

# Cycles of Negation in Athabaskan

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## 1 Introduction

Cross-linguistically, the Negative Cycle may be one of the most pervasive. It involves negative elements such as Old English *ne* weakening phonologically and then being replaced by other more emphatic negatives, e.g. *not*. Dahl (1979: 88) suggests that the universality of the Negative Cycle cannot be verified due to "lack of information about the earlier stages of non-European languages". In this paper, I provide a sketch of the negative cycle in Athabaskan by comparing Ahtna, Chipewyan, Koyukon, Navajo, Sekani, Slave, Upper and Lower Tanana. Krauss says that it is "difficult to establish what the negative forms in Proto-Athapaskan were like" (1969: 73). Since the negatives are very different from each other, Athabaskan an ideal family to study the negative cycle. I argue there are in fact two slightly different cycles in this family, one where indefinite adverbs renew the weakening negative and another where negatives are renewed from verbal sources.

Across the Athabaskan languages, the most variable part is the negative word or particle that precedes the verb, e.g. *k'aa* in (1), so this is the most recent addition to the construction. The position of the affix inside the verb word is also variable and it disappears in some variants. The general cycle therefore is that the negative is incorporated in the verbal complex and then renewed by an element outside the verbal complex. Example (1) is from the conservative Lower Tanana and (2) from the innovative Upper Tanana:

- |     |   |              |
|-----|---|--------------|
| (1) | <i>tendhghaaghettenεε</i><br>FUT-QUA-NEG-QUA-QUA-1S-CAUSE-ice-NEG<br>'I won't freeze it solid' (from Kari 1993: 55) | Lower Tanana |
| (2) | <i>k'aa tinaktän</i><br>NEG I-freeze-it-solid<br>'I won't freeze it solid' (from Kari 1993: 55)                     | Upper Tanana |

The origin of the original negative is reconstructed by Leer as Proto-Athabaskan *\*-he* suffix, "originally an enclitic" (2000: 102), and a Proto-Athabaskan-Eyak-Tlingit particle *\*(ʔi)leʔ* (2000: 123). This particle is originally a third person negative of the verb 'to be' and was reanalyzed as a negative particle during Proto-Athabaskan-Eyak-Tlingit. Rice (1989: 1108, n. 1)

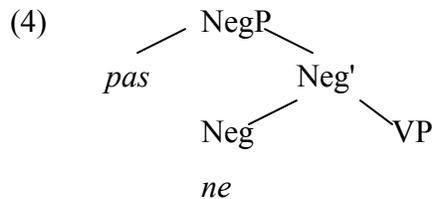
suggests that the negative *yile* in Slave (3), i.e. Hare, Slavey, and Bearlake, "may historically be an auxiliary verb in the perfective aspect":

- (3) *bebí nedá yile* Bearlake  
 baby 3-heavy NEG ,  
 'The baby is light' (Rice 1989: 1101)

The aim of the paper is to show variation in Athabaskan negation and the outline is as follows. In section two, I first discuss the structure of negatives and negative cycles in general. Some of this discussion presupposes a familiarity with generative syntax but a large part of the paper, especially sections 4 and 5, can be read ignoring the tree structures. In section three, I discuss negation in several languages and show that there is an 'older' pattern and a newer pattern in Athabaskan and some possibly related languages. This can be accounted for in terms of being in different stages of the linguistic cycle. Section four is a conclusion.

## 2 Negatives and Cycles

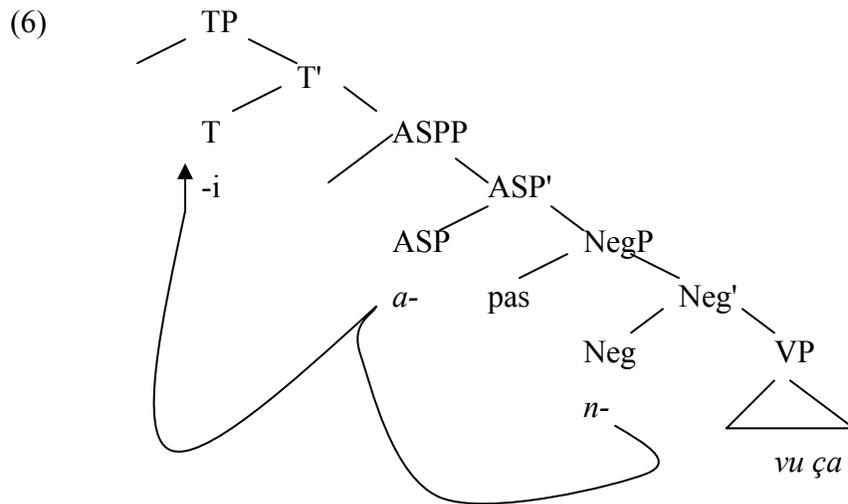
Since Ouhalla (1990) and others, the structure for a typical negative is well-known, namely as given in (4) for formal, standard French:



The *ne* is in the head and cliticizes to the verb as it moves through on its way to a higher position above the NegP, as in (5):

- (5) *Je n'ai pas vu ça* Standard French  
 I NEG-have NEG seen that  
 'I haven't seen that'.

As argued in Ouhalla (1990) and more in depth in Cinque (1999), the position of the NegP can be relatively high (just below the CP) or relatively low (just above the VP). A possible structure for Standard French is given in (6) with the NegP relatively low:



Special polarity positions can also be argued for, as I will show below.

Studying language change, one can see that the element in the head position, *ne* in (4), typically disappears, mostly via an affix stage (see (5)). The negative in the specifier position is then reanalyzed as a head which in its turn disappears. The Negative Cycle (Gardiner 1905; Jespersen 1917) can thus be accounted for by means of renewal of the specifier position and the subsequent reanalysis of the specifier as head (through the Head Preference Principle, see van Gelderen 2004) and the subsequent disappearance of the head (through Iconicity), as represented in Figure 1:

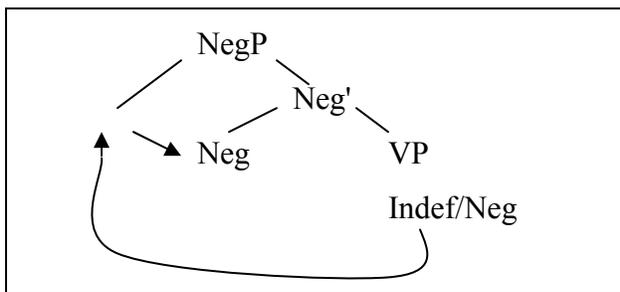


Figure 1: The Negative Cycle

The reason this cycle is so pervasive is that there are always ready-to-be-recycled negative objects and adverbials. The latter include minimizers, such as *pas* 'step' in French and *a bit* in English.

The above strategy is only one. There may be structural reasons for the choice of the one over the other. For instance, polysynthetic languages such as Navajo lack quantifier arguments (see Baker 1995) and therefore may renew their negatives through verbs or adjuncts. Croft (1991) and Payne (1985) provide instances of languages where negative heads develop from

other verbal heads. Croft formulates a Negative-existential Cycle, where in one stage a negative particle marks both existential and non-existential predicates. Subsequently, a special negative-existential arises. This form is then used as the general negative, to be reinforced by another existential in existential sentences. Another verbal strategy is to use negative verbs such as 'to refuse' Typical for the verbal strategy is that the negatives may be marked for aspect and mood, e.g. in the Athabaskan and Semitic families and in Chinese. That is a result of the grammaticalization path, first as a full verb, then as aspectual or mood marker retaining the negative feature.

In Chinese, for instance, one of the negatives is *mei*, as in (7). *Mei* is derived from a verb meaning 'to not exist; to die ', as shown in (8) and (9):

- (7) *wo mei you shu* Chinese  
 I not be book  
 'I don't have a book'.
- (8) *Yao Shun ji mo ...* Old Chinese  
 Yao Shun since died  
 'Since Yao and Shun died, ...' (Mengzi, Tengwengong B, from Lin 2002: 5)
- (9) *yu de wang ren mei kuan, ...* Early Mandarin  
 wish PRT died person not-be suffering  
 'If you wish that the deceased one has no suffering, ...'  
 (*Dunhuang Bianwen*, from Lin 2002: 5-6).

The transition from verb to negative proceeds via a perfective aspect marker, as in (10), according to Lin (2002). This shown in Figure 2 and the change is due to a reanalysis of *mei* in a higher position:

- (10) *dayi ye mei you chuan, jiu zou le chulai* Early Mandarin  
 coat even not wear, then walk PF out  
 'He didn't even put on his coat and walked out' (Rulin Waishi, from Lin 2002: 8)

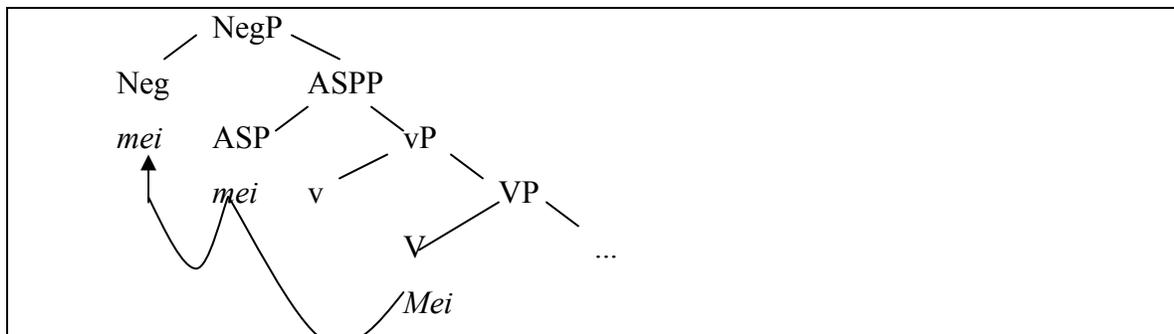


Figure 2: The Negative Head Cycle

Concluding, there are two strategies for changes in negatives: one is where a phase is reanalyzed as a head and renewed by another head; the other when a negative head is replaced by a lower head.

### 3 Navajo Negatives

I will start with a general description of negatives in Navajo, focusing on their structural characteristics and then, in section 4, I describe the variation in some other Athabaskan languages (Ahtna, Koyukon, Upper and Lower Tanana, Chipewyan), and in section 5 in the possibly related Haida, Eyak, and Tlingit. That section and the conclusion also provide some speculations on the historical spread of the Athabaskan languages and the repercussions for the negative cycle.

In the present section, I look at the structure of negation in Navajo using a NegP. Negation in Navajo consists of two parts, a specifier *doo* and a head *da*. I provide frequent trees to show where negatives, and NegP, are situated in the Navajo sentence. There are two parts to the negation, a preverbal *doo* and a postverbal *da*, as in (11):

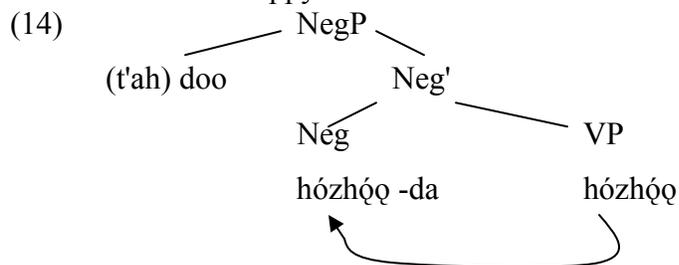
- (11) *Doo dichin nishłį́ da* Navajo  
 NEG hungry 1S-be NEG  
 'I'm not hungry' (Young & Morgan 1987; 350, hence Y&M)

*Doo* is a specifier since it can be modified by *t'áá* 'just' or by *t'ah* 'ever', as in (12), and *da* is a head and is always immediately to the right of the verb:

- (12) *T'ah doo tónteel yiistséeh da* Navajo  
 ever NEG ocean 1S-see-PERF NEG  
 'I've never seen the ocean' (Y&M: 710).

A possible structure for a regular negative in (13) is given in (14), but a head-final one would be possible too:

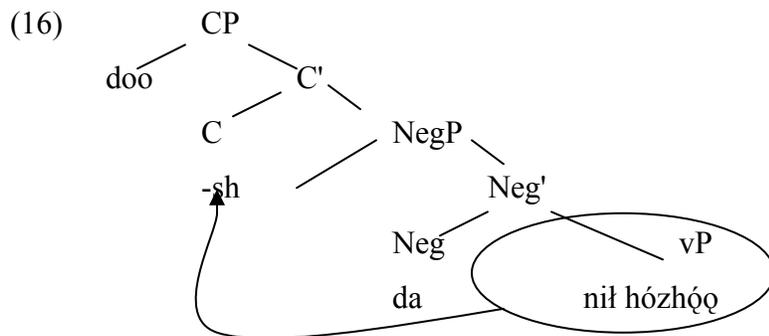
- (13) *doo (bił) hózhóq-da* Navajo  
 NEG 3S-with happy -NEG  
 'He is not happy'.



There is, however, evidence that a position higher than NegP is involved in Navajo negation (as in other languages) since *doo* is often sentence-initial and interacts with the question marker as in (15). The interrogative marker is part of the CP layer:

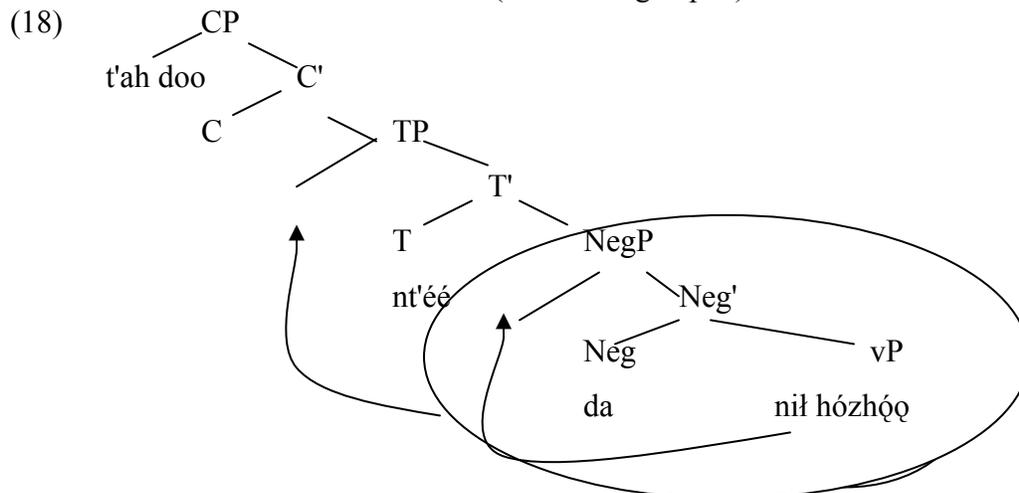
- (15) *Doo-sh nil hózhóq-da* Navajo  
 NEG-Q you-with happy-NEG  
 'Aren't you happy' (Wilson 1995: 84).

(15) may show that the CP layer contains a polarity phrase (PolP) to indicate whether the sentence is negative or not. Sentence (15) can be represented as (16), but there are other possibilities, e.g. the interrogative could head its own projection above the PolP. Constituents that precede *doo* would be in the left periphery:



As to the position of other functional categories, (17) shows that the TP is higher than the NegP. This could be represented as in (18):

- (17) *T'ah doo kwii nisháah da nt'éé'* Navajo  
 Yet not here I-went not PST  
 'I had never before been here' (Lorene Legah p.c.)



Looking at changes in other languages, one might expect for *da* to weaken at some point and for *doo* to become the head. Reichard (1951: 308) mentions that *da* is sometimes optional in Navajo but this seems not very accepted by native speakers. In Apache, negatives are generally very similar, as the Western (San Carlos) Apache, as (19) shows, though here *doo* may be left out in fast speech (Willem de Reuse p.c.; 2006: 59):

- (19) *(doo) nchad da* (Western) Apache  
 NEG 2S-cry NEG  
 'Don't you cry' (Bray 1998: 109)

If it is a fast-speech phenomenon, it makes sense to not use the specifier since that is less economical. In San Carlos Apache, *(ha)k'eh* 'at all' optionally follows *doo* (de Reuse 2006: 59), whereas in White Mountain Apache, another form of Western Apache, *-haa* 'yet' is attached to *doo*. This is interesting since it is the same form as the interrogative/ indefinite base in Apache (see Greenfield 1995) so likely reinforcements. All this points to *doo* still being a fully phrasal specifier.

As mentioned earlier, if *doo* is a negative specifier, negative indefinites are not expected and this turns out to be correct in Navajo. There are words such as *(t'áá) háiida* 'anyone, noone', as in (20), *(t'áá) haa'ida* 'anywhere, nowhere', and *háadida* 'anytime, never' (Y&M 817). Perkins & Fernald (in preparation) say that, as negatives, they "can only appear within a negative frame or a limited number of other environments", as in (21):

- (20) *T'áá háiida bil hóólne'* Navajo  
 just anyone 3-with tell  
 'Don't tell it to anyone' (Y&M, entry of T'áá háiida)
- (21) *Hastiin doo háágóóda oolbąsda* Navajo  
 man NEG somewhere drive-NEG  
 'The man isn't driving anywhere.' (Perkins & Fernald, Chap 11)

They appear infrequently, and are often rendered with what looks like a nominalized verb (22):

- (22) *Doo nisini da* Navajo  
 NEG want-NOM NEG  
 'I want nothing' (Y&M, entry for 'nothing')

Young & Morgan in their 1987 Dictionary and Grammar avoid translating these as negatives, i.e. they use them when free choice 'any-' is used in English, rather than with 'no-'. If *doo* is a specifier, the absence of negative definites fits since Negative Concord would not be allowed but then indefinites are incompatible with a polysynthetic language too.

In conclusion, analyzing Navajo negation as a combination of a specifier *doo* and a head *da* seems obvious. If the stages of the cycle in Figure 1 are correct, *doo* is the newer specifier. In

the next section, I provide data from related languages that show (possibly older) other negatives. I quote some Athabaskanists that the original negative is probably an aspectual verb. In Navajo and Apache and in some other Athabaskan languages, this negative is replaced by specifiers such as *doo*.

#### 4 Negatives in other Athabaskan languages

I'll now turn to some other Athabaskan languages and first show the diversity and then suggest the origin of the older and newer negatives.

Athabaskan negatives display an amazing variety which is noteworthy in a family that has retained many of its other characteristics. The data below show different stages of the negative cycle:

- |      |   |                           |
|------|---|---------------------------|
| (23) | <i>Edna ʔadu Mary əʔh</i><br>Edna NEG Mary she-see<br>'Edna doesn't see Mary' (Hargus 2002: 110). | Kwadacha (Ft Ware Sekani) |
| (24) | <i>nezú-híle</i><br>be.good-not<br>'It is not good' (Li 1967: 420)                                | Chipewyan (Dëne Sų́íné)   |
| (25) | <i>etlchona</i><br>'NEG-rain-NEG<br>'It's not raining' (Frank et al. 2006: 6).                    | Lower Tanana              |
| (26) | <i>du rágwe yíle</i><br>NEG 3-stays NEG<br>'s/he is not staying' (Rice 1989: 24).                 | Hare (K'áshgot'ine)       |
| (27) | <i>'ele' k'est'aaze</i><br>NEG it-NEG-cut-NEG<br>'He isn't cutting it' (Kari 1992: 123)           | Ahtna                     |

The data in (23) to (27) show some commonalities despite quite a diversity. The two aspects that I will focus on are (a) the specifier-like elements such as *doo* in Navajo (11) above, *du* in Hare (26); and (b) the *l*-shape auxiliaries such as the Chipewyan (24), Hare (26), and Ahtna (27). The Kwadacha (23) is possibly related.

In addition, there are two kinds of affixes, one pre-verb root, e.g. the *tl* in (25), the *s* in (27), and the *l* in (28) below. This latter affix is related to the verb's aspect, and sometimes in complementary distribution with the aspect marker (whose origin may be verbal). The other, the post-root *q* in (25), *e* in (27), and *ee* in (28), is also clearly a head. Both of these, especially the pre-verbal one, may be incorporated auxiliaries. Givón (2000) in work on Tolowa Athabaskan argues that many of the Athabaskan prefixes are verbal in origin, e.g. the perfective ones. I leave this for future work and I will not examine these forms:

- (28) *ghiitenleeghtletenee* Koyukon Athabaskan  
gh +t +n +l +gh +es +ł ten +ee  
QUA FUT QUA NEG 3S 1S CAUSE ice NEG  
'I won't freeze it solid' (from Kari 1993: 55)

So far, I have shown the diversity with negatives in Athabaskan, an otherwise relatively uniform language family. I'll now look at the two main negative strategies. I suggest that the *l*-negative in e.g. (28) is auxiliary based and older and that the renewal is through elements such as *doo*.

As mentioned in the introduction, Kari (1990) suggests that '*ele*' in (27) is perhaps related to the verb *lae* 'to be' and Leer reconstructs a Proto-Athabaskan *\*-he* suffix, "originally an enclitic" (2000: 102), and a Proto-Athabaskan-Eyak-Tlingit particle *\*(ʔi)leʔ* (Leer 2000: 123). He writes that it "seems probable that the Tlingit negative particle *l* is by origin a contraction of the prohibitive interjectional particle *(ʔi)li* 'don't' which is a phonologically perfect cognate with Pre-PA [Proto-Athabaskan] *\*(ʔi)leʔ*" (Leer 2000: 123-4). This particle is originally a third person negative of the verb 'to be' and was reanalyzed as a negative particle during Proto-Athabaskan-Eyak-Tlingit, cf. Tlingit (37) below and Ahtna '*ele*', as in (29):

- (29) '*ele*' *ugheli ghi-leh* Ahtna  
NEG good 3-PF.be.NEG  
'he is not good'. (Kari 1990: 272)

Rice (1989: 1108, n. 1) suggests that the negative *yile* in Slave, e.g. Hare (26) and Bearlake (30), "may historically be an auxiliary verb in the perfective aspect":

- (30) *bebi nedá yile* Bearlake  
baby 3-heavy NEG  
'The baby is light' (Rice 1989: 1101)

(Hare, apart from having both *du* and *yile*, can have either of these alone). Chipewyan (24) would fit this pattern with *-hile* having been reanalyzed as head. The Slave forms are therefore very similar to the preverbal negatives '*ele*' in Ahtna (and *łél* in Tlingit). A speculation might be that this pre-verbal auxiliary became phonologically too light (evidenced in frequent change from *yile* to *-le* in Slave) that the verb moved to its left.

So far, I have quoted Kari, Leer, and Rice that the *l*-like preverbal affix and the separate forms such as '*ele*', *yile*, and *-hile* are likely negative forms of the verb 'be', in accordance with what we know about one of the two negative cycles. Athabaskan languages are supposed to have spread from an Alaskan 'homeland' to the East and the South. If one looks at the geographical spread, as in Figure 3, it becomes clear that the *l*-form is an older one since the languages closer to Alaska have it. In addition to the languages discussed above, I have added several languages to Figures 3 and 4.

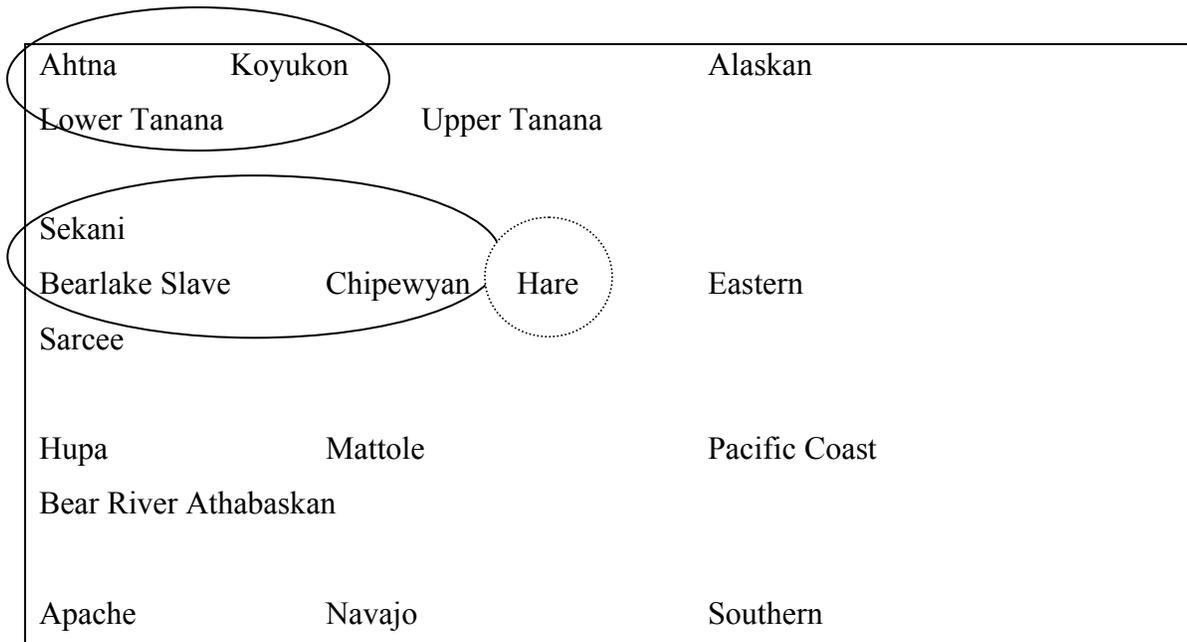


Figure 3: Geography of the l-form in Athabaskan

Auxiliaries typically derive from full verbs and there is some evidence for this in Athabaskan. The Navajo *hóla* and Minto *kula* mean 'is missing' and Rice (1989) has many examples from Bearlake and Hare with the same verb:

- (31) *nįhts'i while* Bearlake  
 wind absent  
 'There is no wind' (Rice 1989: 1107)

As mentioned, I won't go into the origin of the postverbal affix but continue with the possible origins of one of the preverbal markers, namely the *doo* that we have seen in Navajo and Apache and that we will see in Bear River Athabaskan, Hupa, and Mattole, and the *dú/du* in Sarcee and Hare. In Figure 4, I have given a classification of *doo/du/dú* in Athabaskan in terms of geography, and it becomes clear that the Pacific Coast and Southern languages as well as some of the Eastern ones know this phenomenon. The distribution is very much the opposite of that in Figure 3. I will suggest this complementary distribution is due to a loss of the *l*-form and a renewal by *doo*.

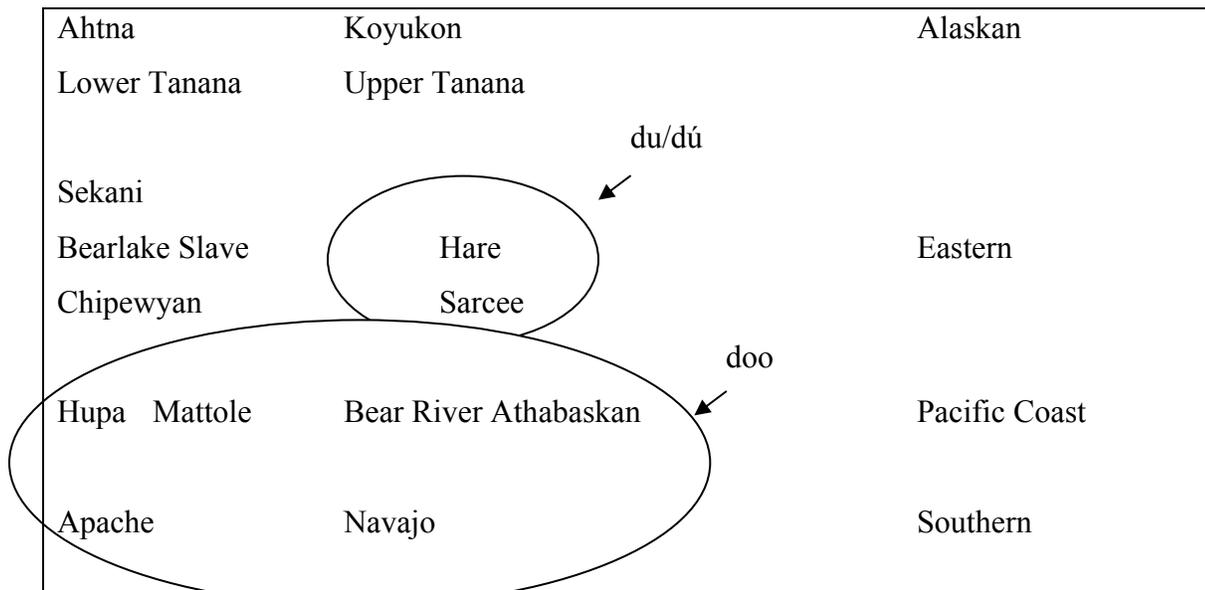


Figure 4: Geography of *doo*-forms in Athabaskan

In the Pacific Coast languages Mattole (Li 1930), Hupa (Goddard 1905), as in (32), and Bear River Athabaskan (Goddard 1929) a negative *do* appears and the affix has been lost:

- (32) *do he tce niñ yai* Hupa  
 not EMPH out 3-PST come  
 'He didn't come out' (Goddard 1905: 31)

Hupa, as most of the other languages, has an optional emphatic *heh* to add to *do*: 'not at all' (Golla 1996) showing *do*: is a specifier. The Alaskan languages have not developed an adverbial *doo*, but some of the Canadian Athabaskan ones have, e.g. an optional *du* in Hare (Rice 1989: 1103), and *dú* in Sarcee (Cook 1984: 51) though the latter's single example looks more like a prohibitive. Looking at the geographic spread, i.e. assuming Athabaskan spread from the Northwest to the Pacific Coast (Mattole and Hupa), to its East in Canada (Slave and Sarcee), and to the Southwest (Navajo and Apache), we see a predominance of *do* in the languages that are not in the Northwest, indicating this is an innovation.

To the best of my knowledge, not much is known on the etymology of *doo* and *da*, not to speak of Upper Tanana *k'aa* and others. Taking into account insights from the two cycles, it could be an indefinite that is renewing the negative. If we look for possible cognates, there are a few around. In Koyukon, *doo* is a sentence final particle (Jetté & Jones 149) and *do* an emphatic and interrogative (p. 139). In Ahtna (Kari 1990: 158), it may be related to an interrogative too, e.g. *nduu* 'where'.

In Navajo, *da* is indefinite, e.g. in *háágóóda* 'some place' and *da* introduces a yes/no question. In Ahtna (Kari 1990: 138), it is also an interrogative, as in (33) and (34):

- (33) *natidaas da* Ahtna  
 back-2-go Q  
 'Are you going back?' (Kari 1990: 138)
- (34) *nen da natidaas* Ahtna  
 you Q back-2-go  
 'Are YOU going back?' (Kari 1990: 138)

Since interrogatives are positioned in the CP-layer, i.e. in the beginning of the sentence, both *doo* and *da* could have been reanalyzed as expressing negative polarity in the CP.

It is useful to compare Koyukon Athabaskan and Upper and Lower Tanana, several Alaskan Athabaskan languages, as Kari (1993) does. These languages have an element comparable to *doo/do*. Kari shows that Koyukon (28) is rendered as (35) in the more conservative Lower Tanana (transcription as in Kari):

- (35) *tendhghaaghetltenęę* Lower Tanana  
 t +n +dh +gh +gh +es +ł +ten +ęę  
 FUT QUA NEG QUA QUA IS CAUSE ice NEG  
 'I won't freeze it solid' (from Kari 1993: 55)

The negative in (35) varies between *θ/ð* in Minto Tanana and *ð/h* in Salcha Tanana in non-perfective forms (see Tuttle 1998: 111). In many varieties of Lower Tanana, the prefix disappears and just the final *-q* appears (Siri Tuttle p.c.). More drastically, in the more innovative Upper Tanana, the inner negative and suffix head are lost and the outside negative shows reinforcement:

- (36) *k'aa tinaktän* Upper Tanana  
 NEG I-freeze-it-solid  
 'I won't freeze it solid' (from Kari 1993: 55)

The origin of Upper Tanana *k'aa* is unknown but may be related to the negative *k'ali'i/k'alii/k'ali'* in varieties of Ahtna. The first part *k'a* could be an emphatic and the second part similar to Ahtna *'ele'*. In Upper Tanana, only *k'aa* would be used.

## 5 The Cycles in Athabaskan, Eyak, Tlingit, and Haida

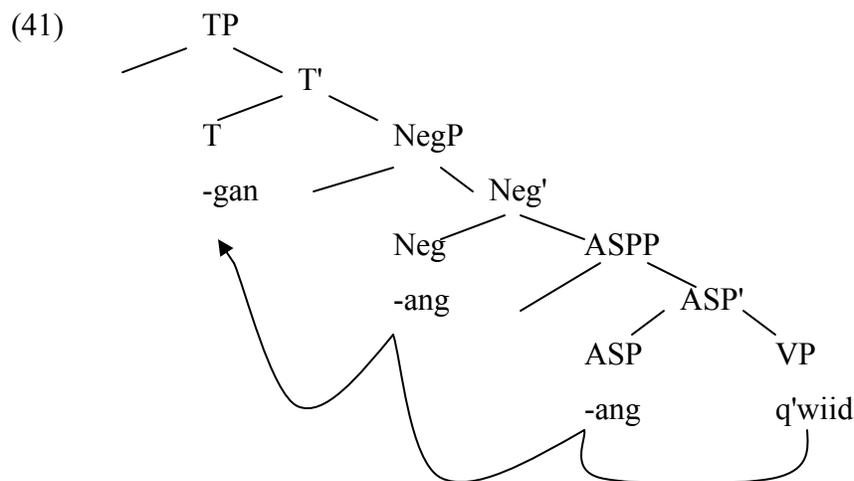
I will now add the possibly related Tlingit, Eyak, and Haida to the discussion. Their negatives are given as (37) to (39)

- (37) *ł'et wusgíd* Tlingit

- NEG fall-IRR  
 `he didn't fall' (Krauss 1969: 72).
- (38) *dik dəsłeqahGI* Eyak  
 NEG fall-NEG  
 `He didn't fall' (Krauss 1969: 72).
- (39) *gam sangaay 'la q'wiid-ang-ang-gan* Haida  
 not morning he be.hungry-FREQ-NEG-PRES  
 `He is never hungry in the morning' (Enrico 2003: 41).

The structure for Navajo suggested in (14) above can be adapted for these languages and the other Athabaskan languages. For instance, in Ahtna (one of the more conservative Athabaskan languages), Eyak, and Haida, the situation is exactly the same as in Navajo, namely both the specifier and the head of the NegP are filled. Yet, the forms are very different suggesting there has been loss and renewal.

Haida (39) presents evidence for the NegP being lower than the TP, as in (40), similar to Navajo (17), with the verb moving leftward. The separate negative *gam* would, as in Navajo, be situated in the CP:



In languages such as Slave, a Canadian Athabaskan language, the future can follow the negative (Rice 1989: 1101, example (8)), indicating possibly a tree similar to (41), with TP above NegP. In Chipewyan (Cook 2004: 106; 109), past tense and aspect enclitics also follow the negative, as in (42):

- (42) *Dëne tsqba dábets'i hile hi ni* Chipewyan  
 man money 3P-have NEG ASP PST  
 `people usually didn't have money' (Cook 2004: 109).

## 6 Concluding remarks

In this paper, I have argued that the variation in Athabaskan negation can be accounted for if we recognize two slightly different cycles in this family, one where indefinites renew the weakening negative and another where negatives are renewed from verbal sources. The Northern, more conservative, languages such as Ahtna, Koyukon, Lower Tanana, Sekani, Bearlake Slave, and Chipewyan show evidence of an original negative auxiliary whereas the Pacific Coast and Southwestern languages such as Hupa, Mattole, Bear River Athabaskan, Apache and Navajo show replacement by an interrogative or indefinite. Of the Eastern languages, Hare has both and Sarcee shows the replacement. More research is needed especially regarding these languages.

I have also suggested that the negative cycles can be expressed through structures in which a specifier is reanalyzed as a heads. As a summary of the different possibilities, I provide Table 1 which also includes the possibly related non-Athabaskan languages.

	Head (final)	Specifier	(aspectual) affix
Athabaskan			
Ahtna	yes	yes	Yes
Chipewyan	yes		
Hare	yes	yes	
Hupa		yes	
Koyukon	yes		yes
Navajo	yes	yes	
Sekani		yes	
L. Tanana	yes		yes
U. Tanana		yes	
Eyak	Yes	yes	
Tlingit		yes	
Haida	Yes	yes	

Table 1: Negatives in Athabaskan-Eyak-Tlingit and Haida

Haida is the least similar regarding sentence structure, not surprising since it is possibly not genetically related to Athabaskan, Eyak, and Tlingit, just areally. Athabaskan, Eyak, and Tlingit either have the head or the specifier filled or both. The prefix order in these languages is a lot more challenging too (see e.g. Rice 2001), though it seems that the Neg(ative) position is relatively high (right below the TP).

What does the variation mean for the negative cycle in Athabaskan or Athabaskan-Eyak-Tlingit and Haida? Three aspects are relevant. (a) The variability of the negative specifier such as *doo* that precedes the verbal complex indicates that it is of more recent (possibly interrogative) origin. (b) The loss of the suffix head is typical for the cycle. This occurs in Upper Tanana and is

accompanied by the use of a new specifier *k'aa*. (c) The origin of the inner affix, still present in Ahtna, Koyukon and Lower Tanana, may have been verbal.

More work is needed on the possibility of Negative Concord in certain languages. The Navajo situation is as expected, with a specifier present, Negative Concord should not occur and that's in fact the case. The same is true for Hare (Rice 1989: 1105). In Ahtna and Lower Tanana, the aspectual prefix is different depending on whether the sentence is negative or not. This aspectual marking may mean that, as Leer suggests, the negative was originally marked on a verb before it was incorporated into the verb complex.

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