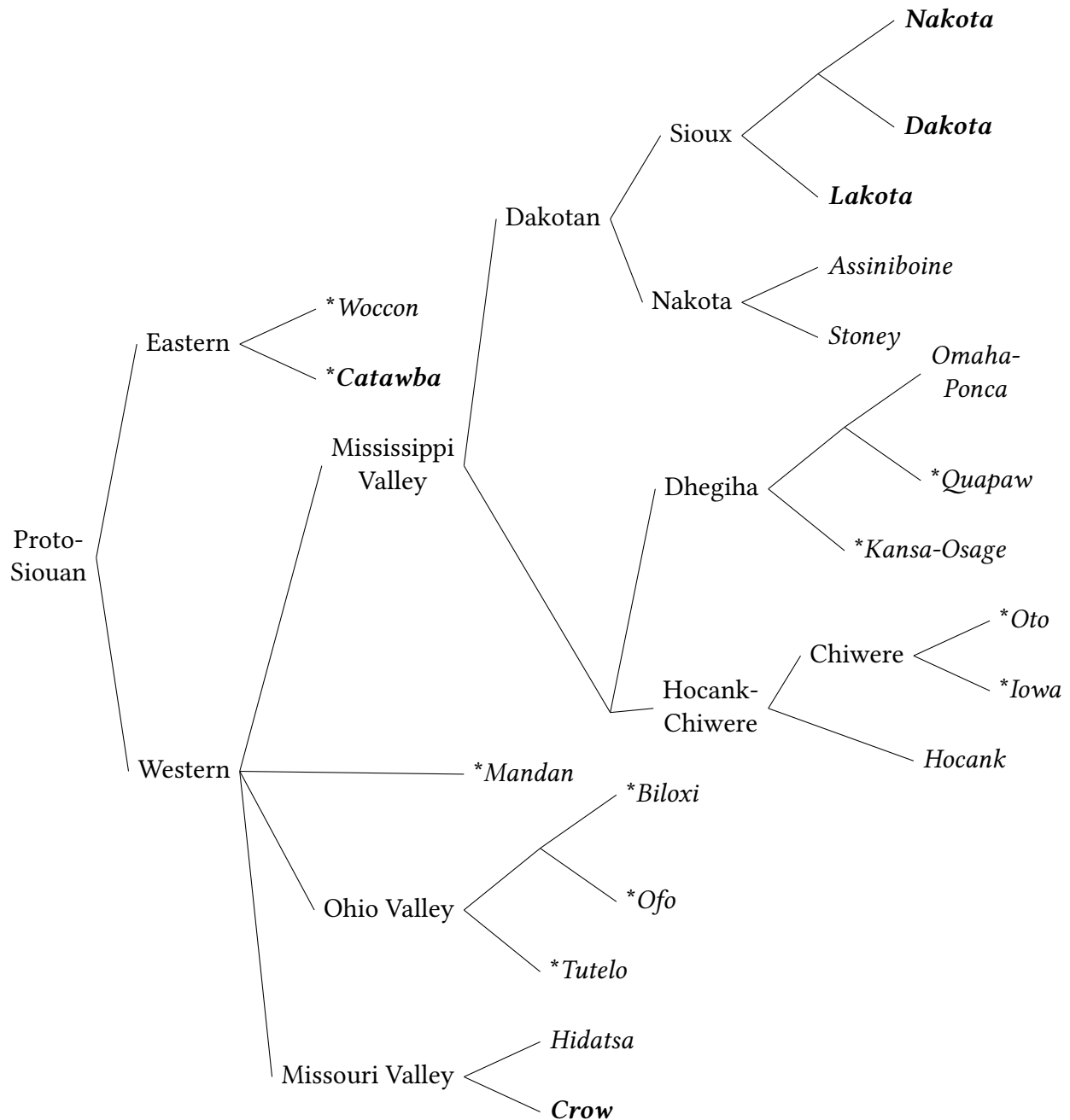
Siouan languages exhibit head-final syntactic structure; thus, free adpositions in these languages are postpositions rather than prepositions. Siouan adpositions appear to undergo enclisis in many of the family's languages; however, as discussed in sections 4 and 5, this is not universal. A variety of other adpositional phenomena are evidenced in Siouan herein, including proclisis, various combinational phenomena, and movement out of an adpositional phrase, inter alia.

In addition to true adpositions, this study investigates a set of Siouan preverbs referred

to as applicatives that are markedly similar to adpositions in both their morphosyntactic and semantic functions. I consider these an example of "para-adpositional" constructions, as their close relationship with adpositions is both diachronic and synchronic. In theoretical morphology, applicatives mandatorily increase the valency of a verb; they are often used to topicalize an oblique argument (Peterson 2007:1-3). However, expansion of a verb's argument structure does *not* always occur with Siouan "applicatives." Thus, as discussed further in section 1.3, these are not true applicatives, either. Some Siouanists, such as Kasak (2019), are beginning to consistently refer to these as preverbs, preferring the more correct and theory-neutral term. However, the vast majority of sources referred to herein refer to these as "applicatives."

There are four standard applicatives in Siouan languages (Helmbrecht 2006). The fourth of these, the benefactive, is not overt in Catawba or Crow; thus, this paper focuses on the three "locative" applicatives: the superessive, the inessive, and the instrumental. The superessive applicative most often denotes spatial location 'on top of' or 'above' something else. The inessive applicative typically corresponds to 'inside' or 'into' (Helmbrecht 2006). Finally, the instrumental represents a non-comitative instrumental relationship; however, it can also be used as a locative, meaning "against."

Helmbrecht & Lehmann (2008) propose a chronology of the development of internal affixation in Siouan based on their theory of isolated stem components (ISCs). For the purposes of this paper, it is not important to understand their theory of ISCs or the nuances of Siouan verbal morphology. It is only necessary to note that applicatives are one posited source of these components. Helmbrecht and Lehmann's conclusion delineates four stages that Siouan languages underwent in the development of ISCs. The relevant three are delineated below.

In stage one, Proto-Siouan, they claim that the now-grammaticalized applicatives were a preverbal constituent (such as a postposition). Helmbrecht and Lehmann do not assign a time-frame to stage two, stating only that it is still a reconstructed form; in this stage, they claim the aforementioned postpositions became "preverbs." Although "preverbs" often denote applicatives in Siouanist literature, here Helmbrecht and Lehmann are discussing proclitics. This is because in stage three—which also has no assigned time-frame but is said to have been 'historically observable in Hocąk and other Siouan language'"—they claim these "preverb" had become applicatives. This is presented in table 1 (Helmbrecht & Lehmann 2008:34-35).

Table 1: Helmbrecht and Lehmann's Four Stages

	Stage One	Stage Two	Stage Three	Stage Four
Time:	Proto-Siouan	*Not Stated*	*Not Stated*	Present
Status:	Postpositions	Proclitcs	Applicatives	ISCs

Helmbrecht and Lehmann's conclusion suffers from a lack of specificity. For instance, they state that their findings apply to "Hocąk and other Siouan languages," which indicates a broad interpretation. However, it is their claim regarding the stages in table 1 that is of particular importance to this paper. The picture Helmbrecht and Lehmann paint is one of clear-cut phases, with different word classes and morpheme types having diachronic relationships, but synchronic independence. This prompts a closer investigation of Siouan languages other than Hocąk in order

to determine how distinct these phases truly are.[4]

1.2. Towards a More Nuanced Typology

This survey of the (para-)adpositional systems in LDN, Catawba, and Crow reveals that adpositional morphosyntax has not been closely analyzed by Siouanists to date. The analysis herein of LDN—the most thoroughly documented Siouan language and that with the longest history of linguistic research—resulted in a number of novel findings. For instance, a group of discrete combinational processes involving adpositions are all described as 'incorporation' in the Siouanist literature. While LDN does exhibit true incorporation elsewhere in its morphosyntax, it does not in either of the combinational processes involving adpositions. The primary phenomena present in LDN's adpositional morphosyntax are compounding and enclisis. Most Siouanists have chosen to use 'incorporation' as an all-encompassing term that allows them to present the data without simultaneously presenting a morphosyntactic analysis. This paper thus presents a closer examination. The analysis in section 2 shows that, although historically related to applicatives, adpositions in LDN are synchronically distinct from them, supporting Helmbrecht & Lehmann's (2008) paradigm discussed above. Moreover, due to the aforementioned comparative robustness of research on LDN, it has been used as a template of sorts in descriptions of other Siouan languages. However, as demonstrated below, this can result in infelicitous analyses.

Catawba's adpositional morphosyntax has largely been ignored by the handful of scholars who have examined the language. Its use of proclisis is attested in the literature, but most work on Catawba—Rudes (2007) being an important exception—has involved lexical indexing rather than grammatical analysis. This is not surprising, as Catawba is primarily attested by Speck's (1934) transcriptions of folktales and lexicographical work is often a prerequisite for grammatical linguistic analysis. Moreover, apart from one article on onomastics by the late Blair Rudes, the Catawba language has not been the subject of published research in the twenty-first century. The analysis of Catawba herein serves to modestly remedy that, providing a novel analysis of its adpositional morphosyntax, as well as fodder for further research on the language. Catawba is regularly neglected in literature that claims to characterize the Siouan language family—such as Helmbrecht (2006)—as it differs significantly from many of its linguistic relatives.[5] Ignoring the Eastern branch of Siouan languages allows for cleaner conclusions to be drawn, but it invalidates wide-reaching claims about the entire language family. Notably, Catawba does not have overt applicatives, contra the claim in Helmbrecht (2006) that all Siouan languages do.

The analysis of Crow herein further demonstrates that the problem of underdescribed adpositional systems is endemic to the "core" (Western) Siouan languages, as well—not just the Catawban (Eastern) branch. Crow has a remarkably flexible system of adpositional morphosyntax, allowing left-anchored, right-anchored, and bidirectionally-anchored compounding in addition to free-standing postpositions. This constitutes a rejection of the attempted general characterizations of the Siouan family from within the "core" (Western) Siouan branch itself. The analysis of several unexplained (or insufficiently explained) adpositional structures in previously-

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[4]Note that this is not the focus of Helmbrecht & Lehmann (2008) conclusion; rather, it is an implication they make en route to their conclusion about ISCs and verbal morphology.

[5]Kasak (2020a) and this paper argue that this difference may not be as extreme as previously thought. Furthermore, I believe the *perception* that Catawba is only peripherally related to the "core" Siouan languages contributes as much to Catawba's de facto exclusion as the actual linguistic variation.

elicited data results in positing the presence of topicalization movement, which helps account for irregularities noted by scholars in the past. Additionally, the boundary between adpositions and applicatives in Crow is blurry at best, suggesting that a more nuanced analysis of Siouan applicatives—one that analyzes them as para-adpositional—is necessary.

1.3.   Theoretical Orientation

There are several aspects of this study that require preemptive clarification: the conceptualization of a "word," the conventions of syntactic notation used, the parameters of the combinational phenomena discussed, and the usage of the term 'adposition.' The first two of these elements lie at the center of intense, ongoing theoretical investigation and debate. This paper does not make cross-linguistic claims about the nature of wordhood, nor about the innate human faculty for language and its best syntactic representation. Nonetheless, it must adopt frameworks for both aforementioned components.

In this paper, I identify two discrete categories of 'word': prosodic words and morphological words. Prosodic words are defined herein as sentential constituents that have a single primary lexical stress. It is critical to note that this definition refers to lexical stress alone, not phrasal pitch accent or prosodic emphasis. This distinction is especially important for the discussion of Catawba in section 4.

Morphological words are defined herein as a group of one or more morphemes that always co-occur in the same pattern and that are synchronically unanalyzable. This conceptualization is strongly influenced by Dixon & Aikhenvald's (2003:18-25) notion of "grammatical words."

The syntactic notation used throughout this paper is best described as a kind of "pseudo-minimalism." There are several space-consuming syntactic representations within this paper, which caused formatting issues when using "pure" X-bar theory. Switching to a paradigm more closely aligned with the minimalist program allowed these formatting issues to be resolved without sacrificing any substance or altering any theoretical claim.

There are a variety of morphosyntactic phenomena in Siouan that involve combining more than one morpheme to create a single 'word.' Such processes are almost exclusively referred to as "incorporation" in Siouanist literature to date. Olthof's dissertation on incorporation defines the phenomenon as "the inclusion of one lexical element in another lexical element such that they together constitute a single word" (Olthof 2020:71, 131-132). The key word in Olthof's description is '*in*'; English words like 'firetruck' and 'bookstore' do not fall into this category. Olthof gives the following example from Chukchi (Olthof 2020:53). In example (1), incorporation is not present ('to catch' [the hare]). Example (2) expresses an almost identical meaning using an incorporation construction ('to hare-catch').

(1)   *ʔətt-e   piri-nin-∅   melota-lɣən*
      dog-ERG catch-3SG>3SG-PST hare-ABS.SG

      'The dog caught the hare.'

(2)   *ʔətt-ən   milute-piri-ɣʔi-∅*
      dog-ABS hare-catch-3SG.SBJ-PST

      'The dog caught a hare.'

Siouan languages do exhibit incorporation—e.g. the word /cʰ$\underset{.}{a}$lí-wakpà/ 'to tobacco-cut' (to cut tobacco) in LDN (Boas & Deloria 1939:70)—but not in their adpositional morphosyntax.[6] Other phenomena, namely compounding and cliticization, do. Compounding is a phenomenon in which two constituents, each with their own primary lexical stress, merge to form one prosodic word. The new primary lexical stress may fall on either original constituent of the newly formed compound.

Cliticization is a similar, but discrete morphological operation. In the examples of enclisis discussed herein, an adpositional enclitic is attached leftward, onto its governed term. Proclitics differ from these by attaching rightward, onto the verb dominating the adposition. Unlike constituents of compounds, clitics can never be stressed.[7] Neither compounding nor cliticization is true incorporation.

An adposition is defined within this paper as follows: a maximal projection that forms an adpositional phrase with the determiner phrase (DP) it governs and that denotes a relationship between that governed DP and the phrase that most immediately dominates it. This is generally a verb phrase (VP), but it can also be a noun phrase (NP) or an adjective phrase (AP) (Hagège 2010:8). This conceptualization of adpositions is rather uncontroversial. The theoretical foundations of this definition are influenced by Hagège (2010); however, it does not conform to the terminology used therein.[8] The structure described above is perhaps clearer when illustrated rather than articulated. This is depicted in figure 2.

Figure 2: Prototypical Adpositional Phrases

Head-Initial (English)	Head-Final (Siouan)
VP V′ AdpP Adp′ DP V Adp X	VP AdpP V′ DP Adp′ X Adp V
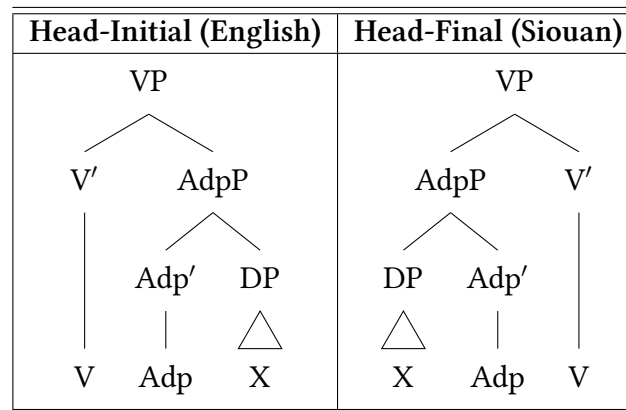
Hagège (2010) claims that adpositions are, minimally, unique morphological words. The data presented here support this claim if one subscribes to the definition of a morphological word delineated above which, in accordance with both Dixon & Aikhenvald (2003:24-27) and Booij (2005:202), includes clitics. However, the Siouan data contradict this if one does not designate clitics as morphological words. Hagège himself does not assign the label of 'adposition' to preverbs and clitics (Hagège 2010:62-63). This illustrates the importance of considering this paper's theoretical assumptions when examining the claims herein.

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[6]The situation in Crow is more complex, but I argue that it does not appear there, either.

[7]This rule does have exceptions. For example, an enclitic can be stressed in Modern Greek if a second enclitic is attached to it. See Anderson (1992) and Anderson (2005:24) for more information.

[8]For example, Hagège refers to the VP (or NP or AP) that dominates the adverbial phrase as a "head," which is a non-standard description. Throughout this paper, I will use "head" to refer to a maximal projection.

1.4. Notes on Research Methodology

In addition to the academic literature on Siouan linguistics to date, the principal sources referenced herein are transcriptions of folktales and other narratives told in LDN, Catawba, and Crow. It is often difficult to discern whether transcribed texts accurately portray phonetic reality. For example, in the Speck (1934) texts—the main source of Catawba data—primary, secondary, and tertiary stress are not orthographically differentiated. As highlighted by the discussion of stress above, prosodic data are often vital when conducting morphosyntactic analysis; the absence of this information is discussed where relevant throughout. Regardless, large quantities of these data can provide researchers with phonological and prosodic insights, allowing us to produce salient analyses. This is expanded upon significantly in section 4.

Despite the difficulties it presents, written material is a captivating medium for linguistic research—particularly attempts at recording oral traditions in the realm of folklore, mythology, and fables. These genres are the central sources of extant texts in the Siouan languages discussed herein, as well as in many other understudied languages. The registers used in these texts differ from the register of casual speech. Thus, it must be noted that morphosyntactic phenomena identified from analysis of these genres could result from the language play typical of storytelling and narration.[9]

2. Evidence from Lakhota-Dakota-Nakota

2.1. Overview

The LDN variety continuum is perhaps the best-documented of the Siouan languages, and this is true of its adpositional system, too. However, most work on adpositions in LDN is concerned with their free postpositional forms and the integration of pronominal elements therein. Far less studied are the processes of compounding and enclisis, which are seldom discussed in the Siouanist literature to date. In contrast with Catawba and Crow, LDN does not exhibit proclitic or preverbal constructions in its adpositional morphosyntax.[10] Moreover, LDN utilizes a robust system of locative applicatives that are grammatical both with and without a preceding postpositional phrase, though it is not clear whether there is productive semantic variation between using solely a postposition, solely an applicative, or using both. From the data analyzed within this study, the choice appears to be lexically determined. These applicatives, although semantically and historically related to postpositions, do appear to support Helmbrecht & Lehmann's (2008) theory that these grammatical constituents should be synchronically treated as discrete phenomena.

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[9]Language death is occurring rapidly world-wide. As such, analysis of (often less-than-ideal) archive material is becoming increasingly important for the field of language documentation (Bowern 2018). Thus, written material is not only vital for philologists; it is also increasingly relevant in the fields of language documentation and revitalization.

[10]There is one potential example of proclisis (other than the applicatives) that is now fossilized in a verb stem. The word /akáyaka/, 'to ride,' is more precisely glossed as [on=sit], but it does not appear to be synchronically analyzed as such by speakers (Deloria 1932:237).

2.1.1. The Derivation of Adpositions

There are at least two common sources of adpositional derivation in LDN: adverbs and verbs. Adpositions can be derived from adverbs via the addition of the prefix /i-/ (Ingham 2003:41, Ullrich 2018:62). Consider the following examples.

(3) a. *hakáb* (ADV)
        afterwards
    b. *ihakáb* (ADP)
        behind, after

(4) a. *mahél* (ADV)
        inside
    b. *imáhel* (ADP)
        inside

In example (3), the adposition 'behind, after' is derived from the adverb 'afterwards' via the addition of the prefix /i-/ (LLC 2021:41, Ingham 2003). This derivational prefix has become so productive that native speakers sometimes add /i-/ to lexemes that are already free, non-derived postpositional forms. This is evidenced by example (4), in which the word-class of /mahél/ does not change, but the prefix /i-/ is still added and the locus of lexical stress is subsequently shifted (Ingham 2003:41).

(5) a. *iyúweğa* (V.INF)
        to.cross.over

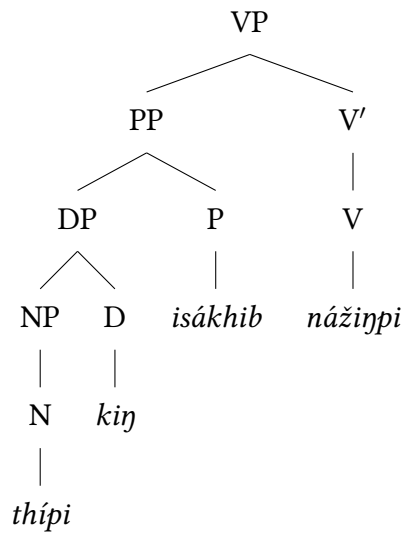   b. *iyúweȟ* (ADP-like)
        across

Another source of adpositional derivation is the verb, as shown in example set (5). This process is described by Ingham (2003:41) as "plain stems of verbs... [being] used in a participle-like construction. [These] can be regarded as in a transitional status [between verbs and adpositions]." Very little has been written about this derivational process and further research is needed to provide an adequate description. Unlike /i-/ prefixing, this does not appear to be a productive process.

2.2. Free Postpositions

Free postpositions are the most common type of adposition in the LDN data examined herein. The tree below depicts a simple postpositional phrase and its clausal environment.

(6) Simple postpositional phrase within a clause
    a. Gloss
        thípi   kiŋ   isákhib   nážiŋpi
        house DEF next.to they.stand.PST

    'They stood next to the house.' (Ullrich & Black Bear 2016:380)

b. Syntactic diagram

```
                              VP
                            /    \
                          PP      V′
                        /    \     |
                      DP      P     V
                     /  \     |     |
                   NP    D  isákhib  nážiŋpi
                   |     |
                   N    kiŋ
                   |
                 thípi
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(7) *maza oŋ*
     iron   of
     '[made] of iron' (Riggs 1895:52, 77)

(8) *thiyópa ikhíyela yaŋké.*
     door   near   sit.PST
     "He sat near [the] door." (Ullrich 2018:380, Ingham 2001:91, 220)

This type of postposition is thoroughly attested. The following are a brief selection of the postpositions that can be found in the Deloria texts: /étkiya/ 'towards,' /ogná/ 'through,' /ekta/ 'to,' /etáhą/ 'from,' /opháya/ 'along (1),' /ohlathe/ 'below,' and /aglágla/ 'along (2),' inter alia (Deloria 1932:19, 28, 30, 65, 213, 234, 267). Note that the use of a postposition decreases the likelihood that the governed DP will contain an overt determiner head. Example (6) depicts an exceptional case in which the definite marker is used, as this can occur (Ingham 2003:40). Example (8) depicts a case in which the use of an adposition results in a null D-head.

(9) *ilázata*   (10) *ilázatalaȟcį*
     i-lázata   i-lázata=laȟcį
     against-behind   against-behind=INTENSE
     'behind' (Deloria 1932:109)   'directly behind' (Deloria 1932:246)

Section 2.1.1 illustrated that the prefix /i-/ could derive adpositions from adverbs. However, as will be discussed in section 2.4, the prefix /i-/ is also an applicative in LDN. One of the senses of this applicative is the locative 'against.' This marker can be attached to postpositions to alter or emphasize the spatial aspect of their semantics. This is the case in example (9). The postposition /lázata/ by itself means 'behind' (Deloria 1932:67); the addition of the locative /i-/

adds the sense of being up against something, directly behind it. In example (10), the intensifier enclitic /=laȟcį/ is attached to /ilázata/ 'behind,' illustrating the grammaticality of attaching enclitics to free postpositions in LDN.

Furthermore, in addition to following determiner phrases, LDN's postpositions can follow stative verbs. However, the syntactic processes that result in this surface structure have not yet been analyzed. Two plausible analyses are explored below.
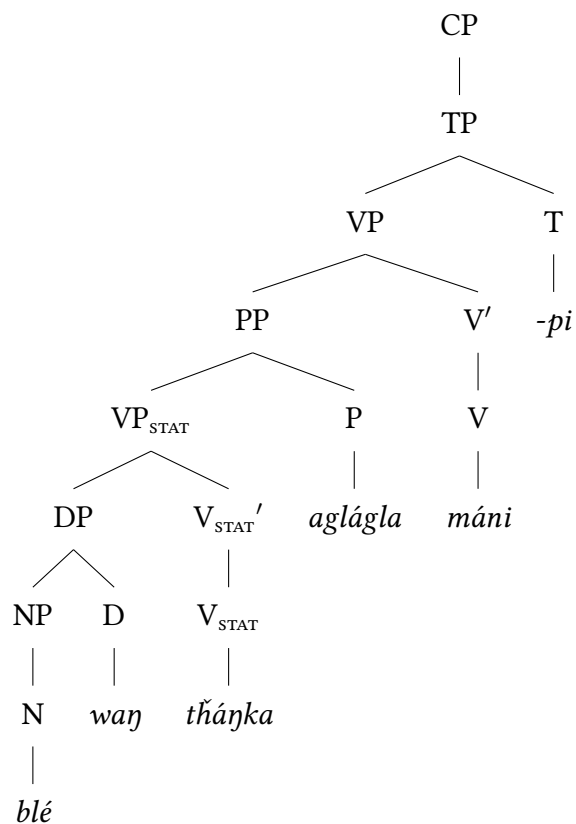
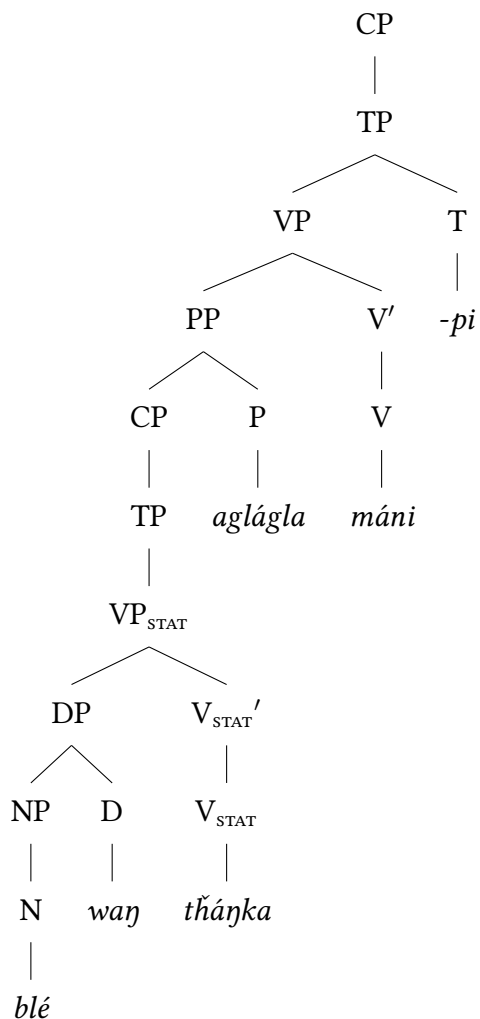(11) Stative Verbs Preceding Adpositions

    a. Gloss

blé waŋ tȟáŋka aglágla mánipi
lake INDEF big.v.STAT along walk.PST.PL

'They walked along a big lake.' (Ullrich 2018:143)

    b. Adpositionally governed VP_{STAT}

c. CP complement of PP

```
                                    CP
                                     |
                                    TP
                                   /    \
                                 VP       T
                                /  \      |
                             PP      V'   -pi
                            /  \     |
                          CP    P    V
                          |     |    |
                          TP  aglágla máni
                          |
                       VP_STAT
                        /    \
                      DP      V_STAT'
                     /  \      |
                   NP    D    V_STAT
                   |     |     |
                   N    waŋ  tȟáŋka
                   |
                  blé
```

In example (11b), the VP_STAT is the constituent governed by the postposition. As the stative verb functions adjectivally, one might expect this constituent to fall within a determiner phrase, which would in turn be governed by the postposition. This type of DP-structure *is* grammatical in LDN; an example is shown in (12), below.

(12)   *Hokšíla čikčík'ala   kiŋ*
       Hokšíla čik~čík'ala   kiŋ
       boy   R~to.be.small DEF
       'the small boy' (Ullrich 2020a:412)

Note that the stative verb in example (12) lies between the noun and the determiner. However, this is not the syntactic structure exhibited in example (11). Consequently, other analyses must be explored. The strongest alternative analysis is that postpositional phrases in LDN can take CP complements. A tenseless, non-finite clause governed by a postpositional head provides a salient explanation for this phenomenon. This structure is illustrated in example (11c).[11] How-

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[11]The existence of CP complements in adpositional phrases is not unique to Siouan; for example, we find them in Dutch (Broekhuis 2015).

ever, this is not the only possible analysis. For example, it is plausible that the stative verb is an extra-syntactic parenthetical. More data needs to be elicited for further research.

It is worth noting that free adpositions in LDN occasionally lack an overt governed phrase. This occurs only when there is information from earlier in the discourse that allows the participants of the conversation to infer the entity being discussed. This happens in English, as well. If someone says, "We went across." in a discussion about a creek or a bridge, it is clear that the speaker went *across the creek* or *across the bridge*, respectively.

2.2.1. Pronominal Affixation

Another feature of many free postpositions in LDN is pronominal affixation.[12] This results in several noteworthy morphosyntactic and morphophonological phenomena. Pustet (2000:180) claims the postpositions that *can* adjoin with pronouns have narrower semantic scopes than those that cannot, which often have non-specific locative meanings.

(13)   Plural marking of affixed postpositional patients

    a. Singular

       nihakab   *iyaye*
       ni-hakab   iyaye
       2SG.PAT-behind go

       'They.SG are walking behind you.' (Pustet 2000:162)

    b. Plural

       nihakab   *iyayapi*
       ni-hakab   iyaya-pi
       2SG.PAT-behind go-PL

       'They.SG are walking behind you guys.' (Pustet 2000:162)

Note that if the pronoun is plural, the person marker prefixes to the postposition, but the plural marker suffixes onto the verb (Pustet 2000:162). If the pronominal prefix ends with the same vowel that the postposition begins with, elision will occur (Pustet 2000:161-162).

(14)   *ihakab ųkiyaye*
    ihakab ųk-iyaye
    behind DU.PAT-GO
    'They.SG are walking behind the two of us.' (Pustet 2000:165)

(15)   **etkiya pak^hab iyemaniye*
    etkiya   pak^hab iye-ma-ni-ye
    toward push   send-1SG.PAT-2SG.PAT-CAUS
    'They.SG pushed me toward you OR ...you toward me.' (Pustet 2000:165)

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[12]The affixation of pronouns onto word classes other than verbs is common among Siouan languages (Kasak 2020b).

Another way to denote the person(s) governed by a postposition is to add a concordant patient marker onto the verb (Pustet 2000:164-165). However, this becomes ungrammatical if the verb itself has a patient. This is depicted in examples (14) and (15).

(16) *miye   etkiya   pakʰab iyeniye*
      miye   etkiya   pakʰab iye-ni-ye
      1SG.PAT toward push   send-2SG.PAT-CAUS

      'They.SG pushed you toward me.' (Pustet 2000:166)

(17) *miye   cʰa   ihakab iyaye*
      1SG.PAT EMPH behind go

      'It is I that they.SG were walking behind.' (Pustet 2000:168)

One method of solving this "problem" is to use an independent pronominal patient marker for the adposition's governed entity. This is shown in example (16), above (Pustet 2000:166). However, the use of independent pronouns is not confined to situations in which both the adposition and verb have a patient. This is also the construction used in tandem with the emphatic particle *cʰa* to denote focus, as shown in example (17) (Pustet 2000:168).

(18) *wicʰihakab   iwicʰayaye*
      wicʰi-ihakab   i-wicʰa-yaye
      3PL.PAT-behind INS-3PL.PAT-go

      'They.SG are walking behind them.' (Pustet 2000:168).

When only the postposition has a patient, patienthood can be marked doubly—on both the postposition and the verb. Pustet makes no claims about the semantic effect this elicits, noting that previous researchers seem to have ignored this construction (Pustet 2000:168). This presents a fascinating area for future research at the morphosyntax-semantics interface.

2.3.   Combinational Phenomena

2.3.1.   Preliminaries

Both N+ADP compounding and adpositional enclisis are grammatical processes in LDN. Siouanist literature does not discuss these compositional phenomena in any detail, instead choosing to group these related processes under the title 'incorporation.'[13] Compounding and enclisis are prosodically distinct, meaning they differ at the suprasegmental level. In compounding, a noun and an adposition with individual primary stresses merge to form one prosodic word with one primary lexical stress, which can fall on a nucleus from either original constituent. In enclisis, however, the adposition is prosodically deficient and must attach to the nearest word in the phrase it governs. Enclitics may not receive primary lexical stress.[14] Clearly, the processes are closely related, but their differences at the morphology-phonology interface are important.

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[13]Section 1.3 provides further commentary on this terminology.

[14]The concept of cliticization as discussed herein is influenced strongly by Anderson's (1992, 2005) discussions of "phonological clitics."

2.3.2. Compounds

Compounding is a common structure in LDN, found throughout the texts investigated in this study. The four examples below depict the syntactic phenomenon of adpositional compounding in LDN when the attached noun is monosyllabic.

(19) *mniáglagla*
mni-aglágla
water-across
'across [the] water' (Deloria 1932:68)

(20) *tʰimáhel*
tʰi-mahél
house-in
'in [a] house' (Rood & Taylor 1996:452)

(21) *cʰąʔákʰotąhą*
cʰą-akʰótąhą
woods-across
'across [the] woods' (Rood & Taylor 1996:452)

(22) *cʰągáglagla*
cʰą-aglágla
woods-along
'along [the] woods' (Deloria 1932:40).

Note that the primary stress of the resulting compound always falls on the adposition in these cases. In compounding, LDN's strong tendency to place primary stress on the second nucleus of a prosodic word appears to hold. Rood & Taylor (1996:452) explicitly describe the process of conjoining adpositions and the determiner phrases that they govern as "compounding"; however, instead of calling the resulting word a compound, they call them adverbs. This makes sense, as the constituent created typically describes a verb. This view implies that these constructions are not only single prosodic words, but also single morphological words, which I do not believe to be accurate. Thus, I refer to these as compounds throughout this paper.

(23) *pahá-ektà*
pahá-ektá
hill-at
'at [a] hill' (Ullrich 2018:136-137)

(25) *wakpála-opʰàya*
wakpála-opʰáya
creek/stream-along
'along [a] stream' (Deloria 1932:19)

(24) *pahá-akàŋl* (provided as *pahá-akáŋl*)
pahá-akáŋl
hill-on
'on [a] hill' (Ullrich 2020b)[15]

(26) *wakpála-aglàgla*
wakpála-aglágla
creek/stream-along
'along [a] stream' (Deloria 1932:146)

Adpositional compounding can also occur with polysyllabic nouns. In these cases, the primary stress falls on the governed term—not the adposition—unlike the examples with monosyllabic nouns (Boas & Deloria 1939:21). This is due to LDN's pervasive left-aligned iambic stress, as mentioned above. When the nominal constituent of the compound has more than one syllable, it will contain the stressed nucleus of the first iamb; this demotes the stressed syllable in the adpositional constituent of the compound to secondary stress. As evidenced by examples (23) and (24), individual scholars vary the notation in which they record the prosodic features of compounds from paper to paper. Ullrich marks both accents as primary and refers to the combining

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[15]Example (24) was generously provided by Dr. Jan Ullrich in personal correspondence.

process as incorporation in example (24). However, the structure of this example is identical to the structure of the numerous examples in Ullrich (2018) and Deloria (1932), such as example (23), which leads me to posit that the postpositional accent is likely secondary.[16]

(27) *mní wą   aglágla*
      water INDEF across

      'across a [body of] water' (Deloria 1932:74)

As evidenced by example (27), compounding does not occur when a determiner is used. More research needs to be conducted on the precise semantic variation in usage, but the current evidence points to speakers choosing which construction to use based on the importance of the [±definiteness] feature of the noun in a given utterance.

(28) *sičʰóla*   (29) *hačʰóla*
      si-čʰóla   ha-čʰóla
      shoes-without   clothes-without
      'barefoot' (Ullrich 2018:136-137)   'naked' (Ullrich 2018:136-137)

(30) *míla čʰóla*   (31) *huŋská čʰóla*
      knife without   leggings without
      'without [a] knife' (Deloria 1932:124)   'without leggings' (LLC 2021)

The morphosyntactic usage of /čʰóla/ ('without') is almost identical to that of the adpositions in the compounds discussed above. However, some scholars suggest that /čʰóla/ is always bound, implying that examples (30) and (31) are ungrammatical (Ingham 2003:40). Because of the fact that /-čhóla/ is always primarily accented, it cannot be an enclitic.[17] Thus, this would force us to describe /čʰóla/ as a derivational suffix that derives adjectives from nouns while adding the semantic notion of 'without.' However, this is not the situation that the Deloria texts present.

As illustrated in the four examples above, /čʰóla/ appears to attach to a noun, forming a compound with it only when the adjoining noun is monosyllabic. In these cases, since the first nucleus of /čʰóla/ is the second syllable, it maintains its primary stress (Boas & Deloria 1939:21). Polysyllabic nouns, however, contain (minimally) a complete iamb; this would inhibit /čʰóla/ from simultaneously compounding with one *and* maintaining its primary stress. To avoid this, /čʰóla/ remains a free-standing prosodic word in these scenarios, with both the noun and /čʰóla/ maintaining their own full primary lexical stress. Thus, the difference between /čʰóla/ and the other compounds discussed herein is that there is a lexeme-specific rule that prevents /čʰóla/ from compounding with polysyllabic nouns.

(32) *holázatakiya*
      ho-lazáta=kiya
      tipi.circle-behind=towards

      'towards the back of the tipi circle' (Deloria 1932:233)

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[16]Note that the two examples from Deloria (1932) have identical glosses but use different postpositions; there are multiple prepositions meaning 'along' with only slight semantic differences.

[17]As evidenced by examples (30) and (31), there seems to be a lexical constraint on /čʰóla/ that forces the /ó/ to always carry primary stress. Further research is needed to determine whether there are other words with similar prosodic requirements.

Just as LDN's enclitics can attach to free postpositions, they can attach to the postpositional morpheme of a compound. Example (32) depicts the addition of an adpositional enclitic onto a N+ADP compound. Adpositional enclitics will be discussed further in section 2.3.3; for this example, only its status as a clitic is important. The meaning of this utterance, and many others like it, is compositional. This is much like the English preposition "into," but with even less semantic drift and fossilization.

2.3.3. Enclisis

Enclisis is not a common morphosyntactic realization of adpositions in LDN and in fact has yet to be described as such in the Siouanist literature.[18] However, there are at least two constructions in LDN in which enclisis does occur: /=kiya/ 'towards,' as already seen in example (32) , and /=ta/ LOC. This is a fertile area for further research, particularly if one has access to native consultants or archival recordings and can thus perform suprasegmental analysis.

(33) *iyúweȟtakiya*
      iyúweȟta=kiya
      opposite.shore=towards
      'towards [the] opposite shore' (Deloria 1932:29)

(34) *enánakiya*
      enána=kiya
      here.and.there=towards
      'towards various locations' (Deloria 1932:104)

(35) *holázatakiya*
      ho-lazáta=kiya
      tipi.circle-behind=towards
      'towards the back of the tipi circle' (Deloria 1932:233)[19]

(36) *wicʰáša wą   étkiya*
      buffalo INDEF =towards
      'towards some buffalo' (Deloria 1932:99)

The enclitic /=kiya/ functions as a canonical prosodic clitic (Anderson 1992).[20] It never appears as an independent prosodic word, nor does it ever carry stress after undergoing encliticization. This clitic appears to be a form of /etkiya/, an analogous free postposition also meaning 'towards' (Deloria 1932:30, 99). This is exemplified in example (36).

The morpheme /=ta/ is a versatile locative meaning 'to, on, or at.' There are at least two plausible explanations for the morphosyntactic behavior of /=ta/: enclisis and case-marking. Enclisis triggers a null determiner, just like many of the examples above, and is the simplest explanation.[21] An alternative explanation is that /-ta/ itself is in the D-head as a locative case marker. This analysis has not been posited by contemporary scholars of LDN, and Siouan languages are typically caseless. The late Regina Pustet (2000) briefly mentioned that adpositions could be developing into case markers in LDN, but she never expanded upon this theory. /-ta/ can be analyzed as a result of this process.

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[18]Note that this is specifically *adpositional* enclisis. Other forms of enclisis have been discussed.

[19]Note that this example is repeated from section 2.3.2.

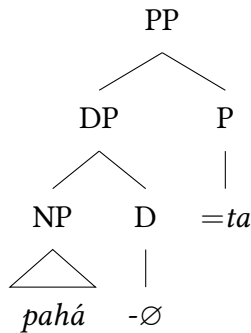[20]"Canonical" in the context of the theoretical orientation of this paper, as discussed in section 1.3

[21]Ullrich (2020b) states that this null determiner results in semantically opaque definiteness.

(37) *tiŋtata*   (38) *paháta*
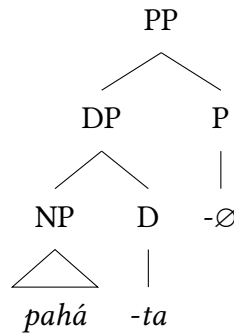   tiŋta-ta   pahá-ta
      prairie-LOC   hill-LOC
      'on/at/to [a] prairie' (Riggs 1895:52)   'on/at/to [a] hill' (LLC 2021)

Examples (37) and (38) depict common instances of this morpheme. Both aforementioned morphosyntactic theories—enclisis and locative case-marking—are illustrated by examples (39) and (40), respectively.

(39) Enclisis   (40) Locative Case

```
              PP                                                  PP
             /  \                                                /  \
           DP    P                                             DP    P
          /  \   |                                            /  \   |
        NP    D  =ta                                        NP    D  -∅
        /\    |                                             /\    |
      pahá   -∅                                           pahá  -ta
```

Another possibility to consider is that /-ta/ could be in a transitory state between enclisis and case-marking. The lack of determiner usage with enclisis makes it difficult to differentiate the two structures syntactically.

2.4. Applicatives

As discussed briefly in section 1, LDN has three locative applicatives: the superessive ('above'), the inessive ('inside'), and the instrumental ('against' or 'by means of'). These are represented by /a-/, /o-/, and /i-/, respectively, and are shared by many Siouan languages (Ingham 2003:26-27).

(41) *ieekiya*   (42) *ohnaka*
      i-eekiya   o-hnaka
      INS-pray   INESS-place.something
      'to pray for [something]' (Riggs   'to place something into [something
      1895:53)[22]   else]' (Riggs 1895:53)

(43) *amani*
      a-mani
      SUPERESS-walk
      'to walk on [something]' (Riggs 1895:53)

While the instrumental and inessive applicatives tend to take inanimate patients, the superessive takes both animate and inanimate patients freely. Additionally, there are numerous

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[22]The gloss 'for' appears to be an extension of "against."

examples of applicatives becoming fully fossilized within a verb. In many of these cases, semantic drift has obscured the semantic connection between the verb's contemporary meaning and the fossilized applicative's semantic content (Boas & Deloria 1939:42). This is the case in example (44) below.

(44) *icʰága*
    *i-   cʰága
    *INS- grow.INF
    'to grow' (Boas & Deloria 1939:42)

The middle lines of example (44)'s gloss are misleading, though. This is because—due to the aforementioned fossilization—there is no longer a morpheme boundary where example (44) suggests. A more accurate version is presented in example (45).

(45) *icʰága*
    grow.INF
    'to grow' (Boas & Deloria 1939:42)

While LDN's applicatives almost certainly developed from postpositions (Helmbrecht 2006), they appear to have a broader semantic scope and more morphosyntactic versatility than their adpositional relatives. In some cases, the noun that the superessive puts in relationship with its attached verb is deep in the previous clause without apparent movement (Deloria 1932:48). LDN's various forms of adposition discussed above must be immediately adjacent to the phrase they govern.

(46) *cʰą́íyali*
    cʰa-i-a-li
    tree-INS-SUPERESS-climb/step
    'to climb up against the tree' (Deloria 1932:117)

Example (46) illustrates that—when not separated by a determiner, free postposition, stative verb, or other sentential unit—verbs with attached applicatives can compound with the preceding noun. If /cʰa/ was not compounded with the applicativized verb, the stress would fall on the /a/ of (/iyáli/), not the /i/ (/íyali/), suggesting that this is true compounding and not a clerical error (Deloria 1932:117).

3.   Discussion of Lakhota-Dakota-Nakota

LDN is implicitly (perhaps even subconsciously) the "de facto" language of reference among Siouanists (Rankin et al. 2003). The name of the entire language family—Siouan—comes from the exonym for LDN's speakers: the Sioux. LDN is one of the most thoroughly documented Siouan languages and has published grammars going back more than a century (Riggs 1895). As a result of this, preeminent scholars of LDN—such as Jan Ullrich, Bruce Ingham, Franz Boas, and David Rood, *inter alios*—often agree on the functions and descriptions of its basic morphosyntactic phenomena. For example, as discussed at length in section 2.3, almost all of the aforementioned scholars refer to any phenomenon relating to word-combining as 'incorporation.' Despite this

widespread scholarly agreement, the analysis in section 2 argues for the existence of compounding and enclisis as distinct morphosyntactic phenomena. Section 2 also postulates the existence of a locative case marker in LDN, another phenomenon yet to be seriously considered by contemporary scholars.

Morphologically independent postpositions are the most common form of adposition in LDN. These constituents govern a determiner phrase and are typically dominated by a verb phrase. The analysis above suggests that these assign a [+ambiguous definiteness] feature to the determiner phrase they govern, resulting in only rare uses of determiners. Bruce Ingham hints at this, as discussed in section 2.2; additionally, personal observation from the Deloria texts suggests adpositional co-occurrence with determiners is very uncommon (Deloria 1932). Example (7)—*maza oŋ* ('[made] of iron')—illustrates a simple postpositional phrase with a null determiner. When a postposition is morphologically free, this rule is violable, but usually still holds. A violation of this rule is outlined with 'next to the house' in (6a), where /kiŋ/ (DEF) appears in the surface structure. Additionally, morphologically independent postpositions in LDN can attach the same pronominal affixes that verbs take. Example (13) depicts a simple case of this phenomenon in which /hakab/ ('behind') is prefixed with /ni-/ (1SG.SBJ). Section 2.2.1 discusses more complex examples.

Adpositions can directly follow stative verbs, which function adjectivally in LDN. This is examined at length in example (11), where the postposition 'along' follows the stative verb 'to be large.' Research to date has only mentioned this construction and listed examples; the underlying syntactic structure has not been formally analyzed.[23] Example (11) evaluates multiple analyses, but the most likely structural motivation is that the postpositional phrase headed by 'along' takes a clausal complement, as delineated in example (11c).

Adpositions can be derived from adverbs in LDN simply by adding the prefix /i-/. This markedly productive construction is depicted in example (3), in which the adposition 'behind, after' is derived from the adverb 'afterwards' by attaching the prefix /i-/. Some adpositions have even developed a second form prefixed with /i-/ due to speakers reanalyzing the adpositional base as an adverb and subsequently adding the /i-/ prefix to ensure the word's adpositional morphosyntactic functions. This is illustrated in example (4), in which both /mahél/ and /imáhel/ mean 'inside.'

Compounding—under the term "incorporation," as discussed in sections 1.3 and 2.3.2—is a well-documented phenomenon in LDN. Despite this, the scholarly work I encountered all referred to the products of compounding as adverbs, not compounds. Only Ingham (2003) even refers to the process as compounding. Scholars' choice to not use more specific language was likely intentional, as it allowed them to present data without making an intentional claim about the morphosyntactic phenomena therein. In compounding, a noun and a postposition—each with their own underlying primary stress—are conjoined, creating a single prosodic word.[24] When an adposition is compounded with a monosyllabic noun, the primary stress is placed on the first syllable of the adposition, as illustrated in example (22). When compounding occurs with poly-

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[23]Jan Ullrich has analyzed the underlying structure of stative verb phrases, but adpositions were not part of this analysis (Ullrich 2020a). Additionally, stative verbs directly following a determiner have—to my knowledge—not been analyzed.

[24]What I call a "prosodic word" and a "morphological word" here would be a type of phonological word and a grammatical word, respectively, in the typology of Dixon and Aikhenvald 2003. This is discussed in greater detail in section 1.3.

syllabic nouns, the primary stress falls on the second syllable of the noun, as shown in example (23). This patterning is due to LDN's pervasive left-aligned iambic stress. In compounds with monosyllabic nouns, the first iamb is split by a morpheme boundary; with polysyllabic nouns the entire iamb falls within the nominal constituent. Section 2.3.2 discusses this in greater detail.

The use of the term "incorporation" by scholars of LDN extends to their descriptions of enclisis, as well. Compounding and enclisis are distinct phenomena, a fact the term "incorporation" belies. Section 2.3.3 illustrates and delineates the discrete prosodic features that engender this distinction. It should be noted that the determiner phrases governed by adpositions in both compounding and enclisis cannot contain overt determiners; as mentioned above, this rule is only violable in the case of independent postpositions. Adpositional enclitics in LDN are phonological clitics[25]—not morphosyntactic clitics—under the theory of A-Morphous Morphology proposed by Anderson (1992, 2005). Thus, no intra-clitic syllable can receive primary stress, as the morpheme is prosodically deficient and attaches to the already-stressed noun that precedes it. Example (33) in section 2.3.3 exemplifies these properties with the enclitic /=kiya/ ('towards').

The enclitic /=ta/ (LOC) has plausibly become a locative case marker. Because enclisis disallows the presence of an overt constituent in the D-head, the syntax is ambiguous. The possibility of a locative case-marker is notable because it is not discussed in the major grammars of LDN. Moreover, Siouan languages generally do not have phonetically-realized morphological case markers. If /=ta/ is not yet a full case marker, it may be in a transitory state between this and an enclitic. More data is needed for further analysis.

LDN exhibits three locative applicatives—the superessive, the inessive, and the instrumental—which I consider "para-adpositional" phenomena. This is because they often provide information semantically similar to that provided by adpositions; moreover, this set of preverbs almost certainly developed from free postpositions. The usage of each aforementioned applicative is examined in section 2.4. The presence of these aligns with Helmbrecht's (2006:4) claim that these three types of locative applicative are found in all Siouan languages. The declining productivity and increasing semantic ambiguity of these applicatives support the theory that they are progressing towards fossilization, as suggested in Helmbrecht & Lehmann's (2008:34-35) diachronic hypothesis (discussed in section 8). The clear distinction between applicatives and adpositions morphosyntactically also supports Helmbrecht & Lehmann's (2008:34-35) implication that these phenomena ought to be treated separately in synchronic analyses. However, LDN's support of these claims is not entirely surprising, given that Helmbrecht would likely be more familiar with LDN and have more access to data from LDN than any other non-Hocąk Siouan language.[26]

If the Siouan language with the most significant history of linguistic work and documentation has significant gaps in the analysis of its adpositional morphosyntax, then it is plausible that a Siouan language studied by only a small handful of scholars over the past century would, as well. This prompts the examination of Catawba's (para-)adpositional morphosyntax, which is explored in sections 4 and 5, below.

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[25]The nomenclature for these used throughout this paper is "prosodic clitics."

[26]Hocąk is Helmbrecht's primary language of interest in the Siouan family. This statement does not reflect a general abundance of Hocąk data.

4. Evidence from Catawba

4.1. Overview

The morphosyntactic status of adpositions in Catawba is markedly distinct from that of the so-called "core" Siouan languages (the Western branch). This is unsurprising, given its early split from the group (see figure 1). In Catawba, the attachment of adpositional proclitics onto verbs is by far the most robust form of adposition-marking. Free postpositions, while they do occur in the extant corpus, are relatively rare. The adnominal enclisis of adpositions does occur, but this is far less common than the existing transcriptions suggest and is not appreciably productive. Furthermore, this investigation revealed several data in which Catawba makes use of post-verbal adpositions, both as verbal enclitics and as free prosodic words.[27]

4.2. Proclisis

As stated above, the primary method of adpositional marking in Catawba is the attachment of postpositional proclitics onto the verb that dominates them. The following examples illustrate the typical usage of these proclitics.

(47) *huktúkəre*
      huk=tuk-re
      down=fall.down-IND
      '[it] falls down' (Speck 1934:2)

(48) *duhotiiriie*
      duk=ho-tiiriie
      back=come-NARR
      '[it] came back' (Speck 1913:323)

(49) *hukáii*
      huk=káii
      down=throw
      'throw [it] down' (Speck 1913:324, Rudes 2007:34-35)

(50) *dugdánire*
      duk=ra-ni-re
      back=go-1SG.OBJ-IND
      'back to me' (Speck 1934:3, Rudes 2007:44)

As depicted in examples (47) through (50), Catawba's adpositional proclitics attach right-ward, onto the left end of a verb. This is often accompanied by phonological changes, which the academic literature on Catawba has thus far neglected.[28] Example (47), for instance, shows that the indicative suffix /-re/ requires a preceding vowel. When a vowel does not precede it

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[27]While outside the scope of this paper, this research potentially revealed a morphosyntactic phenomenon yet to be documented in Catawba: switch-reference marking via the suffix /-uk/ (sometimes realized as /-ik/ or /-ək/ due to u-i variation and reduction, respectively). Apart from Rudes (2007), no analysis of Catawba has investigated this morpheme. Rudes claims that it is a resultative marker and also states that this morpheme accounts for the word-final /k/ in /únikʰ/ (Rudes 2007:77-78). While the extant data do not refute his analysis, I maintain that this could be switch-reference and look forward to researching it further. It should also be noted that this is a plausible cognate for Mandan's different-subject switch-reference marker, /-ak/, which would provide additional morphological evidence for the new computationally-modeled phylogeny of the Siouan languages developed by Kasak (2019:313-314, 2020a).

[28]This is common in Catawba, as it has only been studied by a handful of scholars, most of whom worked on the Catawba lexicon. The most recent of these are Kathleen Shea and the late Blair Rudes, both of whom worked on Catawba in the late twentieth century.

in the underlying structure, a schwa is epenthisized, resulting in /-əre/.[29] In example (48), the morpheme-final /k/ is syncopated. Example (49) illustrates a pervasive phonological process in Catawba: geminate deletion. We see voice assimilation across a morpheme boundary in example (50), in which morpheme-final /k/ becomes /g/, acquiring the [+voice] feature of the following morpheme-initial /d/.[30]

(51) *yapawą́mǫhere*
    yəpə=wą́-mǫ-h-re
    up.and.down=jump-sing-3.SBJ-IND
    'Jump up and down [while] singing'
    (Speck 1934:9, Voorhis n.d.122,124, Shea 1984:336)

The example above adheres to the same rules as the previous four examples. The only difference is that in this case, the postposition procliticizes onto a serial verb.[31]

(52) *ntúgbakóre*[32]
    n=tuk=buk-re
    then=inside=put-IND
    'then put [it] in' (Speck 1934:8, Shea 1984:303)

The attachment of the proclitic /n=/ ('then') onto the adpositional proclitic /tug=/ illustrates the grammaticality of clitic-stacking in Catawba. Speck marks not only primary, but also secondary and tertiary stress with an acute accent, so the presence of /ú/ instead of /ù/ is not particularly concerning evidence against proclisis, as we do not know the syllable on which Speck heard the primary accent. Moreover, I believe Speck has a tendency to confuse lexical stress with prosodic emphasis, which is common for native English-speakers. This is expanded upon throughout section 4.

(53) *búrukyáamuhiiwą́hahe*[33]
    buruk=yaamu=hii-wą-ha-he
    back.again=into.water=-3SG.SBJ-jump-INCEP-CONT
    'Back into [the] water he jumped' (Speck 1913:323, Rudes 2007:18-19, 71-72)

(54) *mǫhuktuikəre*
    mǫ=huk=tuk-re
    in=on=fall.down-IND
    'fall onto...' (Speck 1934:1)

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[29]Kasak (2020b) suggests that this may be an instance of Dorsey's Law, as many Siouan languages are subject to this (Dorsey 1885).

[30]These are merely cursory phonological observations that are evidenced by the data directly pertaining to adpositions. I hope to examine this further in the future.

[31]Serial verbs are a common structure in Catawba and appear to be semantically transparent, corresponding roughly to a coordinated verb pair in English ('He *eats and drives* at the same time.').

[32]This is how Speck transcribed this word. I believe the transcription is more likely /ntùgbakóre/.

[33]As with example (52), we do not know which marked stress is primary. My argument suggests it is on /wą́/. Furthermore, one reviewer suggests that The *mu* in *yaamu* is really a locative adposition, where *yaa* is 'water.' Furthermore, this reviewer also suggests that the *hii* is not a subject marker, but the determiner *hii* 'yonder,' given that *wą* generally takes subject suffixes instead.

One notable morphosyntactic feature in example (53) is prefixal subject-marking. Catawba has full, productive systems of both prefixal and suffixal person-marking, as outlined in Rudes (2007).[34] Example (53) does not differ significantly in structure from example (52); however, in this case, it is a second postposition being procliticized onto the postposition closest to the verb. The semantics of this construction are straightforwardly compositional. As in the previous example, the placement of an acute accent mark within both proclitics is not problematic, as Speck did not distinguish stress tiers and these are most likely secondary and tertiary stress.

It could be argued that /búruk/ in example (53) is an independent prosodic word; /búruk/ is irregular in that its free form and proclitic form only differ prosodically (/búruk/ has primary stress; /buruk=/ does not). Moreover, the first /u/ is where we would expect the stress to fall in its free form (Rudes 2007:18-19). However, as evidenced by example (54), even if this /búruk/ is a free-standing postposition, it does not change the fact that stacked proclisis is grammatical in Catawba.

4.3.   Free Postpositions

In addition to postpositions being able to procliticize onto verbs in Catawba, they can also appear as free prosodic words. Free postpositions in Catawba appear to assign a [+ambiguous definiteness] feature to the preceding noun. The result of this in the surface structure is a null determiner head; however, as evidenced by example (57), this rule is violable. Catawba's free postpositions typically contain their corresponding proclitic form along with an additional syllable. Rudes argues that this extra syllable is underlyingly /-ya/, /-yi/, or /-ku/ and calls these morphemes "adverbializer" suffixes, despite identifying the words they create as free postpositions (Rudes 2007:18-19). My analysis does not support this theory. Only a small number of Catawba's free postpositions end in morphemes that are probably derived from /-ya/, /-yi/, or /-ku/. Some, such as /hitak/ in example (55)—whose proclitic form is /tak=/—even have the extra syllable on the left. Others, like /buruk/ (as discussed in example (53)), do not add a syllable at all. Of the four examples below, none appear to have morphemes derived from /-ya/, /-yi/, or /-ku/. However, further diachronically-focused research is necessary to determine the morphemic status of the additional syllables in these free adpositional forms.

(55) *iswą hitak*[35]
      river down

      'down [a] river' (Speck 1934:36)

(56) *súk   hapáng*[36]
      house above

      'above [a] house' (Gatschet 1900:533)

(57) *yątci   kį   sukhǫ́*[37] *wąre*
      yątci   kį   sukhǫ́   wą-re
      stream the over   sit-IND

      '[It] sits over the stream.'   (Speck 1934:10)

(58) *yancámǫntu*
      yancá#mǫ́ntu
      creek#in

      'in [a] creek' (Speck 1934:3, Shea 1984:301)

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[34]This is not an uncommon feature among Siouan languages. Crow has two pronominal paradigms (Graczyk 2007:60). While working with Dr. Marcia Haag and Dr. Dylan Herrick on their Osage (Siouan, Dhegihan) fieldwork, we encountered double subject-marking, with some speakers using both paradigms simultaneously.

[35]/hitak/ corresponds to the proclitic /tak=/.

[36]Both /hapáng/ and /hápki/ correspond to the proclitic /hap=/.

[37]/sukhǫ́/ corresponds to the proclitic /suk=/.

Though Speck writes the above as if /mǫntu/ is an enclitic attached to /yancá/, I believe these are separated by a word boundary. This is because /mǫtu/ is the free form of /mǫ=/, the proclitic for 'in.'[38] However, as with many phenomena in Catawba, the lack of audio data inhibits unequivocal descriptions.

(59) Enclisis, Morphological Independence, or Proclisis?

  a. *sakhapkii*
      sák hápki
      hill up
      'up [a] hill' (Speck 1913:322)

  b. *sák hápki*
      hill up
      'up [a] hill' (Speck 1934:84)

  c. *hápkiiwá*
      hápki wą́
      above sit
      '[to] sit above' (Speck 1913:323, Voorhis n.d.112, Rudes 2007:18-19)

The three examples above were all recorded by Speck. However, in example (59), /=hap-kii/ is written as an enclitic; in example (59b), it is written as its own morphological word; and in example (59c), it is recorded as a proclitic. By my analysis, the postposition is prosodically independent in all three instances. As mentioned above, /hápki/ is the free form of the proclitic /hap=/. I believe this variation in transcription is due to monosyllabic words not receiving strong primary stress in casual speech. Moreover, it is easy for English speakers to confuse prosodic emphasis with stress, as both involve similar suprasegmental features. This is what most likely caused the lack of consistency in Speck's transcription. However, this is simply a general characterization based on my research and more data is needed to draw definitive conclusions.

4.4.   Enclisis and Complex Incorporation

4.4.1.   Enclisis

Despite the adnominal attachment of adpositions being recorded frequently in Speck's (1934)) transcriptions, my analysis suggests that enclisis was not a productive morphosyntactic process at the time of his work on Catawba. Many apparent examples of enclisis recorded by Speck have nearly identical corresponding examples in which the adpositional form is free. This was illustrated in examples (59) in the previous section.

(60) Enclisis or Free Postposition?

  a. *íiswąhiiák*
      íiswą hiiák
      river over
      'over [a] river'
      (Speck 1913:329, Shea 1984:173)

  b. *íiswą hiiák*
      river over
      'over [a] river'
      (Speck 1934:91, Shea 1984:173)

---

[38]/mǫntu/ is more commonly written as /mǫtu/.

Example (60) also depicts this transcriptional inconsistency. Despite this, there does appear to be one clear example of enclisis; however, I believe this is a fossilized form, not a productive enclitic.

(61)   *íiswą́tak*
        íiswą́=tak
        river=down
        'down [a] river' (Speck 1934:1, 14, 15, 39, 72)

In section 4.3, we saw that /hitak/ was the long form of the proclitic /tak=/. This is the same clitic morpheme, but used enclitically as /=tak/. The word /íiswą́tak/ occurs often in the stories documented by Speck. While the indices by Voorhis (1992, n.d.) and Shea (1984) include the word, its usage has not been analyzed contextually in Siouanist literature.[39] My impression is that /íiswą́tak/ potentially underwent a mild semantic bleaching process, resulting in it being used to convey "elsewhere, not here, over there." Another analysis could be polysemy; perhaps "across/down [the/a] river" has been metaphorically extended to mean "somewhere other than here" or "not in this immediate vicinity," creating a polyseme. Further research is necessary in order to make stronger claims.

For both of these theories, /íiswą́tak/ appears to have undergone fossilization—which in this case is pseudo-adverbialization—before enclisis became ungrammatical in Catawba. Fossilization would have deleted the morpheme boundary between /íiswą́/ and /=tak/, so native speakers would not have found this construction ungrammatical despite the ungrammaticality of enclisis in Catawba.[40] Even if none of the aforementioned hypotheses reflect reality, /íiswą́tak/ still appears to be the only consistent example of enclisis in the extant Catawba data. This suggests that enclisis was once a grammatical morphosyntactic feature, but that it is no longer productive.

4.4.2.   Complex Incorporation

Multiple times throughout the texts Speck transcribed, he writes N+ADP+V combinations as a single word.

(62)   One, Two, or Three Prosodic Words? (N+ADP+V, N+ADD=V, or N ADP V?)

a. *yaphápdáre*	b. *yap háp cáre*
yap hàp=dá-re	yap hàp= cá-re
tree up=go-IND	tree up= climb-IND
'go up [a] tree' (Speck 1934:16)	'climb up [a] tree' (Speck 1934:16)

The examples in set (62) differ by only one morpheme, resulting in their glosses differing by only one lexeme: 'go' vs. 'climb.' The semantic senses of the utterances are quite similar. Moreover, these phrases were recorded within the *same story*. However, example (62a) is written

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[39]To my knowledge, there has not been any semantic study done on any word in Catawba. I say this to reiterate that this is not a failing of any previous scholar; it is simply representative of the dearth of material.

[40]This could be compared to the transformation in English from "down (the/a) stream" to "downstream," though the polysemization theory goes one step further.

as a single word, while example (62b) is written as three separate words. I am not convinced either parsing is correct.

(63) *katukéhǝre*
ka   tuk=ké-h-ǝre
hole   inside=put-3SG.SBJ-IND
'Hole in put' (Speck 1934:15, Voorhis n.d.118)

(64) *yaphapkǫere*
yap   hap=kǫ-ere
tree   up=go-IND
'go up [to a] tree' (Speck 1934:7)

Examples (62a) and (62b) are not the only examples of this. The two examples above are morphosyntactically identical. Thus, I have parsed all four in the same manner. I analyzed all four examples as consisting of a morphologically and prosodically free noun followed by a procliticized postposition + verb unit, resulting in two prosodic words. As mentioned in section 4.3 and elsewhere, I believe Speck tends to transcribe compounds when the primary stress on monosyllabic words is not particularly strong, resulting in the confusion of lexical stress with the suprasegmental effects of emphasis. However, this is a general characterization based on my review of printed material; to conclude with more confidence, one would need access to prosodic data.

(65) *hícǝpąhúkcę́hǝk*
hícǝpą   huk=cę́-h-uk
slobber   down=pull-3SG.SBJ-SW.REF.DIFF.SBJ
'[His] slobber fell down...' (Speck 1913:323, Shea 1984:266)

It is unclear why Speck transcribed a single prosodic word for the utterance glossed in example (65). In his footnote, he transcribes 'slobber' as /hícǝpą́/, with a stress on both the /i/ and /ą/. Note that the /ą/ is unmarked. It is plausible that Speck expected to hear a stress on this /ą/ and did not, and thus believed it to be compounded onto the verb phrase. As already mentioned, Speck may tend to confuse phrasal emphasis and lexical stress. Because the suprasegmental effects of phrasal emphasis likely would have affected /cę́/, it would not be surprising if this were an example of that confusion. Again, however, this is solely conjecture based on intuitions from researching the corpus of extant Catawba data; unfortunately, no definitive conclusions can be drawn without access to recordings.

(66) *hapáawǝhǝdúgrehatíiriie*
Hapa=wą-hǝ   duk=re-ha-tiiriie
out.on.the.bank=jump-INCEP back=look-3SG.SBJ-NARR
'He jumped out onto the bank, looked behind...' (Speck 1913:323, 326)

(67) *hukáii?hagwarúphǝ*
huk=káii?   hagda+warúp-hǝ
down=throw   pick.up+grab-3SG.SBJ
'...throws [it] down, grabs [it]' (Speck 1913:324)

Examples (66) and (67) are particularly noteworthy, as Speck's transcriptions suggest that two full verb phrases are compounded together. Serial verbs appear to be quite common in

Catawba, as discussed in section 4.2, but these would be the only examples of two *verb phrases* combining. Consequently, my analysis does not align with Speck's. As delineated in example (66), I consider there to be two independent prosodic words, each consisting of a postposition procliticized onto a verb. The postposition /duk=/ in the prosodic word /dugrehatiiriie/ in (66) lacks a governed noun, suggesting one of two phenomena. This is most likely an example of NP-dropping. Siouan languages have a strong tendency to drop lexical information that has already been introduced into the discourse (Kasak 2020b). This seems to be evidence that Catawba does the same, as it is clear from context that the subject is looking behind *himself*. Another possibility is that /dugre/ has undergone a degree of fossilization, similar to particle verbs in English. In this case, it would not necessarily require a governed term. As with numerous examples already discussed in section 4, I presume the suprasegmental effects of phrasal emphasis to be the source of Speck's unexpected transcriptions here. Note that the actions of these verbs are occurring simultaneously (or, if not, practically so). In the first example, both are marked with the inceptive (INCEP) aspect. It makes sense that these verb phrases would share a single phrasal point of emphasis.

4.5. Post-Verbal Adpositions

There are two instances in the extant data which contain an adposition following a verb rather than preceding it. The first appears to serve a clear semantic purpose. The second, however, is far less transparent.

(68) *hapkáiiʔiitíiriie*   *hápkii*
      hap=kai-ʔii-tíiriie   hapkii
      up=throw-3PL.SBJ-NARR up
      'Up they put him, way on top' (Speck 1913:323)

In example (68), the addition of the independent postposition /hápkii/ after the verb serves to reiterate and emphasize the spatial relations between the patient and their environment (in this case, between an opossum and a scaffold). Note that the verb phrase already contains /hap=/, the proclitic form of /hápki/. This could also be an effect of register, as emphatic devices like repetition are common in storytelling.

(69) *káyəhuk*   *hįtmǫtúkhətíiriire*
      káyiʔ-h-uk   hį́įt   mǫ=tuk-h-atiiriire
      throw-3SG.SBJ-SW.REF.DIFF.SBJ face   in=fall.down-3SG.SBJ-NARR
      'He threw [it] in [his] face [and] he[dif] fell down.'
      (Speck 1934:322, 326; Shea 1984:229, 292)

Example (69) is much more grammatically complex. One would expect the noun /hį́įt/ and the postposition /mǫ=/ to precede the verb /káyəhuk/, as the semantic output implies they are dominated by it syntactically. It is clear that the surface structure of example (69) does not match the underlying structure because of the head-final nature of Catawba's syntax. The patient did not "fall down in [his] face," the agent "threw [it] in [his] face." Thus, we would expect the structure illustrated in example (70).

(70) Syntactic diagram (VP$_2$)
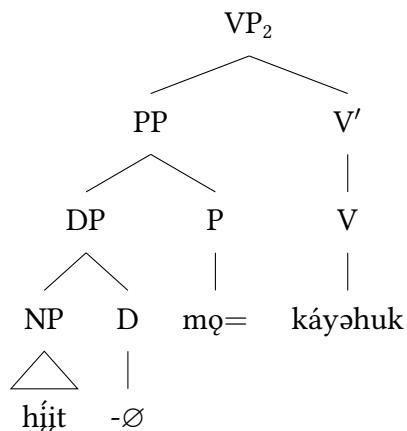
However, this is not the surface structure. The sentence undergoes some process in which the postpositional phrase is dislocated to the right side of the verb phrase that dominates it, deviating from Catawba's regular syntactic structure. This is yet another phenomenon that requires further research; unfortunately, there may not be enough extant data to conclusively answer this question.[41]

4.6. Relationship to Applicatives

Locative applicatives are a hallmark of Siouan morphosyntax, but Catawba appears to have either never developed them or to have developed them and subsequently lost them. Two of the applicatives found in other Siouan languages (for example, those described in section 2.4) have possible cognates in Catawba. The proclitic /sak=/ ('above') is plausibly a cognate of the superessive applicative (typically /a(a)-/), and /mǫ=/ ('in') is potentially cognate with the inessive applicative (typically /o(o)-/). Despite these potential etymological relationships, the extant Catawba data strongly suggests that Catawba did not have applicatives at the time of Speck's transcriptions.

5. Discussion of Catawba

The evidence presented above differs significantly from the LDN data delineated in section 2. Proclisis of a postposition onto the verb that dominates it is Catawba's predominant adpositional construction. However, this is not the only morphosyntactic locus in which adpositions appear. Independent, free-standing postpositions are grammatical in Catawba, as well. While Speck's (1934) transcriptions seem to suggest the presence of enclisis, bidirectional compounding, and phrasal compounding, I do not believe any of these phenomena are truly manifest in these texts. Additionally, the applicatives (preverbs) discussed in both section 1.3 and section 2 are absent from Catawba, categorically rejecting Helmbrecht's (2006:4) claim that the three locative applicatives are present in "all Siouan Languages."

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[41]One possibility is that /hįįt mǫ/ could be an extra-syntactic parenthetical. However, given the presently accessible data, this is impossible to prove. Moreover, parentheticals are a markedly controversial phenomenon which—to my knowledge—have not been discussed in the Siouanist literature.

Proclisis is overwhelmingly the preferred adpositional construction in Catawba. This is outlined and exemplified in section 4.2. In example (48), for instance, the proclitic /duk=/ ('back') is attached to the verb /ho/ ('to come'). In addition to standard ADV=V proclisis, adpositions in Catawba can procliticize onto serial verbs, as illustrated in example (51). Non-adpositional proclitics can undergo proclisis onto adpositional proclitics, as shown in example (52) where /n=/ ('then') is procliticized onto /tuk=/ ('inside'). Moreover, stacked adpositional proclisis—the phenomenon in which one adposition undergoes proclisis onto another adposition that is already procliticized onto a verb—is grammatical in Catawba, as well. This is illustrated in example (53), in which /buruk=/ ('back.again') is procliticized onto /yaamu=/ ('into.water') and example (54), in which /mǫ=/ ('in') is procliticized onto /huk=/ ('down'). Example (53) also demonstrates that adpositional proclisis can occur onto verbs with prefixal person marking, as we see /yaamu=/ attach to /hii-/ (3SG.SBJ). This illustrates the marked productivity of adpositional proclisis in Catawba.

Free postpositions, though not as common as postpositional proclitics, are also grammatical in Catawba. The use of a free postposition assigns a [+ambiguous definiteness] feature to the preceding noun, resulting in a null determiner head. This is evidenced by the habitual absence of Catawba's determiners /kį/ (DEF) and /hį/ (INDEF) when a DP is governed by a postposition. However, this rule is violable, as shown in example (57), in which /kį/ (DEF) appears in the surface structure. When free postpositions occur, they are almost invariably one syllable longer than their corresponding proclitic form. Contra Rudes (2007), these "added" morphemes vary significantly from word to word, and it is highly unlikely that these morphemes are all adverbializers. Moreover, processes such as grammaticalization rely on the fact that as time goes on, free constituents often become bound. It would be rather surprising—though certainly not impossible—for a proclitic to take a suffix and become a free form.

On the other hand, the correspondence of both /hapang/ and /hapki/ to /hap=/ complicates this (see section 4.2). However, neither Voorhis (n.d.) nor Voorhis (1992)—two of the three best indices of the Catawba lexicon—include the word /hapang/. Moreover, Shea (1984:132)—the third member of that set—only includes it in regard to the exact sentence from Gatschet's (1900) grammatical sketch that I cite in section 4.3, opting not to include it as its own word in her lexicon section. I have not encountered this word anywhere in the Speck (1934) texts, and it seems that neither Voorhis nor Shea did, either. This singular mention of /hapang/ appears to be the only extant evidence of its existence. Thus, the fact that both /hapang/ and /hapki/ correspond to /hap=/—though notable—is not well-attested.

The enclisis of adpositions onto the noun they govern is recorded frequently by Speck, and no subsequent scholar of Catawba appears to have questioned this. However, I do not believe enclisis to be a productive nor a common process in Catawba. Speck's examples of enclisis consistently use the free form of a postposition (as in example (60)) or consist of a noun *and* a verb with a procliticized adposition (as in example (62)). There is only one example that appears to be true enclisis—example (61), *íiswǫ=tak* ('river =down')—but this appears to be a fossilized form and thus is not indicative of productive enclisis (see section 4.4.1 for further details). Regarding Speck's numerous examples of N+ADP+V compounding and his occasional example of ADP+V+ADP+V compounding, I do not believe any to be parsed accurately. In these cases (as discussed at length in section 4.4.2), there are likely multiple independent prosodic words, as there should be a word boundary before the adposition(s). The "single" primary stress that Speck recorded was likely the locus of prosodic emphasis, not lexical stress. This process is illustrated

in example (66) and the ensuing discussion.

　　Although extremely rare, there are two notable cases of adpositions occurring post-verbally in the Speck (1934) texts. The motivation for this in the first example is emphasis, which I believe to be an extra-syntactic storytelling device in this instance. In example (68), the adposition /hap=/ ('up') is procliticized onto the verb, then the free form /hapki/ ('up') directly follows the verb. Note that the verb is marked with the NARR declension, supporting the storytelling theory. In the second post-verbal adposition, example (69), the constituents of a verb phrase (V′ and a postpositional phrase) switch places. There is only one example of this in the extant Catawba texts, so no definitive conclusions can be drawn. This is likely an example of right-dislocation.

　　This analysis demonstrates that Catawba's syntax differs markedly from other Siouan languages, such as LDN. However, this is not particularly surprising, as it explains why Siouanists tend to treat the Eastern (Catawban) branch as an inconsequential outlier. Thus, to have a more nuanced conversation about Siouan adpositions, one must explore another "core" (Western) Siouan language beyond LDN. Section 6 provides this with Crow.

6.　Evidence from Crow

6.1.　Overview

The adpositional morphosyntax of Crow exhibits marked variation and flexibility. The GOAL postposition in Crow is illustrative of this fact, as it can take all of the following forms: /-ss-/, /-ssee/, /kuss-/, and /kusseé/ (Graczyk 1989:8). Note that the first example, /-ss-/, is morphologically anchored[42] on both sides, the second and third examples are each anchored in a single direction, and the fourth example is a free postposition. Moreover, Crow has cognates to the LDN superessive, inessive, and instrumental applicatives discussed in sections 1.1 and 2.4, but the boundary between these applicatives and Crow's postpositions is rather inchoate. Because of this lack of clarity, it is most elucidative to begin the discussion of Crow's (para-)adpositional morphosyntax with its applicatives.

6.2.　Applicatives

The most thorough grammar of Crow to date spends merely four short paragraphs on applicatives, which it labels "locative prefixes" (Graczyk 2007:88-89). These are /a(a)-/ (SUPERESS), /o(o)-/ (INESS), and /i(i)-/ ('against'). Note that the applicative /i(i)-/ does not have an INS meaning. Graczyk claims that these constructions are the result of postpositions incorporating with the verb that dominates them and subsequently fossilizing, which is generally consistent with Helmbrecht and Lehmann's theory (Graczyk 2007:88-89, Helmbrecht & Lehmann 2008). The data evidencing Crow's applicatives are overwhelmingly examples of fossilization. Graczyk (2007:89) notes that many examples have no modern trace of a locative meaning. Consider the following examples.

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[42]I use "anchored" here to mean morphologically bound. This avoids confusion with syntactic binding when both concepts are discussed simultaneously.

(71) *óolichi*
      'to envy' (Graczyk 2007:91)

(72) *íkuchki*
      'to plan' (Graczyk 2007:90)

(73) *áachiwi*
      'to climb' (Graczyk 2007:89)

Note that examples (71), (72), and (73) are not parsed morphemically, as there is no longer a morpheme boundary between the applicative and the following verb. However, this does not illustrate the entire picture.

(74) a. *shuá*
          shuá
          spit (v)
          'to spit' (Graczyk 2007:89)

      b. *áasshua*
          áa-shua
          SUPERESS-spit
          'to spit on [smth]' (Graczyk 2007:89)

As depicted in example (74), applicatives are not always fossilized. This is illustrative of variability within Crow's (para-)adpositional morphosyntax.

6.3. Compounding

Adpositions in Crow are frequently compounded with both nominal and verbal elements. The extant data exhibit numerous examples of all three variations of compounding that I propose: left-anchored adpositions (discussed in section 6.3.1), right-anchored adpositions (discussed in section 6.3.2), and bidirectionally anchored adpositions (discussed in section 6.3.3). This is yet another example of the fluidity in Crow's (para-)adpositional morphosyntax.

6.3.1. Left-Anchored

Many adpositions in Crow can be compounded leftward, onto the noun they govern rather than the verb that dominates them. Consider the following example.

(75) *hilaakée*
      hili-aakee
      this-SUPERESS
      'now' (Graczyk 2007:71,110,368)

Example (75), above, depicts the leftward compounding of a form related to the superessive applicative (discussed in examples (74) and (73) in section 6.2).

(76) *hilíssee*
      hilí-ssee
      this-GOAL

      'towards this' (Graczyk 2007:80)

(77) *éekhkoon*
      éekhkoo-n
      that-LOC

      'in/on there' (Graczyk 2007:81)

(78) *hilihtée*
hili-htée
this-SPEC.LOC
'in/on right here' (Graczyk 2007:82)

(79) *baleeaak*
balee-aak
1PL-COM
'with us' (Graczyk 2007:388)

(80) *Bill binnáasketaa   díilik*
Bill bin+náask-etaa   díili-k
Bill water+bank-along walk-DECL
'Bill was walking along the shore.' (Graczyk 1989:2)

As illustrated by examples (76) through (80), leftward compounding occurs in a wide variety of Crow's postpositions. These examples further evince the grammaticality of left-anchored adpositional compounds in Crow. Example (80) is slightly more intricate than the other cases in that the postpositional compounding occurs onto a compound instead of a monomorphemic word. However, the morphosyntactic mechanism does not differ from the others.

6.3.2.   Right-Anchored

In rightward compounding, a postposition attaches onto the verb that dominates it (while still forming a postpositional phrase with the DP it governs).

(81) *áakeela*
aakee-la
SUPERESS-be.at
'be on top' (Graczyk 2007:186)

Example (81) depicts the superessive /aakee/ undergoing right-anchored compounding. Recall that in example (75), the superessive underwent left-anchored compounding; in example (74), the it was a productive and semantically overt applicative; and in example (73), it was a semantically null, fossilized former-applicative. This is yet another piece of evidence that Crow's (para-)adpositional morphosyntax is incredibly flexible and it is difficult to demarcate boundaries therein.

(82) *aashúua iihúppiiliawaak*
aashúua ii-húppii-lia-waa-k
its.head INS-soup-make-1A-DECL
'I will make soup with its head.' (Graczyk 2007:386)

The /ii-/ in example (82) *is* the instrumental (INS) form, unlike in the applicative section, above, in which is exclusively had the locative meaning 'against.' The word /húppii/ ('soup') is a regular noun that has been incorporated into the verb /lia/ to form a verb meaning roughly 'to soup-make' (Graczyk n.d.287). Graczyk (2007:386) states that this is the free postposition /ii/ incorporating into this already-incorporated verb. However, if this were incorporation, /ii-/ would simply be the instrumental applicative, which is not attested in Crow. This leaves two plausible possibilities: this is an example of right-anchored compounding *or* the /i(i)-/ applicative represents both 'against' and INS. I believe this phenomenon to be the former, and that appears to be Graczyk's intended description; however, the latter possibility cannot be ignored.

(83) *baakáateesh   aakhawassdáawaatak*
      baakáatee-sh aak-hawass-dáaw-aat-ak
      child-DET   COM-around-travel-APPROX-SW.REF.SAME.SBJ
      '...travel around with this child.' (Graczyk 2007:388)

In example (83), the comitative postposition is compounded to the right. Notably, it is compounded onto another postposition: /hawass/ ('around'). However, the latter appears to be strongly collocated with the verb, forming an approximate semantic equivalent of the English particle verb 'to travel around.'[43]

6.3.3. Bidirectional

Another construction exhibited by Crow is adpositions that undergo both the process discussed in section 6.3.1 and that of section 6.3.2, resulting in bidirectionally anchored postpositions.[44]

(84) *baáhpe héelahkeetaawasaailuk*
      baáhpe héelahkee-taa-wasaa-i-lu-k
      rock   side-PATH-run-HAB-PL-DECL
      'They run alongside the rocks.' (Graczyk 2007:384)

Example (84) illustrates the adposition /taa/ (PATH) not only attached rightward onto the verb dominating it, but also leftward onto the noun it governs. Additional examples of bidirectionally anchored adpositional compounding appear in sections 6.5 and 6.6, below.

6.4. Free Postpositions

In addition to the aforementioned varieties of compounding, Crow exhibits postpositions that constitute their own prosodic words. In prototypical instances, free postpositions follow the determiner phrase they govern and immediately precede the verb that dominates the adpositional phrase.

(85) *iseé   ii*
      his.arrow INS
      'with his arrow' (Kasak 2019:195)

(86) *binnaxché kusseé*
      fence   GOAL
      'towards [a] fence' (Graczyk 1989:81)

(87) *bishée áappaa déek*
      bishée áappaa dée-k
      buffalo COM   go-DECL
      '...goes with buffalo.' (Graczyk 2007:362)

(88) *amníam   biaxsée bilé*
      amnía-m biaxsée bilé
      bank-DET under   water
      '...water under that bank...'
      (Graczyk 2007:362)

---

[43]This is simply an observation from the data I encountered during this research. Further specific study is needed to thoroughly examine the lexical status.

[44]This would be considered by many to be incorporation. Among this group are many Siouanists and Crow specialists, including Graczyk (2007). However, some researchers dispute this claim (Gebhardt 2019). The long words in which incorporation is assumed may in fact represent a single pitch accent, not a single lexical accent.

(89) *baattáche aák*
      rawhide   com
      'with rawhide' (Graczyk 2007:282)

Examples (85) through (89) provide a representative overview of Crow's free postpositions. Examples (85) and (86) are minimal examples in which a postposition is preceded by the noun it governs. In the example (87), this is expanded by adding the verb that dominates the postpositional phrase. Example (88) is a slight modification of this in which the dominating phrase is a DP instead of a VP. The final example, (89), depicts the comitative /aak/ as a free postposition; note that this is the same sense as the postposition in example (87), but that takes in a different form.

(90) *áakeen*
      áakee=n
      SUPPERESS=LOC
      'on top of [smth]' (Graczyk 2007:46)

There is also an adpositional enclitic, /=n/, that can attach to adpositions that otherwise must be bound, allowing them to appear as free postpositions. This is illustrated in example (90) with the superessive.
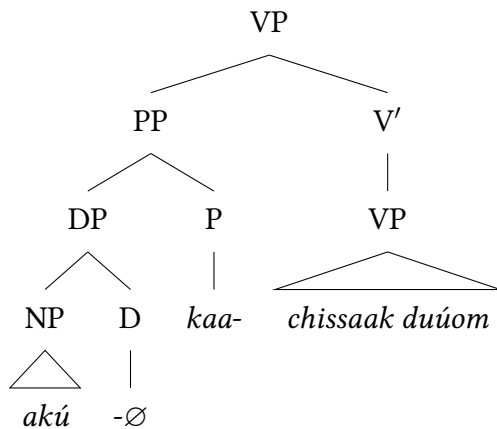
6.5. "Missing" DPs

In several examples of utterances containing adpositions, the literature on Crow refers to the governed term of the postposition as "missing," wherein the listener must imply it from context (Graczyk 1989, 2007). While inference is certainly plausible, I argue that the governed term is not missing at all. Rather, the morpheme in question is a derived noun that has undergone conversion from an adposition without segmental changes.[45] Consider the examples below.

(91) *awúuassshiichih*
      awuua-ss-shiichi-h
      inside.N-GOAL-throw-IMP
      'Throw it in [the] inside! [of the hoop]' (Graczyk 1989:3)

(92) *akúkaachissaak*   *duúom*
      aku-kaa-chissaa-ak   duu-o-m
      beyond.N-SOURCE-return-SW.REF.SAME.SBJ   come-PL-SW.REF.DIFF.SBJ
      'They came back from [the] beyond. [beyond the hill]' (Graczyk 2007:384)

In examples (91) and (92), there are two consecutive postposition-appearing morphemes in which the leftmost appears to be lacking a governed phrase. However, I believe that the leftmost "postposition" itself is plausibly the term governed by the adjacent postposition. Per this analysis, the governed term undergoes conversion and functions as a noun. Example (92) is depicted syntactically in example (93) below.

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[45]Conversion without any segmental change is common in English. When this shift in word-class includes prosodic changes, it is said to have undergone suprafixing, referring to the altered suprasegmental features.
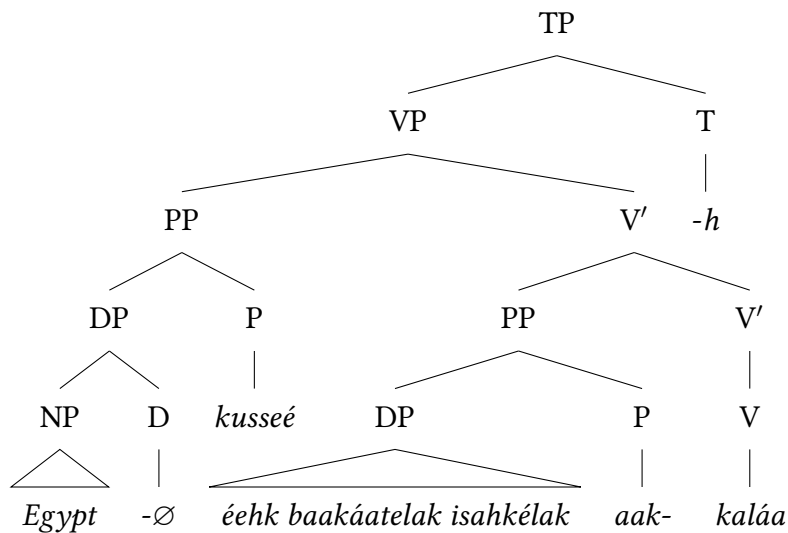
(93)   Syntactic diagram for example (92)

```
                            VP
                   _____/    _____
                  PP                     V′
              ___/  \___                 |
            DP          P               VP
          _/  \_        |          _____/‾‾‾‾‾\_____
        NP      D     kaa-        chissaak duúom
        /\      |
       akú     -∅
```

As illustrated in the syntax tree in example (93), this theory allows for all structural ne-
cessities to be filled without compromising the semantics of the utterance.

6.6. Complex Cases

Another noteworthy phenomenon in Crow's adpositional morphosyntax is the grammaticality of
stacked procliticized adpositions with *distinct* governed terms. Consider the following utterance
and subsequent illustrations.

(94)   *éehk baakáatelak isahkélak Egypt kussaakkaláah*

   a. *éehk baakáate-lak isahké-lak   Egypt kuss-aak-kaláa-h*
       DET child-and   his.mother-and Egypt GOAL-COM-flee-IMP

       'Flee to Egypt with that child and his mother!' (Graczyk 2007:388)

   b. Underlying Structure

```
                                    TP
                          _____/  _____
                        VP                        T
              _____/  _____              |
            PP                       V′           -h
        ___/  \___              ____/  \____
      DP          P           PP            V′
    _/  \_        |       ___/  \___         |
  NP      D    kusseé   DP          P        V
  /\      |          __/‾‾‾‾\__      |        |
 Egypt   -∅   éehk baakáatelak isahkélak  aak-    kaláa
```

c. Surface Structure (Topicalization)
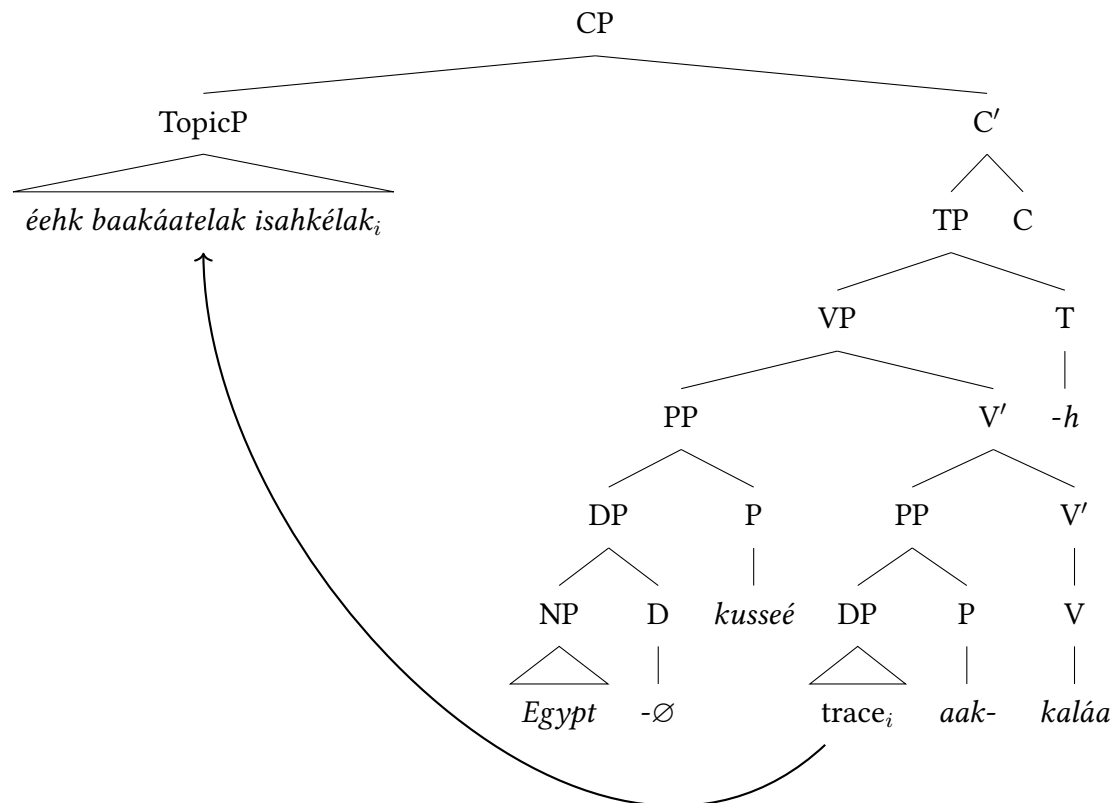
Example (94a) contains a set of stacked adpositional proclitics on the verb /kaláa/. Based on the lexical semantics of the sentential constituents, it is clear that these two postpositions are not compounding to create a single compositional meaning, as the use of the comitative with 'Egypt' would not make sense. It is obvious that the location (Egypt) must be the GOAL and that the animate actors must be governed by the comitative (COM) adposition. These observations necessitate a syntactic theory capable of explicating the correct underlying postpositional government *and* the stranded postpositions in surface structure. Example (94b) accounts for the government relationships, but is incongruent with the realized surface structure. However, using example (94b) as the underlying structure, we can justify the stranded and stacked adpositions of the surface structure via topicalization-induced movement. This mechanism is illustrated in example (94c).

Graczyk (2007:198) gives two examples of topicalization, but does not accompany these with any description or explanation. In Crow, nouns have both a stem form and a citation form. The citation form is able to be used independently. Graczyk (2007:30-33) gives the example of "What is the word for X$_{Engl}$?" where the response—"X$_{Crow}$"—would be given in the citation form. I believe there is a connection between the use of this form and topicalized elements.[46] The morphemes for 'child' and 'his mother' found in example (94)—/baakáate/ and /isahké/, respectively—are the citation forms of these nouns (Graczyk n.d.:117, 368). Example (95) provides further data related to this theory of movement in Crow syntax.

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[46]Rizzi's (1997) characterization of the left periphery influenced the convention of topicalization movement proposed herein.
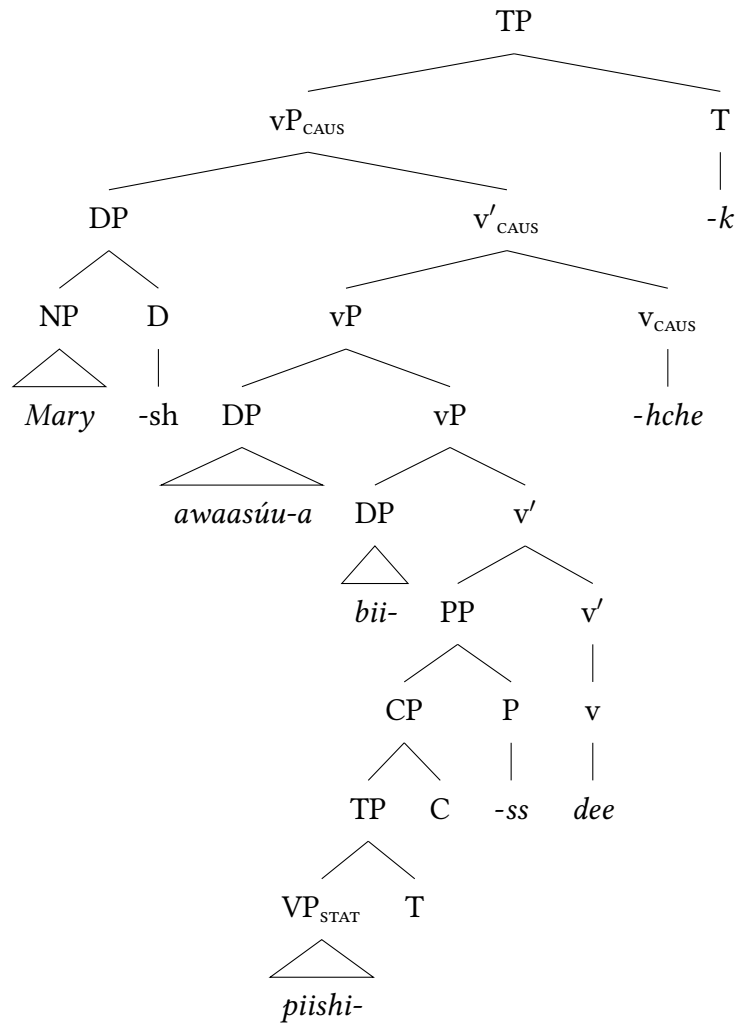
(95)   *Marysh awaasúua biipíishissdeehchek*

   a. *Mary-sh   awaasúu-a bii-píishi-ss-dee-hche-k*
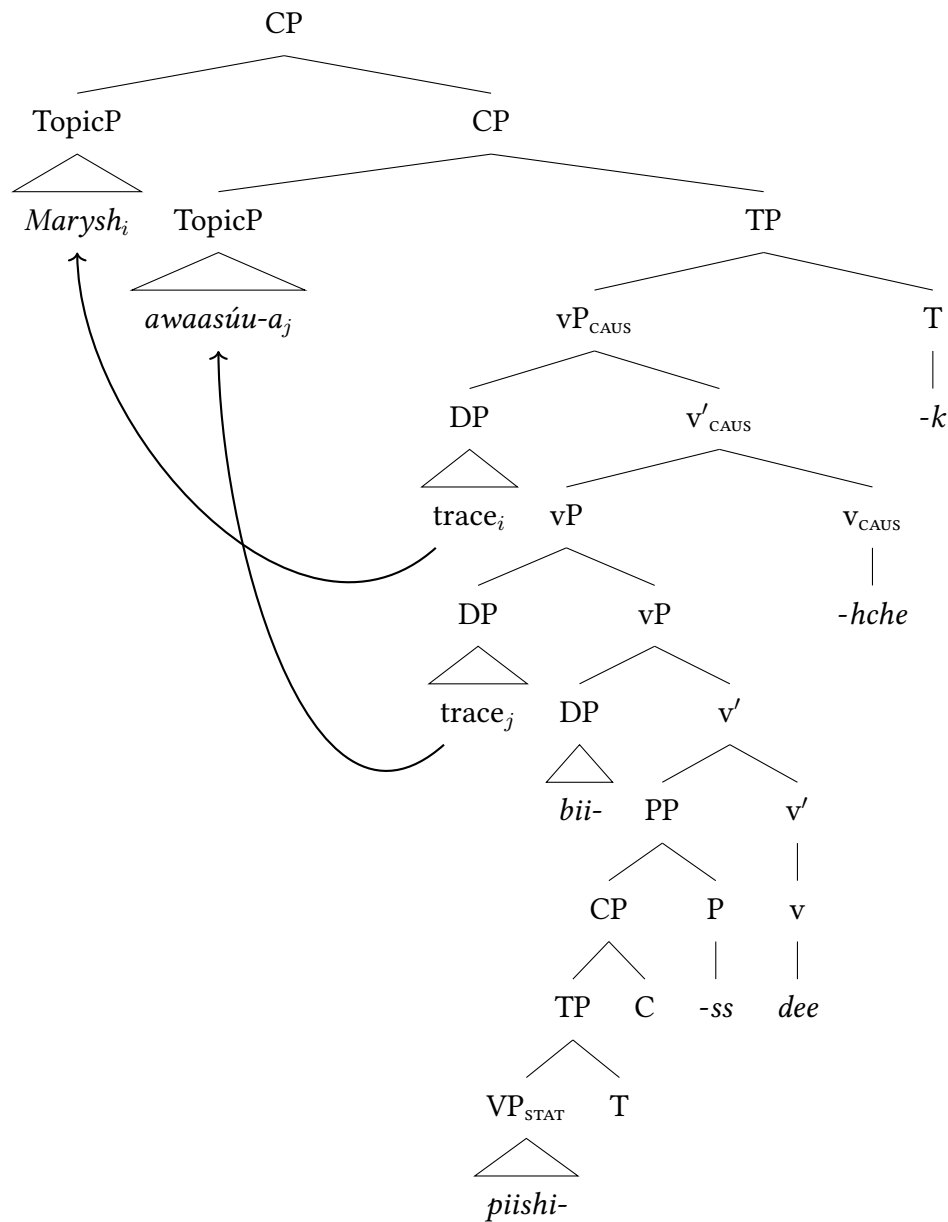
       Mary-DEF house-TOP 1SG.OBJ-be.behind.(STAT)-GOAL-go-CAUS-DECL

       'Mary sent me to the back of the house.' (Graczyk 1989:6, Graczyk n.d.)

   b. Underlying Structure

c. Surface Structure (Topicalization)

Example (95) exhibits two instances of topicalization movement, but the phonetic realization of the utterance remains unchanged because the order of constituents is static. Without movement, we would be able to create a syntactic diagram that correctly reflected the realization of the phonetic form; however, this would be purely coincidental. Both 'Mary' and 'house' support the theory that the use of citation forms is connected to topicalization. For 'house,' /awaasúua/ is the citation form of /awaasúu/ (Graczyk n.d.:82). For 'Mary,' the situation is more complex. The definite marker (/-sh/) typically combines with a citation form, so even though "Mary" is clearly a loanword, we know it is functioning grammatically as a citation form in this instance (Graczyk 2007:32-33).

In example (94), incorporating movement into our working theory of Crow syntax was necessary in order to explain the phonetic form. In example (95), this is not the case. However,

because of examples like (94), it is clear that topicalization movement in Crow occurs before spellout and we thus must include it in examples like (95).

7.   Discussion of Crow

The evidence from Crow presented in the section above solidifies the theory suggested by the analysis of Catawba in section 4. Siouan languages exhibit substantial variation in their systems of (para-)adpositional morphosyntax and can differ quite markedly from LDN. Although Catawba is an Eastern Siouan language and is often dismissed because of this, the same cannot be done with Crow, as it is a Western ("core") Siouan language like LDN. Crow, in contrast with LDN, exhibits a surprising degree of flexibility in its adpositional morphosyntax, with one postposition having as many as four distinct forms, each with a unique morphosyntactic locus; this is delineated in section 6.1.

In addition to free postpositions (section 6.4), Crow exhibits left-anchored (section 6.3.1), right-anchored (section 6.3.2), and bidirectionally anchored (section 6.3.3) compounding. Often, a single adposition is capable of inhabiting more than one of these morphosyntactic loci. For example, we see the comitative /aak/ left-anchored in example (79), but right-anchored in example (83) and free-standing in example (89). Moreover, the boundary between applicatives (discussed in section 6.2) and adpositions is not clearly demarcated, making an already intricate picture all the more complex. Some adpositions in Crow appear to be able to undergo conversion, becoming nouns (section 6.5). Furthermore, in addition to governing determiner phrases, postpositions in Crow can govern stative verbs (section 6.6). Crow's adpositional morphosyntax is very much its own, differing as much from LDN as from Catawba.

As mentioned above, some postpositions in Crow can undergo conversion, changing their word class without modifying their phonetic realization. Section 6.6 illustrates this ability, wherein they can be governed by another postposition and reflect a nominal location itself rather than a locational *relationship* between entities. This occurs in English, as well. For instance, "I came from behind" versus "He is behind the car." In addition to postpositional stacking in which one postposition governs the other, example (94) demonstrates that Crow can stack postpositions that each have their own governed term—a form of adposition-stranding. This is achieved through topicalization movement, in which at least one postposition governs a trace in the surface form.

In section 6, /ii/ was realized as both a right-anchored constituent of a compound—section 6.3.2, example (82)—and as an independent postposition—section 6.4, example (85)—in different prosodic environments.[47] This /ii/ is cognate with Crow's applicative /i(i)-/ ('against'), as the /i-/ applicative in LDN (section 2.4) conveys two senses: 'against' and INS. This provides further evidence for the intimate link between adpositions and applicatives in Siouan. This relationship is revisited in section 8.

The superessive applicative in Crow is far more morphosyntactically flexible than a mere fossilized prefix.[48] In addition to its fossilized form (example (73)), it also appears as a semanti-

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[47]Further research is required to determine the precise parameters of alternation. In addition to prosodic features, lexical constraints also likely play a role. Elicitation of more data via fieldwork is necessary.

[48]There are two distinct morphemes that surface as /aak-/, and only one is a cognate of the superessive. The comitative /aak/, like /ii/, can be used as either a proclitic or a free postposition. However, this is *not* a cognate

cally meaningful applicative (example (74)). Moreover, an extended form of the superessive (/aa-kee/) exhibits both left-anchored and right-anchored compounding; this is shown in examples (75) and (81), respectively. /aakee/ can also attach to the generic locative enclitic /=n/, becoming /aakeen/, and function as an independent postposition (illustrated in example (90)).

The comitative postposition /aak/ is similarly flexible in its morphosyntactic orientation. In example (79), /aak/ is compounded leftward. In example (83), it is compounded to the right. Moreover, /aak/ can appear independently (Graczyk 2007:236). Its alternative form, /áappaa/, is a free-standing postposition (87). In example (94), /aak/ is compounded rightward, while simultaneously having the postposition /kuss/ attached to its left. However, this is not an example of bidirectionally anchored compounding. /kuss-/ does not undergo conversion and is thus not being governed by /aak/. Rather, the complement of /aak/—the DP it governs—underwent topicalization movement, leaving a trace between /kuss-/ and /akk/. As /kuss-/ mandatorily undergoes right-anchored compounding, it attached to /aak/, resulting in the recorded surface structure.

In addition to the example of bidirectionally-anchored compounding in section 6.3.3 (example (84)), example (95) contains an instance of this with /-ss-/. Rightward, /-ss-/ compounds with the verb dominating it; leftward, it compounds with the stative verb /piishi/, which functions adjectivally.[49] The diagrams herein reflect my analysis of this structure as being an adpositional phrase taking a CP complement.

8. Synthesized Discussion

The evidence presented in the sections above strongly suggests that our current understanding of adpositions in LDN, Catawba, and Crow is insufficient. Most previous studies have failed to address the intricacies of (para-)adpositional morphosyntax in these languages beyond phenomena parallel to those already discussed in previous work on LDN. Moreover, no publication to date has provided a comparative analysis of adpositions in Siouan. This paper serves to partially fill that gap, providing such an analysis in the more modest context of the three languages examined herein. In summary, there is more diversity within the Western Siouan branch than the Siouanist literature presents; furthermore, the Eastern Siouan branch is not the decidedly dissimilar outlier that much of the Siouanist literature characterizes it to be. While LDN, Catawba, and Crow all exhibit free-standing, prosodically independent postpositions, the similarities shared by the (para-)adpositional morphosyntax of all three begin and end with this feature.

In both LDN and Crow, stative verbs can immediately precede postpositions. This is illustrated in examples (11) and (95), respectively. I argue that the postpositional phrase takes a complementizer phrase as a complement in both cases.

Catawba and Crow both exhibit right-attaching adpositional phenomena in which an adposition is attached to the verb that immediately dominates it. I analyze this process as proclisis in Catawba and compounding in Crow, but these are nonetheless markedly similar operations.

One similarity shared by LDN and Catawba is the presence of both a clitic form and a free form of some adpositions. For example, LDN has the free postposition /étkiya/ (example (36)) and the corresponding enclitic form /=kiya/ (example (32)). Analogously, Catawba's free

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of the superessive applicative. This /aak/ is derived from /eé/ 'to have', which ablauts to /aá/ when preceding the same-subject morpheme /-ak/ (Graczyk 2007:388). The morpheme /áakee/ 'on top' *is* cognate to the superessive.

[49]Crow, as with other Siouan languages, does not contains adjectives. Stative verbs often fill this role.

postposition /hapki/ (example (59)) has the proclitic form /hap=/ (example (64)). Additionally, in both LDN (example (11)) and Catawba (example (70)), there are potential cases of extra-syntactic parentheticals. In both instances, I find other analyses to be more accurate and elucidative of the given data; however, the possibility is still worth mentioning.

LDN and Catawba also share a feature in which the presence of an adposition assigns a [+ambiguous definiteness] feature to the preceding noun, resulting in a null determiner (though this rule is violable in both languages). Ingham (2003) hints at this in LDN by pointing out that the use of a postposition seems to often preclude the presence of a determiner immediately beforehand in Catawba. This was previously unattested.

To some extent, the perception of Catawba as particularly distinct from the Western Siouan languages is fair. Regarding its (para-)adpositional morphosyntax, this is most clearly seen in the absence of applicatives. The semantic work carried out with applicatives in LDN and Crow is performed exclusively by adpositions in Catawba. In addition to elucidating a unique aspect of Catawba, this also illustrates the intimate relationship between adpositions and applicatives in Siouan.

Section 1.1 illustrated and discussed Helmbrecht & Lehmann's (2008)) theory of diachronic applicative fossilization. Table 1 from that section is reproduced below.

Table 2: Helmbrecht and Lehmann's Four Stages

	Stage One	Stage Two	Stage Three	Stage Four
Time:	Proto-Siouan	*Not Stated*	*Not Stated*	Present
Status:	Postpositions	Proclitcs	Applicatives	ISCs

The evidence and analysis herein *does* support the underlying notions of Helmbrecht & Lehmann's (2008)) theory. There is a historical process in which free constituents lose their status as prosodic words, becoming proclitics or right-anchored constituents of compounds (though they can also become enclitics or left-anchored constituents of compounds, which is not predicted in their theory). Proclitics and right-anchored constituents can in turn lose their status as morphological words, becoming affixes (such as applicatives), which can subsequently undergo semantic bleaching and fossilization, becoming synchronically unanalyzable. The discussion of LDN in section 3 showed that, although imperfectly, LDN generally follows the paradigm proposed by Helmbrecht & Lehmann (2008:34).

However, contra Helmbrecht & Lehmann (2008), these stages are not mutually exclusive. The relationships between Siouan postpositions, applicatives, and their intermediate forms are far more intricate and entropic than Helmbrecht and Lehmann intimate. The aforementioned constituents are not only related historically, as discussed by Helmbrecht & Lehmann (2008), but are also related synchronically.

One piece of evidence for the intimate synchronic relationship between adpositions and applicatives comes from juxtaposing analyses of LDN and Crow. Recall that in LDN, the instrumental applicative /i-/ has two semantic realizations: the instrumental meaning its name implies and the locative 'against.' In Crow, by contrast, the "instrumental" applicative /i(i)-/ can *only* function as a locative meaning 'against.' However, its related form /ii/—which can appear as a free postposition or compounded rightward onto the verb dominating it—is Crow's instrumental adposition.

Crow's superessive applicative /a(a)-/ appears as both a meaningful, productive applicative and as a semantically null, fossilized element on many verbs. This would place it simultaneously in Helmbrecht and Lehmann's stages three and four. Similarly, Catawba's postpositions have both free forms and procliticized forms, occupying both stage one and stage two. Another example from Crow is its goal adposition, which can appear as /-ss-/, /-ssee/, /kuss-/, or /kusseé/ depending on the environment (Graczyk 1989:8). Thus, the linear development from free constituent to preverb to bound affix suggested by Helmbrecht and Lehmann does not apply exhaustively. While it could be argued that Helmbrecht and Lehmann are purposefully ignoring Catawba, the same cannot be said of Crow.[50] These are a few representative examples of many throughout this paper that evidence synchronic incongruence with Helmbrecht and Lehmann's theory.

The (para-)adpositional morphosyntax of all three languages examined herein exhibits far more complexity and variation than the Siouanist literature to date indicates. In light of these findings, Siouanists (and, more broadly, linguists) should analyze adpositions more closely in future research, recognizing the morphosyntactic diversity of the word-class. Moreover, this study revealed a complex synchronic relationship between adpositions and applicatives. In Crow, the distinction between these grammatical entities is rather opaque. This suggests that—minimally—phenomena relating to Siouan adpositions and applicatives should be analyzed adjacently going forward.

9.   Conclusions

The examination herein of the (para-)adpositional morphosyntax of LDN, Catawba, and Crow indicates that adpositions have been largely underanalyzed by Siouanists to date. This has not only affected our understanding of Siouan adpositions, but also our understanding of Siouan applicatives. Siouanists have unconsciously established a de facto description of "Siouan" adpositional morphosyntax that is based primarily on the (para-)adpositional phenomena of LDN, which—as sections 2 and 3 illustrate—is itself inadequate. While data from Catawba may be shrugged off as outside the so-called "core" Siouan languages (the Western branch of the family), the analysis of Crow in sections 6 and 7 demonstrates that the problem of adpositional underanalysis is endemic to the Western branch, as well.

The adpositions and applicatives of the Siouan languages—though their historical relationship is acknowledged—are synchronically treated as entirely distinct phenomena. This analysis works well for LDN, as adpositions are either free or anchored to the left and applicatives are always verbally prefixed. However, despite this dichotomy not extending to the whole Siouan family, the isolated treatment of both phenomena has. As discussed in section 8, the staged chronology of Helmbrecht & Lehmann (2008) presents Siouan adpositions, applicatives, and the relationship between them as far simpler than this research reveals. This is a result of Siouan scholars to date treating adpositions and applicatives as unrelated categories in their formal synchronic analyses—not a fault of Helmbrecht and Lehmann.

My examination of LDN, Catawba, and Crow ultimately reflected the views espoused by Hagège (2010): adpositional systems are underdocumented and underanalyzed. This paper hopes

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[50] As discussed in sections 1 and 4, Siouanists tend to treat it as an irrelevant outlier; Helmbrecht (2006) does not mention Catawba and its lack of applicatives in his paper on applicatives in Siouan, for instance.

to serve as a stepping stone towards remedying this deficiency in the Siouanist literature.

Future research on (para-adpositional) morphosyntax in Siouan should include similar surveys on other Siouan languages. It is entirely possible (if improbable) that Catawba and Crow are the only outliers. Figure 1 provides the names and phylogenetic loci of numerous other languages that ought to be explored.

Moreover, much of the research herein is preliminary. In all three languages of inquiry herein, I have proposed morphosyntactic phenomena that scholars in the field thus far have not examined. This marks the beginning of the scientific research process, not the end. All proposals need to be evaluated and tested against novel data to see if they stand up to scrutiny.

For both LDN and Crow, fieldwork is a necessary component of further research. Elicitations with native speakers could easily confirm or reject a number of the hypotheses herein. The Siouan languages and their (para-)adpositional morphosyntax are fertile grounds for further research. This paper is intended to start these conversations, not to end them.

Abbreviations

1	first person		INESS	inessive
2	second person		INF	infinitive
3	third person		INS	instrumental
A	agent or active		INTENSE	intensifier
ABS	absolutive		LOC	locative
ADP	adposition		N	noun
ADV	adverb		NARR	narrative
APPROX	approximate		OBJ	object
CAUS	causative		PAT	patient
COM	comitative		PATH	path
CONT	continuous		PL	plural
DECL	declarative		PST	past tense
DEF	definite		R	reduplication
DET	determiner		SAME.SBJ	same subject
DIFF.SBJ	different subject		SBJ	subject
DU	dual		SG	singular
EMPH	emphatic		SOURCE	source
ERG	ergative		SPEC.LOC	specific locative
GOAL	goal		STAT	stative
HAB	habitual		SUPERESS	superessive
IMP	imperative		SW.REF	switch reference
INCEP	inceptive		TOP	topicalizer
IND	indicative		V	verb
INDEF	indefinite			

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