

Lake Miwok Naturalization of Borrowed Phonemes

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Lake Miwok is a California Indian language formerly spoken in a small area south of Clear Lake, about 95 miles north of San Francisco. It is closely related to Coast Miwok, once the language of the Marin Peninsula north to Bodega Bay, and more distantly related to Eastern Miwok, formerly spoken on the western slopes of the Sierra Nevada Mountains and a stretch of territory extending across the northern portion of the San Joaquin Valley (see map). The Miwok family is in turn related to the Costanoan languages, once spoken from San Francisco south to Big Sur.

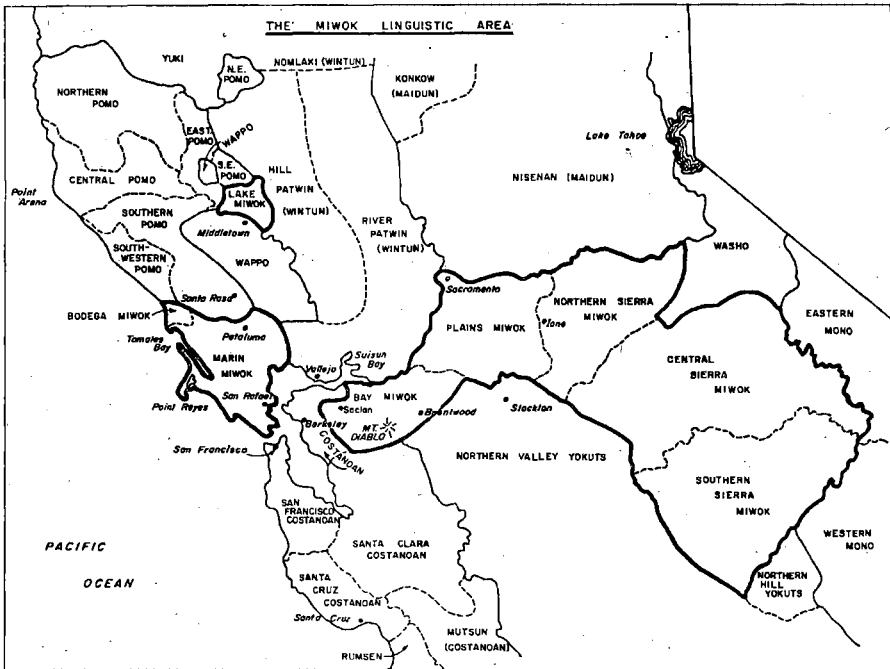
On the basis of lexical items, structural similarities, and sound correspondences, the Miwok languages may be grouped as follows (Broadbent and Callaghan 1960, Callaghan 1971):

- I. Eastern Miwok (Mie)
 - A. Sierra Miwok (Mis)
 - 1. Northern Sierra Miwok (Mins)
 - 2. Central Sierra Miwok (Mics)
 - 3. Southern Sierra Miwok (Miss)
 - B. Plains Miwok (Mip)
 - C. Saclan (Misac)
- II. Western Miwok (Miw)
 - A. Coast Miwok (Mic). Coast Miwok was probably a single language with various dialects.
 - 1. Bodega Miwok (Mib)
 - 2. Marin Miwok (Mim)
 - B. Lake Miwok (Mil)

Modern recordings exist for six Miwok languages; Southern Sierra Miwok (Broadbent 1964 and my field notes), Central Sierra Miwok (Freeland and Broadbent 1960 and my field notes), Northern Sierra Miwok (Callaghan forthcoming), Plains Miwok (Callaghan 1984), Lake Miwok (Callaghan 1965) and Bodega Miwok (Callaghan 1970). Saclan, now extinct, is known from a short list of words and phrases taken by Fray Felipe Arroyo de la Cussta in 1821 (Beeler 1955).

We see that Lake Miwok was geographically isolated from its nearest relatives, although speakers of Lake and Coast Miwok were in frequent contact. This isolation may be relatively recent. Kenneth Whistler (1977) argues for Patwin intrusion into the lower Sacramento Valley and adjacent foothills, basing his conclusions on Patwin plant terms of Miwok provenience. James Benyhoff (personal communication) has presented archaeological evidence for recent expansion of Wappo territory. In addition, Lake Miwok is bounded by Eastern and Southeastern Pomo, and it is close to Southern Pomo territory.

THE MIWOK LINGUISTIC AREA



The phonemic system of Proto Miwok probably configured as follows (Callaghan 1971):

p	t	t̥	č	k	ʔ	i	y[ɨ]	u
	s	s̥			h	e		o
m	n					a		
w	l		j[y]			length (·)		

Only Central Sierra Miwok retains both /s/ and /s̥/. The Sierra Miwok languages have added /ŋ/, and Plains Miwok has added /ə/.¹ Coast Miwok has lost /y/, and Plains Miwok has neutralized the contrast between /t/ and /t̥/. Otherwise, daughter languages other than Lake Miwok have retained the phonemic system of the parent language. (By convention, [č] is written /c/ in these languages.)

Lake Miwok has also lost Proto Miwok /y/. But the Lake Miwok consonantal system is extremely complex.

p	t	t̥	k	ʔ
p ^h	t ^h	t̥ ^h	k ^h	
p̥	t̥	t̥̥	k̥	
b	d			
	c[ts]	č		
	c̥[ts]	č̥	ʔ	
	s	s̥	ɬ	h
m	n			
w	l	r	j[y]	

/s/, /r/, and /č/ are extremely rare, except in loan words from Spanish. /č/ varies with /c/ or /č̥/ in other words, and /č̥/ also varies with /č/ in those few items in which it occurs.

The Pomo languages, Wappo, and Patwin all have multiple series of stops. In addition, Patwin has /ɬ/ and /ɬ̥/. An early comparison of Lake Miwok words containing non-plain stops or affricates, or ɬ, revealed that about 30 percent closely resembled corresponding words in neighboring languages. Moreover, these Lake Miwok words rarely had a Miwok etymology. Consequently I concluded that Lake Miwok had undergone massive phonemic borrowing as a result of loan words from nearby languages (Callaghan 1964). Additional evidence came from the fact that the aberrant phonemes do not occur in Lake Miwok affixes (except for a few reduplicating suffixes and free variants of the objective case), and they are largely absent from core vocabulary. Therefore, I was confident that additional research would yield sources for the remaining 70 percent of the problematic items.

English	Sierra Miwok	Plains Miwok	Coast Miwok	Lake Miwok	Other ²
to kiss				p̣út-ka-ṭi, p̣út-ak	Pse puṭki 'a kiss'
woman			Mim p̣ōṭciṣ SB 'old woman'	p̣óc-i ~ p̣óc-i	Wph p̣okita Wph p̣oksin 'sister-in-law'
rash				p̣óclo-ṭi - p̣óclo-ṭi	Csjb po·čor 'a sore' Waw p̣ótlo? 'syphilis'
to cut open, out off	Mics po ² -wa- po ² -la-			p̣óc·a - p̣óc·a	
to blow on, blow out			Mib p̣úc·u-ṭi	p̣úc·a-ṭi - p̣úc·a-ṭi	
to be blowing, blow slowly			Mib p̣ú·cu	p̣ú·ca ~ p̣ú·ca	
wild onion			Mib, Mim putcu IK	p̣ú·cu ~ p̣ú·cu p̣ú·du	Wph pu·rway
snake				p̣ódwaj	Wph porwan
to break (a branch) off	Mics pej·y-			p̣ój·ku-ṭi, p̣ój·a	
to smoke (tobacco)	PMis *pa ² my-	pa ² my-		p̣óm·a - p̣óm·a 'to puff, suck (a pipe)'	

Chart 2 Lake Miwok d, t, -n'e

English	Sierra Miwok	Plains Miwok	Coast Miwok	Lake Miwok	Other
to tear				čú-d-ka-ti	Wph čura
to rub against	PMis *liṭ-ja-			líd·a	
slick, slippery	PMis *liṭ·a-ṭa-				
to skin (an animal)	PMis *luṭ·u- - *lu·ṭú-	lut·u-		lú·doj 'to cut into strips'	
big, much, many	PMis *ʔyṭ·y-			ʔudí·, ʔúd·i 'great, huge' ʔú·di 'eldest'	
Sulphur Banks				móṭ	Wpcc moṭ 'willow, bay leaves'
to break off	Miss tes-ku-			déi-ku-ti	
to break off, break up			Mib kéṣ·a, kéṣ-ku-ti	kéi·a	
to hang down	Mins juh·u·c·u- < *juṣ·u-			jói-ka-ti 'to hang out'	
to have diarrhea	PMis *čul-ka-			coi-ka-ti	
to be hanging			Mib jó·ke-ṭe - jó·ke-ti	jokó-n·e - jokó-n·e	
to sit down, land (bird, insect)	PMis *ṭoʔ-ṅe-			taká-n·e 'to land'	
to squat	Miss waṭa·-t- 'to straddle'			waṭá-n·e	

Chart 3 Onomatopoeia and Sound Symbolism

English	Sierra Miwok	Plains Miwok	Coast Miwok	Lake Miwok	Other
fish trap				búk ^h al	Pe bu·xál < *buhqháł
to belch				bák-še-ti	Waw páke?
to bubble	Mins poklu- Miss puṭ·a-			bókbok-oṣi bóṭbot-oṣi 'to foam and pop'	
to growl (intestines)	Miss kol-ka-			kowó·lod-oṣi	Wph ko·woro
to squeak (mouse, door)	Mins ciliṭ·-iṭ·y-			ciṭi·t-iṣi	Waw ciṭiṭisi?
to squirt	Mins ciṭi·ṭ-			ciḍ-ka-ti ciḍi·t-it-iṣi	Wph tiḍ-
to wink	PMis *čituk- nu- 'to wink at someone'	cituk-nu- 'to wink at some- one'		ciṭ-ka-ti, ciṭ-ak	Waw ciw?
to drip	Mins cot-ka-			caká·t-at-aṣi	
to point		ki·ca-		ki·ci	
index finger		ki·ca-n·a-		ki·ci-n·i	
tooth	PMis *kyt·y-	kə·t	Mib kút	kút	
to chatter (teeth)	Miss kyṭyṭ·-yṭ·y-			kuṭú·kuṭu - kuṭú·kuṭu 'to gnaw noisely'	
to roll around			Mib púc·el 'to roll over'	pucé·l-eṣi	
to crush, mash	PMis *picak			p ^h icak	
cocoon rattle	PMis *sókoṣ·a-	sokos·a-		sokóṣ·o	
to flip (fish)			Mib típ-le-ti	típtip-iṣi	

Additional research did not shake the hypothesis of massive borrowing, but it did render the situation much more complex. In some cases, new loan words were clearly identified. Mil lébleb 'solar plexus' is most probably from Wph lebleb 'meat under ribs'. But in other cases, an increasing number of resemblant forms emerged in other Miwok languages. Sometimes there was an embarrassment of riches. Mil óit-ka-ti 'to wink' was thought to derive from Waw óiw- 'wink'. But it acquired a much more convincing Miwok etymology in view of PMie *óituk-nu- 'to wink at someone'. Some of the new phonemes have become full-fledged participants in Lake Miwok sound developments; i.e. they have become naturalized, to borrow a term from the biologists. I will analyze a few instances of this phenomenon.

Chart 1 lists some examples of Mil /p/ in initial position. This phoneme entered the Lake Miwok corpus through such words as pút-ka-ti 'to kiss (once)', which is presumably from Pse putki 'a kiss', and for which there are no known Miwok cognates. It is in the process of spreading to all words in which /oc/ follows. The spread to póc'i ~ póc'i 'woman' was doubtless encouraged by Wph pókita 'woman' and Wph poksin 'sister-in-law'. Mil póclo-ti ~ póclo-ti 'rash, to break out' has an apparent remote cognate, Csjb pó'cor 'a sore'. The relationship here of Waw pótlo? 'syphilis' is uncertain.

The new phoneme usually spread by analogy to other members of a derivational paradigm; hence pút-ak 'to kiss (several times)' and póc-ka-ti 'to cut one piece'. The sound development Pse /t/ > Mil /t/ in pút-ka-ti 'to kiss (once)' is also expected, since two glottalized stops in the same stem are rare, and Mil /t/ is rare before -ka- 'semi-accidental' or -ku- 'deliberate'.

Mil /p/ is also in the process of spreading to words with a following /u(·)c/, but the spread is incomplete, since there are still items such as púci 'to suck, nurse', which do not participate. Mil /p/ has already spread to the two words with a back vowel followed by /d/, pú'du 'a plant like garlic' and pódwaj 'snake'. Both are probably loans from Hill Patwin.

The final examples; Mil pój-ku-ti 'to cut off (branch, pine cone)', Mil pój'a 'to cut (pine cones) off', and Mil póm'a ~ póm'a 'to puff several times, suck a pipe'; represent a further spread of Mil initial /p/, this time to words with a back vowel followed by a sonorant. The spread may have been occasioned by the intrusive glottal stop in pój'a and póm'a.

/-d-/ entered Lake Miwok via such words as cúd-ka-ti 'to tear', probably from Wph čura 'to tear' (see Chart 2). The sets 'to rub against' (plus 'slick, slippery'), 'to skin (an animal)', and 'big, much, many' argue for the sound change PMi *-t̚- > Mil -d(-)- after high vowels.

Mil /ɹ/ occurs in some loan words from Paṭwin, such as húkaj ~ húkaj 'rabbit blanket', probably from Wph hukay 'rabbit blanket'.

Mil móɪ 'Sulphur Banks' may be somehow connected with Wpcc moɪ 'willow, bay leaves', which might account for an instance of Mil /ɪ/ in non-initial position.

In fact, Mil /ɪ/ is common as the second consonant in CVC-stems before -ka- 'semi-accidental' and -ku- 'deliberate', whereas underlying /s/ does not occur in this position in the analyzed Lake Miwok corpus, except in wéɪ-ka-ti - wés-ka-ti 'to chip, be chipped' and related constructions. These facts suggest that some instances of Mil /ɪ/ in this position may derive from PMiw *s, the reflex of both PMi *s and PMi *s. Support for this hypothesis comes from Miss tes-ku- 'to break off a piece', an apparent cognate with Mil déɪ-ku-ti 'to break off (a branch), dislocate (a finger)'; and Mins juh-u-c-u- 'to hang down, whose stem is probably cognate with Mil jóɪ- in jóɪ-ka-ti 'to hang out, protrude'. In both cases, /ɪ/ has been generalized to other members of the Lake Miwok paradigm.

déɪ-ka-ti 'to pull something off, be out of joint'

déɪ-tɛ-ti 'to droop, bend over, be out of joint'

déɪ-uk 'to break (twigs) off, dislocate (finger)'

jóɪ-tɛ-ti 'to sag, be limp'

Mil kéɪ-a 'to break or chip bark off all around a tree' is not currently part of such a derivational paradigm, but Mib kés-ku-ti 'to break up (table or chair)' argues for such a paradigm in the past, which would explain another instance of Mil /ɪ/.

Mil coɪ-ka-ti 'to have diarrhea' is harder to explain, since Mil /ɪ/ is not an expected reflex of PMi *l in this position. Possibly there was analogy with Mil jóɪ-ka-ti 'to hang out, protrude'.

The last three examples may represent a morphologically conditioned sound change. Verbal stems of the canon CVCV- glottalize a medial stop before -nɛ 'intransitive'. (The verbs in question are all verbs of position.) In these instances as well, the glottalization has spread to related words, i.e. Mil jóɪkəp 'to hang (a person)' and Mil wá-ti 'to spread one's legs when lying down'.

Chart 3 includes some examples that may involve onomatopoeia and sound symbolism. Mil /b/ is rare. It probably entered the Lake Miwok inventory through a few loan words, such as Mil búkʰəl 'fish trap', most likely from Pe buxál 'fish trap' < *buhóʰəl (McLendon 1973: 66-7). It has spread to Mil bókbok-osi 'to boil, bubble' and Mil bóɪbót-osi 'to foam and pop like acorn mush', both of which are probably of Miwok origin. It may have spread to a loan word, if Mil bák-se-ti is indeed from Waw pákeʔ 'to belch'.

The remaining items are apparent instances of sound symbolism, where glottalization has become associated with small, quick, often semi-accidental action. Mil koʷo-lod-oʃi 'to growl (intestines)' and Mil ciʃi-t-iʃi 'to squeak' are probable loan words from Hill Patwin and Wappo respectively, but their entry into Lake Miwok may have been facilitated by the existence of similar Miwok stems. The glottalization in Lake Miwok words for 'squirt' and 'wink' (as well as the -d- in words for 'squirt') can be explained by the influence of similar stems in Hill Patwin and Wappo. Once glottalization had become established, it began spreading to semantically similar items. The phenomenon is still too sporadic to be predictable.

To summarize, Lake Miwok has probably been isolated from its nearest relatives for centuries. It has undergone massive phonemic borrowing through loan words from neighboring languages, which entered as a result of intermarriage and bilingualism. They spread to some native Miwok words through analogy. As they came to be fully accepted into the language, some of them started to participate in conditioned sound change, sound symbolism, and onomatopoeia.

Notes

1. Saclan might also have had /ə/ and both /s/ and /ʃ/.
2. The following are additional abbreviations: IK 'Isabel Kelly', SB 'S. A. Barrett' (both from Callaghan and Bond 1972), PMis 'Proto Sierra Miwok', PMie 'Proto Eastern Miwok', Csjb 'Mut-sun' (San Juan Bautista Costanoan, from John P. Harrington's field notes), Pse 'Southeastern Pomo' (from George Grekoff's field notes), Wph 'Hill Patwin' and Wpcc 'Cache Creek Patwin' (both from Donald Ultan's field notes), Pe 'Eastern Pomo' (from McLendon 1973), and Waw 'Western Wappo' (from Sawyer 1965).

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