

Neologisms in Indigenous Languages of North America

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1. Introduction¹. North American languages have been exposed to a wide range of new ideas, animals, and objects since the arrival of Europeans four hundred years ago. Many words original to indigenous languages are not morphologically simple, for example, Blackfoot *apahsípoko*, from *ipahs*, ‘mushy, curdled, thickened’ + *ipoko*, ‘taste’. These descriptive words and phrases may have acted as a model for the coining of morphologically complex words to describe new items. This paper compares a group of words (selected so as not to be words that would have existed before European contact) both cross-linguistically and within large families, using languages from several different language groups (including Algonquian, Salish, and Na-Dene). While this paper shows that language-internal word coining is in fact a widespread feature of Native American languages (Leonard 2008), statistical tests show that the strategies employed by language communities differ according to what type of object is being named. In addition, even languages that use a descriptive method for word coining often describe different aspects of the same object. These different views of the same object may be taken to represent different ways of interacting with the world, though a cultural investigation of this sort is beyond the scope of this paper.

I first discuss the methodology used in gathering and analyzing the data (2), including overviews of the language families and individual languages surveyed and the sources used for each language. Section 3 discusses the different types of lexical innovation employed by North American languages. Section 4 presents an analysis of the data collected, discussing the similarities and differences among the languages surveyed. The final section presents the conclusions of this research (5), including a summary of the arguments put forth in the paper, the implications for language revitalization and preservation, and the difficulties inherent in such a survey.

2. Methodology. During this project I consulted dictionaries as well as, when possible, speakers. Native speakers are especially invaluable because they may have critical insight into the transparency, usage, and sometimes history of the various terms. My goal in selecting words to compare was to create an inventory of words that would represent a balanced sample, that is, a sample including representatives from all categories I felt might be relevant, as opposed to a completely random sample. This meant including terms that existed at the time of European contact (e.g., ‘gun’), when indigenous language use was widespread, terms that have evolved or developed since the

decline of indigenous language use (e.g., ‘radio’), as well as a mixture of terms relating to the natural world (e.g., ‘cat’) and man-made objects (e.g., ‘screwdriver’). I also selected some objects which were similar to items present in pre-Columbian indigenous societies (e.g., ‘road’) in order to ensure at least a few tokens of semantic extension.

2.1. Language Overviews². Because this paper compares strategies within and across linguistic families, it is necessary to be aware of forms which are similar because of genetic inheritance or areal diffusion, rather than because of using similar strategies for lexical innovation. Thus it is important to understand, at least generally, which languages surveyed are in contact, as well as which are related and how closely. Table 1 gives the major genetic family and smaller subbranch for each languages, as well as where the languages is or was spoken. All references to genetic classification and location are from Gordon (2005). (AB = Alberta, AK = Alaska, AZ = Arizona, BC = British Columbia, CA = California, IA = Iowa, ID = Idaho, IL = Illinois, IN = Indiana, OK = Oklahoma, MT = Montana, NM = New Mexico, OR = Oregon, WA = Washington.)

Table 1. Language Classifications and Locations.

Language	Family	Subbranch	Location
Tlingit	Na-Dene ³	Tlingit	AK panhandle, parts of BC
Koyukon	Athapaskan	Ingalik-Koyukon	AK, Koyukon and Koyukuk rivers
Gwich'in	Athapaskan	Canadian	NE AK, N BC
Navajo	Athapaskan	Apachean	NM, AZ
Western Apache	Athapaskan	Apachean	NM, AZ
Squamish	Salish	Central	SW BC, Vancouver area
Lushootseed	Salish	Central	W WA, around Puget Sound
Thompson	Salish	Interior	S BC, Fraser and Thompson rivers
Okaganan	Salish	Interior	N WA, Colville reservation
Umatilla	Sahaptian	Sahaptin	N OR, Columbia river
Blackfoot	Algonquian	Plains	AB, MT
Miami	Algonquian	Central	IN, NE OK, IL, IA
Kootenai	isolate	isolate	SE BC, N ID, MT
Luiseno	Uto-Aztecan	Takic	S CA

2.2. Sources. Since for the most part I was unable to use linguistic consultants for this research, most forms come from dictionaries. The main disadvantage to using dictionaries rather than consulting members of language communities is that few dictionaries of indigenous languages give usage notes (generational, cultural, gender based, etc.) of a given word or phrase, and where multiple entries exist for the same word (e.g., ‘car’ in Blackfoot), it is usually not marked whether these forms are in some kind of

free variation, or whether there are specific differences between dialects or certain speakers. Thus it is often difficult to determine what method of coining new words is most common in a given language, since some entries may include examples of multiple methods without noting which is in more common or more recent usage. Many dictionaries also do not list the full etymologies of certain words, even those which are fully semantically transparent, both diachronically and synchronically. That being said, the publication of such dictionaries makes it possible to do broad surveys such as this one. Such a study of North American languages certainly would not have been possible even thirty years ago.

In this paper, unless otherwise noted, Blackfoot data comes from Frantz (1995), Gwich'in from Gwich'in Language Center (2005), Koyukon from Jetté & Jones (2000), Kootenai from Kootenai Culture Committee (1999), Luiseño from Bright (1968), Lushootseed from Bates (1994), Miami from Costa (1991), Navajo from Young & Morgan (1980), Okanagan from Mattina (1987), Thompson from Thompson & Thompson (1996), and Western Apache from Bray (1998). All Umatilla data is from Thomas Morningowl (p.c.). Tlingit data comes from Roby Littlefield (p.c.) unless otherwise noted. Squamish data comes from Leora Bar-el (p.c.) unless otherwise noted. Any morphemic analysis also comes from these sources unless otherwise noted.

3. Types of Lexical Innovation. In order to discuss lexical innovation, it is first necessary to describe the main types of word coining that are used. The three⁴ types of lexical innovation this paper focuses on are neologisms (language-internal coinings), borrowings, and semantic extensions. Neologisms are descriptive words or phrases used to describe a hitherto unknown item⁵. Often they utilize productive morphemes in the language to generate a new word for a new item, e.g., Umatilla Sahaptin *pluuswit'awas*, 'computer,' composed of *pluus*, 'brain' + *wit*, abstractive suffix + *awas*, instrumentative suffix. When analyzing neologisms, it is often useful to discuss what aspect of the item in question the language chose to describe. I will use the term feature selection to refer to picking the most perceptually salient attribute to describe when a language is creating a neologism. Borrowings occur when one word is taken directly from another language, usually with concomitant phonological adaptation (e.g., Koyukon *kelaandas*, 'pencil,' from Russian *karandásh*⁶). Semantic extension is what happens when a new term or concept is similar enough to an existing object that the semantic scope of the original word is expanded to include the new item. An example of this is the introduction of the domestic cat to North America. Since felines were already well known, some languages expanded the usage of an existing term to include this new animal (e.g., Miami *pinšiwá*, 'cat, lynx'; Teetl'it Gwich'in *niinjii zhuu*, 'cat,' lit. 'young lynx'). An example from

Blackfoot is the word *stamik*, which used to mean ‘male bison,’ but in modern times it has come to mean ‘steer,’ or ‘bull,’ referring to cattle instead of bison.

4. Comparison of Language Strategies. The limited number of possibilities available for coining new words creates some uniformity across languages. However, the application of similar methods cross-linguistically does not necessarily result in lexical items which are semantically similar. In a group of languages that all use descriptive neologisms, for instance, languages may differ widely in feature selection. The words for ‘car’ are presented in table 2⁷. (Ath = Athapaskan, S = Salish, Alg = Algonquian, iso = language isolate, N-D = Na-Dene. In the strategy column, N = neologism, B = borrowing, E = semantic extension.)

Table 2. Words for ‘car’.

	Language	Word	Meaning	Strategy
a)	Koyukon (Ath)	kk’o’eelbaalee	that on which one rolls around	N
b)	Gwich’in (Ath)	iitsii khał	metal wagon	N
c)	Navajo (Ath)	chidí	onomatopoetic	N
d)	Lushootseed (S)	tuł ^w us	clapping or pounding sound in front	N
e)	Thompson (S)	ka(h)	borrowing from English	B
f)	Okanagan (S)	nqýqýx ^w ups	stinking end	N
g)	Blackfoot (Alg)	áíksisstoomatokska’si	starts to run without apparent cause	N
h)	Kootenai (iso)	kqaqana’łkqac	travels on its own	N

A comparison of these languages shows about as much variety as is possible, both in strategies for creating new words and feature selection (in neologisms). Koyukon (2a), Gwich’in (2b), Okanagan (2f), Blackfoot (2g), and Kootenai (2h) all use descriptive phrases for the word ‘car’, but each selected a different feature to describe. In Koyukon it is the rolling aspect of a car that is most salient (cf. *baatl*, ‘roll, revolve’), in Gwich’in it is the material makeup of the car, in Okanagan it is the smell produced by the car, and in Blackfoot and Kootenai it is the fact that cars move essentially on their own, with nothing pulling them (compare former ‘horseless carriage’ in English). The similarity between Blackfoot and Kootenai feature selection may be because of their geographical proximity: they border each other in Montana and Alberta. Navajo (2c) and Lushootseed (2d) both refer to the sound of the car, in the case of Navajo by literally imitating the

sound (*chid*, the sound a car makes + *i*, a type of nominalizer meaning, ‘the one which’ (Young & Morgan 1980)), while Lushootseed describes the sound. Thompson (2e) borrowed the word ‘car’ from English (dropping the foreign rhotic).

In these examples it is evident that languages do not always opt for the same method when creating a new lexical item. Koyukon, Gwich’in, and Navajo are all Athapaskan languages, yet Koyukon and Gwich’in use descriptive phrases, while Navajo made up an entirely new word based on onomatopoeia. Areal influences seem to have more of an effect, since Koyukon and Gwich’in use the same strategy (though not the same feature selection), as do Blackfoot and Kootenai, which are unrelated.

The words for ‘telephone’ in table 3 display less variety in feature selection than seen in table 2, though a thorough investigation into why this should be the case is beyond the scope of this paper.

Table 3. Words for ‘telephone’.

	Language	Word	Meaning	Strategy
a)	Western Apache (Ath)	bésh bití’yá’ití’í	what one talks with	N
b)	Navajo (Ath)	béésh bee hane’é	lit. ‘tool with there is conversation’	N
c)	Gwich’in (Ath)	t’yah vizhit tr’igjikhii	lit. ‘line in it talking’	N
d)	Tlingit (N-D)	atóodei yóo xh’aduwatáangi át	that thing you talk into	N
e)	Lushootseed (S)	səx ^w ǰ ^w udǰ ^w ud	device for conversing	N
f)	Thompson (S)	cənxíc	to ring, to call s.o. by telephone	E
g)	Okanagan (S)	tq ^w lq ^w ltiws	from <i>q^wl</i> , ‘talk’	N
h)	Blackfoot (Alg)	iihtápii’poyo’p	what one talks afar with	N
i)	Kootenai (iso)	kuqunał cxanam	? (possibly related to <i>qunał</i> , ‘go over to do’)	N

In this case it is evident that most languages have converged on one aspect of the new concept: talking. All the Na-Dene languages (3a-d), as well as at least half of the other languages listed, make the verb for ‘talk’ the root from which the neologism is derived. In the Navajo (3b) example, the word *béésh* means ‘tool’⁸, the word *bee* is something of

an instrumental marker often translated ‘with it,’ and *hane’é* means ‘talking takes place’ or ‘there is conversation.’ While the meaning of the Kootenai example (3h) is not apparent, it is clearly a descriptive phrase, since it is multiple words and begins with the nominalizer *k*. Thus out of examples from nine languages, eight are neologisms, with Thompson (3e) being the only outlier by using a semantic extension of the verb ‘to ring.’ This shows a marked difference from the terms for the word for ‘cat,’ shown in table 4.

Table 4. Words for ‘cat’.

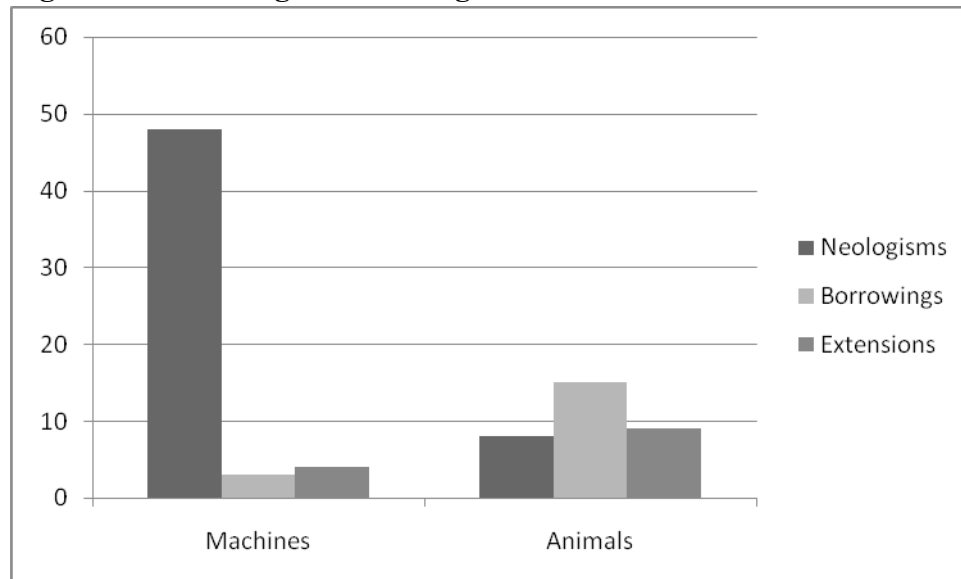
	Language	Word	Meaning	Strategy
a)	Tlingit (N-D)	dóosh	loan from Chinook Jargon	B
b)	Western Apache (Ath)	gídí	loan from English	B
c)	Navajo (Ath)	mósí, másí	loan from Spanish	B
d)	Gwich’in (Ath)	niinjii zhuu	young lynx	N
e)	Koyukon (Ath)	k’oots’eege	the one that whines at s.t.	N
f)	Lushootseed (S)	píšpiš	loan from English (?)	B
g)	Thompson (S)	pós(i), pús	loan from English	B
h)	Okanagan (S)	pus	loan from English	B
i)	Squamish (S)	push	loan from English	B
j)	Blackfoot (Alg)	ohpoos, poos	loan from English	B
k)	Kootenai (iso)	pus	loan from English	B

Several things need to be noted about the forms in table 4. The Tlingit word *dóosh* (4a) is indeed from Chinook Jargon, but since the borrowed word was *púsh* or *púshpúsh* (also *púspus* in Southern Oregon), this is clearly from the same English loan as many of the other languages surveyed. It should also be noted that Tlingit borrowings often have opaque phonological changes created by the lack of labials in Tlingit. A comparison of borrowings in Tlingit with the original source word shows that labials are often mapped onto labialized velars, but this can be unpredictable. See Crippen (2007) for more discussion of phonological mapping in Tlingit loanwords. The Gwich’in example given (4d) is from Teetl’it Gwich’in, one of two dialects which have significant lexical differences. The form given in (4d) is the Teetl’it version. In the Gwichyah dialect, the term is similar (*niinjii zheu*), but *niinjii* has been extended to mean ‘cat,’ so that the term for cat actually means ‘young cat’ instead of ‘young lynx.’ This can probably be traced through an original word or phrase which meant ‘young lynx,’ after

which the simple term *niinjii* came to mean ‘cat’ by itself. Finally, the high level of convergence among the Salish and Algonquian languages (4f-j), as well as Kootenai (4k), Chinook Jargon, and Tlingit (4a), needs more investigation (though see Denzer-King (2008)). They may all date back to a loan from Dutch *pooschees* (Mithun 1999), but in this paper I will follow the widespread assumption that the loan is directly from English ‘puss’ or ‘pussy.’

Compared to the words for ‘telephone’ in table 3, it is obvious that the strategies employed for ‘cat’ are completely different. Out of eleven languages, nine borrowed the word and only two used neologisms (for discussion on whether ‘young lynx’ should be considered a neologism or extension, see 5.1 below). In addition, Koyukon does have a borrowed form of cat (*gusge*, from Russian *kóshka*), though it is not the first entry listed in Jetté’s dictionary. This preference for neologisms describing machines or mechanical inventions/tools and borrowings or extensions for animals and other natural items seems to hold for almost the entire sample surveyed for this paper. Figure 1 shows the number of word coinings present in the entire cross-linguistic sample for neologisms, borrowings, and semantic extensions.

Figure 1. Cross-linguistic Strategies for Mechanical Inventions vs. Animals.



Clearly neologisms are favored for mechanical inventions, with forty-five instances of neologisms for such terms, compared to only four instances of semantic extension and three of borrowing. Items included in this category include telephone, airplane, car, screwdriver, gun, radio, computer, television, etc. In the animals category, the strategies were more evenly applied, but borrowings seem to be favored (15,

compared to 9 semantic extensions and 8 neologisms). While the preference for borrowings in the animals category is not statistically significant because of the small sample size, a chi-square test shows that the preference for neologisms among mechanical inventions/tools is ($p=0.0000001$), as is the difference of preferences between the two categories ($p=0.00000003$).

5. Conclusions. The major purpose of this study was not merely to look at individual forms in individual languages, but to analyze possible cross-linguistic trends or tendencies. By using a statistically valid sample size, it was possible to demonstrate that there is a real difference between strategies employed for naming man-made objects versus natural objects.

5.1. Summary. Languages use three main strategies for coining new terms: neologisms (descriptive words or phrases), borrowings (usually with phonological adaptation), and semantic extension (in which an older word is assigned to a newer concept, sometimes still retaining the older meaning, sometimes replacing it). Calques are not covered in this paper because they are rare and generally fall under the purview of neologisms. This paper shows that languages use different strategies for coining new words, even for the same concepts. Certain categories of lexical innovation show statistically significant differences in choice of strategies, viz., languages appear to distinguish between man-made objects and natural objects when coining new words. A summary of which strategies are used most often by each language is shown in table 5.

Table 5. Strategies Presented by Language.

Language	Neologisms	Borrowings	Extensions	Total
Squamish ⁹	2	3	0	5
Lushootseed	6	2	2	10
Okanagan	17	5	4	26
Thompson	14	6	10	30
Tlingit	7	26 ¹⁰	3	36
Gwich'in	15	0	3	18
Koyukon	8	1	2	11
Navajo	22	2	4	28
Western Apache	14	2	5	21
Blackfoot	41	2	4	47
Kootenai	15	2	2	19
Luiseno	8	2	3	13
Umatilla	8	0	3	11
Total	171	51	43	267

Table 5 shows that indigenous languages more often opt for creating new descriptive phrases rather than borrowing from another language or using an older word and ascribing new properties to it ($p=5 \times 10^{-12}$). This is not to say that languages *only* use this strategy; almost every language surveyed used all three strategies even in the small samples inspected here. However, it does show that, possibly because of the model set by earlier multimorphemic noun phrases, indigenous languages of North America utilize productive grammatical processes to coin new words rather than seeking language-external sources. The general trend seems to be to prefer neologisms to both extensions and borrowings ($p=.0008$). Tlingit must be left out of any statistical analysis because the sample I used was so heavily skewed towards borrowings. In the future, I will hopefully be able to use a more balanced sample of Tlingit data. A project of this type obviously benefits from massive amounts of data, so another direction for future research will be to include more languages from more and varied families in order to determine whether the trends analyzed here hold throughout the entire North American continent. It would also be a worthwhile pursuit to look into indigenous languages in other areas of the world to see if the same patterns exist elsewhere.

5.2. Implications. The use of neologisms rather than borrowings has important implications for native language revitalization. Borrowings cannot be said to degrade language in any way, but when borrowings come from a culturally dominant language (like English in the United States), younger speakers may feel pressure to simply use the dominant language instead of just borrowing words from it. The continued use of neologisms is thus a vital part of language preservation, because if people are going to continue to use a language, they must be able to say what they want to say. A language with no word for “cell phone” or “computer” is less likely to be used by younger generations than one which innovates. As Grenoble & Whaley (2006) put it, “creating a language revitalization program frequently involves updating the lexicon of a local language to meet the demands of the domains in which it will be used” (p. 181). Neologisms are also an important part of continued cultural traditions, since modern neologisms, especially those which are created by a language advisory board or committee, are specifically constructed to reflect certain social or cultural views on the object being named, e.g., Umatilla *shapa’ayayshwit’awas*, ‘television,’ literally, ‘thing that makes one stupid’ (see Hinton & Hale 2001 for more). In addition, “an active awareness and open dialogue about lexical innovation proposals and guiding ideologies facilitates community cohesion in language reclamation efforts” (Leonard 2008). The construction of language-internal neologisms can reverse the devaluation that may occur with extensive borrowing.

5.3. Difficulties. To compare strategies for lexical innovation it is of course necessary to first lump individual tokens into broader categories, i.e., to look at a given

word and label it as either a neologism, a borrowing, or an instance of semantic extension. In many cases this is straightforward, as with Thompson *ka(h)*, ‘car.’ This is clearly a borrowing, and in no way resembles either of the other two categories. Likewise, Blackfoot *innóísttoani*, ‘American,’ literally ‘have long knife,’ is clearly a neologism; it is a descriptive polymorphemic word which is not a borrowing or extension. However, not all cases are so clear-cut. An example of this is the common reference to newly encountered items as “white man’s _____,” filling in the blank with whatever familiar item is most similar. This is a trend among Thompson fruit names, e.g., *qʷʷéps e sémeʔ*, ‘apple,’ literally ‘white man’s crabapple;’ *skəz’kəz’s e sémeʔ*, ‘banana,’ literally ‘white man’s prickly pear fruit.’ Should these ‘white man’s’ items be counted as neologisms or semantic extensions? Clearly the original word is being “extended” in some way, because it is being applied to a novel object. However, for the purposes of trend analysis in this paper they were counted as neologisms, with semantic extensions being reserved for those words which are simply used as they are to describe new concepts, without being modified in any way to signify the extension of meaning.

In addition, the use of dictionary entries can be problematic because they do not always reflect community-wide usage and connotation. For instance, the word *pájaro* means ‘parrot’ in Spain, but in South America has become a vulgar slang term for male genitalia. While most extensive Spanish dictionaries will note this, indigenous languages frequently do not have extensive dictionaries, and many have only word lists. Because of this, using dictionaries of indigenous languages can be problematic because the words included therein can be reflective of a single person’s idiolect. Though it is worth noting, this problem is not necessarily a serious one for a project such as this, since neologisms often originate with a single person, and afterwards catch on in the community. Thomas Morningowl (p.c.) noted that as a translator for religious ceremonies (from English into Umatilla Sahaptin), he often makes up words as he is translating, and in many cases this is how neologisms catch on in the community.

Appendix

Due to space limitations, preclude a complete set a data analyzed in this study cannot be included. Below are sample data sets from Koyukon and Thompson.

Koyukon, from Jetté & Jones (2000)

book	neełts'aanonolkkuge	lit. 'that which falls apart repeatedly'
car	kk'o'eelbaalee	lit. 'that which rolls around'
cat	k'oots'eege	lit. 'the one that whines at sth.'
gun	deltudle	lit. 'the thing which makes a loud noise'
necktie	denaalaan hedeeloye	lit. 'that which rests against the neck'
paper	nedenledege	orig. 'strike with arrow'
pencil	kelaandas	loan from Russian <i>karandásh</i> , a brand of pencil
radio	beyekk'e kk'ena k'etelaaye	lit. 'that through which words are sent'
road	tene	'trail, path, road', from <i>ten</i> , 'trail'
screwdriver	baahaa noch'enedetugge	lit. 'that with which sth. is unscrewed'
table	betleekk'e k'edone	lit. 'on which people eat'

Thompson, from Thompson & Thompson (1996)

airplane	nxʔiyxtn	‘it rises of its own accord’
apple	ʔépls	borrowing from English
banana	skəzʔkəzʔs e sémeʔ	lit. ‘white person’s prickly pear’
book	scʔóqʷ	from cʔóqʷ, ‘mark/draw/write’
car	ka(h)	loan from English
cat	pós(i), pús	English loan
chicken	cíkn	borrowing from English
compass	ncúlmn	from cúł, ‘indicate, point out’
English	səmeʔcín	from sémeʔ, ‘white person’
gun	ckʷínʔek	from ckʷ, ‘pull’
horse	ncʔesqáxaʔ	from qáxaʔ, ‘dog, horse’
hotel	nʔoyʔtélxʷ	from ʔoyʔt, ‘sleep’
paper	scʔóqʷ	from cʔóqʷ, ‘mark/draw/write’
potato	pəték	borrowing from English
radio	nkʔéyʔntn	from kʔéyʔnm, ‘listen’
road	xwél, xəwél	‘trail, road’, from xw, ‘trail’
ship	scʔəqʔéwł	‘boat, canoe, ship’
silver	snuyehéyʔst	lit. ‘beaver stone’
table	típəł ~ típəl	loan from English
telephone	çənxíc	from çəñ, ‘ring’
Thursday	smusésqʔt	lit. ‘fourth day’
tiger	ʔesəʔsəp tək spzúʔ	lit. ‘animal with vertical stripes’

Notes

¹For specific language data and depth of knowledge about how neologisms are formed I am indebted to James Crippen (Tlingit), Roby Littlefield (Tlingit), and Thomas Morningowl (Umatilla Sahaptin). This paper also benefitted greatly from useful comments and discussion from Leora Bar-el, Josh Birchall, Mizuki Miyashita, Meredith Ward, and Becky Wood, as well as the audience at WAIL 2008, though this does not necessarily mean that they agree with all the claims presented here. Any errors, in data or analysis, are of course my own.

² North American languages, like most languages, often have exonyms at variance with what speakers call their language. The language names I use in this paper are taken from the dictionaries for each language.

³ Na-Dene is often used as a broader term to include not only Tlingit, Eyak, and the Athapaskan languages, but Haida as well (Gordon 2005). This is a controversial claim and one which is not assumed here; I use Na-Dene for Tlingit-Eyak-Athapaskan.

⁴Baldwin (1994) adds a fourth category, calques (loan translations), but since these play a minor role in the lexical innovation discussed here, I do not comment on this category.

⁵There is also the case of nonsense words which are framed only by a language's phonotactic rules as opposed to any semantic reference (e.g., 'blurb'). Since I have come across no such tokens in the indigenous languages of North America, this type of lexical innovation is not discussed here.

⁶Carmen Jany (p.c.) notes that *karandásh* is not actually the basic word for pencil in Russian, but refers to a specific brand, similar to the use of "Kleenex" in American English for any brand of facial tissue.

⁷All words are presented in the orthography of the dictionary from which they were taken, with the exception of Kootenai, in which two rare symbols have been substituted with more Unicode-friendly counterparts: the Kootenai double-barred 'l' has been replaced with the more common single-barred 'l', and the Kootenai barred 'c' has been replaced with a simple 'c'. Orthographies which differ from standard Americanist orthography are as follows: ' after a vowel represents a glottal stop, vowel doubling indicates double length, Koyukon 'kk' is Americanist 'q', Gwich'in 'kh', Tlingit 'xh', and Kootenai 'x' are 'ǰ', Gwich'in 'zh' is 'ž', Navajo 'ch' is 'č', Blackfoot 'h' is 'x', and Tlingit and Squamish 'sh' are 'š'.

⁸This word has a fairly high functional load in Apachean languages, especially in neologisms, and can also mean 'metal/flint,' but when used in neologisms it is often the 'tool' meaning which is used in translation. The same Apachean reflex is seen in Western Apache *bésh*.

⁹While Thompson, Tlingit, and Blackfoot were the only languages with a large number a words investigated (n>30), most other languages had enough data to draw some tentative conclusions. The Squamish sample size, however, was so small that no conclusions should be drawn about this language.

¹⁰A significant portion of the Tlingit data comes from a list provided by James Crippen (p.c.) of Tlingit borrowings from Chinook Jargon. Thus, while Tlingit does seem to be

more prone to borrowing than several of the other languages surveyed, the data is heavily skewed towards borrowings, and is not a balanced sample.

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