An Overview of Number Suppletion in the Na-Déné Family

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Abstract

Many of the languages in the Na-Déné language family supplete for shape in very similar ways; in Chipewyan, Tlingit, and Navajo, it is consistently verbs of handling that supplete for the shape or state of the object. (Cook 1986:8; Crippen 2011:129; Willie 2000: 40-41). This paper examines eleven languages to establish if suppletion for grammatical number, which is a far more limited phenomenon, also behaves consistently across the Na-Déné family. Then, the author will consider what a cross-linguistic consistency in suppletion for grammatical number means for the history of these languages, suggesting that number suppletion originated in proto-Na-Déné in sg./pl. doubles, and suppletion in triples is a later innovation by the Athabaskan languages.

1 Introduction

Edward Sapir stated that "a peculiarity of many Na-Déné verb stems is that they are limited to a particular class or number of objects" (Sapir, 1915, pp. 534-558). There is a general knowledge among experts in the language family that there are verb stems limited in such a way in many Na-Déné languages, though suppletion for shape has been studied far more extensively than suppletion for number, as it is a wider-ranging phenomenon, with verbs selecting for various qualia such as emptiness or fullness, type of material, or size. It is accepted that the vast majority of Na-Déné languages supplete in verbs of handling for the shape (or some other quality) of the object being handled (Hoijer, 1945a; Krauss, 1968; Axelrod, 2000; Willie, 2000; Poser, 2005) and that this phenomenon is very old and likely traces back to proto-Déné.

Most of the languages in this family supplete for shape in very similar ways; in Chipewyan, Tlingit, and Navajo, it is consistently verbs of handling that supplete for the shape or state of the object. (Cook, 1986; Crippen, 2011; Willie, 2000). Additionally, there are similarities in the shapes or states of objects that tend to be considered: verbs of handling for empty or filled containers, coiled rope, or fabric-like objects show up with regularity across the family.

Such a comparison begs the question if suppletion for grammatical number, a far more limited phenomenon, behaves the same way across the Na-Déné language family. Do verbs supplete for number similarly across the family, suggesting that it originated in Proto-Na-Déné, or are there focus points from which number suppletion spread? An analysis of these questions could deepen our understanding of the way the Na-Déné languages relate to one another across the family, or, even more broadly, offer insight into the way languages do (or do not) change, and why.

For this analysis, I will be examining eleven languages, picked based on geographic region, and my own access to a grammar. I wanted to track this phenomenon across the geographical range of the language family to see if they use number suppletion, and if they do, if it behaves differently based on potential innovation due to isolation, migration, or contact with other languages. Ideally, I would consider every language in the family to make a definitive statement, but due to time and resource constraints, that simply was not possible. Therefore I concede that my work is based on a limited sample of languages, and therefore should not be considered definitive. In addition to this, the data I am using was collected by other researchers, and I am bound in my work to what they have gathered; no fieldwork or elicitation of my own could be done.

I have selected for my consideration the Na-Déné languages Tlingit and Eyak, the Northern Déné languages Dena'ina and Ahtna, the Cordillera Déné languages Witsuwit'en and Tsilhqút'in (also known as Chilcotin), the Eastern Déné languages Dene Suliné (also known as Chipewyan) and Slave, the Pacific Coast Déné language Hupa, and finally, the Southern Déné languages Navajo and San Carlos Apache.

For guidance regarding a comparative analysis of several Déné languages, Olga Lovick's 2020 paper *Existential and standard negation in Northern Dene* was consulted. While Lovick examines similarities and differences in existential and standard negation, and I will be examining similarities and differences in number suppletion, I have chosen to follow a similar format to present my data.

2 Number Suppletion

The definition of what suppletion is or isn't is debated, as most things in Linguistics are. It has been argued that perhaps some cases of suppletion should be considered as separate lexical items, as they are only related semantically and not paradigmatically, (Corbett, 2007) or that suppletion only exists when there are clear violations of general inflectional rules. For the purposes of this paper, one should consider number suppletion to be cases which satisfy either of the following criteria laid out by Ljuba N. Veselinov: (1) exceptions to very productive derivational patterns, or (2) exceptions to established agreement patterns (Veselinov, 2013). We shall also establish that there appear to be two types of number suppletion: verb triples of the kind sg./du./pl., and verb pairs of the kind sg./pl., sg.du/pl., or sg./du.pl.; languages that have only verb triples do not seem to exist (Veselinov, 2013).

It is also of importance to this analysis that we consider the concept of qualia, that is, certain qualities that a verb restricts for. Roots in the Na-Déné languages are known to restrict for all sorts of qualia such as shape, solidity, or durativity, (Crippen, 2019) but I am looking at verbs that restrict for the qualia of number. I hypothesize that it is consistently a certain kind of verb that tends to supplete for the qualia of number across the Na-Déné languages: verbs of motion, such as 'walk', sit or 'go', or verbs of action, such as 'cry,' or 'laugh.'

1.1 Tlingit

We will first consider Tlingit, one of the more conservative of the Na-Déné languages. In Tlingit, it is primarily verbs of movement and handling that show suppletion of the root depending on number. This is a purely lexical phenomenon: it does not show up in every verb of movement in Tlingit (Crippen, 2011).

An example is the existence of two roots for the verb 'to go by foot' (Crippen, 2011):

(1) Go

(a) \sqrt{gut} 'sg. go by foot'

(b) \sqrt{at} 'pl. go by foot'

One should also consider the verb roots for 'to sit' (Edwards 2009: 458):

(2) Sit

(a) √.áa 'sg. sit'

(b) $\sqrt{\text{kee 'pl. sit'}}$

When a verb suppletes for number, each root will demand singular and plural pronominals respectively; it is ungrammatical to use a plural root like $\sqrt{}$ at with a singular pronominal, or a singular root like $\sqrt{}$ gut with a plural pronominal. See the below ungrammatical examples from James Crippen's 2011 paper *Basics of Tlingit Verbal Structure - the Tlingit Language*:

(3) Go

(a)	*shgóont <u>x</u> waa.át
	shgóon-t ÿu- <u>x</u> a-ÿaat-ÿ
	school-pnct pfv-1sg.s-cl [-d, 0, +1]-go.pl-var
(b)	*shgóont wutuwagoot
	shgóon-t ÿu-tu-ÿa-gut-ÿ
	school-pnct pfv-1pl.s-cl [-d, 0, +1]-go.sg-var

Thus it can be stated that Tlingit suppletes for numbers via sg.pl verb pairs, and in certain verbs of motion.

1.2 Eyak

Much like Tlingit, sg.pl number suppletion exists in verbs of motion in Eyak. We will consider what Krauss called "postural verbs"; these are the smallest and least distinct subclass of motion verbs. Showing the contrast, we have the following postural verb roots:

(3) Sit

- (a) √da 'sg. sit, stay'
- (b) \sqrt{qu} 'pl. sit, stay'
- (4) Lie prone
 - (a) \sqrt{te} 'sg. lie prone'
 - (b) √tu'ch' 'pl. lie prone.'

Note that these verbs are semantically very similar to the verbs that use number suppletion in Tlingit: they are verbs of motion or action.

1.3 Northern Déné

We will move on from the Tlingit and Eyak to now consider the Athabaskan languages, starting with the Northern Déné languages Dena'ina and Ahtna. These two languages are very geographically close to Tlingit and Eyak, and are historically considered more conservative in their grammar and lexicon than the other Déné languages.

In her 1978 paper *Morphology and Semantics of the Tanaina Verb*, Joan Tenenbaum discusses a large class of motion and action verbs in Dena'ina that supplete in a very similar way to Tlingit and Eyak; the verbs that tend to supplete for number are intransitive verbs such as 'cry,' 'talk,' 'laugh,' 'run,' 'handle,' and 'walk,' which have one stem for singular-dual subjects, and one stem for plural subjects. (Tenenbaum, 1978). Tenenbaum does not, however, offer any form of translation for the verbs she claims follow this pattern.

In Ahtna, James Kari provides a very abridged discussion of the thematic categories of verbs, stating that in addition to verb theme categories, there are several additional semantic links between sets of verb themes, including a singular and dual/plural contrast. A few examples are provided:

(5) Go

- (a) $\sqrt{(y)}$ aa 'sg./du. go'
- (b) √daetl' 'pl. go'
- (6) Sit
- (a) vdaa 'sg. Sit'
- (b) vts'ii 'pl.sit'
- (7) Talk/speak
 - (a) $\sqrt{(y)}aa$ 'sg./du. talk/speak'
 - (b) $\sqrt{\text{ghaas 'pl. talk/speak'}}$

It appears, then, that these two Northern Déné languages both supplete for number in the expected manner, via verbs of motion or action. They also share a new feature: one stem for singular/dual subjects, and one stem for plural subjects, while Eyak and Tlingit do not consider dual forms.

1.4 Cordillera

The two languages we will be examining from the Cordillera region of the Athabaskan range are Witsuwit'en and Tsilhqút'ín, also known as Chilcotin (for the purposes of this paper, I will call it Tsilhqút'ín).

The discussion of number suppletion in verb roots in Witsuwit'en is quite limited, but Sharon Hargus provides examples in her paper *Witsuwit'en Grammar: Phonetics, Phonology, Morphology*, including the two following cases:

(8) Go

- (a) √ye 'sg. go'
 (b) √?as 'du. go
- (c) √dił 'pl. go'

(9) Sit

- (a) √de 'sg. sit'
- (b) √qe 'du sit'
- (c) \sqrt{d} -l-ts'i 'pl. sit'

Instead of using one root for both the singular and dual form, and another for plural like the Northern Déné languages, or one form for singular and another for plural like Tlingit and Eyak, Witsuwit'en suppletes in verb triples (Hargus, 2007). No language that we know of has only triples (Veselinova, 2013), so it is extremely likely that there exist some verb pairs that supplete only for a singular-plural contrast, or perhaps for a singular/dual-plural contrast. Note that again, we see the verb for 'to go' and the verb for 'to sit.' These particular verbs seem to be appearing quite often in our discussion, further supporting my hypothesis that it is, in fact, a specific class of Na-Déné verb that suppletes for number

Cook presents little data for Tsilhqút'ín suppletion in his work *A Tsilhqút'ín Grammar*. Unlike the languages we have examined so far, it appears that Tsilhqút'ín does not supplete for number, even in regards to the verbs where suppletion is expected to appear; verbs of motion and action like 'go,' 'sit,' 'walk,' and 'swim' have only one root, and number suppletion is not mentioned throughout the entire grammar. Tsilhqút'ín does, however, supplete for shape in regards to verbs of handling, which is a far more common and broad form of suppletion in the Na-Déné languages.

Further digging into Cook's other work was not fruitful – I was not able to come up with any suppletive stems for number, which is perplexing. I speculate that one of two things are at play here: either Tsilhqút'ín did supplete for number at one point, but lost the contrast over time (this would be strange – it is not often that a language loses an entire paradigm without a trace) or Cook failed to mention this paradigm in his work.

1.5 Eastern Déné

The two Eastern Déné languages that we will analyze are Dene Sųliné– also known as Chipewyan– and Slave; we will consider the Bear Lake, Hare, and Slavey dialects.

Dene Sųliné suppletes with verbs of motion via verb triples (Cook, 1986):

(10) Sit

- (a) √da 'sg. sit'
- (b) √ke 'du. sit'
- (c) $\sqrt{t\theta'}$ i 'pl. sit'

Slave, like Dene Sųliné suppletes both in pairs and in triples with the expected verbs: verbs of motion and handling. Below we see separate verb themes for singular, dual, and plural (Rice, 1989):

(11) Sit

- (a) Whida 'sg. S/he is seated' (Bear Lake)
- (b) Whikee 'we (du.) are seated' (Bear Lake)
- (c) Ts'edéhkw'i 'we (pl.) are seated (Bear Lake)

(12) Go (controlled)

- (a) Déya 'sg. s/he set out'
- (b) Kedé?a 'we (du.) set out' (Hare, Bear Lake)
- (c) Kedédee 'we (pl.) set out' (Hare, Bear Lake)

(13) Go (noncontrolled)

- (a) Déhtlah 'sg. I set out' (Slavey)
- (b) Łegedéhtthe 'we (du.) set out' (Slavey)
- (c) Gogedéhtthe 'we (pl.) set out' (Slavey)

Next we see two examples of one verb theme for singular/dual, and one for plural theme (Rice, 1989): (14) Eat

- (a) Shétį 'sg. s/he eats'
- (b) Shégetį 'they (du.) eat' (Bear Lake, Slavey)
- (c) Shégeyeh 'they (pl.) eat' (Slavey)
- (15) Swim
 - (a) K'ínabee 'sg. s/he swims' (Hare, Bear Lake)

- (b) K'inakebee 'they (du.) swim' (Hare, Bear Lake)
- (c) k'inake?óh 'they (pl.) swim' (Bear Lake)

Finally, the opposite: one verb theme for plural, and one for singular/dual (Rice, 1989): **(16) Sleep**

- (a) Shotį 'sg. s/he sleeps' (Hare)
- (b) Shukiya 'they (du./pl.) sleep' (Hare)

(17) **Die**

- (a) Łanjwe 'sg. s/he died' (Bear Lake)
- (b) Łakenidé 'they (du./pl.) died' (Bear Lake)

Slave and Dene Suliné both supplete in the predicted verb forms ('sit' and 'go' are quite common examples of verbs of motion). Rice is particularly thorough with her examples, providing verbs that express a change of state such as 'die' and 'sleep.' Both supplete in triples, but Slave provides an excellent example of a language suppleting both in triples, and in pairs; as Veselinov claims, any language that suppletes in triples will also supplete in pairs (Veselinov, 2013).

1.6 Pacific Coast Déné

Due to my limited access to grammars, I will only be looking at one Pacific Coast language: Hupa, spokenon the lower Trinity River in Northwestern California. In his *Hupa Grammar*, Victor Golla offers examples of verbs in Hupa that supplete for singular and plural. He goes on to elaborate that it is usually intransitive verbs of motion that do this, such as the verb for 'to move somewhere' (Golla, 1978).

(18) Move somewhere

- (a) $\sqrt{yaW/ya}$ 'sg. moves somewhere'
- **(b)** $\sqrt{dil/de\lambda}$ 'pl. moves somewhere'

Also provided as an example is the verb 'to lay:'

(19) Lay

- (a) $\sqrt{\text{ten 'sg. lays'}}$
- (b) √teč 'pl. lays'

Golla states that other "typical" examples of verbs that supplete for number in Hupa include the verbs 'to stampede,' 'to talk,' and 'to get up' (Golla, 1978). Thus, Hupa follows the expected pattern and suppletes for singular and plural verbs of motion and action.

1.7 Southern Déné

The Navajo language suppletes with verb pairs in singular and plural, and also with verb triples in singular, plural, and dual. See the examples below:

(20) Go

- (a) √yá 'sg. go'
- (b) Çázh 'du. go'
- (c) √kai 'pl. go'
- (21) Lay down
 - (a) \sqrt{ti} 'sg. lay down'
 - **(b)** \sqrt{t} ézh 'du. lay down'
 - (c) \sqrt{j} éé 'pl. lay down'

Other verbs supplete simply for singular and plural.

(22) Die

- (a) √tsá 'sg. die'
- (b) √ná 'pl. die'

Other verbs that supplete for number include the verbs for 'to come out [of a place]', 'to sit' and 'to run for shelter.' Hence the verbs that supplete in Navajo are verbs to do with handling and motion, which means that Navajo fits into the expected pattern of Athabaskan verbs.

San Carlos Apache exhibits the same pattern observed in Navajo and suppletes in singular, dual, and plural. According to de Reuse, many motion verbs, which he describes as verbs that express going, coming and

other movement from one place to another by human beings, have separate singular, dual, and plural stems. He provides the following example (De Reuse, 2006):

(23) Go

(a) √yāā 'sg. go'

- (b) v'āāzh 'du. go'
- (c) √kai 'pl. go'

Since it is known that Apachean languages form a continuum, I think it would be reasonable to hypothesize that the other Apachean languages also supplete with triples in verbs of motion.

1.8 A Note On Haida

Sapir claimed that Haida, a language previously and erroneously thought to be Na-Déné, suppletes for number, and cited the following form as evidence.

(24) Go

(a) √qa 'sg. go, move'

(b) $\sqrt{dal 'pl. go, move.'}$

While I concede that it is very interesting that Haida suppletes for number via a verb of motion, Sapir failed to mention that only four verbs in Haida supplete for number. Suppletion for number appears to be an areal feature of many of the Northwestern American languages (Tsimshian, spoken in British Columbia and Alaska, also suppletes for number in pairs).

However, suppletion for shape never appears in Haida. This form of suppletion is far more common and attested in the Na-Déné languages, and is arguably one of the hallmarks of the family. Thus, I believe that Haida's suppletion for number in a verb of movement is, in fact, a borrowing at best, or more likely, a simple case of coincidence.

2 Conclusion

In summary, Tlingit, Eyak, and Hupa supplete for number with singular-plural pairs. Ahtna and Dena'ina supplete for number with singular/dual-plural pairs. Witsuwit'en, Dene Suliné, Slave, Navajo, and San Carlos Apache all supplete for number with singular-dual-plural triples, and also with pairs. Tsilhqút'ín does not appear to supplete for number at all.



Figure 1. A map of the Na-Déné languages marked for their manner of number suppletion. By Noahedits - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=85621220.

With this data as evidence, I would argue that this data indicates that number suppletion originated in proto-Na-Déné with verbs of motion; since it is both consistent and evident in both Tlingit and Eyak, as well as in a good portion of the Athabaskan languages, it seems to be old. It is extremely unlikely that this paradigm developed in Proto-Athabaskan, and then was borrowed by Tlingit and Eyak, or even that it developed in

Proto-Eyak-Athabaskan and was borrowed by Tlingit. Verbs of motion like "to go" or "to sit" are basic vocabulary, and thereby tend to resist borrowing. Additionally, it is extremely rare to borrow an entire paradigm.

If it did indeed originate in Proto-Na-Déné, my question would then be why Tsilhqút'ín does not appear to supplete for number. Frankly, I am not sure if I believe that it doesn't; perhaps the phenomenon was simply overlooked. My skepticism could be quelled with some simple elicitation fieldwork. In the case that it does not in fact supplete for number, I would be curious to see if I could determine why and when the phenomenon was lost.

Additionally, I believe that suppletion for number in sg./pl. doubles existed first, and suppletion in triples is an innovation. Since all languages which supplete in triples also supplete in pairs, and the more conservative languages (Tlingit, Eyak, Ahtna, and Dena'ina) only supplete in pairs, I think it is reasonable to say that suppletion for number in triples came about as a later innovation. Ahtna and Dena'ina seem to be the bridge between Tlingit and Eyak's sg./pl pairs and languages with sg./du./pl. triples. They take dual person into account but combine it with the sg. root. I think this may be a "transition" stage of sorts, and given enough time, the sg./du. contrast would become distinct, perhaps with the innovation of a new root for dual person, or a new root for singular person.

Once again, I must concede that my work is based on a limited number of Na-Déné languages, and a limited amount of data, but I hope that my insight into number suppletion sheds some light on the ways that the Na-Déné languages relate to each other, and perhaps opens doors for future research.

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