The Nominality of Thcho Classificatory Verb Stems and the Simplicity of Dene Verbal Morphology

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February 14, 2020

Abstract: This paper investigates the phenomenon of 'classificatory verbs', i.e., a set of verbs whose stems alternate to categorize the verbal arguments with regard to animacy, shape, material consistency, etc. Similar to equivalent verbs in other Dene languages, Thcho classificatory verbs are shown to belong to four semantic classes that do not have the same stem inventories or consistent patterns of stem selection. Based on various pieces of evidence, viz., optionality of the classified argument, argument saturation, verbal augmentation, verb-noun correspondence, referentiality, and noun incorporation, the paper argues against the maintenance of the notion that the so-called verb stem is a verbal element; instead, it is a root that merges with a nominalizer to form a nominal affix. In the light of this argument, the paper extends the analysis to non-classificatory verbs claiming a conceptually simpler and computationally more economical analysis of Thcho verbal morphology within the minimalist approach.

Keywords: classifier systems- Dene (Athapaskan) languages- noun incorporation- referentiality-Tựchọ Yatìı (Dogrib)- verbal augmentation

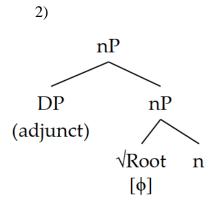
1. Introduction

The consensus among linguists dealing with Dene (Athapaskan) language family, one of the largest language families spoken in North America, is that the verb is "a polysynthetic marvel and nightmare" (S. Rice, 1998:99) because its structure and formation has unpredictable and highly complicated morphosyntactic and morphophonemic patterns, consequently, "linguists working on these languages are alternately admired and pitied" (K. Rice, 2006:1). Generally speaking, the Dene verb is composed of several inflectional and derivational prefixes arranged in specific positions in a template, as in (1) (Jaker, 2014:243):

1) preverb₁ – distributive₂ – iterative₃ – incorporate₄ – number₅ – object₆ – deictic subject₇ – qualifier₈ – aspect₉ – conjugation₁₀ – mode₁₁ – subject₁₂ – classifier₁₃ – root

This template model represents all Northeast Dene languages spoken in Northwest Territories, Canada, including Tłıcho Yatıı (Dogrib), Slave, and Dene Suliné (Chipewyan). In addition to the aforementioned complexity, some positional and motion verbs in Na-Dene languages are considered 'classificatory' as they show stem alternation that restricts and modifies the interpretation of the verbal arguments (a phenomenon that is also found in other language families including, e.g., Algonquian, Waris, Tibeto-Burman languages, among others (for details, see Aikhenvald, 2000:153-158)).

The present study focuses on the suppletive classificatory verbs in one of Dene languages, namely, Thicho Yatiì, to determine the categorical identity of the so-called verb stem. Based on several pieces of evidence, viz., optionality of the classified argument, argument saturation, verbal augmentation, verb-noun correspondence, referentiality, and noun incorporation, the paper argues against analyzing the verb stem to be a verbal element; instead, it is a root that merges with a nominalizer to form a nominal suffix that is "obligatorily bound [... and it] denote[s] concepts from the domain of individuals, rather than from the domain of eventualities" (Wiltschko, 2009:207), as represented in (2).



(2) illustrates the central claim of the paper that the traditionally analyzed as a verb stem is a nominal element, and it is the actual argument of the verb, and it carries interpretable $[\phi]$ features, rather than the overt nominal which is an adjunct that is introduced to the structure by pair Merge (Chomsky, 2004). In the light of this claim, the paper extends the analysis to non-classificatory verbs providing a conceptually more straightforward and computationally more economical analysis of the syntax of Tłycho verbal morphology within the minimalist approach.

The remainder of the paper is organized as follows: section (2) introduces Tłicho Yatiì and briefly explains its morphosyntax. Section (3) mentions the main sources of data used in the paper. Section (4) discusses Theho classificatory verbs and their different semantic subclasses. Section (5) provides the main arguments and the various pieces of evidence for the nominality of the stem. Section (6) outlines the new assumptions that underlie the syntax of Tł₁ch₀ verbal morphology. Section (7) summarizes and concludes the paper.

2. Thcho Yatıì and its morphosyntax

Thicho Yatiì (also called Dogrib) is an endangered Dene language spoken by 1,735 people (Statistics Canada, 2017) in the communities of the Thicho Government in the Northwest Territories, specifically, in a region between Great Bear and Great Slave lakes. Similar to other Dene languages (e.g., Slave, Navajo, Dene Suliné (Chipewyan), and Hupa), the syntax of Tłicho 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, and consider how some prefixes can be phonologically null). The stem and its inflectional and derivational prefixes are fused in a single synthetic verbal form, as in (3).

3) Naxısıniyats'eehti.¹
naxı- sıni- 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 -ti 'speak' occurs at the right edge preceded by seven prefixes which include, in addition to agreement, conjugation, and aspectual markers, the thematic prefixes -sini- and -ya-that associate with the stem to form the verb's lexical entry (for more details, see Ackroyd (1982) and Jaker (2012)).

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AFFIX SLOTS	Obj. of Incorp. Postposition	Incorp. Postposition	Adverbial	Distributive	Customary	Incorp. Stem	Number	Object	Deictic Subject	Aspect	Conjugation	Mode	Subject	Classifier	Stem
nàwhehzè 'I hunted.'			nà								whe	n	h	l	zè
'eghàlaenda 'She works.'	'e	ghà				la				e	Ø	Ø	Ø	Ø	nda
nigots'iwhi 'Let's (PL) get up.'			nı				go		ts'e		we	Ø	Ø	h	wı

Table (1): The positions of prefixes in Tłącho verbal morphology (Ackroyd, 1982, cited in Hucklebridge, 2016:14) ²

3. Sources of data

This study relies on data collected from Tłįcho Yatiì Multimedia Dictionary (2006), Nicholas Welches's fieldnotes³ collected between 2007 and 2014 from four fluent native speakers of Tłicho Yatiì (for details, see Welch, 2016a), the Dogrib New Testament (Dogrib Translation Committee

¹ The following abbreviations appear in the glosses: 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.

² The columns in the table use traditional Deneist descriptive terminology, for which the standard modern equivalents are as follows: Aspect= Substituation Aspect, Conjugation= Situation Aspect, Mode= Viewpoint Aspect, and Classifier= Voice/Valence.

³ I would like to express my appreciation to Nicholas Welch for providing the data discussed in this paper, for his constant support and for his insightful comments, constructive feedback, and helpful suggestions on earlier drafts that help me in clarifying a number of theoretical and empirical issues. All errors remain mine.

2003), Ackroyd's (1982) Dogrib Grammar, and other relevant literature and documentary sources of the language.

4. Theho Classificatory verbs 4

Suppletive classificatory verbs which belong to verbal classifier systems (Aikhenvald, 2000:149) 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), that is, the verb stem carries semantic features that provide lexical information (i.e., more specification and categorization) about the kind of the entity involved, for example, in (4), the Bearlake verb 'give' assigns different properties to the referent *lidí* 'tea' by the alternation of stem selected.

4) Lidí seghàni 'a 'Give me (a single box or bag) of tea' Lidí seghànyle 'Give me (boxes or bags [plural]) of tea' Lidí seghànika 'Give me (a cup or other shallow, open container) of tea' Lidí seghànihti 'Give me (a non-shallow, non-open container) of tea' (Rushforth, 1991:254)

In common with other Dene languages (see, e.g., Allan, 1977; Axelrod, 2000; Blankenship, 1997; Carter, 1976; de Reuse, 2006; Fernald, 2002; Fortescue, 2006; Henry & Henry, 1965; Hoijer, 1945; Poser, 2005; Rushforth, 1991, among others), Tłicho has classificatory verbs that are limited to four major semantic sets given in table (2) (see, e.g., Davidson, Elford, & Hoijer, 1963:30-31, cited in S. Rice, 1998:103; Leer, 1991:293-295).

Set A: stative/ locative verbs denoting orientation of object at rest (e.g., sit, lie, be in position, be in location)

Set B: verbs of handling, manipulation, continuing manual contact (e.g., give, hand, take, put, handle, lower, pick up, bring, carry, misplace)

Set C: verbs of partially controlled action initiated by agent (e.g., toss, throw, throw out/ dispose of, hang up, set down, drop, lose, push over)

Set D: verbs of free movement; movement independent of agent (e.g., fall, tip over, come down, *shed, stumble, collapse, slip)*

Table (2): Sets of classificatory verbs

Al-Bataineh (2020b) shows that the given sets differ in their stem inventories. The number of stems is not the same in all sets or even in all verbs within the same set (except for set (B)). In set (A), only the verb 'be in location, lie' has full variation, shown in table (3).

⁴ This section relies substantially on the detailed description and the semantic analysis of Tł₁cho classificatory verbs in Al-Bataineh (2020). Due to space, only a sketchy outline of the most relevant findings is presented.

Category	'lie'
default/ chunky entity	whe20
container	whe <i>htq</i>
sticklike/ rigid entity	whe t $arrho$
clothlike entity	whe <i>chi</i>
ropelike entity	whe <i>la</i>
plural inanimate entity	whe <i>la</i>
animate entity	whe <i>t</i> į
plural animate entity	geèh te

Table (3): Stem alternation of 'lie.IPFV' (with third person arguments)

The other positional verbs have a reduced number of stems. For example, 'stand' has only three stems, viz., -2a and -wo for inanimate and animate singular objects, respectively, and -zha for plural entities regardless of animacy, exemplified in (5a-c):

```
5) a. Dechi nài2a
   dechį nà-į-?a
   stick THM-PFV.3SG.SBJ-stand up (sticklike object)
   'The stick is standing up.'
   b. Dedìi tèenàwo
   dedìı tèe-nà-Ø-wo
   moose water-THM-IPFV.3SG.SBJ-stand up (animate)
   'The moose is standing in the water.'
   c. Ełek'èdaà nàts'eèhzha
   ełek'èdaà
                         nà-ts'eè-h-z.ha
   one after another
                         THM-IPFV.1PL.SBJ-CLF-stand up (plural animate)
   'We are standing up in line.'
   d. Ts'ı nàchjèzha jlè ko
          nà-chi-è-zha
   ts'ı
                                                              ılè
   tree
          THM-stick-PFV.3SG.SBJ-stand up (plural inanimate) past tense marker
   ko
   there
   'There used to be trees standing there.'
```

In marked contrast with verbs in set (A) (and also in other sets discussed below), controlled handling verbs in set (B) have the same number of stems and identical stem inventories. The verbs 'hand', 'take', 'put', 'handle', 'pick up', 'bring', 'carry', and other similar ones share the same boldfaced stems of 'give' to assign the given qualificative properties in (6).

```
6) weghàts'e?à 'give to him/her an entity (default/ chunky)'
weghàts'etì 'give to him/her an entity (rigid)'
weghàts'echt/tsi 'give to him/her an entity (clothlike/ small)'
weghàts'exe 'give to him/her an entity (heavy)'
weghàts'ele 'give to him/her an entity (plural inanimate)'
```

```
weghàts'etè 'give to him/her an entity (animate)'
weghats'ewa 'give to him/her entities (many)'
```

Verbs of partially controlled actions (e.g., toss, throw, drop, lose, and push) in set (C) have fewer stems and show inconsistency in their stem alternation. Notice that in (7a,b) different stems refer to the same property, and in (8) the opposite pattern exists; the same stem refers to different properties.

```
7) a. Behtsjì wets'eehtsi.
   behtsıj we-ts'ee-h-tsı
          THM-IPFV.1PL.SBJ-CLF-push (rigid entity)
   'We are pushing the sled.'
   b. Dechį òįhtl'i.
   dechi go-gha-i-h-tl'ì
   stick AR-for-IPFV.2SG.SBJ-CLF-throw away (rigid entity)
   'Throw the stick away.'
8) elets'eehchi 'push each other' (crowd)
   govits'eechi 'push inside' (heavy object)
   tets'ehchi 'push under water' (cloth object)
```

Similarly, verbs of free motion independent of the agent in set D (e.g., fall, tip over, come down, shed, stumble, collapse) have more decreasing stem paradigms. Consider in (9a-c) that the stem $-tl'\hat{i}$ is selected for referents regardless of their plurality, solidity, rigidity, etc.

```
9) a. Tso hodàetl'ì.
           ho-dà-e-tl'ì
   tso
           AR-up-IPFV.3SG.SBJ-fall (liquid entity)
   rain
   'Rain is falling down.'
   b. Nòdawò 2eh gha nezi, weghà nàtl'ì-le t'à.
   nòda-wò
                   2eh
                           gha
                                         weghà nà-Ø-tl'ì-le
                                  nezį,
   lynx-skin
                   jacket for
                                  good for
                                                  ITER-IPFV.3SG.SBJ-fall (rigid entity)-NEG
   t'à
   because
   'Lynx fur is good for jackets, because the hair does not shed.'
   c. Įt'ò nà<sub>i</sub>tl'ı noò.
   įt'ὸ̀
           nà-1-tl'1
                                                          nọò
                                                          evidently
           THM-PFV.3SG. SBJ-fall (plural entities)
   'The leaves have fallen.'
```

In short, Theho classificatory verbs belong to four semantic subclasses that do not have the same size of stem inventories or consistent patterns of stem selection (for further explanation of why classificatory verbs are limited only to the given sets not others, why the aforementioned inconsistencies exist, and how stems are conceptually organized in a semantic feature geometry, see Al-Bataineh (2020b).

5. Arguments for the nominality of the stem

There are numerous pieces of evidence that the classificatory stems discussed in the preceding sections are not verbal elements; instead they are nominal affixes that have an argumental function, that is to say, the stem is the argument referred to by the classificatory verb, and the overt nominal is an adjunct. These pieces of evidence include optionality of the classified argument, argument saturation, verbal augmentation, verb-noun correspondence, referentiality, and noun incorporation which are discussed respectively in the following subsections.

5.1 Optionality of the classified argument

In Tłıcho classificatory constructions, the nominal expression representing the entity referred to serves to add more information about the so-called verb stem, as can be seen in (10):

```
10) Nezeh seghà<sub>l</sub>hchı.

ne-zeh se-ghà-<sub>l</sub>-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)
```

The DP *nezeh* 'your jacket' provides more information about the lexical suffix *-chi* (a clothlike singular entity). *Nezeh* semantically limits the generic form *-chi* that refers to all clothlike objects. Apart from adding extra information about *-chi*, the DP does not serve any argumental function, that is, it does not constitute anobligatory syntactic element that its omission leads to ungrammaticality of the sentence, as can be seen in (11):

```
11) Seghàihchi. 'Give me a clothlike object.'
```

The omission of the DP does not affect the grammaticality of the sentence, and that indicates that the DP is not the structurally direct object expressed by the verb 'give'. Based on this claim, (11) can have the following interpretation and glossing in (12) 5:

```
12) Seghàṭhchi.
se-ghà-ṭ-h-chi
1SG.OBJ-give- IPFV. 2SG.SBJ- CLF- clothlike singular entity
'Give me a clothlike object.'
```

⁵ For ease of presentation, I use different glossing based on my argument that the classificatory verb stem is actually the nominal root. I modify certain conventions (especially category labels) to provide a clearer picture of the discussion. In Denologists' 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 stem is a nominal root (as will be argued in this discussion and subsequent sections).

The lexical suffix -chi is considered as the direct object of the verb. This argument seems valid for semantic and syntactic reasons. Semantically, the meaning of the sentence is clear, as shown in the translation; the clothlike object is the entity that is requested to be given to the speaker. Syntactically, the sentence is grammatical since the requirement of the verb 'give' to have three arguments (i.e., subject, direct object and indirect object) is satisfied. For the given reasons, the overt nominal in classificatory constructions functions as an adjunct rather than an argument. This analysis is also valid to intransitive constructions as can be seen in (13) below:

```
13) Jo whida.
      whi-da
jo
here IPFV.1SG.SBJ-be located (animate singular entity)
'I am here.'
```

In (13), there is no DP, and there is no need to include a DP like s_J 'I' (in contrast to languages like English). According to this understanding, (13) has the following glossing:

```
14) Jo whida
      whi-da
here IPFV.be located-animate singular entity
```

whi- provides the semantics of eventuality; more precisely, it is the verbal element, and the socalled classificatory stem -da is the actual argument of the sentence. The adjuncthood of the overt DP is not limited to Thcho, as evidenced in previous literature on other Dene languages. Jelinek (1984, cited in Speas, 1990: 237) states that

in Navajo (and Warlpiri) the rich agreement system suffices to satisfy all the requirements of the Projection Principle and Theta Criterion, so that when overt nominals do appear, they are adjuncts rather than arguments; [...] the pronominal agreement clitics are the actual arguments, and overt NPs are simply indexed with them.

Willie (1989: 407, citing Hale, 1983) argues that the overt NPs are optional adjuncts, and there are "no PRO or other empty category need be invoked in the analysis of Navajo sentences." This argument is based on numerous facts: (i) nouns do not have agreement features like case and number, (ii) independent pronouns, when they appear, are used for a special function, that is, they are used for emphatic contrast, moreover, Sandoval and Jelinek (1989) argue that the use of two independent pronouns in a sentence meaning 'I see you' is odd and questionable, (iii) some verbs do not permit independent pronouns or other nominal adjuncts. Sandoval & Jelinek (1989) support these facts in Navajo and provide additional arguments on another closely related language, namely, Jicarilla Apache. However, I argue that these arguments are plausible, and the same facts exist in Tłıcho (non)classificatory verbs, but unlike Navajo and Jicarilla Apache, Tłıcho is more similar to its sister language Salve in the sense that subjects and direct objects are adjuncts, but possessors and oblique objects of verbs and postpositions are not (for a detailed analysis, see Saxon, 1989). In disagreement of this view, Speas (1990: 237- 240) claims that extra nominals modifying one of the arguments of the verb leads to ungrammaticality. Consider (15) in Navajo:

15) *Hastiin neesh'ı.

hastiin ne-e-sh'ı

man 20BJ-1SG.SBJ-see
'I see you man'

(Speas, 1990: 239)

She argues that the modifying DP hastiin 'man' cannot be added to the sentence, and that supports its behavior as an argument. However, this piece of evidence seems weak because the sentence lacks a non-participant argument anyway. 'I see you man' is not grammatical in English either for reasons unrelated to the verb stem. However, to make the given sentence more relevant to the discussion, the pronoun ne- should be substituted by be- '30BJ', but in this case, the sentence is grammatical in Navajo. Thus, this piece of evidence seems weak and irrelevant. Speas (1990) provides other syntactic tests for rejecting the adjuncthood of overt nominals, but these tests also seem unconvincing and invalid. She (1990:238) argues that "an adjoined nominal must be Casemarked by an inserted adposition", but this piece of evidence is not conclusive or irrefutable since (in some cases) it is possible to have phonetically null case-assigners (cf. Ritter, 1991), and phrases can be invisibly case assigned (see, e.g., Al-Bataineh & Branigan, 2020:13-14). Another piece of evidence is related to the freedom of word order; that is, adjunct nominals occur freely in the sentence. This argument is implausible since, as Speas (1990:239) admits, Navajo word order is rigidly SOV and "there could be a special ordering condition on adjoined nominals that Navajo obey" ⁶. Consequently, arguments against the adjuncthood of nominals in Navajo seem implausible.

Since Jelinek's (1984) and Willie's (1989) arguments for closely related languages to Tłącho are valid for the data investigated in Tłącho, and the overt nominal can be omitted without affecting the grammaticality of the sentence, I conclude that overt DPs in Tłącho (assumed in the literature to be in the S/O positions) are adjuncts equivalent in function to the italicized DPs in the following English sentence (taken from Jelinek, 1984:50):

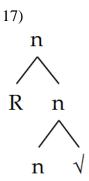
16) He, the doctor, tells me, the patient, what to do.

That is, they function as modifying phrases of the generic nominal suffix (the so-called classificatory verb stem) with which they are co-indexed and interpreted as coreferential. The discussion of coreferentiality leads us to the second piece of evidence, namely, argument saturation.

5.2 Argument saturation

Arguing that the so-called classificatory verb stem is a nominal element that is coreferential with the relevant overt DP (i.e., subject or object) comes from the fact that incorporated roots do not saturate arguments. According to Wiltschko (2009:210), this fact is based on "the assumption that 'referentiality' – the defining property of nouns (Baker, 2003) – is a necessary condition for argument saturation [assuming that] n introduces in its specifier position an abstract referential (R) argument (Marvin, 2002) which in turn is required for argument saturation (Williams, 1989)", as in (17).

⁶ Other pieces of evidence related to multiple questions and long-distance extraction are not discussed here for the lack of data.



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):

a) Since the incorporee (i.e., nominal root) does not saturate the argument of the verb, it can still be saturated by a full DP in a regular argument position. That is to say, it can be doubled by a full DP. An example from Tuscarora (an Iroquoian language) is illustrative:

```
ha?
18) ne-hra-taskw-ahkw-ha?
                                      tsi:r
du-M-animal-pick up-serial
                               emph dog
'He picks up domestic animals.'
                                           (Williams, 1976, cited in Wiltschko, 2009:210)
```

In this example, the incorporated nominal taskw 'animal' is doubled by the full DP tsi:r 'dog'. Similarly, in Theho classificatory verb constructions like (19), the nominal root -ty 'singular container' can be doubled by a full DP lihto 'kettle':

```
19) Liìhto k'ehti.
liìhto k'e- Ø- h- ti
kettle IPFV.carry around-3SG. SBJ-CLF-singular container
'She is carrying the kettle around.'
```

According to Wiltschko (2009:214), in such cases, the doubled NP is restricted by the nominal root; that is to say, the doubled DP must be a hyponym to the incorporated root. In the given example, we can see that *liìhto* 'kettle' stands in a hyponym relation to -ti 'singular container' (i.e., *liìhto* is more specific in interpretation than -ti).

b) The second diagnostic is related to modifier stranding. The incorporated nominal root is modified by a modifier that occupies the regular argument position. In (20) the modifier yedi 'those' appears in the regular object position of the clause:

```
20) Yedi bi-musa-tuwi-ban.
those
           1sg.:B-cat-buy-past
'I bought those cats.'
                                                        Southern Tiwa (a Tanoan language)
(Allen, Gardiner, & Frantz, 1984, cited in Gerdts, 2017: 89)
```

In the same way, modifiers in Tł₁cho classificatory verb constructions occupy the regular object position of the clause (bearing in mind that Theho is an SOV language) as can be shown in (21):

```
21) Eyı nèyeihəah.

eyı nè-ye-i-h-əah

that lay down-DA-PFV.3SG.SBJ-CLF-clothlike singular object
'She laid that clothlike object down (e.g., a jacket).'
```

c) 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 root (i.e., the actual argument). To illustrate, consider (22a,b):

```
22) a. Dechine lo nawhera.

dechine lo na-whe- ra

trees lots be located-IPFV.3SG.SBJ-chunky entity

'Lots of trees stand there.' (Archie Wedzin, 2012 (Welch's field notes))

b. Yatı nezii k'era-le.

yatı nezii k'e-Ø-ra-le

speech good carry around- IPFV.3SG.SBJ-default/ chunky object-NEG

'He [Raven] doesn't carry good messages.'
```

The nominal root 2a 'chunky entity' (specified by the optional adjuncts $dechine\ log$ 'lots of trees' and $yati\ nezil$ 'good messages' in (22a,b), respectively) does not affect the transitivity of the sentence. The same nominal root can be a subject of the intransitive verb 'be located' or the object of the transitive verb 'carry around'. The analysis of 2a 'chunky entity' as the nominal root (i.e., the actual argument) accounts straightforwardly for its occurrence with both transitive and intransitive verbs. The given analysis also provides us with the means to account for the fact that the same root 2a can be plural (as in (22a) above referring to 'lots of trees') or singular like in (23) (in which it refers to 'a fence' not 'fences'):

```
23) Kwil dokw'oò wemoò nawheza.

kwil dokw'oò wemoò na-whe-za

fence grave around be located-IPFV.3SG.SBJ-chunky entity

'There is a fence extending around a person's grave.'
```

Being a root, -2a is not responsible for the singular/ plural readings of the sentences under discussion since in both cases it has a generic meaning that is modified by the adjunct DPs (i.e., dechine lq 'lots of trees' and kwll 'a fence') that provide more specific interpretation regarding its

plurality. To sum up, based on the given criteria proposed by Rosen (1989), this subsection provides evidence that the so-called classificatory verb stem is the nominal root.

5.3 Epenthesis in Theorem (verbal augmentation)

In all Dene languages, according to Hargus and Tuttle (1997), there is a minimality requirement on verbs; Dene verbs must be minimally disyllabic. This phenomenon of 'verbal augmentation' is well-known in the literature and documented in different Dene languages as can be seen in (24):

```
24) Slave (e.g., \varepsilon-ts\varepsilon 'S/he is crying.', \varepsilon-z\iota' 'It is roasting.')
    Koyukon (e.g., a-tsah 'S/he is crying.'/ a-zas 'S/he is drinking.')
    Navajo (e.g., yi-dzi:h 'It is left.'/ yi-le:h 'He is vanishing.')
    Hupa (e.g., 2i-sahł 'S/he is yawning.'/ 2a-she 'S/he is crying.')
    Witsuwit'en (e.g., <u>ha</u>-tsay 'S/he is crying.'/ <u>ha</u>-bel 'S/he is swinging.')
    (Hargus & Tuttle, 1997:181)
```

In Dene languages, the epenthetic segment that is required to satisfy the minimality requirement can be either vocalic (e.g., Slave and Koyukon above) or/ and consonantal (e.g., Navajo, Hupa and Witsuwit'en above). Disyllabic minimality is not required on Dene nouns, as can be seen in Witsuwit'en nouns in (25):

```
25) ?a 'fog', tl'ol 'rope', ye 'louse', ts'o 'spruce', bet 'mittens' (Hargus & Tuttle, 1997:182)
```

Like in other Dene languages, Tlicho verbs are subject to this minimality requirement. All monosyllabic verbs are prefixed with an epenthetic vowel (e.g., e-do 'drink'; a-le 'do, make'; e-ji 'sing'; e-dze 'shout'; e-2à 'eat just one thing; bite', etc.) 7. This process does not affect other syntactic categories, as shown in (26):

```
26) Nouns (e.g., 2ah 'snowshoe', 2eh 'jacket', bò 'meat', chih 'mallad', dee 'crane', sa 'sun')
    Adverbs (e.g., chi 'too, also', d\hat{a}\hat{a} 'west', diì 'now', diì 'very, too much', l\hat{a}\hat{a} 'together')
    Prepositions (e.g., dàà 'against', daà 'in front of', ha 'for', kwe 'before')
    Conjunctions (e.g., dè 'if, when', gha 'in order to', hi 'and', nè 'when', t'à 'because')
    Quantifiers (e.g., dy 'four')
    Pronouns (e.g., n<sub>l</sub> 'you (one person))
```

However, according to Hargus and Tuttle (1997:177), verbal augmentation was previously analyzed as satisfaction of a disyllabic verb template (K. Rice, 1990), satisfaction of a monosyllabic prefix-based portmanteau 'stem' (McDonough, 1996) or the result of stray consonant syllabification in the Minimal Word domain in verbs (Causley, 1994). Hargus and Tuttle (1997) argue that phonological analyses cannot account for this phenomenon because some Dene languages like Ahtna, Dena'ina and Kato do have monosyllabic verbs, and others like Salcha and Minto show verbal augmentation only in specific domains (e.g., in Minto, epenthesis takes place only if no other words occur within the sentence). To solve this discrepancy, Hargus and Tuttle

⁷ Except for di 'say' which is a puzzling exception.

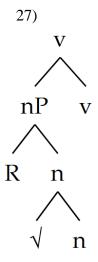
(1997:192) propose that verbal augmentation is a morphological process that is triggered by the following requirement:

OBLIGATORY TENSE

Every verb contains a tense prefix.8

This morphological requirement is based on the fact that "there are no infinitives in the [Dene] languages" (ibid). Consequently, all Dene verbs, whether monosyllabic or disyllabic, must have a tense prefix which is provided by a morphological process (i.e., affixation). Monosyllabic verbs are argued to have a tense-marking prefix which is phonetically null in some contexts and overt in others as evidenced by the fact that it has reflexes following at least pronominal and qualifier prefixes.

Returning to our discussion of Theho verbs, I argue that the verbal augmentation lends further evidence to the given hypothesis of the nominality of the so-called verb stem. To illustrate, I agree with Hargus and Tuttle's (1997) analysis that phonological rules cannot explain the epenthetic prefix in verbs, but, I propose, it is a morphosyntactic process that changes the nominal root into a verb. In other words, the epenthetic prefix is the actual verbal element that merges with a null verbalizer head that c-commands the nominal root in n (more details are left to section (6) below). This analysis is essential in twofold; (i) it accounts for the perplexing contrast between The disyllabic verbs, on the one hand, and all other monosyllabic categories in (26), on the other, (ii) it explains the morphology of some classificatory verbs like k'e2a 'carry around chunky object' that has only a preposition k'e- 'around' and a nominal root -2a 'singular chunky entity'. In my analysis, such classificatory verbs have a phonetically null verbalizer that is combined with -k'e 'around' to form the meaning 'carry around'. This null verbalizer is equivalent in nature to the one that turns an English noun like mess into a verb mess up, both k'e2a and mess up have a null verbalizer that is combined with a preposition to form a verbal element. This analysis is not limited to classificatory verbs, consider, for example, Theho pairs like ehmbe 'boil' and mbe 'meat'. To illustrate, both classificatory and non-classificatory verbs have the following simplified structure.



This derivation is based on the proposed structure of nominal roots by Wiltschko (2009) with the necessary modification of n to be right-headed. The given representation explains the existence of

⁸ Tense in Dene languages is a controversial topic (cf. Welch 2015).

the root -hto in both the classificatory verb whehto 'be located (containerful)' and a compound N tta whehtoo 'lagoon,' (both forms have the same root -hto that occupies the same position in the given structure), and it also accounts for the nominalizer head -q (i.e., the extra mora) after the nominal root in tia whehtoo. This discussion leads us to the next piece of evidence regarding the correspondence between verbs and nouns in Tłycho and other Dene languages.

5.4 V-N correspondence

In the preceding subsections, I conclude with the claim that the final element in classificatory verb constructions is a nominal root. If this claim is on the right track, we expect to find a relationship between nouns and verbs, that is to say, the incorporated nominal root can be found in both nouns and verbs, and this is the situation not only in Tłıcho but also in all Na-Dene languages (and also in other American language families, see Fortescue (2006) for discussion of Wakashan family). According to Sapir (1915:538-539),

the relation between noun and verb is quite parallel in all [Na-Dene] languages, [...] the radical element of a word may often be indifferently used as predicating or denominating stem. Thus, the Haida⁹ stem na indicates both 'house' and 'to dwell', got is used either as a noun meaning 'buttocks' or an adjectival verb 'to be last'. In Tlingit [...] sa 'voice, name; to name, call'; ci 'song; to sing'), [in] Kato k!an' 'withies' -k!an' 'to twist;' Chipewyan xal 'club,' -xal 'to use a club'. Hupa tllo 'grass' -tllo 'to make baskets;' Chipewyan t'an 'ice' Kato -t'an 'to be cold'; Navajo sit 'steam,' Kato -si.l 'to steam.'

In these examples, both nouns and verbs share the same stem which, I call, the nominal root that surfaces as a nominal suffix in both forms. To illustrate, the given expressions show how the root forms a free-standing noun when it merges with a null nominalizer, and it forms a verb when preceded by agreement subject prefixes and other elements in VP (indicated by a dash -). More noun-verb pairs are also documented by Hargus and Tuttle (1997). Notice that the nominal root (in bold) is shared in both nouns and verbs in each pair.

```
28) a. Slave (e.g., goh-fīh 'axe', h-fīh 'action with axe'; goh-ze' 'hook at end of stick', h-se'
   'hook'; ?\varepsilon h-dzo 'trap' (V); \textit{thin} 'axe', h-thin 'chop with axe')
                                                                                      (1997:186)
   b. Sekani (e.g., t'oyəs 'paddle', ah-t'oyəs 'paddle OBJ')
                                                                                      (1997:194)
   c. Witsuwit'en (e.g., no-t'ay 'berry', niz-t'ay 'it got ripe'; no-t'oc 'muscle', nil-t'oc 'you
   push, pull, apply muscle'; na-gat 'fear', wewana-gat 'it's dangerous')
                                                                                      (1997:216)
```

In the forms mentioned so far, I argue that the root originates in n (in which it merges with a (null) nominalizer 10) and surfaces as a noun, or it surfaces as a verb if it is c-commanded by light v (which is always null in Thcho). Returning to our discussion of classificatory verbs, I argue that the same patterns occur in Na-Dene languages (e.g., Haida xa'h 'club' and h-xah 'club, handle sticklike object' (Sapir 1997:186)). In Tłycho, the correspondence between nouns and verbs appear in many classificatory verbs. To exemplify, (29) shows that the incorporated root (the so-called verb stem) can be found in nouns with similar meaning.

⁹ Haida is not Na-Dene, contra Sapir (cf. Levine, 1979).

¹⁰ There are different flavours of n, akin to Folli & Harley (2005)'s flavours of v (cf. Saxon & Wilhelm (2016) for arguments for the nominal noun suffix to be also in n).

```
29) a. -hto (container): ltdìhto, ltìhto and chthto 'tea kettle'; kwehto 'clay jug'; eyèhto 'egg cartoon'; godehto 'tool box'
b. -la (ropelike, flexible object): Navajo loh 'loop, noose'
c. -xe (heavy object): xeh 'pack; parcel; bundle'
d. -wa (many things): ewaà 'sand; gravel'
e. -tì (rigid entity): ìtì 'get cracked; get sprained; crack'
```

The nominal root -htq (container) appears in related nouns referring to different types of containers (e.g., kettle, jug, cartoon, box, etc.). -la (ropelike, flexible object) exists in Navajo loh 'loop, noose'. -xe (heavy object) originates in words referring to heavy objects like parcels and bundles. -wa (many things) originates in expressions of a large and indefinite number like ewaà 'sand; gravel'. Finally, the root -t\(\hat{\chi}\) (rigid entity) exists in a verb like \(\hat{\chi}\) 'get cracked' which has the verbal element \(\hat{\chi}\)- that turns the root into a verb with a related meaning; a root referring to rigid (not flexible) entities is the most suitable one for a derived verb meaning 'to get cracked'. This correlation between nouns and verbs also exists in non-classificatory verbs, consider ehmbe 'boil, cook' and mbe 'meat' discussed above and other ones in (30).

```
30) dek'enèts'eetl'è 'write down; draw' vs. ențhtl'è 'book' (cf. ehtl'è 'ashes') ts'eetè 'fall asleep' vs. tè 'mat; rug; sleeping tarp; blanket; bed sheet' et'è 'cook; bake; fry' vs. lèt'è 'bread' gòkò 'be warm' vs. kò 'fire; camp fire' nàekwi 'chop with an axe' - gokwi 'axe' eji 'sing' - shi 'song, music'
```

Based on the relationship between nouns and nominal roots. I argue that the so-called classificatory stems are nominal roots that obligatorily attach to the verb complex (there is a parallel to Salishan 'lexical suffixes' perhaps, see, e.g., Wiltschko (2009)¹¹). In support of the argument of these roots as being originally nominals that refer to the classified subject or object, Sapir (1915:539-540) highlights that "in Haida [...] corresponding classifications are here expressed by another means, namely by the use of a long series of classifying nominal prefixes; e.g. *tc!is* 'cubic objects, such as boxes', *sq!a-* 'long objects, like sticks and paddles', *ga-* 'flat objects'." That is, in Haida, the so-called classificatory verb stems are not expressed in final positions like in Dene languages (including Thcho), rather, they occupy pre-position as prefixes. This suggests that the so-called classificatory verb stems and the classifying nominal prefixes are generated by the same basic syntactic mechanisms that target nominal roots (based on the assumption that language-specific mechanisms cause the different surface positions). Following Sapir's (1915:541) observation that "several of [the classifying nominal prefixes] – perhaps all, are old noun stems", I argue that the general classifiers of subjects and objects in Dene classificatory constructions are noun rather than verb stems.

¹¹ Lexical suffixes in Salish and Wakashan languages are different from Thcho nominal suffixes in two ways: according to Gerdts (2017:94-95), the meaning of lexical suffixes "bear little, if any, resemblance to free-standing nouns with the same or similar meaning [... and] the lexical suffix usually cannot be doubled with a free-standing noun of the same or more specific meaning".

5.5 Referentiality

The consensus in Dene linguistics is that classificatory verb stems provide information about the object referred to. Unlike non-classificatory verb stems denoting a specific type of action or behavior, classificatory verb stems "refer to a class of object participating in an event, either as actor or as goal" (Hoijer, 1945:22). This view which is repeated by other linguists (for references, see Rushforth, 1991:251) indicates that the classificatory stem is referential in nature. That is to say, classificatory stems have a pronoun-like function in the sense that they carry referential properties. To me, such a claim is counter-intuitive and cross-linguistically invalid. It is counterintuitive because it assumes the classificatory verb to behave 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), or more generally, this leads us to wrongly predict that Dene pronominals and classificatory stems to be used interchangeably in some contexts, for example, a Tłıcho noun to 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. Nouns can be distinguished on two bases (Baker, 2003:95-96).

- (a) Semantic version: nouns and only nouns have criteria of identity, whereby they can serve as standards of sameness [...] this lexical semantic property is the precondition that makes nouns particularly suited to the job of referring, since it is fundamental to reference to be able to keep designating the same entity over and over again [and that makes them] uniquely suitable to reference tracking.
- (b) Syntactic version: X is a noun if and only if X is a lexical category and X bears a referential index [...] because nouns can refer, they are the natural bearers of this syntactic annotation. [... and] no syntactic node can both license a specifier and bear a referential index [that is] no category can both refer and be a predicate.

Based on these distinguishing features of nouns, I argue that classificatory verb stems cannot have referential properties as indicated in the literature (unless we incorrectly assume that classificatory stems and nouns in Dene languages belong to the same syntactic category). One may suggest that classificatory stems are referential because they are derived from nouns, that is, they are etymologically nouns, and hence, they are verbal elements with referential features. Such a proposal is also unlikely because verbs, regardless of their origin or derivation, retain their verbal behavior ¹². Therefore, the view that classificatory verb stems generally refer to arguments (e.g., Hoijer, 1945) and in some contexts when the argument is missing (i.e., in the case of zero anaphora), "prior text must be searched to locate the appropriate antecedent" 13 (Rushforth,

¹² According to Baker (2003), the cross-linguistic evidence suggests that all verbs are derived from an adjectival (rather than nominal) root. In English, for example, the door opened or the wind opened the door correspond to the door is open, but John manned or the battle manned John do not correspond to John is a man (Baker, 2003:159). This view is not adopted here because some languages like Cree lacks adjectives as an independent syntactic category (Al-Bataineh & Abdelhady, 2019:719) and according to Welch (2019, personal communication), Dene languages do not have an adjectival class going back to Proto-Dene.

¹³ Rushforth (1991) argues that classificatory stems used intersententially to enhance the coherency of discourse, that is, they limit possibilities in the search of prior discourse in anaphoric resolution. This view of classificatory stems as reference-tracking devices seem contrary to multiple pieces of evidence that this function "is typically carried out by grammatically agreeing gender/noun class markers or pronominals" (Passer, 2016:37). Furthermore, I agree with

1991:260) seem more related to the use of pronouns, as in the Arabic sentence below, where the pronoun *hunna* refers only to *nisaa?* 'women' (and cannot refer to 'men' or both 'men' and 'women'):

31) Raʔaytu rijalan wa nisaaʔan kuthur, kulluhuna fi makanin waHidin. kuthur kullu-hunna ra?av-tu rijal-an wa nisaa?-an fi saw-1sg.sbJ men-ACC and women-ACC a lot all-FEM.PL.GEN in makan-in waHid-in place- GEN one-GEN

Thus, the hypothesis of the nominal root provides a more convenient explanation of the referential properties and theta-role assignment of the so-called classificatory stem as the nominal root is more suitable for expressing the concept (i.e., the argument) referred to by the speaker.

5.6 Noun incorporation

In many Dene languages, nouns are allowed to be incorporated elsewhere in the verb. The incorporated nouns can be either objects or subjects (Rice & Saxon, 2008:703). In Tłącho, this phenomenon is productive, it can affect both transitive and intransitive verbs:

```
32) a. Nàtarewo. 'He stands in water.' (ta- 'water') (cf. nàwo "He stands.') (Ackroyd, 1982:135)

b. K'ekwìht'a. 'I turn my head from side to side' (kwì- 'head') (Ackroyd, 1982: 133)
```

What is interesting about noun incorporation is that it causes a change in meaning when it occurs in sentences like in (33a,b).

```
33) a. K'etètį. 'He uses a cane.'

b. Tè k'etį. 'He carries a cane around.'

(Ackroyd, 1982: 138)
```

(33) shows that the incorporation of $t\dot{e}$ 'a cane' changes the meaning of the sentence from a person using a cane to a person carrying a cane. In the given sentences, we notice that the noun $t\dot{e}$ cannot be incorporated into a classificatory verb meaning 'carry' because its incorporation leads to a change in the structure (i.e., the verb changes from being a classificatory meaning 'carry' into a non-classificatory verb meaning 'use'). This does not mean that noun incorporation is not allowed in classificatory verbs, as we can see in (34) below, nouns can be incorporated.

```
34) a. Kwìwihchi. 'Put it (clothlike object) on your head' (kwì 'head') b. K'owhihchi. 'I wear it (clothlike object) around my neck' (k'o 'neck') (Ackroyd, 1982: 138)
```

In cases where noun incorporation is allowed, the nouns cannot be one of the arguments; the incorporated nouns kwi 'head' and k'o 'neck' do not refer to the object referred to by the verb 'put'

^{&#}x27;I saw a lot of men and women, all of them are in one place.'

Passer (2016:20-21, citing Baker, 1996, and Mithun, 1984) that introducing discourse referents and narrowing of the verb's scope are functions more related to nominal than verbal elements.

or 'wear, carry'; these nouns refer to the location where the action takes place, that is, they are adverbial. Based on (33a,b) and (34a,b), I argue that the object referred to cannot be incorporated in classificatory verb constructions. To further support this argument, (35) is indicative:

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

In (35a,b), only the underlined nominal root xe- 'heavy entity' gets incorporated; the objects referred to, namely tso 'wood' and bebia 'babies' are not incorporated (actually cannot be incorporated since that affects the sentence well-formedness). This argument becomes more evident when we consider the independent position of the DP in (36a,b).

36) a. Kwik'i k'etj. 'He carries a gun around.'

b. *Mbò shèhtį. 'I eat meat.'

(Ackroyd, 1982: 137)

While (36a) is well-formed in Thcho, (36b) is not because the object $mb\dot{o}$ requires a postposition to be allowed as in *mbògho shèhti* 'I dine on meat.'. The assumption in the literature that the final element in both classificatory and non-classificatory verb constructions is a verbal element (i.e., the verb stem) is problematic since the contrasts given above cannot be accounted for. That is, we cannot solve the mystery of noun incorporation if we assume that the final element (i.e., -tı, -chı and -dè in 33-35 above) is a verb stem, and we cannot explain why the same verb allows noun incorporation in some cases but not in others. Thus, it is more plausible to assume that the final element is a nominal root, rather than a verb stem. The overt DP cannot be incorporated when it semantically specifies an already specified/classified argument (i.e., the nominal root that surfaces as a nominal suffix). To illustrate, let us reconsider (33) above, repeated as (37).

37) a. K'etèti. 'He uses a cane.'

b. Tè k'etj. 'He carries a cane around.'

(Ackroyd, 1982: 138)

The nominal element -ti means 'an object' and 'a sticklike object', respectively 14. In (37a) the DP tè can be incorporated to the verb because -ti is not specified, and in (37b) it cannot be incorporated to the verb with the intended meaning 'carry a sticklike object' because -ti is already specified as 'a sticklike object.' In support of this analysis, we notice that the second use of -t₁ with animate entities like th 'dog' changes the meaning of 'a dog' to be 'a very skinny or dead dog' (see, e.g., Rushforth, 1991 and Willie, 2000). Assuming that -t_i is a nominal element accounts also for the contrast in (36) above. Compare (36b), repeated as (38a), and (38b):

38) a. **Mbò* shèhti. 'I eat **meat**.'

b. Sadzeè dawhezo. 'The clock is up (on the wall).'

¹⁴ According to a number of studies cited in Panagiotidis (2014: 294), roots (which, in the given discussion, surface as nominal elements) can be placed on a spectrum of semantic deficiency, that is, roots can have different levels of semantic load, ranging from meaningless to meaningful. The different meanings of the nominal elements are caused by the degree of semantic deficiency that the root has in a particular structural environment.

The ungrammaticality of (38a) stems from the fact that $sh\grave{e}$ - 'eat' is syntactically equivalent to da- 'be located' in the sense that they both are intransitive. In Tłıcho intransitive constructions, the overt DP is allowed only if it refers to the subject. While $sadze\grave{e}$ 'clock' in (38b) refers to -2q 'a rigid object being located', $mb\grave{o}$ 'meat' cannot refer to -tq 'a person is eating' (i.e., the sentence cannot mean 'I eat.' and 'The meat eats.' simultaneously because there is only one case assigner in intransitive constructions, and for the sentence to be well-formed a postposition like ghq 'on' is needed). The given argument that incorporation is subject to the nature of referentiality between the overt DP and the nominal root also explains other contrasts demonstrated above. The DPs tso 'wood' and bebia 'babies' cannot be incorporated in (35a,b) because they refer to -xe 'a heavy entity being carried', and in (34a,b) the DPs tso 'head' and tso 'neck' can be incorporated because they do not refer to the nominal root -cht (clothlike object).

6. The syntax of Thcho verbal morphology

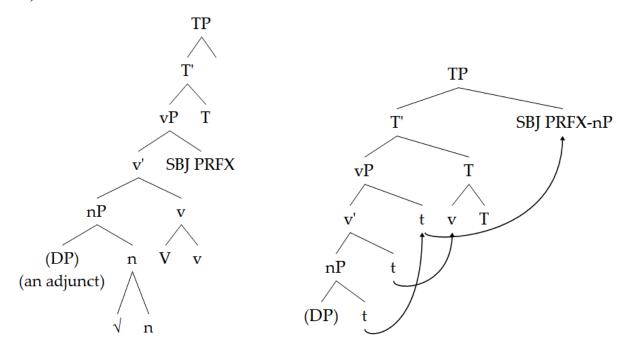
Assuming the correctness of the aforementioned pieces of evidence of the nominality of the socalled verb stem, I propose the following assumptions for the syntax of both classificatory and non-classificatory verbs in Tł₂ch₀, represented in (39a,b) below.

- 1- The nominal root enters the derivation in n to form a nominal element with valued $[\phi]$ 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 (cf. (5d) above). 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, cited in Al-Bataineh, 2020a:16).
- 2- The verb merges with a null verbalizer and raises to attach to affixal T 15 , and from that position, it acts as a probe (by virtue of its $[u-\phi]$ 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) raises 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 (5.6) above).

¹⁵ 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)

39) a. Basic structure

b. Structure after movement



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 $<\alpha$, $\beta>$

The adjunction of the overt DP in Tł₁ch ϕ 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 vields syntactic objects that are free binary sets, pair Merge is an asymmetric operation that forms an ordered pair $\langle \alpha, \beta \rangle$ 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 tense markers can be null or single phonological units (i.e., e, \dot{e} , \dot{i} , 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) Theho subject prefixes may not take the same tense marker for perfective or imperfective forms, some verbs have one consistent tense marker in their conjugation, as in table (4) below, and others do not as in table (6) below. Bearing these points (and the assumptions given above) in mind, the syntax of Tłıcho may seem conceptually simpler and more straightforward than indicated in the literature (cf. Rice & Saxon, 2008). Let us consider the imperfective forms of 'fall down' in table (4) (the agreement subject prefixes are italicized, and the surface forms of the nominal element (hereafter NomSuf) are in bold):

	singular	dual	plural
1 st person	nà <i>h</i> tł'ì	nàwitl'i	nà <i>ts 'e</i> tl'ì
2 nd person	nà <i>netl</i> 'ì	nà <i>ah</i> tł'ì	nà <i>ahtl</i> 'ì
3 rd person	nà <i>Ø</i> tł'ì	nà <i>ge</i> tl'ì	nà <i>ge</i> tł'ì

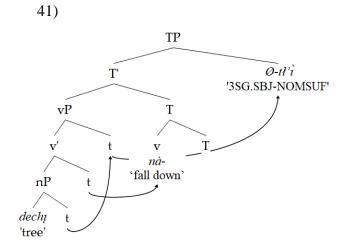
Table (4): Imperfective forms of *nàtl'î* 'fall down' (Jaker et al., 2013: 141)

Each of these forms shows three overt elements; $n\hat{a}$ - 'down', a subject prefix (e.g., h- in $n\hat{a}htl'\hat{i}$) and $-tl'\hat{i}$ (NomSuf), and it constitutes a full sentence (e.g., $N\hat{a}htl'\hat{i}$ 'I fall down.'). To illustrate, the syntax of a sentence like (40) has the derivation in (41):

```
40) Dechų nàtl'ì.

dechų nà-Ø-tl'ì

tree IPFV.fall down-3SG.SBJ-NOMSUF
'The tree falls down.'
```



The nominal root merges with the adjunct DP *dechų* 'tree' to form nP which in turn merges with the verb $n\grave{a}$. The resulting v' merges with the subject prefix \emptyset '3SBJ.SG' to form vP which in turn merges with affixal T to form T'. Both v and $\sqrt{}$ are affixal in nature, and they need to attach to appropriate hosts; therefore, movement takes place (i.e., v to T and $\sqrt{}$ (realized as *-tl'i* due to its merge with n) to the subject prefix \emptyset . At this stage of the derivation, the valuation and Agree processes take place. v, being the highest head and by virtue of its unvalued $[\phi]$ features, acts as a probe and agrees with goals with valued $[\phi]$ features, namely, the subject prefix and the attached NomSuf *-tl'i*. Finally, the subject prefix and the NomSuf *-tl'i* 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 $n\grave{a}who$ 'scrape hide' in Jaker et al., 2013: 145).

¹⁶ In addition to being affixal, the root (more specifically, the NomSuf) moves to reach a higher position where it can c-command the adjunct *dechų* 'tree' and affect its semantic properties (see below for more explanation).

I claimed 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 (5) and (6). The given forms undergo several phonological processes (e.g., deletion, compensatory vowel lengthening, assimilation, etc.). For reason of space, these processes are not discussed and the underlying forms are provided in brackets. The subject prefixes are italicized, NomSufs are in bold and tense markers are underlined ^{17, 18}):

imperfective	singular	dual	plural
1 st person	nàehdì	nàidì	nàts'eehdì
	(nà <u>e</u> h hdì)	(nà <u>e</u> wìd hdì)	(nà <u>e</u> ts'e hdì)
2 nd person	nàįhdì	nàahdì	nàahdì
	(nà <u>e</u> ne hdì)	(nà <u>e</u> ah hdì)	(nà <u>e</u> ah hdì)
3 rd person	nàehdì	nàgeehdì	nàgeehdì
	(nà <u>e</u> Øhdì)	(nà <u>e</u> ge hdì)	(nà <u>e</u> ge hdì)

Table (5): Imperfective forms of *nàehdì* 'buy'

(Jaker et al., 2013:122)

perfective	singular	dual	plural
1 st person	nàwhihdì	nàwhìdì	nàts'eèhdì
	(nà <u>whe</u> h hdì)	(nà <u>whe</u> wìd hdì)	(nàè <i>ts'e</i> hdì)
2 nd person	nà <u>whe</u> ne hdì	nàwhahdì (nà <u>whe</u> ah hdì)	nàwhahdì (nà <u>whe</u> ah hdì)
3 rd person	nàhdì	nàgeèhdì	nàgeèhdì
	(nà <u>Ø</u> Øhdì)	(nà <u>è</u> ge hdì)	(nà <u>èg</u> e hdì)

Table (6): Perfective forms of *nàehdì* 'buy'

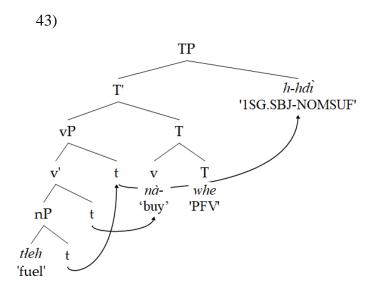
(Jaker et al., 2013: 122)

To exemplify how these forms can be accounted for in the light of the given approach, let us consider the first form in table (6), viz., nàwhihdì 'I bought an entity' in a sentence like (42) and its derivation in (43):

¹⁷ I assume that -e is a default tense 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', nàit'a 'cut hide', naèita 'leave'. The argument that -e is a PFV marker, as indicated by Jaker et al. (2013) cannot be taken for granted, and tense 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).

¹⁸ 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, and it is language-specific (cf. the positions of -ts'e and -ge in other Dene languages). Another syntactic solution is to assume that -ts'e and -ge attach to affixal T before the v-T movement. However, either solution does not cause any radical changes or great challenges to the given analysis.

42) *Tłeh nàwhihdì*. *tłeh nà-whi-h-hdì* fuel buy-PFV-1.SBJ.SG-NOMSUF 'I bought gas.'



The nominal root merges with the adjunct DP *tleh* 'fuel' to form n which in turn merges with the verb $n\grave{a}$ 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., $v - n\grave{a}$ to T - whe to form a complex head and $n - hd\grave{a}$ 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 $[\phi]$ features, acts as a probe and Agrees with -h and the attached nominal. The derivation then proceeds with the movement of -h and $-hd\grave{a}$ together to the spec-TP position to satisfy the EPP feature in T. I claim that in this derivation $-hd\grave{a}$ acts as the direct object and receives the THEME theta-role, and the overt DP tleh is just an adjunct whose omission does not affect the well-formedness of the sentence, as can be seen in (44).

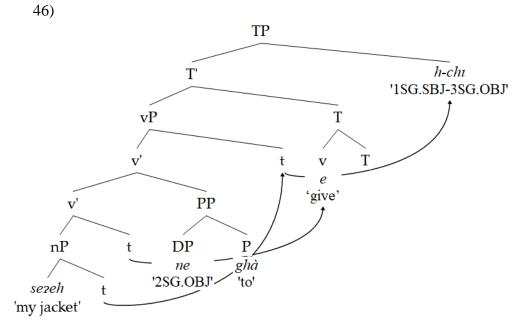
As argued above, the given analysis accounts for the syntax of Tłįchǫ verbs whether they are classificatory or not. In further support of this view, consider, for example, the verb 'kill animals' which has three forms according to the number and definiteness of the entity being killed: layeewhi 'kill one animal (specific)', laewhi 'kill one or two animals (unspecific)', layeehde 'kill plural animals (specific)'. The underlined verb lae- 'kill' does not change (equivalent to the English kill). The nominal element referring to the entity being killed has three forms: -whi '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. nègoele 'give birth (used only for animals)' vs. nègoety 'give birth (used only for humans)'). More examples can be found also in intransitive verbs like nàedlò 'laugh' nàzeedlò 'laugh at' where the verb nàe- 'laugh' attaches to -ze 'at' to mean 'laugh at' and the NomSuf -dlò refers to the experiencer (cf. eji 'be afraid' vs. ts'àeji 'be afraid of something', this verb is a combination of $ts'\dot{a}$ - 'of (something)', the verbal element -e, and -ii '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 (45) in which the indirect object ne '2sg. obj' occupies the complement position of the postposition ghà 'to':

```
45) Sezeh neghàehchi ha.
 se-2eh
                  ne-ghà-e-h-chi
                                                                      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)
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The derivation of this sentence is in (46):



This derivation is the same as in (43) 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 (7) below.

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

Table (7): The positions of prefixes in Tłycho verbal morphology

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). 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 classifier indicates voice seems implausible because it does not have a 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 19. 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 h-classifier in (5c,d) above, repeated as (47a,b).

47) a. Ełek'èdaà nàts'eè**hzha** 'We are standing up in line.'

b. Ts'ı nàchıèzha ılè ko

'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 indicate that this entity is animate (47a) or inanimate (47b). This function is supported by other cases in which other nominal suffixes like -2a appear with -h only when they refer to animates (e.g., Nàtl'àgots'µ**h**2a 'We are squatting.') or singular entities belonging to animates (e.g., (21) vs. (5a) above). The second scenario is that the classifier has a specific syntactic function. Consider the contrast between (48a,b) in which h-classifier is argued in the literature to have an effect on the transitivity of the verb (Ackroyd, 1982:92).

¹⁹ 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 (Blankenship, 1997:93, cited in Passer, 2016:19).

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48) a. Mbò whego.
   'The meat is dry.'
   b. Mbò whehgo.
   'He dried the meat.'
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In these two sentences, although the nominal suffix $-g\rho$ refers to 'the meat', the speaker uses the h-classifier to differentiate between two types of meat, viz, -go and -hgo. -go 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 -hgo only refers to meat intentionally dried by someone (for further support of this semantic analysis, see other examples in Ackroyd, 1982:92) ²⁰.

The different positions of aspect, conjugation, mode (positions 11-9) are explained to have one position in the given tree, as indicated above, regardless of their phonological 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 (46). What remains to be accounted for is 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 et al., 's (2013) dictionary, verbs have different entries depending on the presence/absence of the object prefix. Consider the contrast in (49a-e).

- 49) a. layeehde 'kill plural animals' (specific, previously discussed) vs. laehdè '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. yezà 'eat just one thing' (a specific thing, previously talked about) vs. ezà 'eat just one
 - 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. The second observation is that the object prefix cannot cooccur 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 (50c) compared to (50a,b) below (the adjunct is underlined and the object prefix is in bold).

50) a. *Cheko kwik'i nàizhì*. 'The kid broke the gun.'

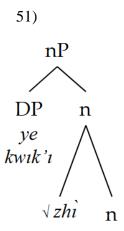
b. Cheko nàvuzhì. 'The kid broke it.'

c. *Cheko kwik'i nàyızhì.

(Hale, 1987:149)

²⁰ This semantic solution is not intended to be final, and the semantics of classifiers needs further investigation.

The ungrammaticality of (50c) is caused by the fact that both the adjunct *kwik'i* 'gun' and the object prefix are used to specify the generic nominal element -*zhi*, more specifically, because they occupy the same position in the tree, as shown in (51).



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 *dàgawhi* 'You (PL) get out (e.g. of boat).' (Ackroyd, 1982:131)). These two points lead me to assume tentatively 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 (7) above have the syntactic positions demonstrated in table (8):

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

Table (8): The syntactic positions of prefixes in Tłącho verbal morphology

Assuming the correctness of the given proposal, I claim that the syntax of Tłıcho verbs is much easier and more straightforward than it is thought before, and there is no need to project multiple 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, by Rice & Saxon (2008). However, the given proposal can be developed further by organizing the NomSufs into semantic subclasses to account for their occurrence with verbs but not other syntactic categories, their syntactic properties, and their surface forms (i.e., the morphophonemic changes).

7. Conclusion

This paper discusses Tłicho classificatory verbs and demonstrates that they belong to four semantic subclasses that do not have the same stem inventories or consistent stem selections. Based on different pieces of evidence related to the optionality of the classified argument, argument saturation, verbal augmentation, verb-noun correspondence, referentiality, and noun incorporation, the paper argues that the so-called classificatory stems are not verbal, instead they are nominal elements that have an argumental function. Moreover, the paper provides a more economical analysis of Tłicho verbal constructions that accounts for both classificatory and nonclassificatory verbs. Assuming the correctness of these assumptions, the paper claims that the syntax of Tłıcho verbs can be represented in a conceptually simpler and computationally more economical way than it is argued in the literature. The paper concludes with the claim that Theho and other Dene languages may have the same level of complexity like other well-studied languages like English, that is, any apparent syntactic complications in Dene languages may not necessarily result from 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 to be 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". This paper provides a modest attempt to change the general view that Dene languages are morphosyntactically complicated to promote revitalization and maintenance of these languages further.

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