Phonological Change in Japanese-Ainu Loanwords

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Pasenopo Iyayraykere.

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Background.

Loanwords.

The goal of the modern linguist is to draw demonstrable conclusions about the internal systems of languages, the relationships between languages, and the human ability to use language. One of the internal systems of language is phonology, which involves the production and perception of speech sounds. A major question in phonology is how the interactions of these processes are organized, and how this organization works differently in different languages. For instance, some languages do not permit consecutive consonants. Some languages have more complex demands, such as "before the palatal vowel /i/, the alveolar voiceless fricative /s/ will become the palato-alveolar voiceless fricative /ʃ/."

Most of these organizational principles can be determined by carefully studying the normal speech of speakers of the language in question. There is a "back door" to understanding the phonology of a language: when speakers of a given language borrow words from a phonologically different language, they usually bend the sound of the new words to fit the rules of their own language. (Anderson & Lightfoot 2002, p93) Borrowed words, or "loanwords," often violate the phonological constraints of the borrowing language. These violations must be reconciled. The way in which violations are reconciled in turn reveals the relative importance of the phonological

constraints. Because loanwords present unusual problems to the phonological system of a language, loanwords allow linguists to analyze problems that are otherwise inaccessible.

While loanwords have the advantage of an unusual perspective, they are deceptive in their own way. A body of loanwords is not all borrowed at once. They come into a new language through human contact, and may be introduced at any point during a lengthy period. If words are being borrowed from one language into another over a period of centuries, both languages will have changed significantly during the period. Neither language will be really one language, but a series of versions through time. The same applies for space: words can be borrowed from non-standard or regional dialects and adopted into regional dialects, so that dialect variations must be accounted for in the analysis of loanwords. These are the easiest confounding variables to correct. Each loanword has its own history, and some may have unique quirks that are nigh-on impossible to understand. In the study of loanwords, then, we should expect heterogenous data and phenomena, and we must bear in mind the historical context of the borrowing. Only by forgiving variation here and there can we use loanword data to develop a broader analysis of a phonological system.

Linguistic Context.

This paper is an overview of the phonology of loanwords in Ainu. Ainu is a language historically spoken around northern Japan: in northern Honshu, and on Hokkaido, the Kurile archipelago, Sakhalin, and the southern part of Kamchatka. (Shibatani 1990 p3-4) Linguists have made numerous attempts to find another language related to Ainu, comparing Ainu to Indo-European, Malayo-Polynesian, Hebrew, Assyrian, Basque, Japanese, and Amerindian languages. (Refsing 1986 p53, Phukan 2008 p4) None of these links is conclusive, let alone generally accepted. Most linguists assume that Ainu is an isolate. While Ainu has many features worthy of study, such as its number system and concept of time (Harrison 2007 p189, Refsing 1986 p38), the scope of this

paper is limited to phonology only. A description of Ainu phonology will follow, but first it is necessary to review who the Ainu people are and under what circumstances they historically borrowed words from some form of what we now call Japanese.

Historical Context.

Around the year 1500, the economy of the Ainu people revolved around agriculture, as well as fishing, hunting, and gathering. (Shibatani 1990 p4) Sea mammals and river fish like salmon were particularly important. Ainu people interacted with, among others, Nivkh people to the north and Japanese people to the south. The Japanese, who had more extensive military resources, occasionally fought with the Ainu, taking territory and by the 17th century establishing a permanent presence in Hokkaido. This presence was in the form of the Matsumae clan's feudal headquarters, located near the very southern tip of Hokkaido. The militaristic feudal nature of the Japanese presence in Hokkaido is reflected in a number of loanwords, which include various samurai ranks, pieces of armor and weapons. During the feudal period, a number of other Japanese people settled in Hokkaido, most of them from north-east Honshu (called *Tōhoku*). The Japanese settlers exploited natural resources to a degree that threatened the livelihood of the Ainu, and they enforced exploitative trade practices with military force. There were several Ainu rebellions, but none had lasting success. (Refsing 1986 p58)

In the second half of the 19th century, unprecedented numbers of Japanese people began moving to Hokkaido as a part of the modernization program undertaken by the Japanese government. Ainu language was de facto banned, and the only way out of poverty and oppression for most Ainu people was to assimilate, taking on the language, as well as beliefs and lifestyle, of Japanese people. The Ainu language was so stigmatized that by the early 20th century parents had stopped passing it on to their children. Most Ainu parents hid their Ainu ancestry from their own

children. By 1986, when Kirsten Refsing wrote her description of the Shizunai dialect of Ainu, the language was

> "… no longer a living speech community, but only survives in a few, more or less isolated persons of advanced age. In recent years there have been attempts at reviving the language, but so far they have not resulted in any tangible change.... all speakers of Ainu are bilingual and actually use Japanese in the majority of their daily contacts."
>
> From Refsing 1986, p276

Today, it is claimed, there are fewer than ten native speakers of Ainu left. As Refsing indicates, it has been a long time since a speaker of Ainu was not also fluent in Japanese. Since the 1990s, the Ainu language has seen some gains (see Addendum). The readily studied remains of the fluent Ainu speech community consist of recordings, texts, and analyses done by linguists, mostly within the past fifty years. This paper relies chiefly on the data collected by Kindaichi Kyosuke, Tamura Suzuko, and Kirsten Refsing, especially the Saru dialect dictionary compiled by Tamura.

Goals.

The purpose of this paper is to describe the main phonological trends in loanwords from Japanese into Ainu. The most obvious areas of interest are those parts of phonology where Ainu and Japanese are widely known to differ, especially areas where Japanese phonology has features that Ainu does not. These features include several consonants, notably /ɸ/, plus consonant-voicing and vowel-length distinctions, which Japanese has, and Ainu does not.

Methods.

The method of the present study has been as follows: First, develop a full understanding of Ainu and Tohoku Japanese phonology. Second, search Ainu word lists (especially Tamura 1996) for terms either positively identified as loanwords (e.g. terms whose etymology states "from Japanese") or for terms that are so close to loanwords that they are impossible to disregard. Third, identify the

differences between the Ainu form of each loanword and its likely original Tohoku dialect form. Fourth, classify these sound changes into types of phenomena, and draw conclusions about the patterns of sound change. For any given phenomenon of sound change, ten terms may obey one rule, while two terms require indvidual analysis. This paper strives to describe the main rules of sound change in Ainu loanword phonology; those terms requiring individual or smaller-bore analysis are unfortunately beyond the scope of the present study.

Terminology and Phonetic Representations.

This paper will use the following order of languages in data sets, analyses, and any place that is not marked otherwise: Hokkaido/Tohoku dialect Japanese (abbreviated TJ), Saru river valley (Hokkaido) dialect Ainu (Ainu), and standard US dialect English (English). There is also some reference to modern standard Japanese (MSJ).

The Ainu fricative and affricate phonemes "s" and "c" surface as allophones {/s/, /ʃ/} and {/ʦ/, /ʧ/, /ʣ/, /ʤ/}, respectively. The written representation here of these phonemes may not reflect the true pronunciation. When in doubt, recall that these allophones are essentially interchangeable, and that one or another of them may make more sense in the phonetic context at hand. Stops /p/, /t/, and /k/ present a similar issue: while they are often actually pronounced /b/, /d/, and /g/ in Ainu, they are represented here with orthography that suggests voiceless pronunciation. For convenience, recall that there is no obstruent voicing contrast in Ainu.

The flap /ɾ/ is written as "r" throughout this paper for expedience. Japanese-speakers do use the trill /r/, but not in normal speech: "[trilled /r/ is] not typical of the phonology of [standard Japanese], but rather is stereotypically associated with working-class male speakers or with TV gangsters." (Okamoto & Smith 2004 p285)

Japanese and Ainu phonology.

1. Japanese.

Loanwords in Ainu are almost entirely from some dialect or another of Japanese, and this paper will deal only with these loanwords. It is appropriate to set down a description of the sounds of Japanese, and more specifically of northern Tohoku Japanese. The sounds of Japanese are given below:

Vowels:

i		u (actually ɯ)
e		o
	a	

Consonants:

	Bilabial	Alveolar	(Palato-alveolar)		Palatal	Velar	Glottal
Nasal	m	n			ɲ	ŋ	
Plosive	p, b	t, d				k, g	
Fricative	ɸ	s, z	ʃ	ç			h
(Affricate)		ʦ, ʣ	ʧ, ʤ				
Approximant	(w)			j	(w)		
Flap		ɾ					

Japanese phonology also has palatalized consonants, e.g. /bʲ/, /pʲ/, /kʲ/, /gʲ/, /hʲ/, /rʲ/, etc. (The above is from Shibatani 1990, Ono 1993, Watanabe 1983, Inoue 1968, and Ono & Okuda 1999)

This is the basic set of sounds in modern standard Japanese. There are a number of restrictions on the arrangement of these sounds. Japanese syllable structure allows for V, CV, and CVV syllables. Two consonants are licensed to end a syllable: a moraic nasal, and a moraic non-nasal stop. The moraic non-nasal stop (often represented as "Q") may only appear before a non-nasal stop, and effectively acts to lengthen that stop, although it is counted as its own mora, e.g.

/ʃiQ.ka.ri/ = /ʃik.ka.ri/, "steady." The moraic nasal assimilates to the place of any following stop. Unlike the moraic non-nasal stop, the moraic nasal may appear word-finally, e.g. /akaN/ = /akan/, "No good," Kansai dialect.

Several restrictions have to do with the allophones of particular phonemes. The phoneme /h/ surfaces as /ç/ before /i/, and as /ɸ/ before /u/, that is: [çi], [he], [ha], [ho], [ɸu]. The sounds /s/ and /z/ surface as /ʃ/ and /ʤ/, respectively, before /i/. The sounds /t/ and /d/ surface as /ʦ/ and /ʣ/ before /u/; this is the only context in which /ʦ/ and /ʣ/ appear. Again, /t/ and /d/ surface as /ʧ/ and /ʤ/ before /i/; in this case, /ʧ/ and /ʤ/ are not limited to that context only. For a more complete description of modern standard Japanese phonology, see Shibatani 1990, p158-184.

The Japanese of Tohoku has a number of phonological features which are particularly relevant to a discussion of Ainu loanwords. [The Hokkaido dialect is essentially a part of the Tohoku dialect.] The high front vowel /i/ is lower at word-initial position and does not contrast with /e/ in that position. In mid-word and word-final position, /i/ is more centered, and does not contrast with /u/ in those positions. As for /u/, it becomes a center vowel word-initially. The high vowels /i/ and /u/ often do not contrast after a consonant, especially not after /s/, /ʃ/, /ʦ/, /ʧ/, /z/ and /ʤ/. According to Watanabe 1983, /o/ is not strongly rounded in Hokkaido Japanese. Standard Japanese diphthongs /ai/, /oi/, and /ui/ appear instead as /ɛ/, /ɛ/, and /i/ respectively. Some standard Japanese long vowels are short in the Tohoku dialect. On the other hand, some monosyllabic words with short vowels in standard Japanese have a long vowel in Tohoku Japanese, e.g. standard /te/ = Tohoku /te:/ "hand." In some CVV syllables, the second vowel segment becomes the moraic nasal, e.g. standard /ʤo:zu/ = Tohoku /ʤonzu/, "skilled."

Obstruent consonants in Tohoku Japanese are voiced intervocalically. Intervocalic voiced obstruents are almost always pre-nasalized, which is apparently a preserved archaic feature. In

modern Tohoku Japanese, intervocalic /g/ is usually not prenasalized, but rather turned into the nasal consonant /ŋ/. In some cases, prenasalized obstruents are devoiced:

Modern standard Japanese:	miʤikai	zabuton
Modern Tohoku Japanese:	mi^{n}ʧikɛ	za^{n}puton
English:	*short*	*sitting pillow*

In some variants of the Tohoku dialect, intervocalic voicing and prenasalization are blocked after long vowels. A few remaining differences between standard Japanese and the Tohoku dialect are best represented in a list:

Modern standard	Tohoku dialect
/çi/	/ʃi/; /ɸu/
/se/	/he/
/ku/	/ɸu/
/he/	/ɸe/

In addition, the consonant /r/ is sometimes dropped. These differences do not appear in all Tohoku speech, but appear only from time to time. (A more thorough explanation may be found in Shibatani 1990 or Kindaichi 1992).

It is also important to remember that there have been some major historical changes throughout the Japanese dialects. First, at some point in the past there were up to eight vowels, instead of the current five-vowel system. (Shibatani 1990 p131) Second, the [h] phoneme was at one point pronounced / ɸ/, and at another point may have been pronounced /p/, in all contexts.

2. Ainu.

The sounds typically used by speakers of Ainu (in Hokkaido) are given here:

Vowels

i		u
e		o
	a	

Consonants

	Bilabial	Alveolar	(Palato-alveolar)	Palatal	Velar	Glottal
Nasal	m	n			(ŋ)	
Plosive	p, (b)	t, (d)			k, (g)	ʔ
Fricative		{s =	ʃ}			h
(Affricate)		{ʦ, (ʣ) =	ʧ, (ʤ)}			
Approx.	(w)			j	(w)	
Flap		r				

(Adapted from Kindaichi 1992 p33)

The syllable structure of Hokkaido Ainu, in basic terms, is CV, CVC. Syllable-initial vowels are preceded by the glottal stop /ʔ/, which does not occur anywhere else. Unlike the Tohoku dialect of Japanese, Ainu makes a clear distinction between /i/ and /e/. High back vowel /u/ is much more rounded than in Japanese. Ainu phonology avoids vowel sequences. This is done by glide insertion (/ui/ → /uwi/ *and* /iu/ → /iju/), desyllabification (/ai/ → /aj/), and vowel elision (/aa/ → /a/). In native Ainu phonology, if two vowels collide, the first vowel in the sequence is more likely to be elided. This process is in reality more complex; for a more complete discussion, see Shiraishi 1998.

Consonants do not have voicing contrast, so /k/ and /g/ are equally valid, although /g/ is not likely to surface word-initially. Ainu also lacks /ŋ/ syllable-initially, so in loanwords, /k/, /g/, and / ŋ/ are all likely to be rendered as /k/. Obstruent stops are not aspirated. The affricate written in Ainu orthography as "c" has four interchangeable allophones: /ʦ/, /ʧ/, /ʣ/, and /ʤ/. The fricative written as "s" may surface as /s/ or /ʃ/; before /i/ and word-finally, only the /ʃ/ allophone appears. Unlike Japanese, Ainu phonology has a contrast between /n/ and /m/ syllable-ot

and word-finally. Kindaichi and others give a number of other phonological changes:

- Vowel changes: /o/ → /u/; /u/ → /i/. The motive of these changes is unexplained. They are apparently rare.
- Unaccented vowels between voiceless segments may be devoiced and deleted.
- At word or lexical item boundaries, where VV or CC is created, there is vowel deletion and consonant deletion, respectively. The most commonly deleted consonants at this place are /j/ and /h/.
- Vowels may assimilate, especially left-to-right within a word. Right-to-left vowel assimilation is also attested.
- The flap /r/ assimilates to a following /t/ or /n/. Before /t/, /r/ may also become /n/. Two consecutive /r/ segments become /nr/.
- In a CVC syllable, the final C may assimilate to a following C.
- Before /s/ and /j/, nasal /n/ → {/i/ or /j/}. Similarly, /n/ → /u/ before /w/.
- /m/ ←→ /n/
- /p/ → /ʧ/ (Only in extinct Sakhalin island Ainu)
- /s/ → /h/. The only examples of this appear before the vowel /e/, so this may actually be a borrowing from Tohoku Japanese, in which some /se/ syllables are pronounced /he/.
- Some vowel metathesis is also attested.

Analysis: Phonological Patterns.

Minimally Changed Forms.

As was previously mentioned, many of the loanwords in their TJ or MSJ forms violate constraints of Ainu phonology; this is the engine for the phonological changes analyzed in this paper. There are also many loanwords that do not grossly violate Ainu phonological constraints, and to the extent that a word does not violate any constraints, it is not arbitrarily changed. (Anderson 2009) Loanwords that have undergone no major phonological changes from TJ or MSJ to Ainu are listed here in their Ainu orthographic form (Roman alphabet):

iro, kama, kawari, kaya, kimo, kimoya, ko, kuruma, maketa, makiri, marimo, mawari, menoko, mokko, moto, na, nanoka, nariwa, oki, noki, ook, okkasan, oya, oyakata, pan, rakko, tama, tane, to, tokkuri, toma, tomari, tomi, tono, uni, unma, yaku, kura, mame, ro

There are other loanwords, not listed above, that have not undergone any major changes (e.g. /sake/). These words are not listed because they have acceptable non-contrastive alternative

pronunciations in Ainu which differ from the original Japanese (e.g. /ʃake/), and which in Japanese may be contrastive. In Japanese, /sake/ is an alcoholic beverage, and /ʃake/ is salmon; in Ainu, both pronunciations would refer to the alcoholic beverage. See Appendix for the full list of loanwords used in this paper (which is certainly not exhaustive).

Vowel-Centered Phenomena.

1. Vowel length loss.

As we have seen, Ainu vowels are not lengthened for contrast, and uninterrupted sequences of vowels are marked; hence the common alternate spelling of the name of the language and ethnicity: Aynu. Tohoku Japanese (TJ) has contrastive vowel length and sequences of vowels, both of which are eliminated when borrowed into Ainu. TJ long vowels are universally shortened in Ainu. In three cases, the syllable bearing the long vowel in TJ becomes a marked accent-bearing syllable in Ainu:

tep.po:	te:.pu	to:.hu.ma.me
tep.'po	'te.pu	'to.hu.ma.me
rifle	*tape*	*soybean*

This long-vowel – marked-accent connection is not a causal connection. Several other loaned words have a marked accent in Ainu, without a long vowel on the original TJ syllable:

ka.ne	ket.to	o.ni
'ka.ne	ket.'to	'o.ni
gold	[a certain type of] *blanket*	*demon*

It is not clear why these words bear a marked pitch accent pattern in Ainu. Perhaps the pitch accent pattern in these words helps distinguish them from pre-existing Ainu words. An analysis of the tone contour in the original TJ is warranted, but does not fall within the scope of this paper.

In addition, if TJ long vowels dependably led to Ainu accented syllables, we would expect Ainu to place accent on what used to be a TJ long vowel, whether or not it would be marked in

Ainu. This is not the case, as there are several counterexamples, in which the accent ends up on the unmarked Ainu syllable despite a TJ long vowel suggesting otherwise:

men.yo:	do:.san.ko	bo.ku.so:
'men.yo:	to.'san.ko	po.'ku.so
sheep	*a Hokkaido native*	*pasture, grass*

This does not mean that TJ long-vowels were never represented as accented syllables when loaned into Ainu, but it is clear that if such a representation occurred, it was limited to a few loanwords. Given the "modern" flavor of the three words for which a TJ long vowel does coincide with a marked Ainu accent (*rifle*; *tape* - from English; and *soybean*, an agricultural product), perhaps something about Ainu phonology changed to allow for TJ long vowels to be heard as accented syllables. Such a change might have happened in the late 19th century. Still supposing that long-vowel -- accent is a real and relatively recent connection, perhaps the connection was formed after most Ainu speakers were already native or proficient speakers of TJ. Such speakers may have attempted to realize the lengthened vowels of TJ in loans in Ainu, resorting to a marked stress pattern.

2. Front-vowel changes.

In six instances, a TJ /e/ is rendered in Ainu as /i/. Five of these six are word-final. TJ /e/ is very close to /i/, and depending on the particular dialect and phonological context, the two vowels can be non-contrastive. The e – i change in the five word-final contexts are explained by the fact that voicing and other distinctions tend to drop off word-finally, so that there may not be enough data to determine if a vowel is /i/ or /e/, but only that it is a front non-low vowel. In such a case, if front-ness is the only characteristic successfully perceived by the listener, then front-ness might be exaggerated in production, such that the speaker reproducing the word produces a maximally front non-low vowel, which for Ainu is /i/ rather than /e/.

In three instances, a TJ /i/ is rendered as /e/ in Ainu:

usuberi	huroʃiki	imo
usupere	huruske	emo
straw mat	*wrapping cloth*	*yam*

Each instance represents a different phenomenon. In /usupere/, the Ainu rule of vowel spreading across /r/ is in play. /e/ spreads across /r/. In /emo/, the explanation lies on the TJ side. As we have seen, /e/ and /i/ are indistinguishable in some TJ contexts. Chief among these is word-initial position. The most logical explanation is that some Ainu speakers heard /imo/ as /emo/ due to the relatively low pronunciation of the initial /i/. This is not a universal process, as at least three other words (Ainu: iʃi, iro, isa) have faithfully maintained TJ initial /i/ in the borrowed Ainu word. We are thus presented with another example of the heterogenous nature of loanwords due to their heterogenous origins.

3. High-vowel changes.

A number of loanwords in Ainu have the vowel /i/ where the MSJ form has /u/. In most of these words, the consonant preceding the vowel in question is a dental/alveo-palatal fricative:

MSJ:	ʦ**u**kegi	**zu**rui	**suzu**ri
Ainu:	**tʃi**kenki	**tʃi**ruj	**ʃintʃi**ri
English:	*matches*	*unfair*	*inkstone*

Ainu speakers did not historically borrow words from modern standard Japanese. They heard some version of Tohoku Japanese. In the Shimokita Peninsula of Aomori Prefecture, where the Matsumae clan was originally based, and eventually in Hokkaido Japanese, vowels that elsewhere are pronounced /u/ become /i/ after dental or alveo-palatal consonants. The TJ probably heard by Ainu speakers gives a much simpler picture:

ʧike^{n}gi	ʥirui	ʃi^{n}ʥiri
ʧikenki	ʧiruj	ʃintʃiri

matches *unfair* *inkstone*

This explanation is still incomplete, because there are some loanwords that did not follow this pattern, and exhibit /u/ after dental/alveo-palatal fricatives:

MSJ:	a**zu**ki	ʦ**u**bo	kama**su**
Ainu:	a**ntu**ki	ʦ**u**mpo	kama**su**
English:	*sweet bean*	*small bottle*	*straw bag*

The most probable explanation is that Ainu speakers heard these words from some non-Tohoku Japanese speaker. The loanwords that do not exhibit post-alveo-palatal /u/ → /i/ are not particularly modern concepts, nor are they obsolete; they might have been borrowed in any era of Japanese-Ainu contact. (Kindaichi 1992 p160, Ono 1993 p41)

4. Round-vowel changes.

As Kindaichi describes on page 133, TJ /u/ is labialized, but without lip while /o/ is pronounced with some degree of rounding. In Ainu, /u/ and /o/ are both pronounced with rounding, but /o/ to a lesser degree.

Kindaichi's assertion is that Ainu-origin loanwords in Japanese contain instances (p134) of /o/ that were originally Ainu /u/, heard as /o/ because of lip rounding. This is given as the reason, for instance, that early writing about Ainu called the language "Aino." Kindaichi suggests that loanwords in Ainu are subject to a comparable phenomenon, which seems likely given the data. Five TJ – Ainu loanwords have /u/ in the Ainu form where the TJ form has /o/:

ʥo:^{n}go	ɸuroʃiki	koso	ɸukuro	ta^{m}bako
ʦonku	huruske	kusu	pukuru	tampaku
funnel	*wrapping cloth*	*just (emphatic)*	*bag*	*tobacco, cigarette*

This pattern suggests that TJ rounded /o/ was interpreted as Ainu rounded /u/. This is not a universal effect, since some loanwords have the presumably TJ /o/ preserved in the Ainu form. The preserved /o/'s show no particular pattern of distribution.

The sister phenomenon to /o/ → /u/ is the TJ /u/ → Ainu /o/ change that has happened in at least three, and possibly four, words:

aʃiⁿgaru	tonderu	oːⁿdaru	saru
aʃinkaro	tontaro	ontaro	saro
a feudal military rank	*fly(ing)*	*large cask*	*monkey*

Note: Tamura heard /aʃinkaro/ and /saro/ from some Saru dialect speakers; from others she heard /aʃinkaru/ and /saru/.

I assume that in this situation, Ainu speakers listening to TJ heard a back vowel (possibly /o/ or /u/) and produced a back vowel in the loanword result. In some cases of TJ /u/, where there was very little lip rounding, the vowel may have been perceived as an underspecified back vowel and assigned to /u/ or /o/ allophones randomly, or based on subtle features of the phonological context.

5. The Trouble With /uj/.

Three particularly troublesome terms show a change from TJ word-final /i/ to Ainu word-final /uj/:

haʃi	kami	mi
pasuj	kamuj	muj
chopsticks	*god(s)*	*sieve*

There is no clear reason why the phonology of Ainu would want to insert /u/ before /i/, especially because this creates a most inconvenient VV sequence which must then be resolved by de-syllabifying the /i/ into a /j/. Previous writers have suggested that these three loanwords were borrowed particularly early, and that the Japanese dialect from which they were borrowed sounded quite different from what is heard today. This conjecture is supported by the words' semantic content, especially chopsticks, which you learn about soon after meeting Japanese people; and gods, a fundamental concept. There is another piece of the puzzle, namely a reverse process in TJ: /Cui/

→/Ci/, where C is any consonant. This question deserves further analysis.

6. Other Vowel Changes.

There are a handful of other vowel changes which do not seem to follow any pattern. They are listed here:

ho**:**ʧo:	kiser**u**	to^{n}d**e**ru	ot**o**na	ka^{m}bi	k**o:**r**i**
ho**j**ʧo	kiser**a**	tont**a**ro	ott**e**na	k**u**mi	k**o**nr**u**
nail	*smoking pipe*	*fly(ing)*	*head of village*	*fungus, mold*	*ice*

All hope is not lost for /konru/ and /hojʧo/. First, /konru/. We have seen high vowel switches (Vowel Phenomena, part 3), so /i/ → /u/ is nothing new. As for a long vowel turning into a vowel and a moraic nasal (VV → VN), this is a known phenomenon from TJ (see page 8). The word /hojʧo/ eliminates VV, but in the wrong way: in this case, we would expect either /hoʧo/ or, marginally, /howʧo/. Perhaps, like in /konru/, the first VV in /hoːʧoː/ became VN. Then, once the word was loaned into Ainu (with the intermediate step looking like *honʧo), the Ainu /n/-modification rules took effect: "Before /s/ and /j/, nasal /n/ → {/i/ or /j/}." The palatal nature of the affricate in *honʧo must have triggered the /n/ to become /j/. The other four words listed above entirely escape explanation.

7. De-syllabification: VV → VC.

Another way that Ainu avoids uninterrupted sequences of vowels is by turning one into a glide. This happens in similarly "native" Ainu words and in loanwords. In a VV sequence, the faithful preservation of the first vowel is prioritized over that of the second vowel. The second vowel may gain a consonantal character and become a glide. For high vowels, /i/ becomes /j/, and /u/ becomes /w/. See Shiraishi 1998 for more on this process. Some examples below:

kaibeʧi	nuito	benzai	hiutʃi
kajpeʧi	nujto	pentsaj	piwtʃi
cabbage	*sewing thread*	*(a type of boat)*	*flint*

8. Other Avoidance of VV.

For VV sequences which cannot be readily solved by creating a glide, one or another of the two vowels is deleted. There are four instances of this:

ka.ke.ⁿza.o	ma.e.ⁿda.re	bu.ᵑgjo:	i.ʧi.en
ka.ken.tsa	man.ta.ri	pun.ki	i.ʧen
hanging rod	*apron*	*magistrate*	*(one) unit of money*

In the first three instances above, the second vowel of the sequence is deleted. This is similar to the pattern with high vowels becoming glides: the first vowel is preserved while the second vowel is susceptible to change. The word /punki/ looks strange, but as we will see, Ainu phonology avoids palatalized consonants, with a result something like this:

(TJ)	**voice contrast*	**long vowel*	**palatalized C*	*possible Ainu surface forms*
buᵑgjo:	→ *puᵑkjo:	→ *puᵑkjo	→*puᵑkio	→ *punkijo
				→ punki
	[page 20]	[page 12]	[page 22]	

As for /iʧen/, /i/ and /e/ are already so close in quality in TJ that they may have already merged into a single V unit before the word was borrowed by Ainu speakers. In TJ, vowels near voiceless consonants are sometimes devoiced; if that is the case with the second /i/ of /iʧen/, the voiceless vowel may have been deleted.

The constraint that bans uninterrupted vowel sequences is ranked high, but at least two loanwords make it past this barrier: /ʧimpaori/ and /nakairi/ are the Ainu forms. These are both pieces of traditional Japanese (non-Ainu) clothing. There are three possible explanations. First, the speakers from whom these data were collected are very likely to be fluent, if not bilingual or

native in TJ or MSJ as well as Ainu. Second, there may have been a typographical or recording error in these cases. Third, there may be a glottal stop breaking up the vowel sequence. The nature of the constraint in question may also be subtly different from what is proposed here, namely *VV. The constraint responsible for these phenomena may have to do with number of vowels within a syllable, rather than number of abutting vowels, for instance.

9. Vowel Spreading/Assimilation.

There are two candidates for vowel spreading:

k**oso**	usub**eri**
k**usu**	usup**ere**
just (emphatic)	*[a type of mat]*

In /kusu/, this might only be a case of vowel change, /o/ → /u/, as already discussed. In /usupere/, this is likely vowel assimilation/spreading, especially given that in several native Ainu words vowel quality spreads past /r/ to the right. (Kindaichi 157)

10. Voiceless Vowel Loss.

In TJ as well as in other Japanese dialects, vowels (especially high vowels /u/ and /i/) surrounded by voiceless segments are devoiced. At some point along the way into Ainu, many of these voiceless vowels were dropped. In mid-word contexts, this deletion causes two voiceless consonants to run into one another and interact. Abutting alveolar and alveo-palatal (dental) consonants assimilate in place, while other more distinct consonants are unaffected. There are only four instances of this phenomenon:

ha.ja.ʃ**i**	hu.ro.ʃ**i**.ki	go.ʧ**i**.so:	ma.ra.h**i**.to
ha.jas	hu.rus.ke	kot.ʧo	ma.rat.to
grove	*wrapping cloth*	*[good food]*	*banquet*

The loss of voiceless vowels is not a universal phenomenon in Ainu loanwords. In other instances, TJ devoiced vowels do appear in the Ainu form.

Consonant-Centered Phenomena.

1. Voicing Distinction Loss.

Ainu phonology does not have consonant voicing contrasts. In loanwords, voicing contrasts are stripped, and the voicing of any given consonant reflects only its phonological context. In Ainu orthography, non-nasal consonants are represented as voiceless (p, t, k, s, c, etc), regardless of the actual pronunciation. In Tamura's dictionary, some loanword entries appear to have voiced stops in Ainu: orthography shows "b" and "g." The instances of "g" are actually Tamura's representation of the velar nasal /ŋ/. The single instance of "b" appears in a place name (Nabesawa) and may be a typographical error.

2. Gemination.

A few loanwords feature stop consonants that are geminated in Ainu and not in MSJ. Some of these stops may be geminate in the variety of TJ from which they were borrowed; this probably explains the following two examples:

MSJ	hiʃaku	muʧi
TJ	hiʃakku	mutʧi
Ainu	piʃakku	mutʧi
English	*scoop*	*whip*

Other geminate consonants are created when a voiceless vowel is deleted. One consonant's gemination defies explanation:

ʃiho
ʃippo
salt

It is safe to assume that the original TJ consonant in question was /ɸ/. But it is voiceless stops

that usually geminate in TJ and MSJ, not fricatives like /ɸ/. It is hard to imagine /ɸɸ/ existing in TJ or MSJ and being taken up by Ainu speakers as /pp/, because it is hard to imagine /ɸɸ/ existing in a Japanese language. On the other hand, it is clear that some consonants are geminated in TJ, while there is no evidence (other than perhaps this word) that Ainu phonology ever calls for geminated consonants. If a geminating rule applied at some time to the bilabial consonant in /ʃippo/, the change happened in TJ. It would make some sense for a geminated fricative to be "hardened" into a stop.

3. De-gemination

In two instances, the Ainu version of a word has deleted a nasal consonant, avoiding a geminate nasal:

kan.na.nga.ra	dan.dan.ni
ka.nan.kar	tan.ta.ni
wood shavings	*slowly*

This phenomenon is similar to the *VV constraint, in that sequences of sonorant units are avoided. This does not mean that Ainu never has sequences of sonorant units, or even sequences of nasals. Sequences of nasal consonants are often brought about by assimilation.

4. Nasalization Phenomena.

In Tohoku Japanese, as viewed from the perspective of Modern Standard Japanese, voiced intervocalic obstruent consonants are prenasalized, if they are not already nasal consonants. In some varieties, voiced intervocalic obstruent consonants turned altogether into nasal consonants (especially /g/ → /ŋ/). In loanwords, Ainu speakers rendered this prenasalization as either a distinct nasal consonant preceding the obstruent, or rendered the consonant as a nasal obstruent. As we

would expect, place of articulation is not affected. Here are a few representative examples:

MSJ:	aburage	azuki	hadaʃi	tamago
TJ:	ambura^{g}ge	a^{n}zuki	ha^{n}daʃi	tama^{g}go
Ainu:	ampuraŋi	antuki	hantaʃi	tamaŋko
English:	*deep-fried tofu*	*sweet beans*	*barefoot*	*egg*

In three instances, this pre-nasalization did not occur. The words are:

TJ:	ka.ne.^{n}**z**u.ʧi	ku.ru.ma.^{g}**g**ai	gu.su.^{m}**b**e.ri
Ainu:	ka.ne.**t**u.ʧi	ku.ru.ma.**k**aj	ku.su.**p**e.ri
English:	*hammer*	*type of oar*	*gooseberry*

It is very likely that these three words were borrowed from a non-TJ dialect, one which does not feature prenasalization as described above. An alternative explanation may be possible for /kurumakaj/, because there may have been at some point a word boundary between /kuruma/ and /kaj/, which would account for the lack of nasalization on the second velar obstruent. The word boundary is not preserved in the loanword, so it was either lost as the word was borrowed, or earlier. If the word boundary was lost before Ainu speakers borrowed /kurumakaj/, it was either lost in a non-TJ dialect, or the TJ prenasalization rule had ceased to apply. To clarify, the latter scenario is as follows, along with /tamaŋko/ ("egg") for comparison:

pre-TJ nasalization(?)	TJ nasalization rule	loss of word boundary	Ainu borrowing
kuruma kai	(no effect)	→ kurumakai	→ kurumakaj
tamago	→ tama^{g}go	(no effect)	→ tamaŋko
	[pages 8,9]		

5. Decoupling of Some Secondary Articulations.

Ainu phonology strictly forbids palatalized and labialized obstruents (e.g. /kj/, /kw/). MSJ has almost no labialized obstruents, but both TJ and MSJ are packed with palatalized obstruents. Ainu phonology treats these secondary articulations in a straightforward manner, by vowel epenthesis:

iʧir^{j}o:	k^{j}o:	k^{w}aʃi
i**i**ʧi**i**rijo	ki**i**jo	ku**u**waʃ
a unit of money	*Kyoto (place name)*	*candy*

The epenthesized vowel is the one closest in quality to the glide or secondary articulation in question.

6. Collapsing of TJ/MSJ Affricate and Fricative Variation.

To review, Ainu and TJ use different palettes of alveo-palatal/dental fricatives and affricates.

Ainu has the following:

1. The phoneme represented in orthography as "c," which has allophones /ʦ/, /ʧ/, /ʨ/, and /ʥ/.
2. The phoneme represented in orthography as "s," which has allophones /s/ and /ʃ/.

TJ has the following:

1. /s/ (*/si/; /s/ becomes /ʃ/ before /i/)
2. /ʃ/ (contrasts with /s/ before all vowels except /i/)
3. /ʧ/
4. /z/ (sometimes affricated, closer to /ʥ/, especially before /u/)
5. /ʥ/

In MSJ, there is also...

6. /ʦ/, which only appears before /u/.

In loanwords, alveolar and palatal fricatives and affricates from TJ and MSJ are sorted into one or another category of Ainu consonant. The regularities are as follows.

TJ /s/ and /ʃ/ are almost exclusively borrowed as the Ainu phoneme /s/. There are two exceptions:

oʃiki	tamaʃi:
ot**ʧ**ike	rama**ʧ**i
cover, mat	*soul* (Note: this word not positively identified as a loanword.)

The word /otʃike/ is an anomaly, but it seems to be influenced by some of the consonant gemination rules. As for /ramaʧi/, neither Tamura nor any other source listed this as a known loanword, but it seems phonologically close enough to /tamaʃi:/ that we should leave a note here. If /ramaʧi/ is originally a loanword, some kind of gemination or "hardening" of the fricative has

happened.

TJ /ʧ/ is found in the source word for 23 loanwords. Of those, in 22 cases, the Ainu version features the "c" phoneme, whose allophones include /ʧ/. In one case, as in prior examples, some kind of gemination must have occurred.

ɸaʧi
pattʃi
rice tub, bowl

If we expect Ainu phonology to treat voiceless TJ consonants the same as voiced TJ consonants, Ainu's treatment of /z/ will be a surprise. Five loanwords had something like /z/ or /ʣ/ in TJ/MSJ, and in no instance is TJ /z/ or /ʣ/ ever represented in Ainu as /s/. Here are the five instances:

kake^{n}**z**ao	**z**embako	be**nz**ai	a^{n}**z**uki	kaneʣuʧi
kake**n**tsa	ʧempako	pe**n**tsaj	a**n**tuki	kane**t**uʧi
laundry pole	*box-table*	*type of boat*	*sweet beans*	*hammer*

The first three examples make sense if we imagine that in the actual speech heard by Ainu speakers who borrowed the words, TJ speakers were affricating their /z/'s closer to /ʣ/. Then, a simple process of losing voice contrast would give the Ainu pronunciation. The other two instances may be from a different dialect, or a different time period. The forms of /antuki/ and /kanetuʧi/ suggest that the borrowed words were actually closer to /anduki/ and /kaneduʧi/, respectively.

The TJ voiced affricate /d ʒ/ is manifested in Ainu exclusively as the "c" consonant, one of whose allophones, in turn, is /ʤ/. As a voiced obstruent, this /ʤ/ consonant in TJ apparently attracted prenasalization in at least one instance, one which in Ainu may be written "sinciri" and may surface as /sinʤiri/.

There are only two instances of a TJ/MSJ consonant /ʦ/ being borrowed into Ainu:

ʦu^{m}bo	ʦuka
ʦumpo	**t**uka
small bottle	*knife handle*

In these instances, while there are TJ dialect features (prenasalization of intervocalic /b/), the "/u/ →/i/ after alveo-palatal or dental affricates" rule has not applied. These two words were borrowed from different dialects than, say, /ʧikenki/ and /ʃinʧiri/ ("matches" and "inkstone," respectively). Each of the two was probably also borrowed from a distinct dialect. The word /tuka/ is distinctive because its initial consonant lacks the expected fricative release. It is also possible that some other, probably older, dialect of Japanese allowed /tu/ and /du/, and that /tuka/ was borrowed from that dialect.

7. TJ Voiceless Bilabials.

TJ and MSJ have a complicated history of bilabial fricatives. The consonants have broadly changed, and their pronunciation has also depended on phonological context. A big part of that phonological context is the vowel immediately following the consonant in question. Here is a two-tiered summary of the process:

Era 1:	ɸi	ɸe	ɸa	ɸo	ɸu
Era 2:	hi *or* çi	he	ha	ho	ɸu

This historical change in TJ is reflected in loanwords in Ainu. Generally, Ainu speakers represented TJ and MSJ /ɸ/ as Ainu /p/. There are eight instances of TJ /ɸu/ → Ainu /hu/; these are presumably from Era 2, when the /ɸ/ heard by Ainu speakers may have lost its heavily bilabial character. There are a few near-minimal pairs whose existence supports a claim for distinct eras of loanwords. Here are the best sets of near-minimal pairs.

Caveat: the TJ/MSJ pronunciations are partly conjecture.

ɸukuro	ɸuku	*also*: ɸukumiʧi
pukuru	huku	hukumiʧi
bag	*(Western) clothes*	*(TJ-origin place name)*
[Era 1]	[Era 2]	[Era 2]
ɸa(t?)ʧi	haʧiŋgaʧi	
paʧi	haʧiŋaʧi	
rice tub, bowl	*August*	
[Era 1]	[Era 2]	
ɸuta	ɸunda	
puta	hunta	
lid	*tag, card*	
[Era 1]	[Era 2]	

8. The Palatalized Nasal.

As seen previously, Ainu phonology performs several operations to /r/ and /n/ if they are followed by another consonant. Among these is /-n s-/ → /-j s-/, and this process has occurred once in loanwords:

daiben sama
tajpej sama
a spokesperson

9. Syllable loss.

In some loanwords, an entire TJ syllable is lost:

kanna^{n}gara	ko**na**to:ʃi	mimi**k**ane	ta**wa**ra	u**ru**ʃi
kanankar	kotoʃi	ninkari	tara	uʃʃi, uʃi
wood shavings	*flour sifter(?)*	*earrings*	*bale of straw*	*lacquer*

Some of these are fairly easy to understand. The /w/ in /tara/ may have been dropped, which would have allowed the two /a/'s to merge. There are a good number of native Ainu words with an

"optional" final vowel. (Kindaichi 1992 p153) The rest of these syllable losses are unexplained.

10. Miscellany.

Finally, there are a two more miscellaneous and seemingly illogical sound changes:

okaju	**t**amaʃi:
kaj**k**o	**r**amaʧi
rice gruel	*soul*

The word /ramaʧi/ is not listed as a loanword by Tamura, but it is too close to leave out. Perhaps further analysis will conclusively show that it is not a loanword.

Conclusions.

The goal of this essay was to describe the phonological changes in Ainu loanwords. These phonological changes were successfully described. There have been some inevitable shortcomings.

Although there are only about 210 to 220 confirmed loanwords in Ainu, the scope of this paper does not permit an exhaustive catalogue of their individual phonological issues. In addition, some issues concerning suprasegmentals will also escape this paper. The question of pitch accent in Ainu loanwords in particular remains unanswered. A resolution of this issue will have to take into account the various pitch contours of the Japanese words in question and the dialectal variation in these pitch contours. [Further study of this issue should make use of the recordings collected by Tamura Suzuko. These are available online through Waseda University at http://dspace.wul.waseda.ac.jp/dspace/ – use search term "Ainu."]

A more exhaustive analysis of Ainu loanwords could facilitate some broader conclusions about Ainu-Japanese contact history, as well as conclusions about changes in Ainu and Japanese phonology over time.

* * * * * * * *

One lacuna of this paper that will be impossible to overcome is the fact that the Ainu language is now almost entirely lost. It is appropriate to briefly address the question of language loss, especially in the case of the Ainu language.

> "Language death typically begins with political or social discrimination against a language or its speakers.... [Y]oung speakers... may abandon their ancestral language. When they grow up, they may fail (or refuse) to transmit it to their children. Many factors can interrupt successful language transmission, but it is rarely the result of free will. The decision tends to be made by the very youngest speakers, 6- and 7-year-olds, under duress or social pressure, and these children then influence the speech behavior of adults in the community.... Once a language is moribund, it continues to decline as its use becomes more restricted.... At the same time, [elderly speakers] begin to forget."
>
> From Harrison 2007, p8

The loss of the Ainu language damages more than just those last few speakers who feel increasingly isolated and invisible. It hurts the Ainu community, and it gives credence to the idea that Japan is "monoethnic." We must recognize the fact that Japan has actually never been monoethnic; the Ainu community is living proof of that. For the sake of other minorities, and to address the unfortunate circumstances of the Ainu people, the Ainu language should be sincerely promoted and Ainu people should be given a greater voice.

Appendices.

Appendix A:
Loanwords listed alphabetically, from Tamura 1996.

Key:
ainu term [Roman alphabet spelling] / JAPANESE STANDARD ROMANIZATION / English (if found)

A

anpay	AMBAI	
anpurani	ABURA(A?)GE	
antuki	ADUKI	
[ape]pasuy [fire]	HASI	fire hashi
asingaru ~ asiNaru ~ asinkaro	ASIGARU	a certain samurai rank

C

cikan	JIKAN	hour(s)
cikenki	TUKEGI	match
cinpaori	ZINBAORI	
cirunpe	TURUBE	
ciruy	ZURUI	
citarpe-kamasu	(goza) - KAMASU	
conku	JOUGO	funnel
conpa	TYOUBA	rank
cunpo	TUBO	small bottle

E

e)paci(koan	BATI ~ BATU	punishment
ewkoyakamasi	YAKAMASII	

H

hacigaci	HATIGATU
hanasi	HANASI
hanca	HANTEN
hankane	HAGANE
hantasi(ne)	HADASI
hasami	HASAMI
hayastay [Hitaka]	HAYASI-[tai?]
hukasi(kar)	FUKASI
huku	(YOU)FUKU

Hukumici Fukumitu
hunta FUDA fate, destiny
hunte FUDE
(sinciri = SUZURI)
huruse FUROSIKI

I

icicikan ICIJIKAN one hour
iciri ICIRI a "mile"
iciriyo ICIRYOU a money unit
icen ICIEN
iri ERI collar
iro IRO color
isacise ISYA [doctor house] hospital
isa-nispa ISYA (Mr.) doctor

K

kakenca KAKEZAO pole for hanging clothes
kama ? iron kettle, pot
kamasu KAMASU straw bag
kamuy
kanankar KANNAGARA wood shavings
kane KANE gold
kanepisakku KANE HISYAKU gold thing
kanetuci KANADUTI hammer
kankami KAGAMI mirror
kanpi KAMI paper
katanpira KATABIRA (a hemp garment)
kawarine KAWARI [ni] instead of
kaya KAYA a sail
kayko (OKAYU) rice gruel
kaypeci KYABETU cabbage
kaysotono KAISYOTONO a certain Matsumae official
ketto' KETTO blanket
kimi KIBI (TOUKIBI = TOUMOROKOSI) corn
kimo KIMO
kimoya KIMOYA
kisa KISYA locomotive
kisera KISERU smoking pipe
ki-tontaro (fly) - TOBU to fly
Kiyo KYOUTO Kyoto
ko KO powder
kompu ~ konpu KOMBU kombu
konkane KOGANE gold
konru KOORI ice, hail

konto KONDO
kosonte KOSODE short sleeve
kotco GOTISOU
kotosi KONATOOSI
kuciwa KUTUWA horse bit
kugaci ~ kuNaci KUGACI September
kuruma KURUMA
kurumakay KURUMAGAI a certain type of oar
kusu soreKOSO
kusuperi GUSUBERI gooseberry
kusuri KUSURI medicine
kuwas KWASI ~ KASI candy, sweets

M

maciya MACI (YA?) city, town
maketa MAKETA lose, be beaten by
makiri MAKIRI short sword, knife
makiri-saya MAKIRI NO SAYA sheath for makiri
manayta MANAITA cutting board
mantari MAEDARE (MAEKAKE) apron
maratto MARAHITO bear's head ~ feast, banquet
marimo MARIMO
mawari MAWARI around...
mehun MEFUN
menkane MEGANE glasses
menoko MENOKO woman
men-yo MENYOU ?
mesi MESI rice, meal
mise MISE store
miso MISO
mokko MOKKO straw basket
[Mokotoyama]
moto MOTO origin
mutci MUTI whip
muy MI sieve

N

[Nabesawa]
nakairi NAKAIRI ragged wadded clothing
nanoka NANOKA
nariwa NARIWA
nici-han NIJIHAN 2.5 hours
ninkari MIMIKANE earrings
niyoki [oki] OKI (?)
nokikonru NOKI NO TURARA icicle

noki[pe] NOKI raindrops
noko NOKOGIRI saw
nonki NOGI beard, awn, arista
norinkura NORIGURA (?) saddle?
nuyto NUITO sewing thread

O

okkanay OKKANAI osorosii, sugoi in great fear of
okkasan OKKASAN mother
o'ni ONI ogre, devil
onkami OGAMI ogamu, reihai? suru pray, worship
[onkami-kur] priest
ontaro OODARU [big cask] cask, barrel, tub {pon ontaro = small cask}
otcike OSIKI tray, table
ottena OTONA [乙名] head of village; Ainu man (when called by a Japanese person)
[tuka] TUKA [from otu santuka]
oya OYA parent(s)
oya kimoya
oyakata OYAKATA master, parents

P

pa?? HAI cup counter
paka[ne] BAKA [dearu] stupid
pan PAN bread
(tono; pone)
pasuy HASI chopsticks
patta[kikir] BATTA (musi) grasshopper
peko BEKO cow
pera HERA ladle; oar
perankay HERAGAI oar?
pintoro BIIDORO glass
piwci HIUTI flint
piwcikani HIUTI - KANE fire-making metal?
pokuso BOKUSOU clover
[ponconpa] small conpa = TYOUBA a kind of official
pone HONE bone

ponkanpi hagaki; an official or person who uses small paper
[poysaro] small saro SARU small monkey
pukuru FUKURO bag
punki BUGYOU
puri FURI habits, customs, ways
pusa FUSA tassel (on sword, etc)
puta FUTA lid
puta BUTA pig

putaun-cenpako FUTA - [which is put on] - ZEN - HAKO hakozen box-shaped serving tray

R

rakko RAKKO sea otter
ro ROU prison [rousitu]
rokuntew ROKUDEU [rokujou] passenger boat

S

(sakaenamte-nima) [SAKE] etc etc etc tool for making sake
sake SAKE sake
sakepisakku SAKE HISYAKU sake scoop
sama SAMA Mr., etc
Sappoyama SAPPOYAMA {place name}
saranpa SARABA goodbye, farewell
saro SARU monkey
saru SARU monkey
sato SATOU sugar
[Satporo]
sicigaci STIGATU July
sippo SI[h]O salt
sirokane SIROKANE silver
siwto SYOUTO icirunn-laws
sonkaci SYOUGATU new-year's
sonpa SOBA soba, buckwheat
sorekusu SOREKOSO [[]]
sori SORI sled, sleigh
sumi SUMI ink, charcoal
sumiyaki SUMIYAKI charcoal burner

T

takaysara TAKAI SARA (?) cup, glass stand
takusa TAKUSA hand-grass
tama TAMA bullet ball
tamanko TAMAGO egg
tane TANE seed
tanpaku TABAKO tobacco
tantani DANDAN NI gradually
tape DABE hokkaido-style "desyou ne" affirmation
tara TAWARA straw bag; counter for straw bags
tayko TAIKO drum
tayko DAIKO (daikon) daikon
taypey sama DAIBEN SAMA (?) ?
te TTE (quotative); DE (with, and so; emphatic [kansai ish])
teppo' TEPPOU gun, rifle

te'pu	TEEPU	tape
to	TO	ten
to'humame	TOUFU MAME	big bean? soy bean
Tokapci	TOKATI	{place name}
Tokiyo	TOUKYOU	Tokyo {pl nm}
tokkuri	TOKURI (?)	bottle
toma	TOMA	straw matting
tomari	TOMARI	port, bay, inlet
tomi	TOMI (?)	sword sheath?
tomonkay	TOMOGAI	a certain type of oar
tonka	TOUGUWA (?)	hoe, plough
tono	TONO	lord; other respect words
to'ri	TORI	bird
tosakaha	TOSAKA	
tosanko	DOUSANKO	(horse) bred in Hokkaido
to'si	TOOSI (?) TOSI (?)	old, aged

U

umay	UMAI	sweets, confections
uni	UNI	sea urchin
unma	UNMA UMA	horse
ussi	URUSI	lacquer; lacquer tree
usupa	USUBA	thin-bladed knife
usupere	USUBERI (goza)	

W

wakay	WAKAI	to be young

Y

yaku	YAKU	a role, a duty
yantone	YADO [to be]	to be a guest, to stay
yey	EI (yoi)	good

Appendix B:
Loanwords listed by type of sound change.

1. Vowel-centered phenomena

A. Vowel length loss

conku, conpa, yakamasi, hoyco, iciriyo, Kiyo, konru, kotco, kotosi, menyo, ontaro, pintoro, pokuso, ro, sato, siwto, sonkaci, teppo', te'pu, Tokiyo, tosanko, so, (ramaci)

B. In-type vowel changes

I. *front: i, e*

anpurani, huruske, iri, mantari, ninkari, piwcikani, usupere, potoki

II. *high - see Kindaichi p160: i, u*

cikenki, cirunpe, ciruy, hacigaci, Hukumici, sinciri, kaypeci, konru, kuciwa, [kugaci, kuNaci], sicigaci

III. *round - see Kindaichi p134, p 160: u, o*

[asinkaro, asiNaru, asingaru], conku, huruske, tontaro, kusu, ontaro, pukuru, [saro, saru], sorekusu, tanpaku

C. /uy/

pasuy, kamuy, muy

D. Other vowel changes (Metathesis observed by Kindaichi, p 160) (Default final vowel /i/ ibid p166)

hoyco, kanetuci, kisera, tontaro, ottena, kumi

E. "Desyllabification" = VV → VC, etc

I. */i/ → /y/*

anpay, ciruy, hayastay, kayko, kaypeci, kaysotono, kurumakay, manayta, nuyto, okkanay, perankay, pencay, takaysara, tayko, taypey sama, tomonkay, umay, wakay, yey

II. */u/ → /w/*

piwci, piwcikani, rountew, siwto

III. *Other VV loss*

icen, kakenca, hoyco, mantari, punki

IV. *Faithfully maintained VV*

cinpaori, nakairi

F. Spreading, Assimilation - see Kindaichi p153 - spreading left-to-right past /r/. However, the vowel after /r/ in many words will disappear in a compound, with /r/ assimilating: akoro + nispa = akon nispa. Also see ibid p157.

kusu, usupere,

H. Voiceless vowel loss

hayastay, huruske, kotco, maratto,

2. Consonant-centered phenomena

A. Voicing distinction loss

I. *voicing "lost"*

anpay, cikenki, cimpaori, cirunpe, conku, conpa, cunpo, paci, hankane, hantasi, hunta, hunte, sinciri, icicikan, kanankar, kanetuci, kankami, katanpira, kaypeci, tontaro, konkane, konto, kosonte, kotco, kusuperi, mantari, menkane, ninkari, nonki, norinkura, onkami, ontaro, paka, patta, peko, perankay, pintoro, pokuso, punki, puta, cenpako, rountew, pencay, saranpa, sonkaci, sonpa, tamanko, tanpaku, tantani, tape, tayko, taypey sama, te, tomonkay, tosanko, usupa, yanto, kunki, yanki

II. *voicing mysteriously retained*

hacigaci, [kugaci, kuNaci], Nabesawa, sicigaci,

B. Gemination

I. *geminated stops*

pisakku, kotco, maratto, mutci, ottena, sippo, [ussi, usi]

II. *stops de-geminated*

kanankar, tantani, te,

C. Nasalization phenomena

I. *Pre-nasalization, and/or voiced C → nasal C*

anpurani, antuki, [asiNaru, asingaru, asinkaro], cikenki, cirunpe, conku, conpa, hankane, hantasi, hunta, hunte, sinciri, kakenca, kanankar, kankami, kanpi, katanpira, kimi, tontaro, konkane, konru, kosonte, [kugaci, kuNaci], mantari, menkane, ninkari, nonki, norinkura, onkami, ontaro, perankay, pintoro, punki, rokuntew, saranpa, sonkaci, sonpa, tamanko, tanpaku, tomonkay, yanto, kumi, kunki, yanki

II. *unexpected nasalization phenomena*

kanetuci, kurumakay, kusuperi,

D. Decoupling of secondary articulations

I. *Depalatalization*

iciriyo, Kiyo, Tokiyo,

II. *Delabialization*

kuwas,

E. Collapsing of affricates, fricatives

I. *to "c"*

cikan, cikenki, cinpaori, cirunpe, ciruy, conku, cunpo, paci, hacigaci, hoyco, Hukumici, sinciri, icicikan, iciri, iciriyo, icen, kakenca, kanetuci, kaypeci, hanca, kotco, kuciwa, [kugaci, kuNaci], maciya, mutci, nici-han, otcike, piwci, piwcikani, cenpako, pencay, sicigaci, sonkaci, (ramaci)

II. *to "s"*

pasuy, yakamasi, hanasi, hantasi, hasami, hayastay, hukasi, sinciri, huruske, isa, kamasu, kaysotono, kisa, kamasu, kosonte, kotosi, kusu, kusuperi, kusuri, kuwas, makiri-saya, mesi, mise, miso, Nabesawa, pusa, sake, sama, Sappoyama, saranpa, [saro, saru], sato, sicigaci, sippo, sirokane, siwto, sonkaci, sonpa, sorekusu, sori, sumi, sumiyaki, takaysara, takusa, tosaka, tosanko, to'si, [ussi, usi], usupa, usupere, mesi, so

III. *to "t"*

antuki, kanetuci, maratto, tuka

IV. *to "tc"*

kotco, otcike, patci,

F. Voiceless bilabials to...

I. *p*

pasuy, pisakku, pa(?), pera, perankay, piwci, piwcikani, pone, pukuru, puri, pusa, puta, sippo, potoki, patci

II. *h*

hacigaci, hanasi, hanca, hankane, hantasi, hasami, hayastay, Hitaka, hata, hoyco, hukasi, huku, Hukumici, hunta, hunte, huruske, mehun, to'humame

G. Palatalized nasals: /ns/ → /ys/

taypey sama,

H. Nasal place non-distinction in some contexts (m, n, N)

anpay, anpurani, cinpaori, conpa, cunpo, [kompu, konpu], cenpako

I. Other consonant changes

(ramaci),

3. Pitch-accent phenomena

A. Ainu form's [marked] pitch accent corresponding to Japanese long-vowel

teppo', te'pu, to'humame, to'si

B. Other marked pitch-accent

ka'ne, ka'nepisakku, ka'netuci, ketto', o'ni, to'ri, to'si

4. Other phenomena

A. Syllable loss

kanankar, kotosi, ninkari, tara, [ussi, usi]

B. problem phenomena

kayko, tontaro, [ussi, usi]

5. "No Issue" Loanwords (Minimal Sound Change)

iro, kama, kawari, kaya, kimo, kimoya, ko, kuruma, maketa, makiri, marimo, mawari, menoko, mokko, moto, na, nanoka, nariwa, oki, noki, noko, okkasan, oya, oyakata, pan, rakko, tama, tane, to, tokkuri, toma, tomari, tomi, tono, uni, unma, yaku, kura, mame, ro

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Addendum: the State of the Ainu Language.

The Ainu people, having had some political success since the 1990s, are increasing in (known) numbers. Their language community is growing stronger and stronger, even as the last "fully" fluent native speakers pass away into history.

Although the materials for Ainu language education are produced in several different dialects and are not very well coordinated, more people are studying Ainu than ever before. Non-Ainu people have started studying the language as well. Ainu is not offered in primary or secondary schools, but language schools and universities are now teaching it, even outside of Hokkaido. Some Ainu language education is ineffective, being based on rote memorization rather than fluent competence, but this is a common problem in language education in Japan.

While a fluent, majority Ainu-speaking community may never exist again, Ainu language is immensely valuable to the Ainu community. Endangered languages are powerful ethnic symbols for groups of people who have long been marginalized and oppressed. Even if the language has no native speakers left, many communities wish to revitalize their languages. Governments and academics to the degree they are able, have a responsibility to help with this revitalization effort.

What languages like Ainu need now are competent, active institutions involved in their promotion, along with urgent documentation for future generations. "language documentations are not purely or even primarily linguistic projects, but interdisciplinary projects, which ideally reach beyond academia and actively involve, and become involved in, the speech community." (Nikolaus Himmelmann 2008, *Reproduction and Preservation of Linguistic Knowledge*, p347)

(taken from Spring 2009 seminar papers with Joseph Errington and Robert Greenberg)

Summary in Japanese.

日本語→アイヌ語借用語の音韻変化

はじめに:借用語

借用語とはある言語からまた違う言語に取り入れられた言葉のことである。話し手が音韻論的に異なる言語から、ある単語を借用語として採用する際には、その単語を自分の言語の音韻規則に従うように発音を修正する。借用語の発音の変化が理解できればできるほど音韻規則が理解できるようになる。

借用語は実際の具体的な原因がある。全部の借用語はどこかの人間が聞いて、「自分の言語で使ってみよう」と思って採用した。この採用事件が何百回も起きたし、あらゆる採用環境は異なるので「借用語の原因」とは一つの物ではない。借用語の原因はいかに異種的である。借用語は役に立つが、異種性のため借用語の音韻変化などを簡単な規則で説明できるわけではない。

この論文は日本語(和語)からアイヌ語への借用語の音韻変化の研究である。実は「日本語」というだけで足りない。アイヌ語を喋った人が聞いた日本語は大体現在の標準語ではなく東北方言だったし、時代的にも別のことばだった。アイヌ人と話していた日本人は歴史的に東北の人だった。アイヌ語の借用語の音韻論が理解できるためにまず東北方言の特徴を分かる必要がある。ここで音韻変化現象の説明には東北方言の説明が入っている。

音韻形態

1. 変化の無い・変化の少ない単語

アイヌ語の音韻制約にほとんど反しない借用語がある。その場合は無理に発音は変化させることは無い。ただしこの論文に説明されていない微妙な違反・変化がある。

2. 母音の変化

アイヌ語で、標準語・東北方言の長母音が短母音化する。もともと日本語で長母音を持つ音節はアイヌ語でアクセントを持つようになるかどうか、日本語のアクセント(イントネーション)はアイヌ語でどうなるか、などは興味深い疑問である。でもこの論文では、アクセントを扱わない。

ある日本語の単語ではVVがある場合、第二Vは高母音であれば半母音化する。第二Vは高母音ではないとただ無くなる。例えば、kaipetsi → kajpetsi (キャベツ)、maendare → mantari (前垂れ)。

東北方言では/i/と/e/が近い。そのため、アイヌ語の借用語ではよく/i/を期待した所に/e/があり、/e/が出るはず場所に/i/が出る。例えば、「芋」はアイヌ語でエモ。

東北方言の高母音も環境によって区別できないことがある。アイヌ語の話し手はこの母音を聞いた時に、我々が/u/と聞く音を/i/と聞こえたらしい。例えば、zurui → tsiruj (ずるい)。

アイヌ語の/u/は日本語と異なって円唇化した母音である。この違いのため、ある場合にはアイヌ語/u/,/o/と日本語/u/,/o/は借用語でスイッチしている。例えば、ɸukuro → pukuru (袋)、o:ndaru → ontaro (大樽)。

三つの単語で、アイヌ語で/uj/の所に日本語の標準語で/i/がある。この単語はkamuj(神)、pasuj(箸)、muj(箕)である。この問題は説明し難い。ある言語学者によると古い時代の日本語からアイヌ語に取り入れられた。実際そくに関係はないかも知れないが、東北方言では目立つほど同じような母音変化がある。ある東北の方言で、/Cui/ → /Ci/ (C＝子音のこと)。

日本語の無声化された母音がよくアイヌ語で無くなる。例えば、hayasi → hayas (林)、hurosiki → huruske (風呂敷)。

3. 子音の変化

アイヌ語で有声・無声子音の区別は無い。普通は、語頭、語尾子音は無声で、語中子音は有声である。この規則は借用語にどんな影響があるかは明らかである。

たまに日本語の子音はアイヌ語で「強化」する、というのは子音の促音化がある。この現象の原因はある日本語の方言にある。例えば、アイヌ語のmuttsi(mutci)は日本語の標準語のmutsi(鞭)のことだが、標準語でやはり/t/は促音ではなく単子音である。どこかの方言で鞭はmuttsiと発音するかどうか確かに言えない。逆に、日本語の鼻音のnn,mmなどがアイヌ語に採用したとき、単子音化する。

東北方言の母音間有声子音はよく前鼻音化する。たとえば日本語の標準語の「卵」tamagoは東北方言でtamangoになる。このためアイヌ語でtamankoになった。多数の借用語はこのような前鼻音化があり、ただ三つの単語だけがこの規則に従っていない。

アイヌ語で日本語の二次調音(唇音化:くわ、口蓋化:きゃ)は有り得ない。この二次調音を避けるため、アイヌ語の音韻体系は母音語中音添加する。例えば、kjo: → kijo(京都)。

古くはアイヌ語で日本語のF子音(ɸ)は無かった。日本語のファ行音がアイヌ語に採用した時、可能は二つある。まず、*aɸa>*aha。それから、*aɸa>*apa。両方の変化の方法がデータに出る。近似最小対立項があるので、多分この規則は時代的に分けている。近似最小対はɸukuro>pukuru(袋)、ɸuku>huku(洋服);ɸuta>puta(ふた)、ɸunda>hunta(札)。ɸ>pという規則の方が古いらしい。

結論

未来のアイヌ語を学ぶ人のためにアイヌ語を徹底的に記録しなければならない。古い時代のアイヌの人の物だけではなく、アイヌ語は生きている言語である。これからアイヌ歴史とアイヌ語をもっと理解できるため借用語を研究する必要がある。

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