The Syntax of Tłı̨chǫ Yatıì Verbal Morphology

Hussein Al-Bataineh, Arab Open University, Kuwait

This paper discusses Tłı̨chǫ Yatıì verbal morphology and attempts to provide a straightforward morphosyntactic analysis of the linear order of the different morphemes within the verbal constructions. Based on a number of observations related to the optionality of the classified nominal, referentiality, noun incorporation, argument saturation, verbal augmentation, and verb-noun correspondence, the paper argues that the right-most element is a nominal, rather than a verbal element. This argument is shown to have several positive consequences on the analysis of verbal morphology which does not necessarily include complicated syntactic computations and intricate configurations. The paper argues that it is possible to propose a straightforward analysis compatible with the current theoretical models of syntax, in contrast with the models proposed in the literature. Furthermore, the paper argues that Tłı̨chǫ is a polysynthetic, non-configurational language that represents its arguments as pronominals within the verb rather than lexical nominals.

1 Introduction

Tłı̨chǫ Yatıì (also called Dogrib) is an endangered Dene (Athapaskan) language spoken by 1,735 people in the communities of the Tłı̨chǫ Government in the Northwest Territories in Canada, specifically in a region between Great Bear and Great Slave lakes. Similar to other Dene languages (e.g., Slavey, Navajo, Dene Sųłıné (Chipewyan), and Hupa), the syntax of Tłı̨chǫ follows an SOV order with a head-final clausal structure. The verb consists of a stem and several prefixes that indicate subject/object agreement, mode, aspect, conjugation, etc., that are arranged in a fixed order (see Table 1 below). The stem and its inflectional and derivational prefixes are fused in a single synthetic verbal form, as in (1).

(1)   *Naxısınìyats'eehtı.*
        naxı- sınì- ya- ts'e- e- Ø- h- tı
        2PL.OBJ-THM-THM-1PL.SBJ-CJ-IPFV-CLF-speak.IPFV
        'We judge you.'   (Welch, 2016b:3, citing MLBW 2012)

The verb stem *-tı* 'speak' occurs at the right edge preceded by seven prefixes which include, in addition to agreement, conjugation, and aspectual markers, the thematic prefixes *-sınì-* and *-ya-* that associate with the stem to form the verb's lexical entry (for more details, see Ackroyd, 1982; Jaker, 2011).

Table 1: The positions of prefixes in Tłįchǫ verbal morphology
(Ackroyd 1982, cited in Hucklebridge 2016: 14, see also Rice 1986 cited in Jaker et al. 2019: 475 for a similar template representing all Northeast Dene languages)[1]

AFFIX SLOTS	00 Obj. of Incorp. Postposition	0 Incorp. Postposition	1 Adverbial	2 Distributive	3 Customary	4 Incorp. Stem	5 Number	6 Object	7 Deictic Subject	8 Aspect	9 Conjugation	10 Mode	11 Subject	12 Classifier	Stem
nàwhehzè 'I hunted.'			nà								whe		h	l	zè
'eghàlaenda 'She works.'	'e	ghà				la				e	Ø	Ø	Ø	Ø	nda
nɪgots'ʊwhɪ 'Let's (PL) get up.'			nɪ				go		ts'e			we	Ø	h	wɪ

The present study attempts to propose a syntactic analysis of the given template following the minimalist approach. The suggested analysis is claimed to be more straightforward and less problematic compared with previous models proposed in the literature. The paper discusses the merits and demerits of previous approaches and shows that they fail to account for the morphosyntactic structure of Tłįchǫ verbs. Based on several observations (discussed in more detail in Al-Bataineh forthcoming, 2021a), including the optionality of the classified nominal, referentiality, noun incorporation, argument saturation, verbal augmentation, and verb-noun correspondence, the paper suggests that the so-called verb stem is a misnomer, and it is a nominal, rather than a verbal element. This suggestion is in line with the pieces of evidence indicating that Tłįchǫ Yatıì is a polysynthetic language that represents its arguments on the verb; that is to say, it has obligatory subject and object agreement on the verb, and the agreement affixes represent the sole arguments of the verb as there are no null lexical arguments that these affixes agree with

---

[1] The columns in the table use traditional Deneist descriptive terminology, for which the standard modern equivalents are as follows: Aspect= Subsituation Aspect, Conjugation= Situation Aspect, Mode= Viewpoint Aspect, and Classifier= Voice/Valence. Moreover, this table is corrected as follows: the ñe- perfective marker under mode in position 10 of nàwhehzè 'I hunted' is deleted because it is not present underlyingly, for two reasons: ñe is absent in whe conjugation verbs, and ñe is absent in d/l-classifier verbs (See chapter 4 in Jaker & Cardinal (2020) for a summary of selectional and blocking restrictions involving ñe). Secondly, the optative we- in nɪgots'ʊwhɪ 'Let's (pl) get up.' should be a mode not a conjugation. Also, the same form nɪgots'ʊwhɪ should have a long vowel in it: ts'e-we > ts'ʊ.

(bearing in mind that the agreement affixes can be phonologically null as Dene languages do have extensive zero-marking, e.g., the 3rd person singular subject is zero-marked). In other words, Tłįchǫ Yatıì is not a pro-drop language because there is no linguistic evidence for postulating null argument pro-elements in specifier and complement positions of the verb. Based on these arguments, the paper provides a minimalist analysis of the morphosyntactic of the verb, which attempts to provide a different categorization of the inflectional and derivational affixes included in the verbal construction.
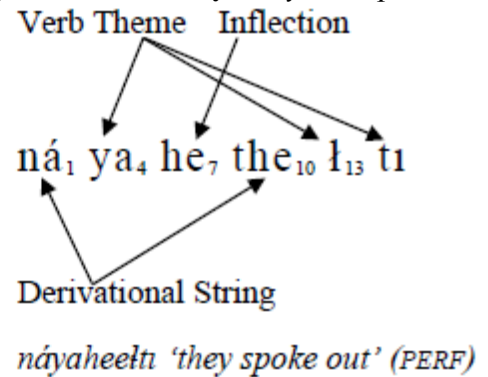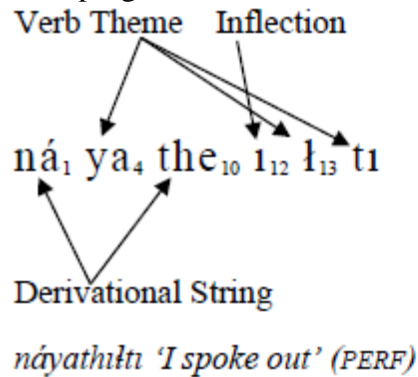
This study relies on data collected from Tłįchǫ Yatıì Multimedia Dictionary (2006), Nicholas Welches's fieldnotes collected between 2007 and 2014 from four fluent native speakers of Tłįchǫ Yatıì (for details, see Welch 2016a), the Dogrib New Testament (Dogrib Translation Committee 2003), Ackroyd's (1982) Dogrib Grammar, Weledeh Language Verb Dictionary (Jaker's et al. 2013), and other relevant literature and documentary sources of the language. The remainder of the paper is organized as follows: section 2 examines previous approaches and models proposed in the literature. Section 3 discusses some arguments regarding the polysynthetic nature of Tłįchǫ. Section 4 provides some observations and arguments for the nominality of the stem. Section 5 introduces the proposed analysis of the verbal structure. Section 6 summarizes and concludes the paper.

2 Approaches and perspectives: an overview

Due to the challenging nature of verbal morphology in the Dene languages, there are three main approaches that attempt to explain the phonological, morphological, and semantic dimensions of verbal construction. These dimensions seem difficult to be structurally analyzed in an analogous way. There appear to be no structural parallelisms or one-to-one correspondence between phonological constituency and morphological constituency, and the same mismatch also exists between the linear order of morphemes and the semantic compositionality. In an excellent overview of the Na-Dene languages, Jaker et al. (2019) comment on how the Dene morphology is approached from three different perspectives, which are the Interrupted Synthesis model (Kari 1989; Kari 1992), The Lexical Phonology model (Hargus 1988; Rice 1989), and the Scope Hypothesis (Rice 2000). The first two approaches will be discussed briefly, and the third one will be explained in more detail because it is the only one that offers a syntactic analysis somehow related to the paper.

The Interrupted Synthesis model (Kari 1989, 1992) highlights that there are several meaningful units of meaning (i.e., semantemes) that are split and interrupted. These units are connected in formula-like combinations. "The interlocking of a number of interrupted semantemes into a firmly knit structure seems to be a leading principle of coherence in [Dene] languages" (Whorf 1932: 17-19). The mentioned 'split semantemes' can be labeled and divided into the VERB THEME, which includes the elements that combine to produce a meaning base in the verb, MODE, which refers to irrealis moods, perfective, imperfective, future, etc., and DERIVATION. The following derivational string is illustrative (from Jaker et al. 2019:7):

(2) *Ná–* conclusive-progressive *ná-…the–* derivational string, used with Tetsǫ́t'ıné *yałtı* 'speak'

Verb Theme   Inflection

$ná_1$ ya_4 the_{10} l_{12} $ł_{13}$ t_1

Derivational String

náyathıłtı 'I spoke out' (PERF)

Verb Theme   Inflection

$ná_1$ ya_4 he_7 the_{10} $ł_{13}$ t_1

Derivational String

náyaheełtı 'they spoke out' (PERF)

Jaker et al. (2019: 9) indicate that the advantage of this model is in describing morphological patterns of Dene languages, which are highly complex and idiosyncratic, and in explaining how some verbs take certain derivational strings productively. This model can also explain the discontinuous dependencies within the Dene verb. In addition, it accounts for how the lexicon is structured in a systematic way. Thus, it can be used for practical purposes such as lexicography, documentation, and revitalization. However, there are two disadvantages to this model. Firstly, it fails to account for phonological constituency because the verbal morphology, which indicates the existence of discontinuous constituents, contradicts the phonological evidence, which suggests a right-branching tree structure; that is to say, the description of the morphology of the verb does not seem to be related to the phonological structure which suggests that the verb is constructed inside-out, from right to left. Secondly, this model cannot explain the order of the morphemes within the verb. Although it provides an adequate description of which morphemes occupy which position, it cannot explain why they occupy these positions in the given order.

The Lexical Phonology or 'Stem-core' model proposes that the verb is built up by many consecutive layers of prefixation, inside-out, from right to left. This model follows Li's (1930, 1946) categorization of verbal prefixes into 'conjunctive', 'disjunctive', and 'in-between' categories based on their phonological behavior. In contrast with DISJUNCT PREFIXES, CONJUNCT PREFIXES are more closely bound to the stem because of the application of phonological rules of contraction. These two categories are similar to the categories of STEM LEVEL and WORD LEVEL which have been proposed in *Lexical Phonology* (Kiparsky 1982; Kiparsky 1985) see Al-Bataineh 2019, for a critical assessment of more recent approaches). These two levels are not the only ones available in Dene languages; several researchers argued for six levels, as illustrated in the Stem-Core model below (see Jaker et al. 2019:10, for references and detailed discussion).
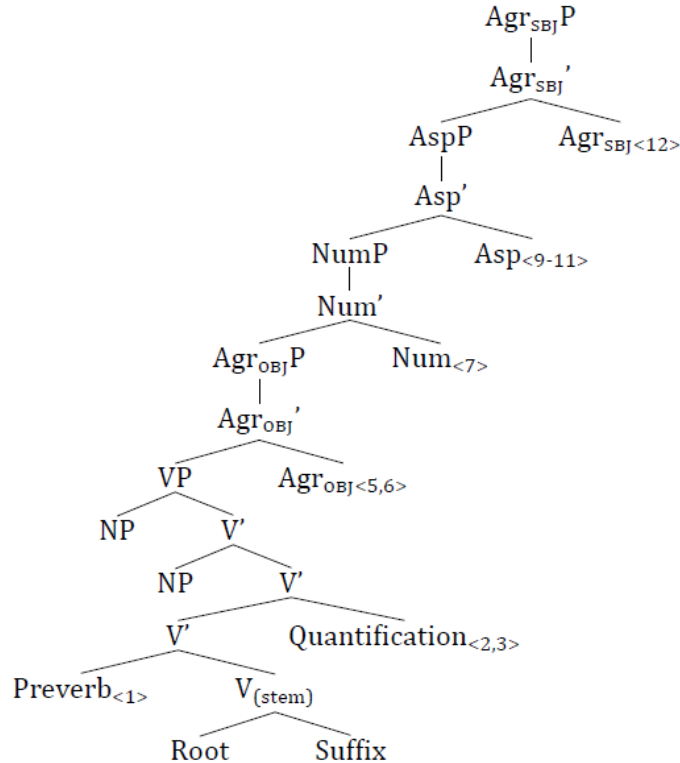
(3) The Lexical Phonology or Stem-Core model (Jaker et al. 2019: 10)
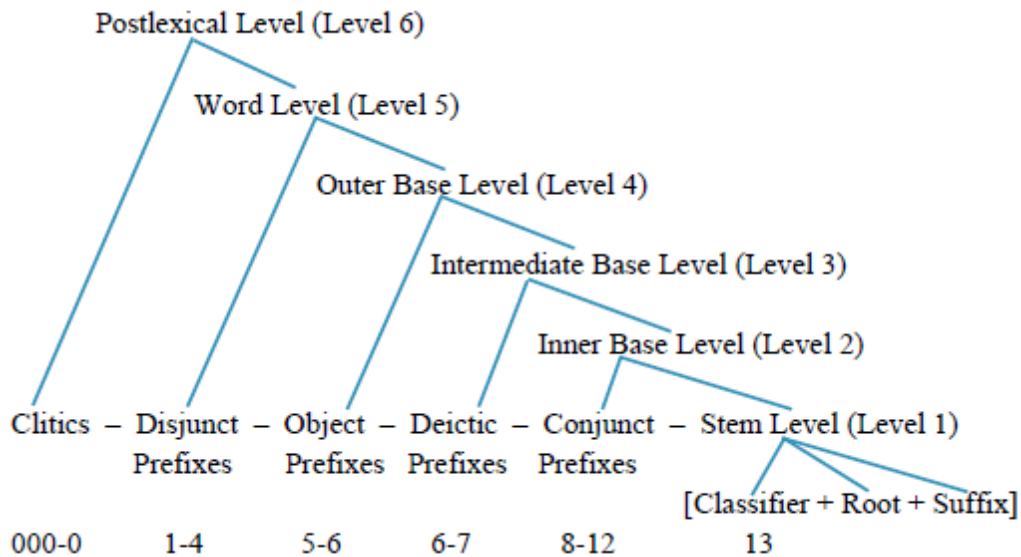
Affixes are assigned to different levels based on their linear order and their participation in phonological processes. However, Lexical Phonology is an extension of the Interrupted Synthesis model since both assume that affixes are classified and grouped into different levels based on their positions in a given template. The merits of this model are related to its adequacy in associating morphological structure with phonological patterning and its success in explaining morphophonemic alternations from a phonological perspective. However, there are two demerits of this model. Firstly, the right-branching tree representing the morphological structure does not correlate with the description of verb theme, verb bases, aspects, derivational strings, and verb theme categories in the Interrupted Synthesis model, leaving morphological productivity, derivational potential, and discontinuous strings with no adequate explanation or plausible analysis. Secondly, similar to the Interrupted Synthesis model, it cannot explain the order of the morphemes within the verb, as there is no adequate justification for why they occupy their template positions in the given order.

The Scope Hypothesis model attempts to explain the order of morphemes based on the principles of SEMANTIC SCOPE. That is to say; semantic scope leads to morpheme order, where scope is reflected in, or expressed by, linear order. In this model, the morpheme order is accounted for by a tree representation in which the different affixes of verbs occupy specific positions according to their semantic scope. Morphemes higher in the tree c-command and take scope over morphemes lower in the tree in a way that reflects the coding of semantic scope syntactically, as illustrated below:

(4) Syntactic representation of Dene verb structure (Rice 2000: 28, cited in Jaker et al. 2019: 11)

$Agr_{SBJ}P$
  Agr_{SBJ}'
    AspP $Agr_{SBJ<12>}$
      Asp'
        NumP $Asp_{<9-11>}$
          Num'
            $Agr_{OBJ}P$ $Num_{<7>}$
              Agr_{OBJ}'
                VP $Agr_{OBJ<5,6>}$
                  NP   V'
                    NP   V'
                      V' $Quantification_{<2,3>}$
                        $Preverb_{<1>}$ $V_{(stem)}$
                          Root   Suffix

Jaker et al. (2019) argue that this representation accounts for the verbal morphology in all Dene languages, and it is in agreement with syntactic generalizations such as MIRROR PRINCIPLE (Baker 1985). This model is claimed to account for some discontinuous dependencies, some facts regarding derivational potential, and some of the phonological problems. However, in a comprehensive, in-depth review of this model by Andrew Spencer, these claims regarding the adequacy and plausibility of this model are called into question. Spencer (2003: 644) notes that "the rich insights of [Rice's] study can be much better explored in the context of word structure, not phrase structure, particularly since the syntactic model Rice adopts seems to be seriously incompatible with most current theoretical models of syntax." The incompatibility of the model stems from several issues. For example, all prefixes preceding the verb stem are represented as functional heads, and their representation "involves somewhat non-standard syntactic derivations" (p. 624), and the raising of the preverbs, the voice/ valency marker and the verb root itself seem problematic as well because the movement "seems to contradict the scopal principle" and "the technical details of this verb raising analysis are not provided in the book". Rice admits that there are some cases in which the order of the morphemes cannot be explained based on the semantic, scope grounds (p. 624). For example, the voice/valence markers contradict the scopal principle as they are semantically problematic; although sometimes they have the meaning of 'causative', 'middle', etc.; they are often lexically determined meaningless elements. Regardless of their idiosyncratic effects, these markers enter into semantic composition as a unit which includes both

the verb root and the verb stem. These elements "move out of [their] most embedded position and find [themselves] in a surface position which seems to contradict the scopal principle […]" (p. 623-624) because "the voice markers scope is widest to the left ([Causative [Middle [V]]]) while for all the other prefixes scope is widest to the right" (p. 625). The assumed mechanisms intended to obtain the surface linear order of these morphemes is not only semantically problematic, but also syntactically awkward because they involve non-standard syntactic derivations (p. 624). Relatedly, prefixes classified as qualifiers also contradict the scopal principle for several reasons including, for example, that "the different subclasses of qualifier prefix don't interact with each other scopally and this gives rise to a variety of morpheme orders across languages" and that some subclasses of qualifiers such as lexicalized/ thematic markers are meaningless particles because they are "morphemes associated with particular verb stems and to which no meaning can be given" and other subclasses "occur with verbs belonging to certain loosely defined semantic classes" (p. 627). Regardless to the idiosyncrasies of voice markers and qualifiers, these morphemes interact with other elements although "by definition these can't be ordered [and] their position should be completely random" (p. 629).

The ordering of the pronominal prefixes (agreement markers) also seems problematic since they are assumed to have unconventional, stipulated meanings, and they have an order based on the stipulation that subjects scope over objects "though it's not clear what the terms 'subject, object' could refer to given Rice's syntactic assumptions" and "it's not clear how the relative weighting of constraints is to be stated in Athapaskan grammar or why that weighting should turn out to be constant across the family"; therefore, "the semantic characterization of suffixation [seems] somewhat puzzling" (p. 626-627). In addition to the given points, the semantic account seems confusing for other issues regarding the position of affixes in the proposed template since "inflections (subject and object agreement and also grammaticalized inflection) [are] sandwiched between the verb stem and derivational elements. In addition, subject markers are closer to the stem than object markers, a typologically unusual situation." (p.622-623). Moreover, the principles of semantic scope are difficult to maintain because they express semantic dependency in terms of syntactic c-command. Spencer (2003: 628-629) notes that

> *[the first principle indicating that] for A, B of the same logical/semantic type, B is in the scope of A iff A c-commands B should categorically rule out the verb movement process which Rice appeals to, given that the verb should be in the scope of pretty well all verbal affixes. Whatever permits this displacement can't be related to [this principle]. But then given global uniformity [i.e. that scope be the SOLE determinant of fixed order] it's a mystery why verb stem position should be one of the most stable features of Athapaskan verb morphology.*

The analysis of the subject marking seems questionable also with regard to its position preceding the pronominal objects since there is no obvious reason why the noun class markers appear to the right of the subject number (p. 628). In short, the principal thesis of Rice's model concerning semantic dependency and scope seem to be unsuited to be coded in terms of syntactic c-command in binary branching syntactic trees. Such a view is also noted by other scholars such as Kenneth Hale, who highlights that the syntactic representation "does not conform to the canonical head-complement relation, since there is no sense in which iterative selects the verb and

its preverb" (Hale 2001:387). And some structures are presented in a way that creates inconsistency; the representation of elements such as classifiers, or voice/valence markers, taken to be "functor verbs" shows left-right ordering, and "hierarchically, this is surely correct. However, at surface structure, the causative appears on the left side, not the right side, of the configuration" (p. 389).

3 Tłįchǫ as a polysynthetic language

In Al-Bataineh (forthcoming), I argue that Tłįchǫ is a polysynthetic language that has pronominal rather than lexical arguments because the obligatory subject and object agreement affixes represent the sole verbal arguments that bear the theta-roles, whereas the overt lexical nominals are optional adjuncts. Following Hale (1983, 2001), Jelinek (1984), Willie (1991), and van Gelderen and Willie (2012), I claim that Tłįchǫ is a polysynthetic/ pronominal argument language since it has the typical characteristics of other polysynthetic languages. Firstly, agreement affixes are obligatory, whereas lexical nominals are optional adjuncts, as shown in (5a,b).

(5) a. *Nexèlaedı.*
   ne-xèla-e-dı
   2SG.OBJ-THM-IPFV.3SG.SBJ-touch
   'She is going to touch you.'

   b. (*ne-ʔeh*)   *se-ghà-ı̨-h-chı*
   2SG.POSS-jacket   1SG. OBJ-for- IPFV. 2SG.SBJ- CLF- give (clothlike singular entity)
   'Give me your jacket.'   (Jaker et al., 2013:216)

Second, if present, independent subject, and object pronouns are contrastive focus and have to be left-most, as the ill-formedness of (6b) demonstrates.

(6) a. *Sı̨ ehtsı̨ senèhsho.*
   sı̨   ehtsı̨   se-nè-hshǫ
   me   granny   1SG.OBJ- PFV.3SG.SBJ-raise
   'Granny raised me.'

   b. *Ehtsı̨ sı̨   se-nè-hshǫ.*
   granny   me   1SG.OBJ- PFV.3SG.SBJ-raise
   'Granny raised me.'   (Saxon 1986:71)

Thirdly, agreement affixes can be quite specific for (in)definiteness and genericity, as shown in (7).

(7) a. *Elà k'e eghàlaehda.*

> *elà   k'e   eghàla-eh-da*
> canoe   on   THM-IPFV.1SG.SBJ -work
> 'I'm working on the canoe.'

    b. *Eghàlaehda.*
       eghàla-eh-da
       UNSPEC.O.THM- IPFV.1SG.SBJ -work
       'I'm working (on things).'   (Saxon 1986:96, see also Ackroyd 1982:184)

Fourthly, in the presence of an anaphor, referring expressions are optional adjuncts, as shown in (8a,b).

(8) a. *Edèhgo.*
     [ ]*edè-hgo.*
     REFL .3SG. PFV.stab
     'He stabbed himself.'   (Saxon 1986:116)

    b. *John mbeh t'à edèhgo.*
      John   mbeh   t'à   [ ]   edè-hgo
      John   knife   by   REFL.3.PFV.stab
      'John stabbed himself with a knife.'   (Saxon 1986:108)

Fifthly, quantified DPs are nonreferential because they are adverbials (Jelinek 1995, cited in van Gelderen and Willie, 2012:233), as in (9), the DP *hazhǫǫ̀* 'all' can quantify either the subject or the object.

(9)   *Sedè hazhǫǫ̀ se-zha gıghǫnìehtǫ.*
      se-dè   *hazhǫǫ̀*   *se-zha*   *gı-ghǫnì-e-htǫ*
      1SG.POSS-sister   all   1SG.POSS-child   DA.PL-THM.3.IPFV-love
      'My kids love all my sisters' or
      'All my kids love my sister(s).'   (Saxon 1986:112)

Sixthly, embedded clauses which have the status of adjuncts are minimal, and the main verb is quite restricted and particle-like, as shown in (10). Relatedly, Baker (1995) highlights that the preferred embedding strategy is nominalization, as in (11).

(10)   *Ahxe gıı̨lı̨   làagıı̨t'e.*
       ahxe   gıı̨lı̨   *làa-gıı̨-t'e*
       rich   IPFV.3PL.SBJ-COP1   THM-IPFV.3PL.SBJ-seem
       'They are acting rich./ They seem to be rich.'   (Welch, 2012: 94)

(11) a. [*eghàlaahdaa*] *kǫ̀ǫ̀*
      eghàla-ah-da-a   *kǫ̀-ǫ̀*

work-2PL.IMPF-work–NMLZ   building–PNS
'the places where you (pl) work; your (pl) work-places'

  b. [*yet'a edaa*] *sǫ̀mbaà*
    ye–t'a eda–a   *sǫ̀mba–à*
    DA–with live–NMLZ   money–PNS
    'the money that she lives on'   (DTC: Mark 12:44, cited in Saxon & Wilhelm 2016:42)

Since Tłı̨chǫ shows the typical characteristics of non-configurational languages, I argue that it is a polysynthetic/ pronominal argument language. This argument is essential for the proposed syntactic analysis in § 5 below because the first step to decide the syntactic nature of the so-called verb stem is based on the identification of other elements within the verbal construction (i.e., the overt nominals as optional adjuncts and the agreement affixes as the sole verbal arguments). The following section deals with some observations that show why the categorization of the stem as a verbal element is problematic.

4 Arguments for the nominality of the stem

Assuming the correctness of the argument that Tłı̨chǫ is a non-configurational language, I propose that the term "verb stem" is something of a misnomer, as there are several observations that show that it is a nominal rather than a verbal element. The following discussion is based on the fact that the stem can be used as a classificatory element in the so-called classificatory verbs and also in non-classificatory verbs (discussed in detail in Al-Bataineh 2021a).[2] Classificatory verbs refer to a set of verbs that alternate their stems to "describe certain physical properties of the moving entities referred to number, animacy, shape, size, consistency, flexibility, etc." (Willie 2000a: 39), as shown in (12):

(12)   *weghàts'eʔà*   'We give someone **a chunky object**.'
       *weghàts'e**chı***   'We give someone **a small object**.'
       *weghàts'e**tè***   'We give someone **an animate object**.'
       *weghàts'e**tsı***   'We give someone **cloth-like object**.'
       *weghàts'e**le***   'We give someone **plural objects**.'
       *weghàts'e**tı̨***   'We give someone **a rigid object**.'
       *weghàts'e**wa***   'We give someone **many things**.'

Al-Bataineh (forthcoming) highlights that there are several observations that show why treating the stem as verbal is problematic. The main argument is that stems are nominal elements that specify and limit the interpretation of the subject or object agreement affixes marked on the verb. Those observations include the optionality of the classified nominal, referentiality, noun incorporation, verbal augmentation, argument saturation, and verb-noun correspondence.

---

[2] This section relies substantially on the detailed discussion in Al-Bataineh (forthcoming). Due to space, only a sketchy outline of the main arguments is presented.

Firstly, the classified nominal is optional, as mentioned in the preceding section. The overt DP is an adjunct that serves to add more information about the so-called verb stem in both transitive and intransitive constructions.[3] Notice that in (13b), there is no need to include a DP like *sı̨* 'I' because the stem *-da* is a pronominal argument:

(13) a. (*kwe*) *weghàıhʔǫ*.
     (*kwe*)   *we-ghà-ı-h-ʔǫ*
     rock   3SG.OBJ-to- IPFV.give-1SG.SBJ-3SG.OBJ (heavy object)
     'I give him the rock.'   (Jaker et al. 2013:214)

    b. *Jǫ whıda.*
     jǫ   *whı-da*
     here   IPFV.1SG.SBJ-be located (animate singular entity)
     'I am here.'

The second observation is related to referentiality. Assuming that the classificatory verb stems "refer to a class of object participating in an event, either as actor or as goal" (Hoijer 1945: 22, for similar views, see Rushforth 1991: 251) is problematic because the verb stem cannot carry referential properties and have a pronoun-like function. Referentiality of the verb stem seems both counter-intuitive and cross-linguistically invalid. It is counter-intuitive because it assumes that the classificatory verb behaves like a (pro)noun, and thus, it may have the same distributional properties of a nominal; that is, it can occupy the argument position like a nominal constituent (which is absolutely impossible); furthermore, this leads us to wrongly predict that Dene pronominals and classificatory stems can be used interchangeably in some constructions, for example, a Tłı̨chǫ noun can be used instead of a classificatory stem (which is also impossible). It is cross-linguistically invalid because, according to Baker (2003: 96), "nothing can be a verb and a noun simultaneously" simply because verbs cannot be referential in nature. Therefore, assuming that classificatory stems are nominal rather than verbal seems to provide a more convenient explanation of the referential properties of the stem as a nominal element expressing concepts and categories.

    The third observation is related to the discrepancy between classificatory and non-classificatory constructions with regard to noun incorporation. We cannot solve the mystery of noun incorporation if we assume that the right-most element is a verb stem. At first, notice that the semantics of the sentence is affected when nouns are incorporated. The incorporation of a nominal like *tè* 'a cane' changes the semantics of the sentence from a person carrying a cane to a person using a cane.

(14) a. ***Tè*** *k'etı̨*. 'He carries a cane around.'
    b. *K'et**è**tı̨*. 'He uses a cane.'   (Ackroyd 1982: 138)

---

[3] For ease of presentation, I use different glossing based on my argument that the verb stem is actually a pronominal element. I modify certain conventions (especially category labels) to provide a clearer picture of the discussion. In Deneists' glossing conventions, both the thematic prefix and the stem are integral parts of the verb. In my glossing, the thematic prefix is considered the main verb and the so-called verb stem is a pronominal element.

Moreover, we cannot explain why the verb allows noun incorporation in some cases but not in other ones. Notice that the DPs *kwì* 'head' and *k'o* 'neck' can be incorporated in (15a,b) whereas the DPs *tso* 'wood' and *bebıa* 'babies' cannot be incorporated in (16a,b).

(15) a. ***Kwìwıhchı***. 'Put it (a clothlike object) on your head' (*kwì* 'head')
    b. ***K'owhıhchı***. ''I wear it (a clothlike object) around my neck' (*k'o* 'neck')
                                                (Ackroyd 1982: 138)

(16) a. ***Tso*** *naxegyadè*. 'They are coming back packing wood' (cf. *nagyadè* 'They are coming back')
    b. ***Bebıa*** *k'exegehdè*. 'They are packing their babies around' (cf. *k'egedè* 'They walk around')
                                                (Ackroyd 1982: 136)

Arguing that the stem is a pronominal element solves this mystery based on the assumption that incorporation is allowed in (15a,b) because the incorporates are adverbials that cannot be co-indexed with the nominal stem -*chı* (clothlike object), whereas incorporation is not allowed in (16a,b) because the DPs *tso* 'wood' and *bebıa* 'babies' are co-indexed with the incorporate -*xe* 'a heavy entity being carried'. This assumption is in line with Ackroyd's (1982: 123) argument that "only one incorporate per verb is allowed". The same observation holds for intransitive constructions like (17a,b). The DP *ta*- 'water' can be incorporated because it cannot be co-indexed with the stem -*wo* denoting the person standing. In contrast, *sadzeè* 'clock' cannot be incorporated because it is co-indexed with -*ʔǫ* 'a chunky object being located':

(17) a. *Nàtarewo.* 'He stands in water.' (*ta*- 'water') (cf. *nàwo* "He stands.')
                                                (Ackroyd 1982: 135)
    b. *Sadzeè* *dawheʔǫ.* 'The clock is up (on the wall).'

Assuming that one incorporate per verb is allowed if and only if this incorporate is not co-indexed with the pronominal argument accounts for the mystery below:

(18) a. ***Tè*** *k'etı.* 'He carries a **cane** around.'
   b. *****Mbò*** *shèhtı.* 'I eat **meat**.'   (Ackroyd 1982: 137)

While (18a) is well-formed in Tłı̨chǫ Yatıì, (18b) is not because the right-most element -*tı* is not a verbal stem but a nominal one with referential properties denoting the theta-role AGENT. Being a nominal element that cannot be co-indexed with the incorporate, -*tı* may allow the presence of the DP *tè* 'a cane' as an independent syntactic object or its incorporation (as in 14b above) because it is the direct object of the verb. In (18b), neither the presence of the DP *mbò* 'meat' nor its incorporation is allowed because already there is an incorporate within the verbal construction, viz., *shè*- 'food', whose incorporation is obligatory since it is no longer an independent word in Tłı̨chǫ (Ackroyd 1982: 135). Because the incorporate *shè*- 'food' cannot be co-indexed with the subject -*tı* referring to the actor, it is allowed to be incorporated and assigned Case as the direct object within the verbal construction *shèhtı*. The ungrammaticality of the presence of *mbò* 'meat'

is related to the fact that it is not Case-marked; therefore, the insertion of the postposition *ghǫ* 'on' is required to assign a Case to the DP *mbò* to satisfy Case filter (see, e.g., Al-Bataineh, 2020, 2021b, for a cross-linguistic overview), as shown in (19):

(19) ***mbò** ghǫ shèht̨.* 'I eat **meat'** (Literally: 'I dine on meat')

The fourth observation regarding the nominality of the verb stem is related to argument saturation. Being co-referential with the relevant overt DP, the stem is a nominal, rather than a verbal, element because it enters the derivation as an incorporated root in *n* that does not saturate arguments because it lacks 'referentiality', an essential property for argument saturation (Wiltschko, 2009:210), as in (20). Notice that the R is an abstract referential argument that exists within the formed *n,* which is realized later as the stem *np*.
(20)

```
        n
       / \
      R   n
         / \
        n   √
```
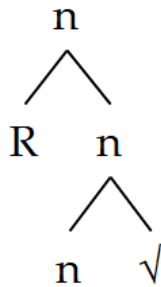
Rosen (1989, cited in Wiltschko 2009: 210-214) gives the following three criteria/ diagnostics to identify nominal root incorporation (called *classifier NI* by Rosen, 1989). Firstly, since the incorporee (i.e., the nominal stem) does not saturate the argument of the verb, it can still be saturated by a full DP. That is to say; it can be doubled by a full DP. In (22), the nominal stem *-t̨* 'singular container' can be doubled by a full DP *lììhtǫ* 'kettle'. Notice that the doubled DP is restricted by the nominal stem (Wiltschko 2009: 214); that is, the stem specifies which DP can be present because a semantic link between the stem and the doubled DP must exist. In (21) *lììhtǫ* 'kettle' is a hyponym of *t̨* 'a singular container'.

(21)   *Lııhtǫ k'eht̨.*
        lììhtǫ   *k'e- Ø- h- t̨*
        kettle   IPFV.carry around-3SG. SBJ-CLF-**singular container**
        'She is carrying the kettle around.'

The second diagnostic is related to modifier stranding. The nominal stem is modified by a modifier that occupies its canonical position. In (22), the modifier *eyı* 'that' stays stranded in its position preceding the nominal element *ʔah* 'clothlike singular object' that moves higher than vP to be in the specifier position of TP to satisfy the Case filter. To illustrate, I assume that the nP *eyı ʔah* has the simplified underlying structure [nP [DP eyı (NP ʔeh 'jacket')] [n √*t* n]] *nè-ye-̨-h-**ʔah*** in which the nominal element *ʔah* originates as a root √ that merges with a nominalizer to form a nominal element denoting a clothlike object, and then it moves to a higher position.

(22) *Eyɪ nèyeɪ̜h'ah.*
      eyɪ   nè-ye-ɪ̜-h-'ah
      that lay down-DA-PFV.3SG.SBJ-CLF-**clothlike singular object**
'   She laid that clothlike object down (e.g., a jacket).'

The third diagnostic is related to the transitivity of the verb. Under the root incorporation hypothesis, the transitivity of the verb is affected by the verb itself rather than the nominal element at the right edge (i.e., the nominal stem). Notice that in (23a,b), the same nominal stem *'a* 'a chunky entity' does not affect the transitivity of the verb since it be can be the subject of the intransitive verb 'be located' in (23a) or the direct object of the transitive verb 'carry around' in (23b). Notice also that the stem, which originates as an incorporated root does not carry number features; hence, its plurality reading depends on the co-indexed DP:

(23) a. *Dechɪ̜ne łǫ nawhe'a.*
         dechɪ̜ne   łǫ   na-whe-'a
         trees   **lots**   be located-IPFV.3SG.SBJ-**chunky entity**
         'Lots of trees stand there.'   (Archie Wedzin 2012 (Welch's field notes))

     b. *Yatɪ nezɪ̜ɪ̜ k'e'a-le.*
        yatɪ   nezɪ̜ɪ̜ k'e-Ø-'a-le
        message   **good** carry around- IPFV.3SG.SBJ-**chunky entity**-NEG
        'He [Raven] doesn't carry a good message.'

The fifth observation is related to verbal augmentation, which is a phenomenon that posits a minimality requirement on Dene verbs. In all Dene languages, according to Hargus and Tuttle (1997), in contrast with other syntactic categories, all Dene verbs must be minimally disyllabic; therefore, an epenthetic segment is required as vocalic (e.g., in Slavey and Koyukon) or/ and consonantal (e.g., in Navajo, Hupa, and Witsuwit'en). Similarly, Tłįchǫ monosyllabic verbs are prefixed with an epenthetic vowel (e.g., *e-dǫ* 'drink'; *a-le* 'do, make'; *e-jɪ̜* 'sing'; *e-dze* 'shout'; *e-'à* 'eat just one thing; bite,' etc.).[4] This process does not affect other syntactic categories in Tłįchǫ, as shown in (24):

(24) **Nouns** (e.g., *'ah* 'snowshoe', *'eh* 'jacket,' *bò* 'meat,' *chɪh* 'mallad,' *dee* 'crane,' *sa* 'sun')
      Adverbs (e.g., *chɪ* 'too, also,' *dą̀ą̀* 'west', *dɪɪ* 'now,' *dìì* 'very, too much,' *łą̀ą̀* 'together')
      Prepositions (e.g., *dàà* 'against,' *daà* 'in front of,' *ha* 'for,' *kwe* 'before')
      Conjunctions (e.g., *dè* 'if, when,' *gha* 'in order to,' *hɪ* 'and,' *nè* 'when,' *t'à* 'because')
      Quantifiers (e.g., *dɪ̜* 'four')
      Pronouns (e.g., *nɪ̜* 'you (one person))

Al-Bataineh (forthcoming) agrees with Hargus and Tuttle (1997: 177) that verbal augmentation is not caused by phonological processes. I argue that this phenomenon is caused by a

---

[4] Except for *dɪ* 'say' which is a puzzling exception.

morphosyntactic process; the epenthetic prefix is obligatory because it is the lexical realization of the verbalizer *v*, as shown in (25) below. This assumption is essential for two reasons; on the one hand, it accounts for the perplexing contrast between Tłįchǫ disyllabic verbs and all other syntactic categories which can be monosyllabic, as shown in (24); on the other hand, it explains the morphology of classificatory verbs like *k'eʔa* 'carry around a chunky object' that originates as a nominal suffix *-ʔa* 'a chunky entity' that merges with a null verbalizer that merges in turn with the preposition *k'e-* 'around' to form the semantics 'to carry around a chunky object'. This derivation seems equivalent in nature to the one that turns an English noun like *mess* into the verb *mess up* since both *k'eʔa* and *mess up* require the formation of a nominal element before the merge of a null verbalizer with a preposition to form a verbal element. Consequently, classificatory verbs have the following structure.

(25)
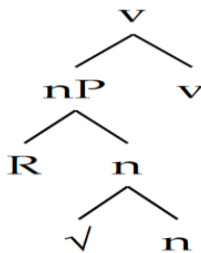
This representation explains the existence of the stem *-htǫ* in both the verb *whehtǫ* 'be located (containerful)' and a compound N *tıa whehtǫǫ* 'lagoon,' as both forms have the same stem *-htǫ* that occupies the same position in the given tree. This discussion leads us to the sixth observation regarding the correspondence between verbs and nouns. Based on insightful comments and examples by Sapir (1915: 538-539) and Hargus and Tuttle (1997: 186-214), Tłįchǫ seems similar to other Dene languages regarding the N-V correspondence since both nouns and verbs share the same nominal stem that surfaces as a suffix in both categories. I argue that the same stem originates as an *nP* and surfaces as a free-standing noun, or it becomes a verb if the formed *nP* merges with a verbalizer *v*. This correspondence becomes evident in the various N-V pairs in both classificatory verbs and corresponding nouns in (26) and non-classificatory verbs and nouns in (27):

(26) a. *-htǫ* (container): *lıdìhtǫ*, *lıìhtǫ* and *chıhtǫ* 'tea kettle'; *kwehtǫ* 'clay jug'; *eyèhtǫ* 'egg cartoon'; *godehtǫ* 'tool box'
   b. *-la* (ropelike, flexible object): Navajo *łoh* 'loop, noose'
   c. *-xe* (heavy object): *xeh* 'pack; parcel; bundle'
   d. *-wa* (many things): *ewaà* 'sand; gravel'
   e. *-tį̀* (rigid entity): *ìtį̀* 'get cracked; get sprained; crack'

(27)   *dek'enèts'eetł'è* 'write down; draw' vs. *enįhtł'è* 'book'
       ts'eetè 'fall asleep' vs. *tè* 'mat; rug; sleeping tarp; blanket; bed sheet'
       et'è 'cook; bake; fry' vs. *lèt'è* 'bread'
       gòkǫ̀ 'be warm' vs. *kǫ̀* 'fire; camp fire'

nàekwį 'chop with an axe' vs. go*kwį* 'axe'
ejį 'sing' vs. **shį** 'song, music'

Assuming the correctness of the given arguments so far, I assume that the right-most element in the verbal construction is a nominal, rather than a verbal element. Based on this assumption, I propose the following morphosyntactic analysis of Tłįchǫ verbal constructions.

5 The syntax of Tłįchǫ verbal morphology

The syntax of Tłįchǫ verbal morphology is based on the following assumptions, represented in (28a,b) below.

1- The nominal root enters the derivation in *n* to form a nominal element with valued [ϕ] features, which can be either identical to those carried by the subject prefix (in intransitive constructions) or different (in transitive constructions or when the subject prefix refers to an inanimate entity. An obligatory movement of the formed nominal element to attach to the affixal subject prefix due to the strong features that the latter carries and the boundedness nature of the former, and also to avoid a violation of the Stray Affix Filter,; "affixes must have phonologically overt hosts" (Lasnik 1990).

2- The verb merges with a null verbalizer and raises to attach to affixal T,[5] and from that position, it acts as a probe (by virtue of its [u-ϕ] features) and searches for a goal to eliminate its unvalued features. The only accessible goals are the subject prefix and the nominal root attached to it (the movement from V to v is overlooked for ease of exposition).

3- The subject prefix (along with the attached nominal element) rises to spec-TP to satisfy the EPP feature in T.

4- When present, the overt DP in *n* stays in situ since it cannot be attached to any appropriate host, and there is not any syntactic motivation for its movement upwards (except when it gets incorporated as explained in § 4 above).

(28) a. Basic structure   b. Structure after movement

---

[5] The operation of head movement is a controversial topic in the literature. Some researchers argue that head movements to be part of the narrow syntax and others as a post-syntactic movement or non-movement (i.e., a linearization process). This issue is overlooked here since, to my knowledge, no theory exists without some limitations and disadvantages (for a detailed discussion and references, see Dékány 2018). Furthermore, although it is assumed in the literature that Tłįchǫ and other Dene languages distinguish between the two aspects perfective and imperfective, and there is not distinction between past and present tenses, I prefer to follow Hargus and Tuttle (1997: 192) and Welch (2015) on their arguments for the existence of a TP. Nonetheless, whether we label the highest functional phrase as TP or AspP does not make an essential challenge to the given analysis.
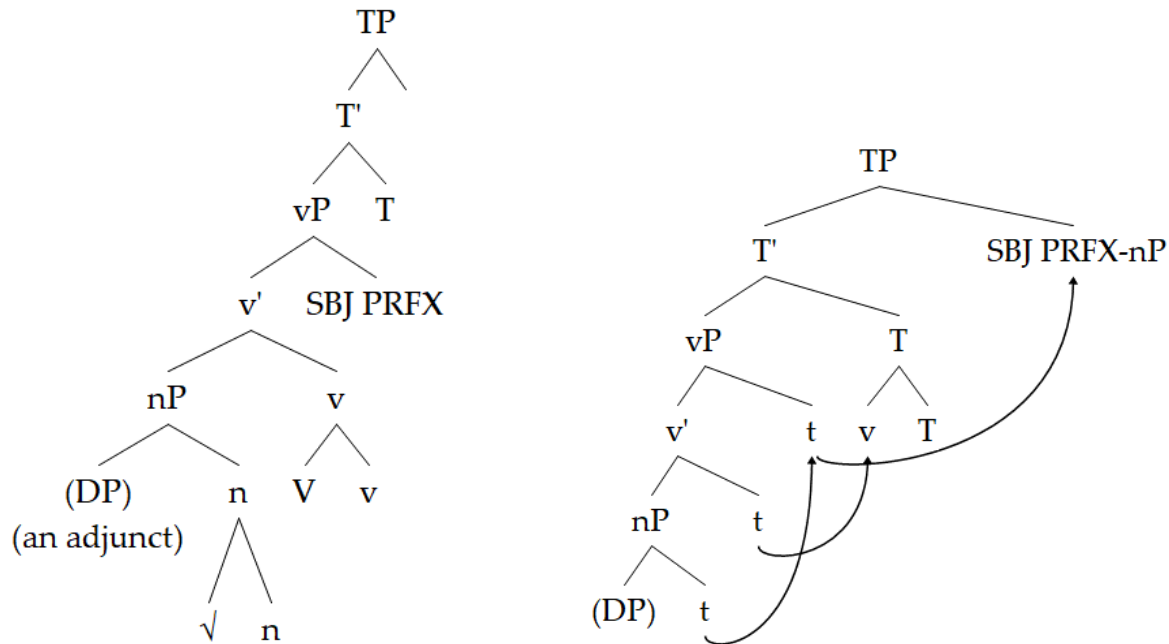
The overt DP is assumed to be an adjunct that does not affect the syntax of verbal morphology. In support of this point, Chomsky (2004: 117) suggests that

> *An adjunction construction is plainly not the projection of a head […] if α is adjoined to β, the construction behaves as if α isn't there apart from semantic interpretation […] β retains all its properties, including its role in selection. There is no selectional relation between β and α […] The adjunct α has no theta role in <α, β>*

The adjunction of the overt DP in Tłįchǫ verbal morphology is not selected by *n* and does not affect theta role or case assignment of *n*, that is because, according to Chomsky (2004: 117), it is formed by pair Merge, rather than the familiar set Merge. Unlike the symmetrical set Merge that yields syntactic objects that are free binary sets, pair Merge is an asymmetric operation that forms an ordered pair <α, β> by the attachment of α to β on a separate plane (for a similar view, see Lebeaux, 1991, cited in Fukui & Narita 2014: 20). The adjunction of the DP (i.e., the operation of pair Merge), as indicated by Chomsky (2004: 118), exists at the SEM interface because "richness of expressive power requires an operation of predicate composition: that is not provided by set Merge."

Two points need to be highlighted before explaining the syntax of verbal morphology; (i) the perfective and imperfective aspect markers can be null or single phonological units (i.e., *e*, *è*, *ì*, and *whe*, which can be combined with the telicity marker *-ne* (i.e., *ene*, *ène*, *ìne*), and regardless of their phonological complexity, they occupy the same position, that is, they are base-generated in T; (ii) Tłįchǫ subject prefixes may not take the same aspect marker for perfective or imperfective forms, some verbs have one consistent aspect marker in their conjugation, as in Table 2 below, and others do not as in Table 4 below. Let us consider the imperfective forms of 'fall down' in Table 2 (the agreement subject prefixes are italicized, and the surface forms of the nominal element (hereafter NomSuf) are in bold):

Table 2: Imperfective forms of *nàtł'ì* 'fall down' (Jaker et al. 2013: 141)

	singular	dual	plural
1ˢᵗ person	nà**htł'ì**	nà**wìtł'ì**	nà**ts'etł'ì**
2ⁿᵈ person	nà**netł'ì**	nà**ahtł'ì**	nà**ahtł'ì**
3ʳᵈ person	nà**Øtł'ì**	nà**getł'ì**	nà**getł'ì**

Each of these forms shows three overt elements; *nà-* 'down', a subject prefix (e.g., *h-* in nà*htł'*ì) and *-tł'ì* (NomSuf), and it constitutes a full sentence (e.g., *Nàhtł'ì* 'I fall down.'). To illustrate, the syntax of a sentence like (29) has the derivation in (30):

(29) *Dechį nàtł'ì.*
      dechį   nà-Ø-tł'ì
      tree   IPFV.fall down-3SG.SBJ-NOMSUF
      'The tree falls down.'

(30)
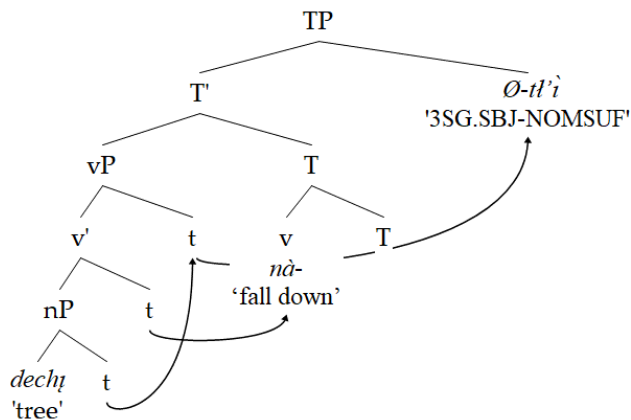
The nominal root merges with the nominalizer to form n, which in turn merges with the adjunct *dechį* 'tree' to form nP which in turn merges with the verb *nà*. The resulting v' merges with the subject prefix Ø '3SBJ.SG' to form vP, which in turn merges with affixal T to form T'. Both the v *nà* and the n *tł'ì* are affixal in nature, and they need to attach to appropriate hosts; therefore, movement takes place (i.e., v to T and n to the subject prefix Ø).[6] At this stage of the derivation, the valuation and Agree processes take place. v, being the highest head and by virtue of its unvalued [ɸ] features, acts as a probe and agrees with goals with valued [ɸ] features, namely, the subject prefix and the attached NomSuf *-tł'ì*. Finally, the subject prefix and the NomSuf *-tł'ì* move to spec-TP to satisfy the EPP feature in T. I argue that this analysis accounts for all verbs with null T (cf. the imperfective forms of *nàwho* 'scrape hide' in Jaker et al. 2013: 145).

---

[6] In addition to being affixal, the root (more specifically, the NomSuf) moves to reach a higher position where it can c-command the adjunct *dechį* 'tree' and affect its semantic properties (see below for more explanation).

I claim above that the proposed structure fits the syntax of non-classificatory verbs as well. Let us consider the different conjugation forms of a transitive verb like 'buy, pay for something' in Tables 3 and 4. The given forms undergo several phonological processes (e.g., deletion, compensatory vowel lengthening, assimilation, etc.), which are approached from different perspectives, as discussed by Hargus (2010) in her comprehensive review of the Dene phonetics and phonology. For reasons of space, these phonological processes cannot be discussed here, as they need a separate paper. Let's focus on the underlying forms, which are provided in brackets below. The subject prefixes are italicized, NomSufs are in bold, and aspect markers are underlined).[7, 8]

Table 3: Imperfective forms of *nàehdì* 'buy'   (Jaker et al. 2013: 122)

imperfective	singular	dual	plural
1st person	nàehdì (nà*e*h**hdì**)	nàidì (nà*ewid***hdì**)	nàts'eehdì (nà*ets'e***hdì**)
2nd person	nàᶦhdì (nà*ene***hdì**)	nàahdì (nà*eah***hdì**)	nàahdì (nà*eah***hdì**)
3rd person	nàehdì (nà*e*Ø**hdì**)	nàgeehdì (nà*ege***hdì**)	nàgeehdì (nà*ege***hdì**)

---

[7] I assume that *-e* is a default aspect marker to account for its absence in the PFV *nàhdì* (compared to IPFV *nàehdì*) and also for its replacement by a PFV markers in verbs like *nawheli* 'sew', *nàɨt'a* 'cut hide', *naètɬa* 'leave'. The argument that *-e* is a PFV marker, as indicated by Jaker et al. (2013) cannot be taken for granted, and aspect markers deserve further investigation. However, whether *-e* enters the derivation in v or in T does not affect the given proposal since it ultimately occupies the same position in T (after v-T movement).

[8] Notice that unlike other subject prefixes, *-ts'e* and *-ge* precede the IPFV *-e* and PFV *-è*. I assume the surface affix order to be caused by a phonological process (i.e., metathesis). Such a process affects only CV syllable (except the second person singular, *ne-* which does not undergo metathesis), and it is language-specific (cf. *ts'e-* and *ge-* cognates are basically in the same place in all of the Dene languages). Another syntactic solution is to assume that *-ts'e* and *-ge* attach to affixal T before the v-T movement. These two solutions are merely ad hoc hypotheses which need further examination in the future. However, Rice & Saxon (1994) propose another solution that there are two subject positions, one is an AgrSP and the other is a NumP.

Table 4: Perfective forms of *nàehdì* 'buy'[9]   (Jaker et al., 2013: 122)

perfective	singular	dual	plural
1st person	nàwhɪhdì (nà<u>whe</u>h**hdì**)	nàwhìdì (nà<u>whe</u>wì**dhdì**)	nàts'eèhdì (nàè*ts'e***hdì**)
2nd person	nàwhe*ne***hdì**	nàwhahdì (nà<u>whe</u>ah**hdì**)	nàwhahdì (nà<u>whe</u>ah**hdì**)
3rd person	nàhdì (nà∅∅**hdì**)	nàgeèhdì (nàè*ge***hdì**)	nàgeèhdì (nàè*ge***hdì**)

To exemplify how these forms can be accounted for in the light of the given approach, let us consider the first form in Table 4, viz., *nàwhɪhdì* 'I bought an entity' in a sentence like (31) and its derivation in (32):

(31)   *Tłeh nàwhɪhdì.*
         tłeh   nà-whɪ-h-hdì
         fuel   buy-PFV-1.SBJ.SG-NOMSUF
         'I bought gas.'

(32)
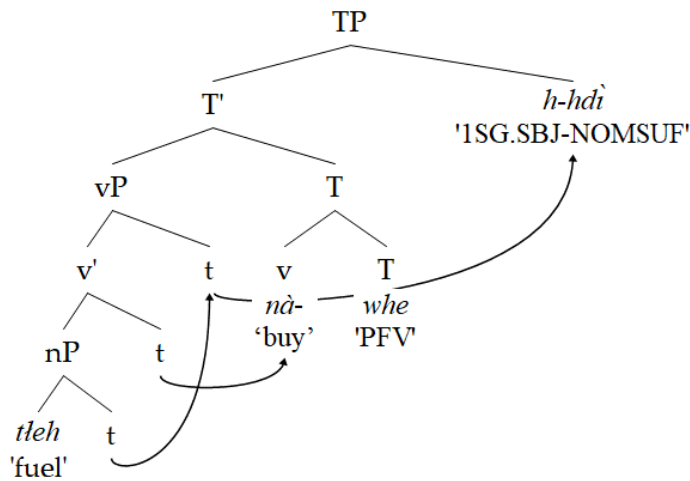
The nominal root merges with the adjunct DP *tłeh* 'fuel' to form *n*, which in turn merges with the verb *nà* to form v'. The resulting v' merges with the subject prefix *h* '1SG.SBJ' to form vP, which in turn merges with affixal T to form T'. Both v and n are affixal in nature and so must be attached to appropriate hosts; therefore, movements take place (i.e., v -*nà* to T -*whe* to form a complex head

---

[9] As indicated by an anonymous reviewer, in Table 3, the verb 'buy' historically had a prefix *ye-* in it (as evidenced by its existence in other Dene languages) that is not an object pronoun based on its position and by the fact that in sentences such as 'buy me', *ye-* would still be part of the verb word, something unexpected if it is an object pronoun. In Table 6, the standard analysis would not include the first person singular *h-*. Moreover, the stem probably does not have the primary meaning of 'buy' but rather something along the lines of 'move one's hand'.

and n **-hdì** to the subject prefix *-h*). At this stage of the derivation, the valuation and Agree processes take place. v, being the highest head and by virtue of its unvalued [φ] features, acts as a probe and Agrees with *-h* and the attached nominal. The derivation then proceeds with the movement of *-h* and **-hdì** together to the spec-TP position to satisfy the EPP feature in T. I claim that in this derivation *-hdì* acts as the direct object and receives the THEME theta-role, and the overt DP *tłeh* is just an adjunct whose omission does not affect the well-formedness of the sentence, as can be seen in (33).
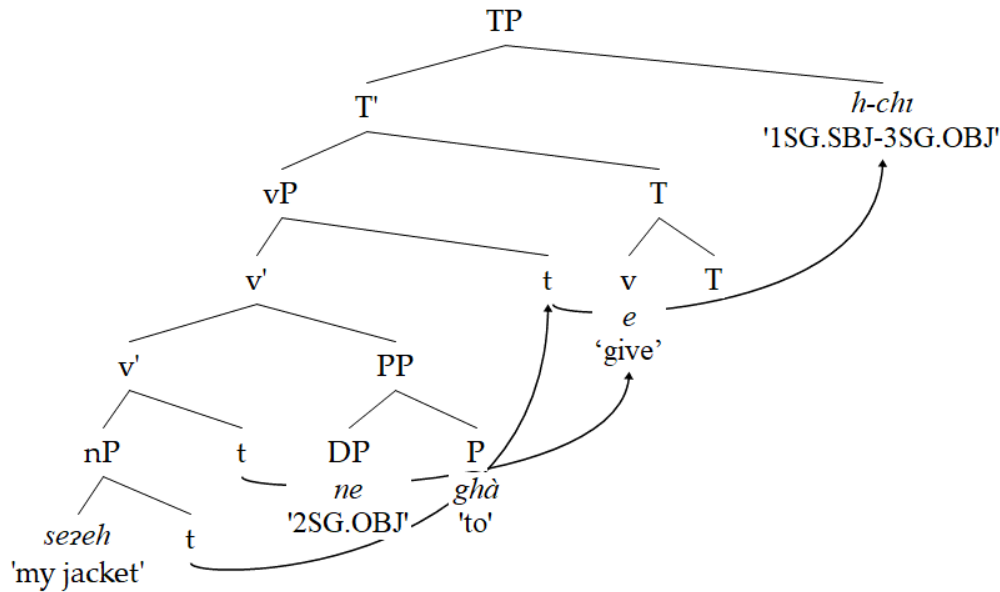
(33) *Nàgeèhdì ı̨lè.*
    nà-ge-è-hdì   *ı̨lè*
    buy-3. PL.SBJ-PFV-3.SG.OBJ   already
    'They already paid for it.'   (Jaker et al. 2013: 122)

As argued above, the given analysis accounts for the syntax of Tłı̨chǫ verbs, whether they are classificatory or not. In further support of this view, consider, for example, the verb 'kill animals', which has three forms according to the number and definiteness of the entity being killed: *łayee**whı̨*** 'kill one animal (specific)', *łae**whı*** 'kill one or two animals (unspecific)', *łayee**hde*** 'kill plural animals (specific)'. The underlined verb *łae-* 'kill' does not change (equivalent to the English verb *kill*). The nominal element referring to the entity being killed has three forms: *-whı̨* 'one specific animal', *-whı* 'one or two unspecific animals', and *-hde* 'plural specific animals', and they are supposed to be different as in the equivalent English counterparts *the animal*, *an animal* or *animals* and *the animals* (cf. *nègoe**le*** 'give birth (used only for animals)' vs. *nègoet**ı̨*** 'give birth (used only for humans)'). More examples can also be found in intransitive verbs like *nàe**dlò*** 'laugh' *nàʔee**dlò*** 'laugh at' where the verb *nàe-* 'laugh' attaches to *-ʔe* 'at' to mean 'laugh at' and the NomSuf *-dlò* refers to the experiencer (cf. *ejı̨* 'be afraid' vs. *ts'àejı̨* 'be afraid **of something**', this verb is a combination of *ts'à-* 'of (something)', the verbal element *-e*, and *-jı̨* 'afraid').

    So far, the given analysis seems to account for the position of the subject and the direct object in both intransitive and transitive constructions. What is needed now is to demonstrate how this analysis provides a straightforward explanation for the position of the indirect object in ditransitive constructions. Let us consider (34) and its derivation (35) in which the indirect object *ne* '2SG. OBJ' occupies the complement position of the postposition *ghà* 'to':

(34) *Seʔeh neghàehchı ha.*
    se-ʔeh   *ne-ghà-e-h-chı*   *ha*
    1SG.POSS-jacket   2SG.OBJ-to-give-1SG.SBJ-3SG.OBJ (clothlike object)   FUT
    'I will give you my jacket.'   (Jaker et al. 2013: 216)

(35)

```
                              TP
              ┌────────────────┴──────────────┐
             T'                              h-chɪ
      ┌───────┴────────┐                '1SG.SBJ-3SG.OBJ'
     vP                 T
 ┌────┴─────┐        ┌──┴──┐
 v'          t       t   v   T
┌─┴──────┐              e
v'        PP          'give'
┌─┴──┐  ┌──┴──┐
nP   t  DP    P
┌┴┐      ne   ghà
seʔeh  t '2SG.OBJ' 'to'
'my jacket'
```

This derivation is the same as in (32) above except for the existence of the postposition phrase *seghà* 'to you' in spec-v' (the position of the future marker *ha* is overlooked for ease of exposition, for a detailed analysis of future phrase and other phrases above TP, see Welch, 2015). However, the discussion needs to consider the following question: where are the other inflectional morphemes (e.g., classifier, mode, conjugation. etc.,) projected in the given tree? Let us reconsider prefixal morphological positions in Table 1, repeated as Table 5 below.

Table 5: The positions of prefixes in Tłįchǫ verbal morphology

00	0	1	2	3	4	5	6	7	8	9	10	11	12	
Obj. of Incorp. Postposition	Incorp. Postposition	Adverbial	Distributive	Customary	Incorp. Stem	Number	Object	Deictic Subject	Aspect	Conjugation	Mode	Subject	Classifier	Stem

The status of the classifier in position (12) is not agreed upon, Cook (1984, cited in Cook & Rice 1989: 29) indicates that there are three different treatments of the classifier: as part of the base (Sapir & Hoijer 1967), as an inflectional element unrelated to the theme (Edgerton 1963), and as a constituent of the stem (Young & Morgan 1987),[10] for a recent analysis of classifiers, see Jaker

---

[10] As highlighted by an anonymous reviewer, there is general agreement in the Dene literature that the classifier is lexically part of the stem in some cases, but that it is productive in others. Regarding the degree of the productivity of the classifier system, it seems there is another possibility: that it can be both unproductive and lexically listed, and that it can also be productive.

(2021). It seems that these divergent views are caused by the fact that "it is not possible to predict which classifier will occur with a particular theme" (Cook & Rice 1989: 30). Following Young & Morgan's (1987) view, I consider the classifier to be part of the nominal suffix because, in some structural environments, classifiers do not have any syntactic functions, and they are unpredictable (Ackroyd 1982:89). That is, assuming that the classifier indicates voice seems implausible because it does not have consistent syntactic behavior. I argue that the classifier is part of the nominal suffix that is used for semantic reasons related to the interpretation of the argument.[11] There are two possible scenarios, either (i) the classifier has no obvious syntactic function, or (ii) it has a specific syntactic function. Regarding the first scenario, let us consider the *h*-classifier in (36a,b).

(36) a. *Ełek'èdaà nàts'eèhzha*
        'We are standing up in line.'

    b. *Ts'ı̀ nàchįèzha ̨ı̨lè kǫ*
        'There used to be trees standing there.'

In these two sentences, the nominal suffix *-zha* refers to a plural entity, the use of the *h*-classifier is to differentiate between animate entities (36a) and inanimate ones (36b). This function is supported by other cases in which other nominal suffixes like *-ʔa* appear with *-h* only when they refer to animates (e.g., *Nàtł'àgots'ı̨ı̨hʔa* 'We are squatting.') or singular entities belonging to animates. The second scenario is that the classifier has a specific syntactic function. Consider the contrast between (37a,b) in which the *h*-classifier is argued in the literature to have an effect on the transitivity of the verb (Ackroyd 1982: 92).

(37) a. *Mbò whegǫ*.
        'The meat is dry.'

    b. *Mbò whehgǫ*.
        'He dried the meat.'

In these two sentences, although the nominal suffix *-gǫ* refers to 'the meat', the speaker uses the *h*-classifier to differentiate between two types of meat, viz, *-gǫ* and *-hgǫ*. *-gǫ* refers to the meat that is dry because of unspecified reason (maybe the lack of moisture is caused by intentional action or by natural forces like the sun, the wind, etc.), and *-hgǫ* only refers to meat intentionally dried by someone (for further support of this semantic analysis, see other examples in Ackroyd 1982: 92).[12] However, a deeper understanding of the classifier system is needed since *h-* may represent many categories (e.g., first person singular subject, classifier, or conjugation).

The different positions of aspect, conjugation, and mode (positions 11-9) are explained to have one position in the given tree, as indicated above, regardless of their phonological

---

[11] This argument is not revolutionary in itself, consider, for example, that "the Navajo verb stem is composed of the root and a so-called classifier" (Willie 2000b: 360), and Cherokee verb stems "are comprised of a verb root and a classifier-like element Passer 2016: 19).

[12] This semantic solution is not intended to be final, and the semantics of classifiers needs further investigation.

complexities, the different syntactic elements related to the temporality of the event are base-generated in T. The two positions of subjects (positions 11 and 7) in the table above occupy one position in the tree, that is, the spec-vP. The incorporated postposition and its object (in positions 0 and 00) form a postposition phrase, as explained in (35). What remains to be accounted for are the morphemes in positions (6-1). In position (6), the direct object prefix is used to provide specific interpretation to the actual direct object (i.e., the NomSuf). This assumption is based on two observations. Firstly, these prefixes change the meaning of the referent of the verb to be 'something specific, previously talked about'. In Jaker's et al. (2013) dictionary, verbs have different entries depending on the presence/absence of the object prefix. Consider the contrast in (38a-e).

(38) a. *łayeehde* 'kill plural animals' (specific, previously discussed) vs. *łaehdè* 'kill several animals'
b. *nàyeehdì* 'buy' (specific, previously talked about) vs. *nàedì* 'buy'
c. *xàyele* 'take out' (plural objects, previously talked about) vs. *xàle* 'take out' (plural objects)
d. *yeʔà* 'eat just one thing' (a specific thing, previously talked about) vs. *eʔà* 'eat just one thing'
e. *nàyeehdlà* 'tear, rip' (something specific, already talked about) vs. *nàehdlà* 'tear, rip'

The only difference between the given verbs is that in the former, the referent is specific, and in the latter, it is unspecific (at least historically, the second form is analyzed as having what is called an indefinite or unspecified object). The second observation is that the object prefix cannot co-occur with an overt DP (i.e., an adjunct) simply because the actual direct object, namely, the NomSuf, cannot be specified twice simultaneously, that is, the prefix and the adjunct cannot specify the NomSuf at the same time. To illustrate, consider the ungrammaticality of (39c) compared to (39a,b) below (the adjunct is underlined, and the object prefix is in bold).

(39) a. *Cheko <u>kwɪk'ɪ</u> nàɪzhì.* 'The kid broke the gun.'
b. *Cheko nà**y**ɪzhì.* 'The kid broke it.'
c. **Cheko <u>kwɪk'ɪ</u> nà**y**ɪzhì.* (Hale 1987:149)

The ungrammaticality of (39c) is caused by the fact that both the adjunct *kwɪk'ɪ* 'gun' and the object prefix are used to specify the generic nominal element -*zhì*, more specifically, because they occupy the same position in the tree[13], as shown in (40).

---

[13] As correctly highlighted by a reviewer, not all overt DPs are adjuncts because some pre-verbal DPs occupy the argument position. Rice (2003) shows that it is sometimes possible to get object agreement co-occurring with an overt NP, but only if the NP is in a higher position in the clause.

(40)

```
          nP
         /  \
       DP    n
       ye   / \
     kwɪk'ɪ    \
            \    \
           √zhì   n
```
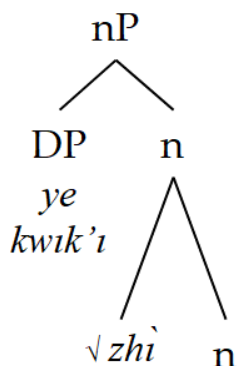
The number prefix in position (5) is unique in two ways; (i) it does not appear on all verbs, only in certain coming/going verbs, and (ii) it has two forms, viz., *le-* marks a dual subject and *go-* a plural subject (e.g., **legetla** 'They (DUAL) were walking.' and *dàgawhɪ* 'You (PL) get out (e.g. of boat)' (Ackroyd 1982: 131). These two points lead me to assume that the number prefix is just an agreement prefix that surfaces on the verb by Agree, and it appears only on coming and going verbs because the NomSuf in these verbs lacks the number feature, and to compensate for that the number prefix is used. The remaining prefixes in positions (4-1), namely, incorporated stem, customary, distributive and adverbial, respectively, combine to form the basic lexical entry of the verb; that is, they provide the semantics of the verb (for further details, see Ackroyd 1982: 132-153). To sum up, the different prefixes in Table 5 above have the syntactic positions demonstrated in Table 6:

Table 6: The syntactic positions of prefixes in Tłįchǫ verbal morphology

Post-position phrase	V					on v (by Agree)	comp of nP	spec-vP	T			spec-vP	NomSuf	
00	0	1	2	3	4	5	6	7	8	9	10	11	12	
Obj. of Incorp. Postposition	Incorp. Postposition	Adverbial	Distributive	Customary	Incorp. Stem	Number	Object	Deictic Subject	Aspect	Conjugation	Mode	Subject	Classifier	Stem

Assuming the correctness of the given proposal, I claim that the syntax of Tłįchǫ verbs can be represented in a straightforward fashion, and there is no need to project several projections above VP to explain the different positions of subjects and objects (which can also be under VP as inner subjects and inner objects) as argued, for example, in Rice & Saxon (2008). However, the given proposal can be developed further by organizing the NomSufs into subcategories to account for

their semantic features (as in the humble attempt in Al-Bataineh 2021a) and their morphophonemic changes.

6 Conclusion

This paper discusses Tłı̨chǫ verbal morphology and attempts to provide a straightforward morphosyntactic analysis of the linear order of the different inflectional and derivational morphemes within the verbal constructions. It provides an overview of the previous models proposed for the explanation of the templatic positions of affixes in Dene languages. Based on Al-Bataineh (2021a, forthcoming), the paper argues that Tłı̨chǫ is a polysynthetic, non-configurational language that represents its arguments as pronominals or clitics within the verb rather than independent lexical nominals. A number of observations related to the optionality of the classified nominal, referentiality, noun incorporation, argument saturation, verbal augmentation, and verb-noun correspondence, indicate that the right-most element is a nominal, rather than a verbal element. This argument is shown to have several consequences on the analysis of verbal morphology. Furthermore, the paper assumes that it is not necessary to postulate syntactic complications or strange theories to account for the superficial complexities in Tłı̨chǫ syntax since there is no need to assume complex syntactic computations in the speaker's mind. This claim is in line with McDonough's (1996: 235) views on the argued complexity and uniqueness of Dene languages that are unjustifiable; In McDonough's words, "that the grammars of these languages often require new theories or special provisos to account for their phonologies and morphologies is a telling problem, since language learners themselves have no obvious difficulties with the languages in question". However, this paper provides a modest attempt to change the general view that Dene languages are morphosyntactically complicated, and it suggests that the way the verb is approached needs rethinking to reach a deeper and more helpful understanding of the Dene syntax.

Abbreviations
1= first-person; 2= second-person; 3= third-person; AR= areal; CLF= classifier; CJ= conjugation; DA= disjoint anaphor; FUT= future; ITER= iterative; IPFV= imperfective; NEG= negation; OBJ= object; OPT= optative; PFV= perfective; PL= plural; POSS= possessive; REFL= referential pronoun; SBJ= subject; SG= singular; SOV=subject object verb; THM= thematic prefix.

References

Ackroyd, Lynda. 1982. *Dogrib grammar*. Unpublished manuscript. University of Toronto, ms.

Al-Bataineh, Hussein. 2019. Emphasis Harmony in Arabic: A Critical Assessment of Feature Geometric and Optimality-Theoretic Approaches. *Languages*, *4*(4), 79. https://doi.org/10.3390/languages4040079

Al-Bataineh, Hussein. 2020. The syntax of Arabic vocatives. *Brill's Journal of Afroasiatic Languages and Linguistics*, *12*(2), 328–360. https://doi.org/10.1163/18776930-01202100

Al-Bataineh, Hussein. 2021a. Alternations of classificatory verb stems in Tłı̨chǫ Yatıì: A cognitive semantic account. *Folia Linguistica*, *55*(1), 163–194. https://doi.org/10.1515/flin-2020-2073

Al-Bataineh, Hussein. 2021b. The Morphosyntax of Arabic Exceptives: A Minimalist Approach. *Journal of Semitic Studies*, *66*(2), 441–482. https://doi.org/10.1093/jss/fgab003

Al-Bataineh, Hussein. Forthcoming. *Tłı̨chǫ Yatıì Verbal Morphology: Insights on pronominal arguments and classificatory stems* [Unpublished manuscript].

Baker, Mark. 1985. The mirror principle and morphosyntactic explanation. *Linguistic inquiry*. JSTOR 16(3). 373–415.

Baker, Mark C. 2003. *Lexical Categories: Verbs, Nouns and Adjectives*. First printing edition. Cambridge, UK ; New York: Cambridge University Press.

Blankenship, Barbara. 1997. Classificatory Verbs in Cherokee. *Anthropological Linguistics* 39(1). 92–110.

Chomsky, Noam. 2004. Beyond Explanatory Adequacy. In Adriana Belletti (ed.), *Structures and Beyond: The Cartography of Syntactic Structures, Volume 3*, 104–131. First Edition. Oxford ; New York: Oxford University Press.

Cook, Eung-Do. 1984. *A Sarcee Grammar*. UBC Press.

Cook, Eung-Do & Keren Rice. 1989. *Athapaskan Linguistics: Current Perspectives on a Language Family*. Berlin and New York: Walter de Gruyter.

Dékány, Éva. 2018. Approaches to head movement: A critical assessment. *Glossa: a journal of general linguistics* 3(1). 65. https://doi.org/10.5334/gjgl.316.

Edgerton, Faith. 1963. The tagmemic analysis of sentence structure in Western Apache. In *Studies in Athapaskan Languages* (University of California Publications in Linguistics), vol. 29, 102–148. Berkeley: University of California Press.

Fukui, Naoki & Hiroki Narita. 2014. Merge, labeling, and projection. In Andrew Carnie, Dan Siddiqi & Yosuke Sato (eds.), *The Routledge Handbook of Syntax*, 3–23. First Edition. London: Routledge.

Gelderen, Elly van & Mary Willie. 2012. Are there null arguments in Athabascan? *Acta Linguistica Hafniensia* 44(2). 227–245. https://doi.org/10.1080/03740463.2013.776262.

Hale, Ken. 1983. Warlpiri and the grammar of non-configurational languages. *Natural Language & Linguistic Theory* 1(1). 5–47. https://doi.org/10.1007/BF00210374.

Hale, Ken. 1987. Incorporation and the Irish Synthetic Verb Forms. *Proceedings of the Harvard Celtic Colloquium* 7. 146–162.

Hale, Ken. 2001. Navajo verb stem position and the bipartite structure of the Navajo conjunct sector. *Linguistic Inquiry* 32(4). 678–693.

Hale, Kenneth L. 2001. Review of "Morpheme Order and Semantic Scope: Word formation in the Athapaskan verbþ" by Keren Rice. *Diachronica*. John Benjamins 18(2). 383–393.

Hargus, Sharon. 1988. *The lexical phonology of Sekani*. London: Routledge.

Hargus, Sharon. 2010. Athabaskan phonetics and phonology. *Language and linguistics compass*. Wiley Online Library 4(10). 1019–1040.

Hargus, Sharon & Siri G. Tuttle. 1997. Augmentation as Affixation in Athabaskan Languages. *Phonology* 14(2). 177–220.

Hoijer, Harry. 1945. Classificatory Verb Stems in the Apachean Languages. *International Journal of American Linguistics* 11(1). 13–23. https://doi.org/10.1086/463846.

Hucklebridge, Sherry. 2016. *Internally-Headed Relative Clauses in Tłįchǫ Yatìi*. Toronto: University of Toronto MA thesis.

Jaker, Alessandro Michelangelo. 2011. *Prosodic Reversal in Dogrib (Weledeh Dialect)*. Stanford: Stanford University.

Jaker, Alessandro, Fred Sangris & Mary Sundberg (eds.). 2013. *Weledeh Language Verb Dictionary*. Yellowknife, Northwest Territories, Canada: Goyatiko Language Society.

Jaker, Alessandro, Nicholas Welch & Keren Rice. 2019. The Na-Dene Languages. In *The Routledge Handbook of North American Languages*, 473–453. Routledge.

Jelinek, Eloise. 1984. Empty categories, case, and configurationality. *Natural Language & Linguistic Theory* 2(1). 39–76. https://doi.org/10.1007/BF00233713.

Kari, James. 1989. Affix Positions and Zones in the Athapaskan Verb Complex: Ahtna and Navajo. *International Journal of American Linguistics* 55(4). 424–454.

Kari, James. 1992. Some concepts in Ahtna Athabaskan word formation. In Mark Aronoff (ed.), *Morphology now*, 107–132. SUNY Press.

Kiparsky, Paul. 1982. Lexical morphology and phonology. *Linguistics in the morning calm: Selected papers from SICOL-1981*. Hansin 3–91.

Kiparsky, Paul. 1985. Some consequences of lexical phonology. *Phonology*. Cambridge University Press 2(1). 85–138.

Lebeaux, David. 1991. Relative clauses, licensing, and the nature of the derivation. In Susan Rothstein & Stephen R. Anderson (eds.), *Perspectives on Phrase Structure: Heads and Licensing, Volume 25: Heads and Licensing*, 209–239. San Diego: Emerald Group Publishing Limited.

Li, Fang-Kuei. 1930. A study of Sarcee verb-stems. *International Journal of American Linguistics*. Columbia University Press 6(1). 3–27.

Li, Fang-Kuei. 1946. Chipewyan. In Cornelius Osgood (ed.), *Linguistic structures of native America*, 398-423). The Viking Fund.

McDonough, Joyce. 1996. Epenthesis in Navajo. In Robert W. Young (ed.), *Athabaskan Language Studies: Essays in Honor of Robert W. Young*, 235–257. UNM Press.

Passer, Matthias Benjamin. 2016. (What) Do verb classifiers classify? *Lingua* 174. 16–44. https://doi.org/10.1016/j.lingua.2015.12.003.

Rice, Keren. 1989. *A grammar of Slave*. Vol. 5. Berlin; New York: Mouton de Gruyter.

Rice, Keren. 2000. *Morpheme Order and Semantic Scope: Word Formation in the Athapaskan Verb*. Cambridge, Cambridgeshire; New York: Cambridge University Press.

Rice, Keren & Leslie Saxon. 2008. Comparative Athapaskan Syntax: Arguments and Projections. In Giglielmo Cinque & Richard S. Kayne (eds.), *The Oxford Handbook of Comparative Syntax*, 698–774. Oxford ; New York: Oxford University Press.

Rosen, Sara Thomas. 1989. Two Types of Noun Incorporation: A Lexical Analysis. *Language* 65(2). 294–317. https://doi.org/10.2307/415334.

Rushforth, Scott. 1991. Uses of Bearlake and Mescalero (Athapaskan) Classificatory Verbs. *International Journal of American Linguistics* 57(2). 251–266. https://doi.org/10.1086/ijal.57.2.3519768.

Sapir, Edward & Harry Hoijer. 1967. *The phonology and morphology of the Navaho language*. University of California Press.

Saxon, Leslie & Andrea Wilhelm. 2016. The "Possessed Noun Suffix" and Possession in Two Northern Dene (Athabaskan) Languages. *International Journal of American Linguistics* 82(1). 35–70. https://doi.org/10.1086/684423.

Spencer, Andrew. 2003. Putting some order into morphology: reflections on Rice (2000) and Stump (2001) Keren Rice, Morpheme order and semantic scope: word formation in the Athapaskan verb (Cambridge Studies in Linguistics 90). Cambridge: Cambridge University Press, 2000. Pp. xiii+ 453. Stump, Inflectional morphology: a theory of paradigm structure (Cambridge Studies in Linguistics 93). Cambridge: Cambridge University Press, 2001. Pp. xvi+ 308. *Journal of Linguistics*. Cambridge University Press 39(3). 621–646.

Tłįchǫ Community Services Agency. 2007. *Tłįchǫ Yatiì Multimedia Dictionary*. http://tlicho.ling.uvic.ca/default.aspx. (23 May, 2019).

Welch, Nicholas. 2012. *The bearable lightness of being: The encoding of coincidence in two-copula languages*. Unpublished doctoral dissertation. University of Calgary, Calgary.

Welch, Nicholas. 2015. Deducing Clause Structure from the Right Periphery in Tłįchǫ Yatıì. *International Journal of American Linguistics* 81(2). 261–291. https://doi.org/10.1086/680311.

Welch, Nicholas. 2016a. Copulas are not just inflection: Evidence from Tłįchǫ Yatiì. *The Canadian Journal of Linguistics / La revue canadienne de linguistique* 61(1). 98–106. https://doi.org/10.1353/cjl.2016.0006.

Welch, Nicholas. 2016b. Propping up predicates: Adjectival predication in Tłįchǫ Yatıì. *Glossa: a journal of general linguistics* 1(1). 2. https://doi.org/10.5334/gjgl.7.

Whorf, Benjamin Lee. 1932. The structure of the Athabascan languages. Sterling Memorial Library, Yale University, ms.

Willie, MaryAnn. 1991. *Navajo pronouns and obviation*. The University of Arizona.

Willie, MaryAnn. 2000. The Inverse Voice and Possessive yi-/bi- in Navajo. *International Journal of American Linguistics* 66(3). 360–382. https://doi.org/10.1086/466429.

Wiltschko, Martina. 2009. √Root incorporation. *Lingua* 119(2). 199–223. https://doi.org/10.1016/j.lingua.2007.10.012.

Young, Robert W. & William Morgan. 1987. *The Navajo Language: A Grammar and Colloquial Dictionary*. Revised ed. edition. Albuquerque: University of New Mexico Press.

Hussein Al-Bataineh
Faculty of Language Studies
Arab Open University
Al-Ardia, Kuwait
halbataineh@aou.edu.kw