# The Interaction of Wh-movement and Topicalization in Hän[1]

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1.   Introduction

Many languages, including English, have ways to move certain constituents to the beginning of a sentence. One very common way of fronting constituents is through wh-movement, where a question word, or "wh-word," is moved to the beginning of the sentence, as in (1a). In English, this movement is obligatory, leading to the ungrammaticality of (1b), but in other languages it can be optional or disallowed.

> (1)   a.   What did Timothy eat ~~what~~?
>
>   b.   *(Did) Timothy eat what?
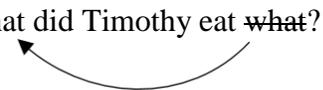
Another way that constituents may be moved to the edge of an utterance is through topicalization, which focuses a constituent by moving it to the beginning of the sentence. This movement is not obligatory in English, nor in any language to my knowledge; it is optionally used to mark a constituent as the topic of the sentence or clause.

> (2)   This dog, I like ~~this dog~~.
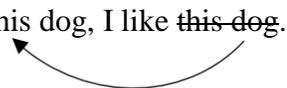
This paper covers wh-movement and topicalization in the Athabaskan language of Hän, and in particular the interaction of the two movements within a single sentence. It builds on previous descriptive and theoretical work to provide a novel contribution to the literature on Hän by giving evidence for a previously unattested transformation and an argument for the integration of Hän data into crosslinguistic syntactic theory.

Section 3 provides evidence for wh-movement in Hän. Section 4 describes topicalization in Hän. Section 5 covers the interaction of the two transformations. The resumptive pronoun used in topicalization structures provides evidence that wh-movement and topicalization can take place within a single sentence, despite the order of constituents showing no sign of movement. Section 6 describes how Hän topicalization and wh-movement fit into current syntactic theories of the left periphery, the syntactic space at the left edge of a sentence into which wh-words and topicalized constituents are moved. Section 7 addresses future research and concludes the paper.

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2.   Hän

Hän is an Athabaskan language, specifically part of the Dene family, spoken in Eagle, Alaska, US and in the Dawson City area, Yukon Territory, Canada. There are only six remaining native speakers. The data used in this work were collected from two female speakers from Eagle, and a male speaker from Dawson City.

3.   Wh-movement

Hän does not mark arguments for case, and instead utilizes a fairly rigid SOV word order to distinguish the various arguments (Manker 2014). For instance, in (3), the only possible reading is that the first argument is the subject of the sentence and the second is the direct object.

(3)   jëjee   wëdzey   noh'įį[2]
        man   caribou   3SG.see[3]
        'The man is looking at the caribou.'
        unavailable: 'The caribou is looking at the man.'

In keeping with the strict SOV word order, wh-constituents in Hän can remain *in-situ* (Manker 2014). In this case, no wh-movement takes place and the wh-phrase stays in the position where it originated in the deep structure. It has been previously reported that Hän does not allow wh-phrases to move via wh-movement (Manker 2014). However new data suggests that wh-movement may exist in Hän as an optional transformation.

Consider (4), which has two possible interpretations. Given that the language expects an SOV word order, the first available reading of the sentence assumes that the first argument, the wh-phrase, is the subject. However, there is an alternate reading in which the wh-phrase is interpreted as the direct object of the sentence, despite the fact that this disrupts the usual pattern of arguments surfacing in the SOV order. Much like we see in English and other wh-movement languages, the wh-phrase appears to have moved from its deep structure position to the beginning of the clause. Given that the language is underlyingly SOV, the only way for the object to surface at the beginning of the sentence is through movement.

(4)   dòo   jëjee   noh'įį
        who   man   3SG.see
        1: 'Who is looking at the man?'
    OR 2: 'Who is the man looking at?'

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[2] Used here is the standard orthography of Hän. This orthography does not reliably follow the English use of the same letters. Furthermore, it takes advantage of several diacritics. The umlauts are used to distinguish different vowel qualities. For instance, *e* represents IPA [e], while *ë* is used for IPA [ə]. Accent marks are used to indicate tone (although high tone syllables receive no accent mark). The apostrophe represents a glottal stop. The ogonek accents under vowels (such as *į*) mark vowels with a nasal quality.
[3] Abbreviations used in the morpheme glosses of this paper are the following:

3SG	*third person singular*	PAST	*past tense*
DO	*direct object*	POSS	*possessive*

By contrast, the wh-phrase in (5) does not occur at the left edge of the sentence and therefore must be in-situ. Thus, the arguments are only interpreted according to the standard SOV frame, leading to a single possible reading.

(5)   jëjee   dòo   noh'įį
          man   who   3SG.see
          'Who is the man looking at?'
          unavailable: 'Who is looking at the man?'

The SOV readings seem to be the basic readings for Hän speakers, while the wh-movement readings are slightly less salient. Given no context, it seems that speakers will assume the no-movement reading, despite the grammaticality of both interpretations.

Note also that wh-movement can occur with other wh-phrases besides DPs. For example, in (6), the wh-phrase *njèe* 'where' can be optionally moved to the beginning of the sentence.

(6)   a.   uh-zhoo   njèe
                3SG.POSS-house   where
                'Where is his/her house?'

         b.   njèe   uh-zhoo
                where   3SG.POSS-house
                'Where is his/her house?'

4.   Topicalization[4]

As in English, Hän can also front constituents in order to mark them as a topic. Below, (7) shows a typical SOV sentence. Meanwhile, in (8), the direct object of the sentence has been topicalized and moved to the beginning of the sentence.

(7)   łąyy   shär   nähtthè'
          dog   bear   3SG.bark.at.PAST
          'The dog barked at the bear.'
          unavailable: 'The bear barked at the dog.'

(8)   shär   łąyy   yë-nähtthè'
          bear   dog   3SG.DO-3SG.bark.at.PAST
          'The bear, the dog barked at it.'
          unavailable: 'The bear barked at the dog.'

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[4] Harold Torrence, in personal communication, has pointed out that, due to the obligatory presence of the resumptive pronoun, the data presented here more closely resembles hanging topic dislocation (as in (i)) than standard topicalization (as in (ii)).
         (i)   The dog, I like it.
         (ii)   The dog, I like.
However, in this work, I use the term topicalization in order to match previous literature on Hän.

The predicate in (8) bears a 3SG object marker *yë-*[5] which is not used in (7). Manker (2014) describes this as an obligatory resumptive pronoun, realized as a verbal prefix. Whenever a direct object undergoes topicalization and is moved to the left of the subject, the verb must bear the resumptive *yë-*. If (8) were to be uttered without *yë-*, the only available reading would assume the normal SOV constituent order:

> (8')   shär   łąyy   nähtthè'
>   bear   dog   3SG.bark.at.PAST
>   'The bear barked at the dog.'
>   *unavailable:* 'The dog barked at the bear.'

Note that the resumptive pronoun is identical to the normal object pronoun:

> (9)   łąyy   yë-nähtthè'
>   dog   3SG.DO-3SG.bark.at.PAST
>   'The dog barked at it.'

The resumptive pronoun is obligatory in topicalized sentences. Thus, we can assume that any sentence with both *yë-* and the correct number of overt DPs necessary to fill all of the verb's theta roles has undergone topicalization. Furthermore, in a declarative sentence consisting of a single clause has undergone topicalization, the sentence should unambiguously be of the order OSV.

5.   The interaction of topicalization and wh-movement

A convincing discussion about the interaction of topicalization and wh-movement should be able to determine when each movement has occurred. Since the two movements produce such similar fronting effects, ideal tests should diagnose whether topicalization, wh-movement, or both have taken place.

As stated above, we can conclude that topicalization has occurred if we see the *yë-* prefix in a sentence which also has all of its arguments overtly filled. For instance, if *yë-* appears on a verb in a sentence with two overt DPs and a two place predicate, we can assume that the prefix is resumptive. The use of the resumptive pronoun shows us that the direct object has moved from its VP-internal position. This can be seen in (10), where a two place predicate has a resumptive prefix in addition to two overt arguments. Using the logic outlined above, we can conclude that (10) has undergone topicalization.

> (10)   jëjee   dòo   yë-noh'įį
>   man   who   3SG.DO-3SG.see
>   'Who is looking at the man?'   ('The man, who is looking at him?')
>   *unavailable:* 'Who is the man looking at?'

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[5] It should be noted that there is a large discussion of third person object pronouns in Athabaskan languages (Platero 1982, Rice 2000, Rice and Saxon 2001, Saxon 1986). This paper will not cover the two third person object pronouns in Hän nor those of other Athabaskan languages, but it is worth mentioning that many works on different Athabaskan languages have related these pronouns to topic and focus (Hale, Jelinek, and Willie 2003, Thompson 1989, 1996, Willie 1991, among many others).

We can take similar logical steps to determine whether a sentence has undergone wh-movement. When wh-movement has taken place, we always see the wh-phrase occurring at the left edge of the sentence. Furthermore, due to the optional nature of wh-movement in Hän and the lack of case marking, we can never tell whether a sentence initial wh-phrase is the subject of the sentence or the fronted object of the sentence.[6] Therefore, all questions with a wh-phrase at the beginning of the utterance should have two available readings: one that has undergone wh-movement (of the direct object) and one that retains the original SOV ordering. Of course, a wh-subject could potentially undergo wh-movement as well, but it would not result in a visible change in surface word order.

Using this line of reasoning, we can determine that a wh-object reading is possible in (11), since a wh-word occurs at the left edge of the question and there are two possible readings. Likewise, we can conclude that (12) does not involve wh-movement, since the wh-phrase is not sentence initial and only one reading is allowed.

(11)   dòo   jëjee   noh'įį
        who   man   3SG.see
        1: 'Who is looking at the man?'
    OR 2: 'Who is the man looking at?'

(12)   jëjee   dòo   noh'įį
        man   who   3SG.see
        'Who is the man looking at?'
        unavailable: 'Who is looking at the man?'

I here submit (13), which is unlike any sentences presented so far in this paper, to be examined by the above tests for topicalization and wh-movement.

(13)   dòo   jëjee   yë-noh'įį
        who   man   3SG.DO-3SG.see
        1: 'Who is the man looking at?'
    OR 2: 'Who is looking at the man?'[7,8]

(13) contains the pronominal prefix *yë-*. Given that there are also two overt arguments occurring with the two place predicate, it can be assumed that *yë-* is a resumptive pronoun. This points to the conclusion that topicalization has taken place in (13). From this conclusion alone, the

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[6] This discussion only refers to sentences with two place predicates, where one of those predicates is a wh-phrase.
[7] Both of these translations should ideally have a topicalized phrase, but English does not lend itself to topicalization as smoothly as Hän. The following may perhaps be more accurate, if clumsy, translations:
        'Who$_i$, the man is looking at him$_i$?'
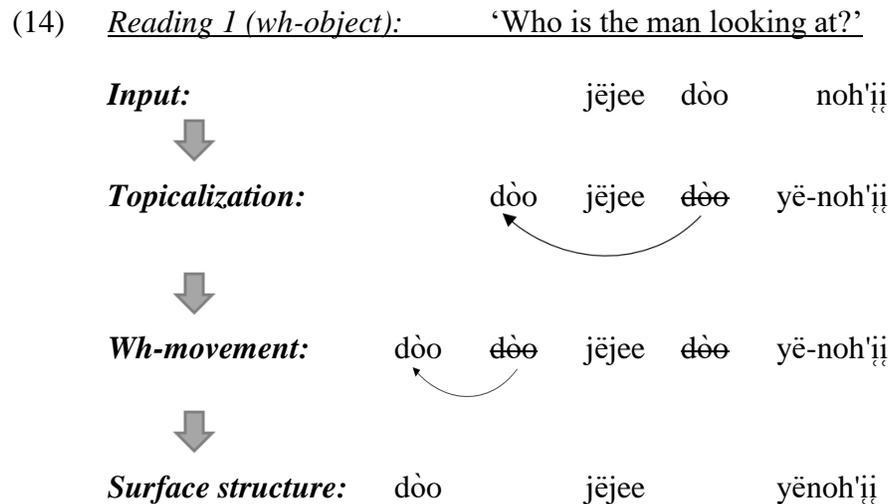   'The man, who is looking at him?'
[8] (13) has a third reading, which is not relevant to the topic at hand, where there is no overt object. this reading can be paraphrased as: *'What man is looking at it?'*

leftmost argument ('who') in the topicalized sentence should be the direct object and the second argument ('man') the subject, resulting in an unambiguous reading of "Who is the man looking at?"

Yet this utterance has two possible interpretations in Hän. With a sentence initial wh-phrase, and two possible readings, the tests outlined above imply that a wh-movement reading is possible for (13). Thus, there is reason to believe that (13) has, in at least one reading, undergone both topicalization and wh-movement.

Each of the two readings is syntactically derived below. In (14), the wh-phrase originates in object position and is then topicalized. (Remember that every reading of (13) necessarily involves topicalization, in order to license the resumptive pronoun.) After topicalization, the wh-phrase optionally undergoes wh-movement. In this reading, it makes no difference at the surface level whether this wh-movement occurs or not, but it is included in this derivation for the sake of parallelism with (15).

In (15), the wh-phrase originates in subject position. The object (*jëjee*) is topicalized and moved to the beginning of the sentence. Then, wh-movement moves the wh-subject to the left of the topicalized object. Thus, because two independent transformations have taken place, it is possible for the resumptive pronoun to co-occur with a surface word order of SOV, which would never be possible in a declarative sentence. Despite the surface word order showing no sign of movement, the presence of the resumptive pronoun provides strong evidence that both wh-movement and topicalization have taken place.

(14)   *Reading 1 (wh-object):*   'Who is the man looking at?'

    Input: jëjee   dòo   noh'įį

    Topicalization: dòo   jëjee   ~~dòo~~   yë-noh'įį

    Wh-movement: dòo   ~~dòo~~   jëjee   ~~dòo~~   yë-noh'įį

    Surface structure: dòo   jëjee   yënoh'įį

(15)   *Reading 2 (wh-subject):*   'Who is looking at the man?'

Input: dòo   jëjee   noh'įį̧

Topicalization: jëjee   dòo   ~~jëjee~~   yë-noh'įį̧

Wh-movement: dòo   jëjee   ~~dòo~~   ~~jëjee~~   yë-noh'įį̧

Surface structure: dòo   jëjee   yënoh'įį̧

These derivations show the interaction of topicalization and wh-movement in Hän. Note that the order of application for wh-movement and topicalization does not matter with regards to grammaticality. If they are applied in the opposite order, the surface structure will be different, but the meaning and grammaticality will remain.

6.   Concordance with Rizzi's left periphery

Both wh-phrases and topicalized constituents are moved to the left edge of the sentence. Rizzi (1997) proposed that the syntactic domain that fronted constituents move into is the "left periphery." This domain encompasses complementizers and all fronted constituents.

The left periphery is made up of several layers that were previously collapsed into the complementizer phrase. The layers of the complementizer phrase are shown in (16). Complementizers themselves are either specifiers of FORCEP or FINP, depending on their function; complementizers in FORCEP specify the clause type while FINP complementizers mark finiteness. Topics are moved to the specifier position of one of the two TOPPs. Focused constituents, including wh-phrases, are raised to the specifier position of the FOCP.

(16) *Rizzi's (1997) left periphery*

```
ForceP
  Force'
Force    TopP
           Top'
         Top    FocP
                  Foc'
                Foc    TopP
                         Top'
                       Top    FinP
                                Fin'
                              Fin    TP
                                     Δ
                                     ...
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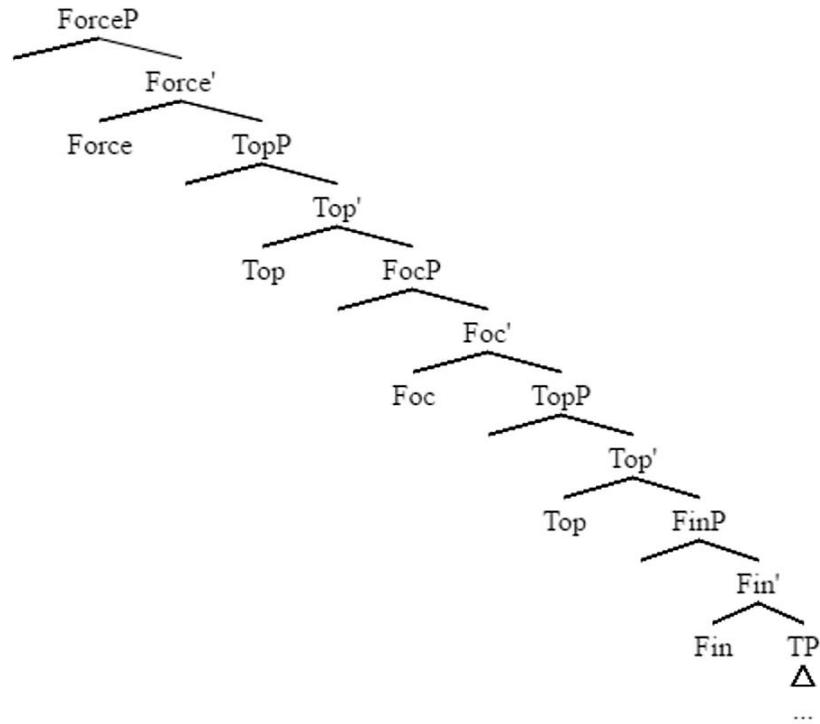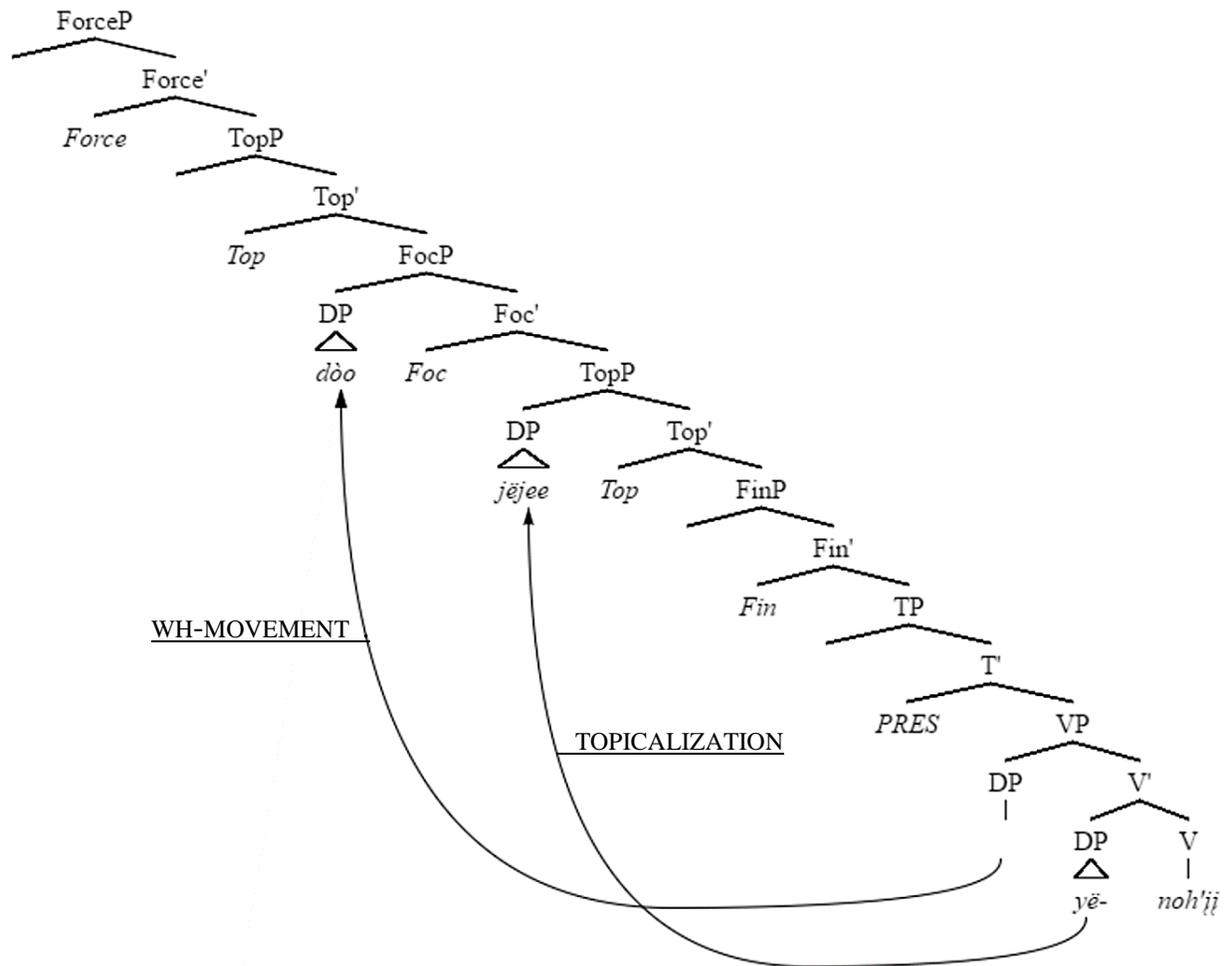
        The Hän data covered in this paper shows both wh-phrases and topicalized constituents moving to the left edge of the sentence. Below, the derivation of (13)'s second interpretation (which was previously derived in (15)), shows that these movements can adhere to the left periphery structure proposed by Rizzi. First, the object undergoes topicalization and moves to the specifier position of TOPP. Then, the subject is raised by wh-movement to the specifier position of FOCP.

(17) dòo   jëjee   yë-noh'įį
      who   man   3SG.DO-3SG.see
      Intended reading: 'Who is looking at the man?'

ForceP
  Force'
    Force
    TopP
      Top'
        Top
        FocP
          DP
            dòo
          Foc'
            Foc
            TopP
              DP
                jëjee
              Top'
                Top
                FinP
                  Fin'
                    Fin
                    TP
                      T'
                        PRES
                        VP
                          DP
                          V'
                            DP
                              yë-
                            V
                              noh'įį

WH-MOVEMENT

TOPICALIZATION

The fact that Hän adheres to Rizzi's theory of the left periphery is beneficial to typological research because it confirms that this theory can account for a very diverse assortment of languages. This supports the idea that a left periphery may be a universal syntactic domain.

7.   Future research and conclusion

Future research on these transformations in Hän will predominantly focus on movement out of or within embedded clauses. Ideally, we will be able to use Rizzi's theory of the left periphery to establish whether any complementizers belong in FORCEP or FINP. Furthermore, knowledge of these movements should allow us to better understand how islands function in Hän.

Further research may also look into discourse contexts that lead the speaker to prefer either the in-situ wh-phrase or the fronted wh-phrase.

In summary, Hän has at least two transformations which allow speakers to front constituents. Wh-movement, which was previously unattested, allows the optional fronting of wh-phrases. Topicalization moves a sentence topic to the left edge of the sentence as well, and, when a direct object is moved, requires a resumptive pronominal prefix on the verb. These two transformations can interact, to allow multiple readings of topicalized sentences where the wh-phrase occurs sentence initially. The relevant set of data provides evidence that Hän may adhere to a crosslinguistically attested theory of the left periphery, the syntactic domain that contains fronted constituents after movement. This research adds to our knowledge of Hän, as well as to the literature supporting the left periphery theory.

References

Manker, Jonathan. "The Syntax of Sluicing in Hän." In *Proceedings of the 2012 Athabascan Languages Conference*. Fairbanks, AK: Alaska Native Language Center, 2014.

Hale, Kenneth, Eloise Jelinek, and Mary Ann Willie. "Topic and focus scope positions in Navajo." *Word Order Scrambling* (2003): 1-21.

Rice, Keren. "Morpheme Order and Semantic Scope." (2000).

Rice, Keren, and Leslie Saxon. "The y-/b-pronouns in Athapaskan languages: perspectives on content." *Talk presented at WAIL/SSILA. University of California, Santa Barbara* (2001).

Platero, Paul. "Missing noun phrases and grammatical relations in Navajo." *International Journal of American Linguistics* 48, no. 3 (1982): 286-305.

Rizzi, Luigi. "The fine structure of the left periphery." In *Elements of grammar*, pp. 281-337. Springer Netherlands, 1997.

Saxon, Leslie. "The syntax of pronouns in Dogrib." *Unpublished doctoral dissertation, University of California, San Diego* (1986).

Thompson, Chad. "Voice and obviation in Athabaskan and other languages. University of Oregon Ph. D." PhD diss., dissertation, 1989.

Thompson, Chad L. "The History and Function of the yi-/bi Alternation in Athapaskan." (1996).

Willie, MaryAnn. "Navajo pronouns and obviation." (1991).