

ISTOR BOOKS

3

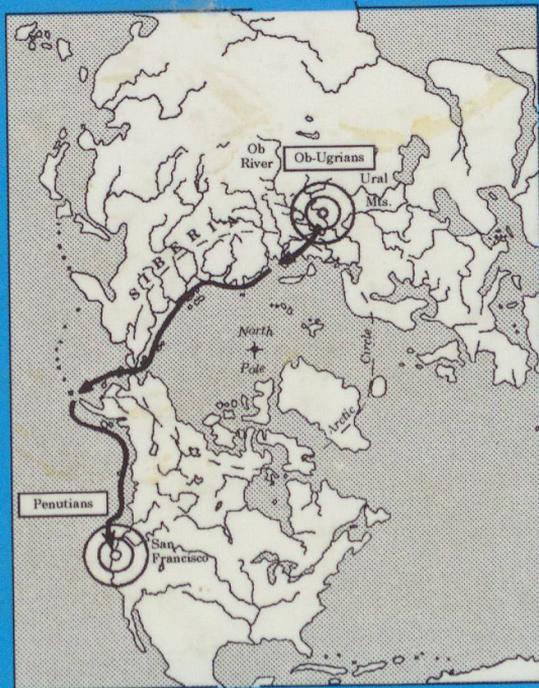
International Society for Trans-Oceanic Research

THE DISCOVERY OF CALIFORNIA

A Cal-Ugrian Comparative Study

By

OTTO J. von SADOVSZKY



AKADÉMIAI KIADÓ · BUDAPEST

THE DISCOVERY OF CALIFORNIA

ISTOR BOOKS 3

BOARD OF DIRECTORS

- | | |
|--|--|
| Martin I. Scheyer
Attorney at Law
Secretary Treasurer
United States | Dr. Erich Müntzer Scheid
Chairman of the Board
Germany |
| Dr. Mihály Heged
Coordinator of Publications
Hungary | Dr. Otto J. von Szolovszky
President and CEO
United States |
| Dr. Claude Lévy Strauss
France | Louis G. Bunn III
United States |
| Dr. Alexander Markov
United States | Dr. Shi Di
People's Republic of China |
| Dr. Ikuo Matsumoto
Japan | Dr. Sheila M. Robinson
Canada |
| Dr. Valery A. Terkov
Russia | Leonid G. Gorbunov
Russia |
| Dr. George Watson Bannister
United States | Dr. Thor Hovstad
Norway |
| Dr. Stephen A. Wynn
United States | Dr. Yuryevich V. Ivanov
Russia |



EX AFFECTU
UNIVERSITATIS

International Society for Trans-Oceanic Research

BOARD OF DIRECTORS

Dr. Erich Mittelsten Scheid
Emeritus
Chairman of the Board
Germany

Dr. Otto J. von Sadvoszky
President and CEO
United States

Lonnie G. Bunch III
United States

Dr. Zhu Di
People's Republic of China

Dr. Sheila M. Embleton
Canada

Luciana Gabrielli
Italy/Switzerland

Dr. Thor Heyerdahl
Norway/Italy

Dr. Vyacheslav Vs. Ivanov
Russia

Martin I. Schneyer
Attorney at Law
Secretary Treasurer
United States

Dr. Mihály Hoppál
Coordinator of Publications
Hungary

Dr. Claude Lévi-Strauss
France

Dr. Alexander Marshack
United States

Dr. Hideo Matsumoto
Japan

Dr. Valery A. Tishkov
Russia

R. Gordon Wasson, Emeritus
United States

Dr. Stephen A. Wurm
Australia

89006

✓143582

AS0110

THE DISCOVERY OF CALIFORNIA

A Cal-Ugrian Comparative Study

By

OTTO J. von SADOVSZKY

MTAK



0 00045 78200 8

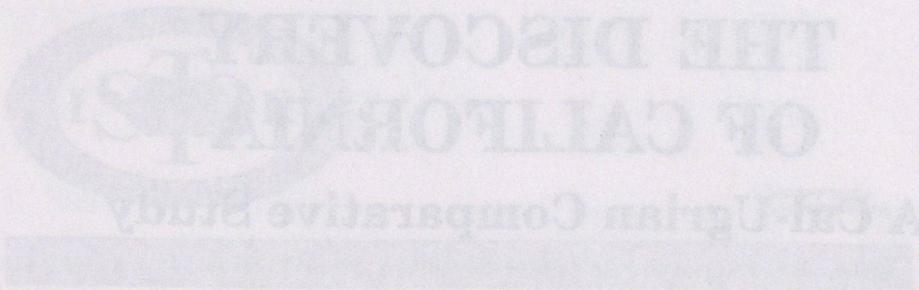


Akadémiai Kiadó, Budapest

International Society for Trans-Oceanic Research, Los Angeles

AS0110
Könyvtár

011624



MÁGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

BOARD OF EDITORS OTTO J. VON SADOVSZKY

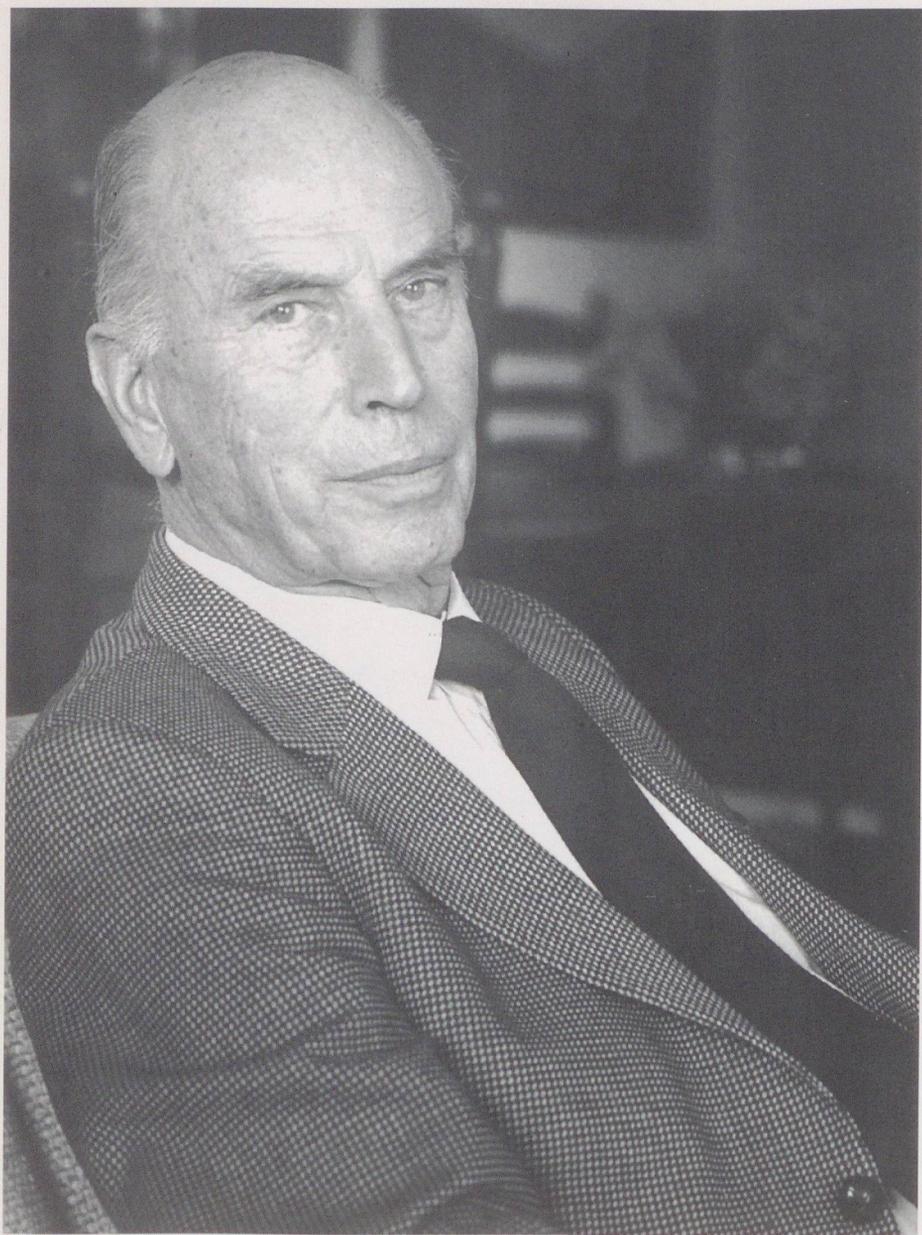
- Dr. [Name] [Country]
- Dr. Otto J. von Sadvoszky
President and CEO
United States
- Dr. [Name] [Country]

ISBN 963 05 6630 3
ISSN 0865-7416

© O. J. von Sadvoszky, 1996

Typeset by PP Editors Ltd., Budapest
Printed by Akadémiai Nyomda Ltd., Martonvásár

M. TUD. AKADÉMIA KÖNYVTÁRA
Könyvleltár1045...../19 97 sz.



Contents

Introduction	ix
Linguistic Notations	xxi
List of Illustrations	xxv
Abbreviations	xxvii
An Essay Concerning the Language of the The Old-Ugrian	1
Sound Law, Reconstruction	42
Comparative Grammar and Phonology	61
Comparative Grammar	67
Comparative Phonology	101
The Correspondence of Eastern Algonquian CV ^h to Uralic CV ^h	131
Contributions to an Uralic-Algonquian Comparison Dictionary	137
The Old-Ugrian Elements in the Algonquian Verbal Prefixes and Suffixes of California Wintun	142
Comparative Text Analysis	156
Appendices	223
Palaeoethnology of the Central California Indian Devotional Songs	224
Linguistic Evidence for the Siberian Origin of the Central California Indian Languages	237
The Time of Arrival of the Old-Ugrians in California (on the Basis of the Uralic Sound Changes)	261
Comparative Data Base for the Introduction	271
References	277
Word Index	286
Subject Index	301
Name Index	353

Contents

Introduction	ix
Linguistic Notations	xxi
List of Illustrations	xxv
Abbreviations	xxvii
An Essay Concerning the Discovery of California	1
The Ob-Ugrians	45
Sound Law, Reconstruction and the 'Cal-Ugrian' Concept	51
Comparative Grammar and Phonology	63
Comparative Grammar	67
Comparative Phonology	101
The Correspondence of Eastern Miwokan <i>CV²</i> to Vogul <i>CVS</i>	131
Contribution to an Ugrian-Maiduan Comparative Dictionary	137
The Ob-Ugrian Elements in the Adverbs, Verbal Prefixes and Postpositions of California Wintuan	179
Comparative Text Analysis	185
Appendices	223
Paleolinguistics of the Central California Indian Ceremonial Houses	225
Linguistic Evidence for the Siberian Origin of the Central California Indian Shamanism	237
The Time of Arrival of the Cal-Ugrians in California (in the Light of the Ugrian Sound Change <i>*k > x > h-</i>)	261
Comparative Data Base for the Introduction	271
References	279
Word Index	289
Subject Index	351
Name Index	355

Introduction

The subtitle of this book "A Cal-Ugrian Comparative Study" introduces a new word, namely 'Cal-Ugrian'. It stands for California Ugrian. I hope that the reader, after carefully having studied the evidence, will agree that the languages of the Native Central Californians are indeed closely related to the Finno-Ugrian and specifically to the Ugrian languages spoken in Northwest Siberia.

This book is a summary of my research activity spanning several years. The various segments of the volume were written at considerable intervals. The introductory essay in its basic form was first published under the title "The Discovery of California: Breaking the Silence of the Siberia-to-America Migrators" in *The Californians, The Magazine of California History* in 1984. It was written for the well informed public. I think it is an appropriate summary and it will serve well as an introduction to this new comparative linguistic and cultural theory.

Several new books appeared since the Comparative Grammar and the Comparative Phonology were written. Among them the most important are: Károly Rédei's *Uralisches Etymologisches Wörterbuch* (1986–1991), Bernát Munkácsi and Béla Kálmán's *Wogulisches Wörterbuch* (1986); *Wörterverzeichnis zu den Bänden 1–6* of Kannisto–Liimola's *Vogulisches Volksdichtung*, published by Vuokko Eiras (1982), and Catherine A. Callaghan's *Northern Sierra Miwok Dictionary* (1987). These books, however, were used in other segments of the book.

The Comparative Text Analysis contains a considerable amount of new material not utilized in the Grammar and Phonology.

I included in the appendix some previously published semi-ethnographic articles. These should be of value to those who are interested in the cultural associations connected with this linguistic study. Here the reader will find also the Comparative Data Base for the Introduction.

Every comparative work of this nature, however, is incomplete. I wanted to include a major study on kinship terms, my study on glottochronology and other monographs, but these would have made this book too voluminous. I leave these and other detailed topical studies for future publications.

Here, however, I would like to provide future investigators with some valuable leads, which are used in this work, but the theoretical framework is not quite apparent. These play a vital role in the establishment of the correspondences of vowels and consonants.

While in most of the cases the vowel correspondences are quite simple and obvious, the change of vowels by regressive assimilation is one of the most important features in my comparative study. It is an important feature in Uralic. Collinder (1965:94) states that:

In all the Uralic languages it has occurred that a vowel has been palatalized, labialized, or velarized through the influence of a neighboring consonant or the vowel of the second syllable (umlaut).

Prokosch (1939:107) calls *umlaut* mutation.

Mutation ('Umlaut', a term coined by Jacob Grimm) in the widest sense can be defined as the modification of a vowel under the influence of and in the direction of the articulation of a neighboring vowel. In the Germanic languages the use of the term is essentially restricted to the change of a stem vowel in the direction of the vowel of a suffix or ending. Similar processes are found in many languages.

While *umlaut*, vowels effecting vowels, is not so common in my study, vowels being effected by consonants, however, are very common. Given the relatively great amount of alveolar and alveopalatal consonants in the Uralic languages palatalization of the vowels is of common occurrence. The vowel changes, palatalization and velarization, are often the only traces of the once present phonetic makeup of the word. We can illustrate this by Germanic examples where the Old English plural suffix *-iz* caused the "hidden" changes in the stem vowel. Prokosch (1939:108) writes:

So far as the endings themselves are concerned, the speech feeling for the phonetic law back of them gradually disappeared. It is obvious, for instance, that in Old English there could not exist any recollection of the fact that the difference between *ō* in *fōt* 'foot' and *ē* in *fēt* 'feet' was due to the former plural ending *-iz*. All that remained was the functional variation of the stem vowel, which differed in degree in the various Germanic languages. It found its greatest development in High German, particularly in the formation of noun plurals.

It will be some value to future investigators to recapitulate the rules of palatalization, velarization and another change, namely denasalization.

Palatalization, the change of the stem vowel to a high front vowel *i* by regressive assimilation is one of the most frequent changes in the Penutian languages, as compared to the Uralic, Finno-Ugrian protoforms.

Before the Uralic, Finno-Ugrian palatal semivowel *j* and before alveolar and alveopalatal consonants *š, č; δ', l', ś, ć* and *ń*, the Penutian stem vowels changes to *i* (or seldom to *e*) by regressive assimilation.

In this connection it is important to note, that in general, northern and eastern Vogul, northern Ostyak and Hungarian changed initial **k-* to *x-*

and Hungarian *h-* before the back vowels *o*, *u* and *a*. In Hungarian for example whenever we are confronted with a combination *hi-*, *he-* and *hë-* we have to assume that the original vowel was a back vowel **hu-*, **ho-* or **ha-* and conversely, whenever we are confronted with a combination *ku-*, *ko-* or *ka-* we have to assume that the original vowel was a front vowel **ki-*, **ke-*, **kë-*.

The same rules apply to Miwokan, Costanoan and to some extent to the other Penutian languages. At any rate, we should search for other factors in cases where the vowels do not follow the general rules. These other factors could be dialect variations and borrowings.

The rules of palatalization are important, because they explain the vowel changes in the seemingly "aberrant" forms. The subsequent examples will illustrate the point.

It would be cumbersome to point out all the rules and processes operating in the examples. I hope, that by presenting the data in somewhat schematic and simplified form and by clustering the entries, it will be easier for the reader to understand the changes from Uralic, Finno-Ugrian to Penutian. A fuller set of cognates with exact forms and references are provided in the last appendix on pages 271–277. The serial numbers on the left side serve for identification.

The examples 1–10 illustrate the vowel changes to *-i-* in Penutian before Uralic, Finno-Ugrian palatals and alveopalatals.

I would like to draw attention to item 1 PFU **koje* 'dawn, sun'. In the case of Vogul *xō-* we have a regular correspondence. Proto Miwokan **hti* (**hij*) 'sun, day' presupposes *hoj-* or another form with a back vowel. Indeed we have a *hoj-* variant in Mics 'early morning', with numerous derivatives. The *hij* form developed because of the influence of the palatal *j*.

	Protoform	Ugrian	Penutian
1	<i>-j-</i> PFU * <i>koje</i> 'dawn, sun'	Vg <i>xō-</i> 'sun'	Mi <i>hij</i> 'sun' ~ <i>hoj-</i> 'dawn'
2	PUr * <i>kajz</i> 'hair'	Vg <i>xoj</i> 'hair'	Mi <i>hij</i> ~ <i>kuj</i> 'hair'
3	PUr * <i>kojwa</i> 'birch'	Vg <i>xāl'</i> 'birch'	Ma * <i>hijby</i> 'birch'
4	PFU * <i>waj</i> 'animal'	Vg <i>wuj</i> 'animal'	Wi <i>wij</i> ~ Mi <i>waj-</i> 'animate being'
5	* <i>-š-</i> PFU * <i>suš'a</i> 'frost'	Vg <i>sol'</i> 'frost'	Mi <i>šil</i> 'cold'
6	* <i>-l'-</i> PU ?* <i>l'al'z</i> 'up'	Vg <i>l'ul'i</i> 'high'	Mi <i>lile</i> 'high'
7	PU ?* <i>kol'z</i> 'fast'	Vg <i>xal'i</i> 'fast'	Mi <i>hilt</i> 'fast'
8	* <i>-š-</i> PUr * <i>muške-</i> 'wash'	Hu <i>mos</i> 'wash'	Mi <i>missa</i> 'rub'
9	* <i>-ć-</i> PFU * <i>kaća</i> 'a point'	Hu <i>hegy</i> 'mountain'	Mi <i>hišy-</i> 'mountain' PYo * <i>xosi-</i> 'north'
10	* <i>-ń-</i> PUr * <i>kuña</i> 'to squint'	Vg <i>xoñi</i> 'to spy'	Ma <i>hin</i> 'look, eye'

Palatalization of the vowel with the combination of denasalization occurred in most of the examples 11–17.

In Ob-Ugrian denasalization is common. In a nasal + homorganic stop (medial) cluster the nasal is lost: *mp* > *p*; *nt* > *t*; *ɲk* > *k*. A similar law operates in Penutian when compared to Uralic, Finno-Ugrian protoforms. The examples 11–17 illustrate a similar type of denasalization.

Here the consonant clusters consist of a nasal + affricate *ńć*, *nč* and *ɲć*. The examples are mostly of the *mańć* ~ *mańč* type. I selected these phonemically similar examples in order to provide the reader with an additional insight into discovery procedures.

Here we are dealing with three sound laws resulting in Miwokan–Costanoan *micca*: 1. palatalization of the first vowel; 2. denasalization of the cluster; 3. complementary lengthening of the medial consonant. The sequence of the changes beyond palatalization cannot be established.

I would like to draw attention to item 11: Proto Ugrian **mańćɜ* which generally means ‘man’, in Vogul *mańsi* means ‘Vogul’ and significantly ‘Ob-Ugrian’. The Pelim compound form *mańsi-ku-* (MK 300b) ‘Vogul man’, has an exact correspondence in the Marin Miwok compound *miča-ko* (< **mičča-ko*) ‘person, Indian’, specifically a “Miwok Indian” living north of the Golden Gate Bridge.

	Protoform	Ugrian	Penutian
11	PU <i>*mańćɜ</i> ‘man’	Vg <i>mańsi-ku-</i> ‘Ob-Ugrian’	Mi <i>micca-ko</i> ‘Indian’
12	PU <i>*mańćɜ</i> ‘to tell tales’	Os <i>mańt’</i> ‘saga’	Mi <i>micca</i> ‘talk’
13	PŪr <i>*mäńćɜ</i> ‘tail of deer’	Vg <i>mańsi-</i> ‘tail’	Mi <i>mici</i> ‘to sup’ (using the tail of a deer)
14	PFU <i>*menčɜ</i> ‘grouse’	Vg <i>mansi-</i> ‘grouse’	Mi <i>ma-si</i> ‘grouse’
15	PU <i>?*mańćɜ</i> ‘embarrass’	Vg <i>muńsi</i> ‘embarrassed’	Mi <i>mucca</i> ‘ashamed’
16	PU <i>?*mańčɜ</i> ‘to chip’	Vg <i>mansi</i> ‘chipped’	Mi <i>muci</i> ‘sharp; to sharpen by chipping’
			Co <i>mičči</i>
17	PFU <i>*wäńćɜ</i> ‘knife, cut’	Os <i>wäńt’</i> ‘to cut’	Mi <i>wicca</i> ‘whittle’

We can interpret the Penutian **-w-* reflexes of the Proto Uralic, Finno-Ugrian velar nasal **-ɲ-* as a certain type of denasalization. In this case the original velar **-ɲ-* velarized the preceding vowel. As the examples indicate this velarization already occurred in most of the Ob-Ugrian cognates. Items 18–28 logically belong to the Comparative Phonology section. The reader here is provided with an overview of this “unusual” sound law.

I would like to draw attention to two items.

Item 22 PFU **pepe-rä* ‘round’ is reconstructed with front vowels *e* and with a suffix *-rä*. Vogul has an exact cognate with velarized stem vowel *-o-* and a *-ri-* suffix: *powari*. The fully reconstructed word appears with velar vowels and a *-lo* suffix in Lake Miwok as *powwolo* ‘round’.

Item 24 PFU **šeyä* ‘good, yes’ reconstruction is based on Finnish *hyvä* ‘good’ and the Hungarian regular cognate *igen* ‘yes’. The Finno-Ugrian

reconstruction is fully supported by the regular cognate in Bodega Miwok *towi-* 'good, O.K.'

	Protoform	Ugrian	Penutian
18	PUR * <i>aye</i> 'opening'	Os <i>oŋ</i> 'mouth'	Mi <i>ʔowo</i> 'mouth, valley'
19	PFU * <i>äŋʒ</i> 'burn'	Hu <i>ég</i> 'burn'	Mi <i>ʔywy</i> 'eat' (with semantic parallel: 'to consume')
20	PFU * <i>uŋa</i> 'stream, flow'	Vg <i>ow</i> 'flow'	Mi <i>wuwe</i> 'creek'
21	PFU * <i>aya</i> 'wide, open'	Vg <i>āŋ-</i> 'open'	Mi <i>ʔawwe</i> 'break, open'
22	PU * <i>puŋʒ-</i> 'catch'	Vg <i>pow</i> 'catch'	Ma * <i>pow</i> 'trap'
23	PFU * <i>peŋe-rä</i> 'round'	Vg <i>powari</i> 'round'	Mi <i>powolo</i> 'round'
24	PFU * <i>šipe-re</i> 'mouse'	Vg <i>täŋkər</i> 'mouse'	Mi * <i>ʔowele-</i> 'mouse'
25	PFU * <i>šepä</i> 'good, yes'	Hu <i>igen</i> 'yes'	Mi <i>towi-</i> 'good, yes'
26	PU * <i>saŋʒ</i> 'branch'	Vg <i>tow</i> 'branch'	Mi <i>taw-</i> 'branch'
27	PFU * <i>šupe-</i> 'soul'	Vg <i>tow</i> 'soul'	Wi <i>towa</i> 'soul'
28	PFU * <i>oŋta</i> 'spear'	Vg <i>outä</i> 'spear'	Ma <i>a-ʔta-</i> 'spear'

General *denasalization* occurred in Penutian in such cases as indicated in the examples 29–32. In such cases we do not encounter denasalization in Ugrian but in Penutian these types of denasalizations are common.

I would like to draw attention to two items.

In the example 30 Proto Uralic **pil'mʒ* 'dark' we have a similar loss of an *l* sound (*l'*) which we had in 29 **silmʒ* 'eye'. More significant, however, is the *o* vowel of the Penutian *po-* 'night'.

The *o* vowel is the result of the *p* and *m* environment. An identical change occurred in item 31 where PUR **pimʒ* 'grass' resulted in Penutian *po-* ~ *po* 'grass'. Ugrian *pom*, *pum* 'grass' were the results of the same development. In many cases Penutian has a cognate with nasal and without a nasal, e.g. Nisenan *bu-* ~ *bun* 'hair' in item 32.

	Protoform	Ugrian (Samoyed)	Penutian
29	PUR * <i>silmʒ</i> 'eye'	Vg <i>sam</i> 'eye'	Mi <i>sym-</i> ; Wi <i>sa</i> ; Yo <i>sa</i> 'eye'
30	PUR * <i>pil'mʒ</i> 'dark'	Yr <i>päew</i> 'dark'	Ma <i>po-</i> , <i>po-ho</i> 'night'
31	PU * <i>pimʒ</i> 'grass'	Vg <i>pom</i> 'grass'	Mi <i>po-</i> ; Ma <i>po</i> ~ <i>po</i> 'grass'
32	PFU * <i>puna</i> 'hair'	Vg <i>pun</i> 'hair'	Ma <i>bun</i> ~ <i>bu</i> ~ <i>pu</i> 'hair'

We can adduce some other examples of velarization by regressive assimilation: PUR **kije* or **küje* 'snake', Hu (dial.) *kijó* vs. MaNi *koj-mo-* 'rattlesnake' [*mo-* 'that one']; | Vg *kisi* 'mouse'; **kisi-oj* 'mouse creature' vs. YoChu *kos-aj* 'mouse'; | Vg *jekw* **ekw* 'gate', Mip *ʔeku-j-a* 'door' vs. *ʔuku-j-a* 'door', PMi **ʔú-k-* 'to enter'.

A nasal can be retained by dissolving the medial cluster N + C by inserting a vowel: N + V + C. Most commonly this epenthetic vowel follows the rules of vowel harmony.

For example: Vg **wunt* 'wilderness', Hu *vad* 'wild; hunt', Mi *wuntu* vs. Mi *wunut* 'to hunt'; | Vg *ańsu-* 'old man, bear' vs. MaMd *-anas* (*ʔin-anas* 'bear', *ʔin-* 'big'); | Vg *sūns* 'moss, lichen', MaMd *sosó* 'moss', Mics *se-se* 'dry grass' vs. WiWt *sunus* 'grass, straw, nest'; | Vg *xansä* 'tattoo', Mib *hocca* 'tattoo' vs. WiWt *qonos* 'tattoo'.

The lengthening of the vowel sometimes goes beyond two morae. In this case an epenthetic *-w-* is inserted.

For example: Vg *lōnt*, **lōt* vs. Mi *lowot* 'goose'; | Vg *jūr* 'lizard', WiWt *yir* vs. Mics (PL) *juwul* 'lizard'; | Os *tut* 'hole, grave'; Mim *lut-* 'hole' vs. Mi *luwat-* 'burial hole'; | Mins *jo-ke* vs. Miss *jowok* 'mud'; | Vg *ān* 'shallow dish, cup', MaNi *an* 'shell, cup'; Wi *ʔa-n* 'turtle' vs. Mics *ʔawān-* 'turtle'.

The readers should make themselves familiar with some basic sound laws. Central Sierra Miwok (Mics) *š* became *h* in Southern Sierra Miwok (Miss).

The Miwokan languages do not have an original *r* phoneme. Uralic, Finno-Ugrian **r* became mostly *l* in Miwokan.

I state in the Comparative Phonology that Costanoan Mutsun *r* is reflecting the original **r*: e.g. Ostyak *kor* 'foot' Mutsun *koro* 'foot'. It came to my attention, however, that *r* in Mutsun is often secondary i.e. it developed from a Finno-Ugrian **l*. Examples are abundant.

I use Yokutsan seldom in this comparative work. Yokutsan with its many languages, dialects and varied phonemic inventory presents a complex picture. I would like to state, however, that the complexity of Yokutsan is based on similar sound changes which occurred in the Ostyak dialects. This could be the result of parallel development. Ultimately the Yokutsan comparative sets are just as simple as the Vogul vs. Miwokan sets.

I made several references about the fact that *glottalization* is historically secondary in Penutian. The comparative evidence clearly indicates that it is a late development. This means, that the Costanoan languages which do not have glottalization, and Miwokan where glottalization is clearly due to outside influences, are more archaic. This was one of the reasons I selected Miwokan as the focus of my study.

In Wintu, for example, the glottalized and the non glottalized forms are often related to each other. We are dealing here not only with a phonemic split but also with a semantic split on the comparative level. Let me give an example about external evidence.

In Wintu the glottalized *ḳiw* (233) means "cooking stone"; river rock put into acorn soup when you want to heat or to cook; stones, cooking stones, cooking rocks, acorn soup rocks'. Cooking stones were once important household items among the peoples of Eurasia and among the American Indians (cf. page 37). Often the Native American housewife carried a set with her, because suitable stones in certain areas were a commodity.

The Wintu word *kiw* is related to Finnish *kivi* 'stone' and Hungarian *kő*, *köve*- 'stone', Ostyak *kew* and Vogul *käw*, *kaw*. It is reconstructed as PFU **kiwe* (UEW 163).

In Miss *kiwi-s-nY*- means 'to boil' i.e. by stone boiling. The equation is further supported by Mins *hupa*- 'cooking rocks', *hup-a*- 'to boil something'. The cooking container for boiling in Miss is called *kiwe-sa* 'bucket, pot'. In PL (541:8) *kuéssa*, *küéssa* is glossed as "kettle". Note that these are all the original unglottalized forms. For a semantic parallel we can adduce Mics *hón-o-ča* 'cooking basket' most likely from *hóy-o-* 'to heat rocks (for cooking?)' and *hoj-o-ja-* 'cooking rocks'.

Naturally there are many derivatives of **kiw*, **kaw* in Penutian. In Uralic I would like to mention only Vogul *kaw* (KLE 138) 'the Ural Mountains', "The Rock", and *kew-ma* 'Ural-land', "the Rocky Land".

In any linguistic comparative work one has to take into account the substrata i.e. the influence of the language or languages once spoken by the 'native' population. Commonly newly arriving people adopt the names of mountains, rivers, lakes etc. and the names of plants and animals previously not known and first encountered in their new environment. I also operated from this premise, since in the Indo-European linguistic area, substrata play such an important role.

It is generally assumed that the Penutian area originally was occupied by the Hokans and other minor groups, adjacent to the present day Penutians.

The newly arriving Ugrians often utilized their own linguistic inventory to refer to such newly found "things" as the great Californian redwoods *Sequoia sempervirens*, *Sequoia gigantea*, acorn, grizzly bear, mountain lion, puma, jackrabbit, raccoon, skunk, porcupine, sea otter, rattlesnake and the mighty California condor.

The most "exciting" area of comparative work is where linguistics, ethnography and archeology meet.

Such areas are abundant in my work. I would like to single out two such cases.

Archeologists in California unearthed perforated bear teeth (Elsasser 1978:38-39, item 36). It is assumed that they were worn as talizmans on a string around the neck. The Ob-Ugrians wear similar bear canine teeth attached to their belt in the back along the spine. It supposed to prevent backache (cf. Figure 37).

The second area is also connected with the bear cult and has far reaching consequences.

Archeologists identified red ochre (iron oxide) in the graves throughout Eurasia. They date these "ochre graves" to several thousand years. The Native Californians also sprinkle water mixed with ochre on the deceased in the grave (DuBois 1935:77, 116, 117; Schlichter 1981:107). For them it

symbolizes the living blood, life and soul. Most significantly, however, the Native Californians often buried their dead wrapped in black bearskin. During their lifetime the Native Californians made every effort to acquire for their future funeral this sacred "funeral shroud". They considered the black bearskin their most valuable possession. Here we have a combination of a bearskin funeral and red ochre dissolved in water symbolizing blood.

It is not surprising that the Ob-Ugrians call the blood of the bear 'red ochre'.

We can perhaps assume that in many cultures the paleolithic humans buried their dead in bearskin, and they sprinkled it with the red ochre dissolved in water symbolizing the living soul of the animal. Skins are perishable, but iron oxide remains in the ground for thousands and thousands of years.

In this case the practice of the Native Californians and the linguistic evidence from Siberia can provide an explanation for a cultural feature reaching back into prehistoric times.

Every comparative equation includes an implicit statement about meaning. The meaning equation between two compared items can be fourfold:

1. a one to one, clear and obvious correspondence;
2. a meaning shift easily understandable;
3. a meaning shift which requires a simple explanation and it is illustrated by semantic parallels;
4. a meaning shift which requires complex explanations and it is illustrated by a wide range of semantic parallels. This study utilizes all four meaning equations.

Now I would like to direct the attention of the reader to a few important 'technical' matters.

In the original introductory essay "The Discovery of California: Breaking the Silence of the Siberia-to-America Migrants" (von Sadvovsky 1984a) the editor wisely urged me to simplify the linguistic symbols and we published a statement saying that the

linguistic items are written without diacritic marks – signs of palatalization, glottalization, etc. Consequently, before quoting any of the technical linguistic representations, consult the original sources for the diacritic marks.

I rewrote, but in general maintained the original tenor of the essay. Some newly written segments are in accord with the rigor of the rest of the volume. This refers to diacritic marks and exact references. I realize that these make the essay somewhat heterogeneous. Still, the main purpose of the essay, the easy flow of ideas and arguments is still maintained.

On the pages 55–60 the duplication of Collinder's entries from his *Fenno-Ugric Vocabulary* (FUV) and the entries from Rédei's *Uralisches Etymologisches Wörterbuch* (UEW) are provided only to illustrate the extent of Uralic, Finno-Ugrian scholarship. They use slightly different set of abbreviations for the languages and dialects. Rédei's work is accompanied with a great amount of reference material. This reference material is *not* included in the indices at the end of the volume. The linguistic data, however, are included in the Word Index.

Collinder's reconstructed Proto Uralic and Proto Finno-Ugrian forms can be found in a later publication (1960:401–415).

I provide page references, in parentheses, for Costanoan Mutsun, CoMu (Mason 1916), and for Wintuan Wintu, WiWt (Pitkin 1985) in order to facilitate locating the entries in these works.

The alphabetic order of the Word Index follows the general practice established for works of this nature. The reader should be aware of two important points. The symbol for a velar fricative x is alphabetized before j - in Uralic dictionaries. It has about the same value as x in Wintuan, Costanoan and Yokutsan. Pitkin in his work *Wintu Dictionary* (1985) alphabetizes x according to the Latin alphabet. For us it would have been illogical to separate the two symbols x and x .

The second point refers to the use of glottal stop (ʔ) and its order in the Word Index. All words beginning with a glottal stop are alphabetized at the end of the index. Early investigators, however, failed to recognize it, and because it is often automatic, did not write it. These words are quoted according to the original notation without the glottal stop (ʔ) and they are alphabetized in the order of the Latin alphabet.

It is nearly impossible to thank all the people, who helped me in my research and aided me throughout the years in the successful completion of this volume. There are, however, certain special people, who I want to mention by name.

My thanks go first to Hanns-Peter Schmidt, Raimo Anttila, Henrik Birnbaum and Marianne Birnbaum at the University of California, Los Angeles; to Hideo Matsumoto in Osaka, Daniel Gershenson in Tel Aviv, Sidney Lamb in Houston, Carla Corradi Musi in Bologna, Tiit-Rein Viitso in Tallin and Zhu Di in Beijing.

I will always cherish the friendship of Jean Sherrell, the editor and Michael Sherrell, the publisher of *The Californians* and I will never forget Bill Fox, Janet Harris, Starrett Dalton and Nancy Dalton, Victoria Guinther and Peter H. Brine.

My special thanks go to Lajos Kutasi-Kovács in London. I will be always grateful for the help and support which I received from R. Gordon Wasson, Marija Gimbutas, Vyacheslav V. Ivanov, Claude Lévi-Strauss and Luciana Gabbrielli.

I thank Donald Schweizer and E.T. Jacob Pandian for their continuous support.

Long is the list of names of those who with constructive comments contributed to the successful progress of my work. I would like to thank: Haruo Aoki, Robert Austerlitz, Marianne Bakro-Nagy, Madison Beeler, Dwight Bolinger, Thomas Y. Canby, Richard Dauerhauer, Gyula Décsy, Angela della Volpe, Aaron Dolgopolsky, Alan Dundes, Michael K. Foster, Victor Golla, Daniel Goodgame, Joseph Greenberg, Béla Gunda, Robert L. Hall, Eric P. Hamp, Robert Heizer, E. Helimsky, László Honti, Dell Hymes, Esa Itkonen, Roman Jakobson, Aulis J. Joki, Terrence Kaufmann, L. Kazár, Mary Ritchie Key, Ago Künnap, Saul Levin, J. Peter Maher, Adam Makkai, Valery Becker Makkai, Zita McRobby, Yakov Malkiel, Gerald Marley, André Martinet, Soter A. Mousalimas, Rhonda Parks, Juha Pentikäinen, Jaan Puhvel, Andrew Rolle, Vitaly Shevoroshkin, Wayne Suttles, Imre Sutton, Wolfgang Veenker, Edit Vértes, W. Roger Wescott, Stig Wikander, and Werner Winter.

I would like to mention by name and express my gratitude to the special persons whose work I used for so many years. Some of them are mentioned at the end of my introductory "Essay".

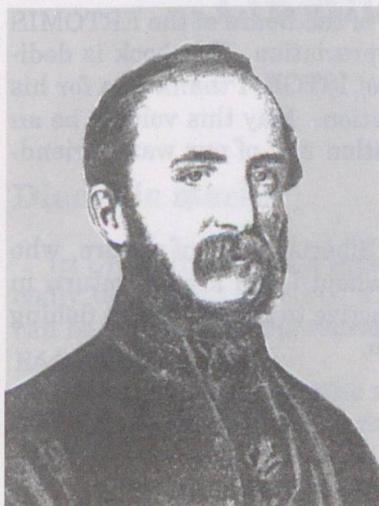
During the past decades I developed an admiration for Antal Reguly (1819–1858) a Hungarian who was the first to do linguistic fieldwork among the Voguls.

On the American side I admire greatly John W. Powell (1834–1902) who was the first to organize the linguistic data collected by the early investigators in California. He is the founder and first director of The Bureau of American Ethnology. I often returned to his work for guidance and inspiration.

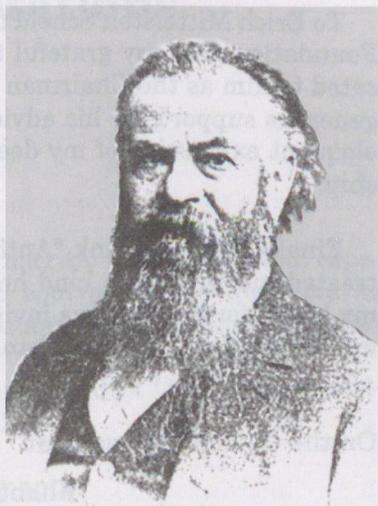
On the European side I have to single out with gratitude Bernát Munkácsi, Béla Kálmán, György Lakó, Károly Rédei, and Péter Hajdú. I thank Björn Collinder, who for many years, provided the only guidance. I thank the great Finnish scholars K.F. Karjalainen, Y.H. Toivonen, Artturi Kannisto, Matti Liimola and for her excellent work Vuokko Eiras.

Again on the American side I am thankful for the works of the courageous pioneer Padre Arroyo de la Cuesta. I am grateful to the infatigable Alfred Kroeber who gave me the first encouragement in my work.

I wish to express my thanks and gratefulness to the outstanding Berkeley descriptivists Lucy Freeland, Silvia Broadbent, Catherine Callaghan, Hans J. Uldall, William Shipley, Harvey Pitkin and Alice Schlichter.



Antal Reguly (1819–1858)
(After Kálmán)



John W. Powell (1834–1902)
(After Hodge)

Here in Siberia my thanks go to Vladimir I. Boyko, Vladimir I. Suprun at the Institute of History and Olga Ryzhkina at the University in Novosibirsk; similarly to all the young people at ATTA especially their directors Sergei A. Lukyanov and Olga V. Smetanina.

Now from far away my thankful thoughts are turning back home to my dear brother and my dear mother. I thank them.

There are no words to describe my thanks to my beloved wife Maria for her love, devotion and enthusiasm, or to express my deep appreciation for her good judgement and wise criticism in scientific matters.

I thank my son Anton and my daughter Mia for being such wonderful children and for listening so patiently, for so many years, to linguistic formulas.

It is difficult to put into words, or to express my gratitude to my editor Pál Páricsy in Budapest, for his untiring attitude, persistent, precise and elegant work, and who, among others, compiled the indices and made the correct typography for this difficult linguistic text.

Naturally, I take full responsibility for the shortcomings in this volume.

The Coordinator for Publication for the ISTOR Books series Mihály Hoppál advised me throughout the last years. I thank him sincerely.

I thank Fleischmann Foundation for providing me with a research grant.

To Erich Mittelsten Scheid the Chairman of the Board of the ERTOMIS Foundation goes my grateful thank and appreciation. This book is dedicated to him as the Chairman of the Board of ISTOR. I thank him for his generous support, for his advice and inspiration. May this volume be an eloquent expression of my deepest appreciation and of our warm friendship.

Finally, let me thank "Anthony", a true Siberian man of nature, who treated me with such kind hospitality, to whom I will always return in my heart, for he made his invitation so attractive to stay with him fishing and hunting on the lonely bank of the Irtysh.

On the Ob and the Irtysh at

Khanti-Mansijsk, July 24, 1990,

and at the Golden Gate,

San Francisco, September 12, 1996.

Linguistic Notations

Diacritic marks

In Uralic linguistics a great amount of diacritic marks are used, especially by Finnish scholars. The values and equivalences of these marks can be found in the appropriate dictionaries and chrestomathies. Consult Rédei (UEW XXIII).

Here I list some diacritic marks commonly used in Uralic and American linguistics. Consult Bloch-Trager (1942).

- v as in \check{c} and \check{s} indicates alveolar consonants
- ˘ as in \acute{c} , \acute{s} , \acute{n} indicates alveopalatal consonants in Uralic
- ˘ as in \acute{a} , \acute{e} , \acute{i} etc. indicates stress on vowels
- ˘ as in l' , t' , s' indicates palatalized consonants in Uralic
- ˘ as in $p̣$, $ṭ$, $ḳ$, $q̣$, \check{c} etc. indicates glottalized consonants in Native American languages. In Maiduan \check{c} is an "affricate of the $t\check{s}$ type"
- ˘ as in \tilde{n} indicates η (ng) by Kroeber and other early linguists
- ˙ (raised dot) as in $a˙$, $e˙$, $i˙$ etc. or $p˙$, $t˙$, $k˙$ etc. indicates length
- ˙ (subscript dot) as in $s˙$, $t˙$ indicates a retroflex consonants produced while the tip of the tongue is curled backwards behind the alveolar ridge. In Wintu ɣ is a postvelar voiceless fricative
- ˆ (raised ^h) as in p^h , t^h , k^h etc. indicates aspiration

Vowels

- V any vowel
- ɜ any vowel (V) in Uralic linguistics
- ø any velar vowel in Uralic linguistics
- ø any palatal vowel in Uralic linguistics
- ə (schwa) neutral vowel
- ə (schwa) neutral vowel
- y high central vowel in Miwokan and Maiduan. Barrett and Gifford (1933) write \hat{u} for y. Kroeber writes \ddot{u}

Generally the phonetic equivalents of vowels are close to the values of Latin vowel phonemes.

Consonants

- C* any consonant
N any nasal consonant
S any spirant consonant
c (*ts*) apicoalveolar affricate in Lake Miwok
c (*tʃ*) palatal affricate in Southern Sierra Miwok, Northern Sierra Miwok, Plains Miwok and Bodega Miwok
č (*tʃ*) palatal affricate in Central Sierra Miwok
š (*sh*) alveolar spirant
č alveopalatal affricate in Uralic
ś alveopalatal sibilant in Uralic
ń alveopalatal nasal in Uralic
ŋ (*ng*) velar nasal
ɬ (barred *l*) voiceless dental-alveolar fricative
λ (lambda) voiceless dental-alveolar fricative
w bilabial semivowel. (I rewrote Munkácsi's Vogul *v* as *w* following Kálmán (1965, 1976) and Kannisto.)
y (*j*) palatal semivowel in Costanoan, Wintuan and Yokutsan
x (*xi*) voiceless velar fricative in Uralic. Collinder writes it as *h*
x (*x*, *xi*) voiceless velar fricative in Costanoan, Wintuan and Yokutsan
χ post-velar fricative
q post-velar stop
ɣ (gamma) voiced palatovelar spirant in Uralic
δ (delta) voiced dental spirant in Uralic
θ (thēta) result of a phonemic change (PUr or PFU **s* or *š* > *θ*) in Ugrian
ʔ glottal stop. A prevalent phoneme in Native American languages. Automatic initially in front of vowels, which result in the basic canonic shape: Consonant Vowel Consonant (CVC). It was not always recognized by early investigators. The Marin Miwok dictionary (Callaghan-Bond) is a compilation from these early works.

Length

Vowel length (two morae)

Generally indicated 3 ways

- ā* in Uralic linguistics
aa in Uralic and American linguistics
a· in American linguistics

List of Illustrations*

- Figure 1 Key to Tribal Territories. The area within the double line is occupied by the Penutian Tribes. (After Heizer 1978.)
- Figure 2 Ostyak women. (After Levin-Potapov 1964.)
- Figure 3 Native California woman. (After Silva-Cain 1976.)
- Figure 4 Maidu trinket basket. (After Silva-Cain 1976.)
- Figure 5 Maidu basket. (After Silva-Cain 1976.)
- Figure 6 The territory of the Ob-Ugrians.
- Figure 7 San Juan Bautista Mission. (After Krell 1979.)
- Figure 8 Ostyaks with their shaman around the fire. (After Karjalainen 1921-1927.)
- Figure 9 Ob-Ugrian *labas* food storage structure. (After Levin-Potapov 1964.)
- Figure 10 The theoretical sea route.
- Figure 11 Samoyed shelters. (After Levin-Potapov 1964.)
- Figure 12 Ob-Ugrian summer hut covered with birchbark. (After Levin-Potapov 1964.)
- Figure 13 Nomlaki ceremonial house at Paskenta. (After Heizer 1978.)
- Figure 14 Ob-Ugrian house. (After Levin-Potapov 1964.)
- Figure 15 Ob-Ugrian elk trap with gate. (After Vuorela 1964.)
- Figure 16 Ob-Ugrian bow with blunt arrowhead. (After Levin-Potapov 1964.)
- Figure 17 Ob-Ugrian bear trap with gate. (After Levin-Potapov 1964.)
- Figure 18 Maiduan knife. (After Dixon 1905.)
- Figure 19 Ob-Ugrian modern hunter pulling packed meat with shoulder strap. (After Levin-Potapov 1964.)
- Figure 20 Maidu stone axe and arrow straightener. (After Dixon 1905.)
- Figure 21 Ob-Ugrian weirs and other woven fishing implements. (After Levin-Potapov 1964.)
- Figure 22 The inside structure of a Patwin house. (After McKern 1923.)
- Figure 23 Nisenan salmon harpoon. (After Beals 1933.)
- Figure 24 Miwok "fall over type" duck net. (After Barrett-Gifford 1933.)
- Figure 25 Miwok "lowered and raised" duck net. (After Barrett-Gifford 1933.)
- Figure 26 Ob-Ugrian goose net. (After Levin-Potapov 1964.)
- Figure 27 Vogul woman carrying her child in the *āpa*. (After Levin-Potapov 1964.)

* ISTOR accepts responsibility concerning the copyrights of the illustrations.

- Figure 28 Ob-Ugrian birchbark baskets. (After Vuorela 1964.)
 Figure 29 Vogul tattoo mark representing the grouse.
 Figure 30 Californian bearclaw necklace. (After Dixon 1905.)
 Figure 31 Comical performers during the bear festival wearing birchbark masks. (After Karjalainen 1921–1927.)
 Figure 32 Ostyak shaman. (After Karjalainen 1921–1927.)
 Figure 33 The shaman's drum. (After Karjalainen 1921–1927.)
 Figure 34 The present territories of the Voguls. (After Siegl 1994.)
 Figure 35 The present territories of the Ostyaks. (After Siegl 1994.)
 Figure 36 Maidu snowshoes. (After Heizer 1978.)
 Figure 37 Ostyak objects. (After Karjalainen 1921–1927.)
 Figure 38 Thomas Williams, of Jamestown. (After Gifford 1917.)
 On p. xix Antal Reguly (after Kálmán) and John W. Powell (after Hodge).

- Plate I An Ob-Ugrian woman. (After Shestalov 1993.)
 Plate II A Konda Vogul goes to hunt. (After Karjalainen 1921–1927.)
 Plate III 80-years old man from the Vakh river. (After Shestalov 1993.)
 Plate IV Bear Festival in a modern setting. (After Shestalov 1993.)
 Plate V Ice fishing among the Ob-Ugrians. (After Shestalov 1993.)
 Plate VI Ob-Ugrian fishermen. (After Shestalov 1993.)
 Plate VII Ob-Ugrians setting out for a long fishing trip. (After Shestalov 1993.)
 Plate VIII Yosemite Falls and the valley floor at the turn of the century. (After Bowen 1972.)
 Plate IX A sacred grove of the Og-Ugrians. (After Shestalov 1993.)
 Plate X Ishi, a Yahi, last of the "Early Californians" taking aim. (After Kroeber, T. 1961.)
 Plate XI Ishi, a Yahi, last of the "Early Californians" making an arrow-head. (After Kroeber, T. 1961.)
 Plate XII Maidu basket. (After Silva and Cain 1976.)
 Plate XIII The Penutian Tribes. (After Siegl 1994.)
 Plate XIV The Wintuan Tribes. (After Siegl 1994.)
 Plate XV Yokuts ceremonial dance basket. (After Silva and Cain 1976.)
 Plate XVI Miwok basket. (After Silva and Cain 1976.)
 Plate XVII The Miwokan Tribes. (After Siegl 1994.)

Abbreviations

Bibliography

BBB	Bárczi-Benkő-Berrár	MK	Munkácsi-Kálmán
Br	Broadbent	OA	Steinitz (1975-1980)
FFC	Folklore Fellows Communications	Pa	Patkanov
Fr	Freeland	PB	Beke
KLE	Kannisto-Liimola-Eiras	PL	Powell's list (in Powers 1877)
FUE	Lakó-Rédei-Sal	PM	Munkácsi (1896)
FUV	Collinder (1955)	TESz	Benkő
KT	Karjalainen-Toivonen	UEW	Rédei (1986-1991)

Languages

Note: Dialects and languages of Vogul, Ostyak, Costanoan, Maiduan, Miwokan, Wintuan and Yokutsan are listed under Vg, Os, Co, Ma, Mi, Wi, and Yo.

Ch	Cheremis	Lat	Latin
Co	Costanoan	Lp	Lapp
CoMu	Mutsun	M	River names + Middle
CoRu	Rumsen	Ma	Maiduan
CoScl	Santa Clara	MaKo	Konkow
CoSCr	Santa Cruz	MaMd	Maidu
CoSF	San Francisco	MaNi	Nisenan
CoSJ	San Jose	Mdv	Mordvin
CoSL	San Lorenzo	MdvE	Erza Mordvin
CoSol	Soledad	MdvM	Moksha Mordvin
Dan	Danish	Mi	Miwokan
E	East, Eastern	Mib	Bodega Miwok
Eng	English	Mics	Central Sierra Miwok
Es	Estonian	Mie	Eastern Miwok
Fi	Finnish	Mil	Lake Miwok
FU	Finnno-Ugrian	Mim	Marin Miwok
Ger	German	Mins	Northern Sierra Miwok
Hu	Hungarian	Mip	Plains Miwok
IE	Indo-European	Mis	Sierra Miwok
Km	Kamassian Samoyed	Misac	Saclan Miwok
Koi	Koibal Samoyed	Miss	Southern Sierra Miwok
L	River names + Lower	Miw	Western Miwok

Mon	Mongol	U	River name + Upper
Mot	Motor Samoyed	Ur	Uralic
N	North, Northern	Vg	Vogul
ObU	Ob-Ugrian	VgK	Konda
Os	Ostyak	VgL	Lozva
OsD	Demyanka	VgLL	Lower Lozva
OsI	Irtysh	VgLM	Middle Lozva
OsK	Konda	VgOb	Ob
OsKa	Kazym	VgP	Pelim
OsKr	Krasnoyarsk	VgSo	Sosva
OsNi	Nizyam	VgSy	Sygva
OsO	Obdorsk	VgT	Tavda
OsSur	Surgut	VgV	Vagilsk
OsSy	Synya	VgYk	Yukonda
OsTr	Tremyugan	Vty	Votyak
OsTs	Tsingali	W	West, Western
OsV	Vakh	Wi	Wintuan
OsVy	Vasyugan	WiNo	Nomlaki
OsY	Yugan	WiPa	Patwin
P	Proto	WiPah	Hill Patwin
Pe	Penutian	WiPar	River Patwin
Rom	Romance	WiWt	Wintu
Rus	Russian	Yn	Yenissey Samoyed
S	South, Southern	Yo	Yokutsan
Sa	Samoyed	YoCho	Cholimni
Sans	Sanskrit	YoChow	Chowchilla
Sk	Selkup Samoyed	YoChu	Chukchansi
Spa	Spanish	YoDu	Dumna
Tai	Taigi Samoyed	YoKo	Koyeti
Tat	Tatar	YoYd	Yawdanchi
Tur	Turkish	YoYl	Yawelmani
Tv	Tavgi Samoyed	Yr	Yurak Samoyed
U	Ugrian	Zr	Zyrien

An Essay Concerning the Discovery of California

This essay is dedicated to the memory of the California women, men and children and their descendants, who demonstrated boundless courage and heroism during their journey from Eurasia to California.

The sea breeze carried words, strange and incomprehensible, toward the inhabitants of the small Caribbean island of Guanahani, later known as San Salvador. Life on the huge boat stirred at the early dawn of October 12, 1492, and a band of excited men rowed to the beach. Uttering 'animal like sounds', they planted a stick with a colorful cloth in the sand, then fell on their knees and sang a not unpleasant song. They were visibly moved when the words "...*ad te clamamus exsules filii Hevae...*" ("...we the exiled sons of Eve, call on you...") reverberated among the trees and ascended toward the sky.

The 'Indios' watched these strangers in a new land and listened to them sing from a safe distance, behind bushes and trees. Thus began one of the most significant cultural and linguistic clashes in human history. The 'Indios' had no doubt that these creatures were respectable. For them, all existence was respectable. This deep-seated philosophical state of mind later proved almost fatal to them.

In contrast, like all westerners the Spaniards made a strong dichotomy between man and beast. They considered themselves direct descendants of Adam and Eve, exiles from the paradise where they gave names to the animals and controlled their destiny. Originally their mother tongue was the language spoken by Mother Eve. But another sinful act confused the languages of their ancestors at Babel and God, in his great dissatisfaction, hid or threw away the code. It was since considered to be presumptuous to try to recover this code from the secret hiding place or from the junk pile of history. Thus the lack of understanding among humans became the will of God.

Returning to Spain, the Spaniards took with them 10 natives. According to the testimony of de Anghiera in 1493 (von Anghiera 1972:32) who wrote "... the language of all these islands is supposed to be written down which as he [Columbus] established was possible to do without any difficulty in Latin letters. They call namely sky '*turai*', house '*bóa*', gold '*caúni*', a good man '*tayno*', nothing '*mayáni*'. And also the other words they pronounce just as clearly as we do [pronounce] Latin."

Later, however, when it was established that immense waters separate the newly-discovered land from the Garden of Eden, wise men started to question the Indians' ancestral birthrights and entitlements. Also, where had they come from? Could these simple people have crossed the endless waters of the Pacific Ocean?

Peruvian Jesuit Padre José de Acosta came up with an ingenious solution. He proposed that America in the Northwest must not be "altogether severed or disjoined" from the Old World. This closeness between Asia and America allowed the migration of men and animals rescued by Noah's Ark into the New World. Thus the world was presented with a theological argument positing the physical existence and the geographical position of the Bering Strait and, simultaneously, proposing the original route taken by the ancestors of the Native Americans.

All long-distance migration theories follow essentially the same line of reasoning and fall into four major categories — the arguments of the physical anthropologists, the arguments derived from archaeology, comparative ethnography, ethnology and comparative linguistics.

All physical anthropologists agree that the American Indians came from Asia. The Indians of the Americas, more varied than the white man, exhibit mongoloid general features (Matsumoto 1984). Turner's (1971) studies on dentition established that the first American Indians must have left their original homeland *after* the time 40,000 years ago that "shoveling of the upper incisors was already well developed in Asia". The archaeological evidence maps out some of the routes taken by the ancestors of the present-day Indians (Jennings 1983). Thomas Y. Canby summarizes the state of the art for the intelligent reader in his 1979 article. Add to all this the sporadically-presented ethnographic material concerning creation myths, religion (shamanism — von Sadovszky 1989) and social structure, and we have a fairly good idea about the origin of the Native Americans.

One crucially important argument, however, was still lacking until recently: the argument derived from related languages. Despite sporadic arguments and a great array of false claims, there was very little linguists could offer that would shed light on the original homeland of the Indians in Eurasia. This absence of linguistic argument was most regrettable because it is both the most reliable and the most comprehensive of all arguments — the most natural and simplest way to establish the original homeland of people after they have left their homeland. We know, for example, that the Italians in New York City are descendants of the Italians of Italy because they speak Italian. We can even pinpoint their original hometown according to how they pronounce Italian — a 'scientific' identification conducted frequently and accurately by people unschooled in the science of linguistics conversing in Brooklyn pizza

parlors. Thus the dream of all comparative historical linguists trying to determine the original homeland of the Native Americans has been to discover a similar argument proving the linguistic link between America and Asia.

The Asia-America linguistic link was not easy to discover. It appeared as if the arctic environment had blocked or erased all the evidence. Biologically the arctic functions as a great germ filter, its arctic climate blocking and killing dangerous viruses and harmful bacteria. So the Indians crossing the Bering Strait entered the New World without many of these dreadful enemies of man. They were exposed to them again only after the white men arrived among them.

But the arctic also acted as a *cultural filter*, eliminating several superfluous features from the culture of the arctic wanderer. For example, because the wheel is completely useless on the arctic tundra, man, even if he knew how to make a wheel, did not bother with it on the long journey and in the Americas because the lack of suitable animals for harnessing, soon forgot about it. It was not functional and, given the limited amount of resources, highly uneconomical. In some respects one can say the same thing about pottery-making. Stoneware is too heavy for a nomadic hunter to carry and suitable clay is often not available. Also, partially fired clay absorbs moisture and crumbles in extreme cold. Utensils made of wood, bark and skin are lighter, the materials are more available and the containers are more resistant to cold — altogether more economical.

The biological filter operated independent of human control; the cultural filter was associated with adaptation.

Sometimes the arctic — especially the Bering Strait — appears to the cultural historian as a 'linguistic filter'. Reading the literature dealing with cross-continental migration, one finds little or no reference to languages. The Bering Strait seems to be regarded as a great muffler of speech or a great silencer of languages. We are often presented with the image of the silent and solitary male big game hunter tracking across the endless, bleak tundra, aimlessly wandering in search of food. But as we will see, new evidence presents an entirely different picture.

The arctic naturally could not muffle the sound of language, could not so drastically alter the systems of communication. Communication is a cultural necessity — especially in the arctic, where social isolation is deadly, suicidal. We must change our image of the early ancestors of the Native Americans and instead get acquainted with the new hunter or fisherman who travels purposefully and prudently, selecting the right time and the right direction, with his talkative wife and lively children. They are silent only when the father, the hunter and the fisherman, motions for caution and silence. Otherwise they speak, laugh, shout and sing, curse and pray.

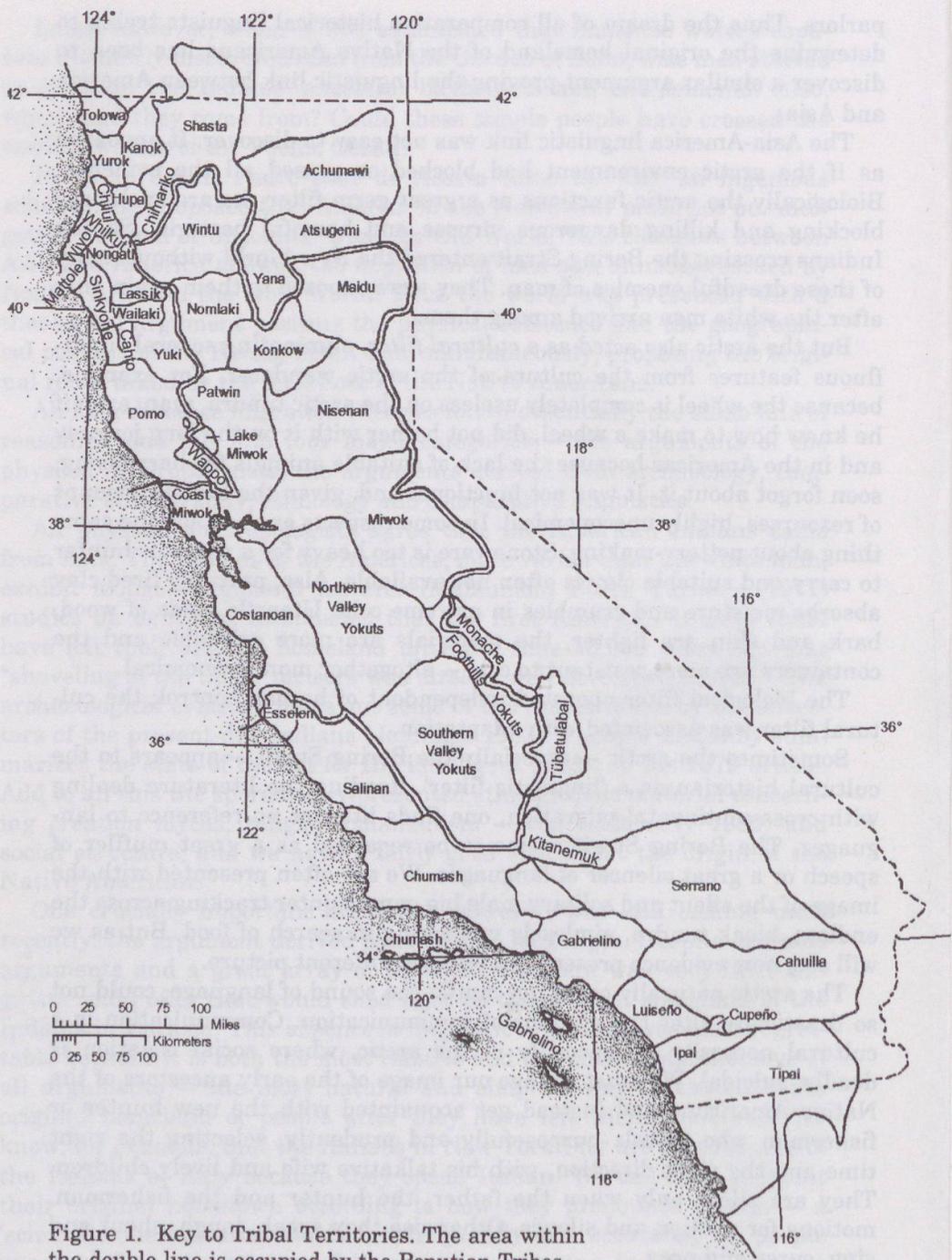


Figure 1. Key to Tribal Territories. The area within the double line is occupied by the Penutian Tribes.

LANGUAGE DIVISIONS

EURASIA

Uralic

Finno-Ugrian

Finnic

Finnish

Estonian

Lapp

Mordvin

Cheremis

Votyak

Zyrien

Ugrian

Ob-Ugrian

Vogul

Ostyak

Hungarian

Samoyed

Yurak

Yenissey

Tavgi

Selkup

Kamassian

CALIFORNIA

Penutian

Costanoan

Mutsun

Rumsen

Chochenyo

Miwokan

Bodega Miwok

Marin Miwok

Clear Lake Miwok

Plains Miwok

Northern Sierra Miwok

Central Sierra Miwok

Southern Sierra Miwok

Wintuan

Wintu

Nomlaki

Patwin

Maiduan

Maidu

Konkow

Nisenan

Yokutsan

Yawelmani

Yawdanchi

Chukchansi

But even accepting this, the Bering Strait still seems a huge language mixer, a scrambler of linguistic codes: every culture that passed through this Babel Strait seems to have its language mixed up. No matter how we are encoding in the Americas, nobody can decode it in Eurasia. Are all the decoders — the speakers of the ancestral languages — dead in Eurasia? The lack of any apparent comprehensive linguistic link beyond the Bering Strait, since the arrival of the white man, has presented a disturbing, confusing picture.

More than a quarter of a century ago, I set out to remove this towering sound muffler, silencer and language mixer between America and Eurasia. In those days, I thought that I discerned faint sounds from a distant land, indicating a remote linguistic relationship between the two continents. Today, beyond all my expectations, the vast amount of comparative linguistic evidence speaks loudly, illuminating all aspects of the culture of the Native Californians. What I discovered was a very similar language spoken by the Native Californians while they were crossing the Bering Strait from Asia into America. For the first time, the silent prehistoric migrators began to speak and, for the first time, we can understand what they are saying to us of their adventurous, cross-continental journey to their new home in America. We have only to listen. (Though Columbus, Isabella and Padre de Acosta would have cherished this linguistic argument proving that the 'Indios' are also the 'exiled sons of Eve', they would have had more difficulty understanding this giant leap toward decoding Babel!)

My discovery of this new linguistic relationship was long in coming because, like my colleagues, I subscribed to a common error. In the long-range comparative field, we believed that because we were dealing with long-distance comparison in space (*diatopic* range) we were also dealing with long distance in time (*diachronic* range). Some argued that 'all' Native Americans came thousands and thousands of years ago. According to these scholars the precise and elegant methodology of comparative linguistics could reach back only 10,000 years. Thus, if the Indians came from far away, they must also have come a long time ago — no linguistic evidence indicated otherwise. Unfortunately, this assumption came to mean that one could not prove the situation to be otherwise. So all contrary data were ignored, neglected and dismissed as impossible. E.g., we would ask ourselves, "If some Indians *did* come just a few thousand years ago, why did they not retain a memory of their wandering?" Of course we should have, but did not, answer ourselves that strong taboos connected with the deceased made the Native Californians almost completely ahistorical. Alfred Kroeber once was asking about the history of a tribe, and the Indian replied, "I do not tell stories about dead people."



Figure 2. Ostyak women

Other oversights and errors also flowed logically from our basic wrong assumption. There was, for example, the tacit belief in one single migration of the Central California Penutians, after which came the slow division and branching out of the languages. Were this true, then the historical linguist should have been able to reconstruct the original, Proto Penutian language spoken here in California. But the great linguistic diversity in California (Figure 1) indicates that there were several migrations into California. (Archaeological data in Central California also clearly supports the relatively recent arrival of the California Penutians.) Perhaps the relatively short time here was not sufficient for the development of drastically distinct linguistic features. The features that do exist reflect various distinct dialects, alien influences acquired during their journey in Asia and various substrata in California after their arrival. For anybody well acquainted with the great pool of languages in Asia, many of the problems encountered in California linguistics become relatively easy to solve.

False preconceptions about Siberia and California — the tendency to think of the former as a frozen wasteland and the latter as only balmy



Figure 3. Native California woman

Figure 4. Maidu trinket basket

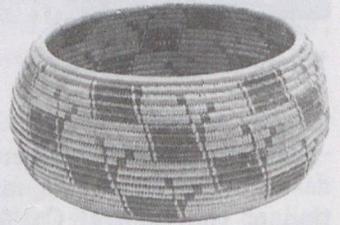
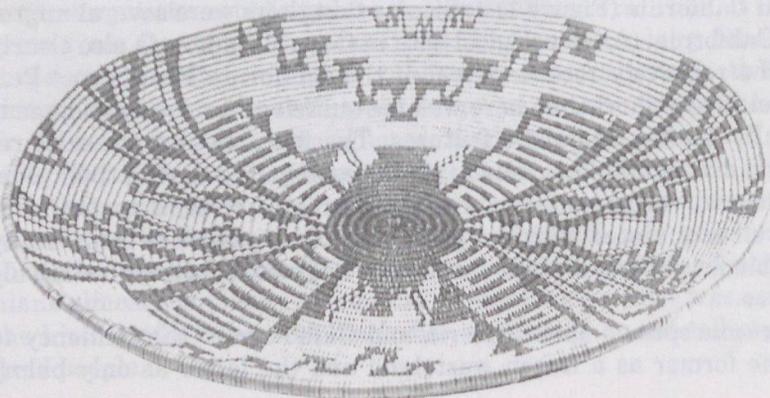


Figure 5. Maidu basket



and moderate — also erected psychological barriers in the path of a new theory. In fact, Siberia, with its northern tundra and its forested taiga, is very similar to Canada, which millions of Indians called their home. Food in Siberian forests was abundant, and long summer days richly compensated for long winter nights. Bear, wolf, fox, wolverine, deer, beaver, otter, mink and squirrel provided food and fur; and the immense waters contained abundant salmon and other fishes and attracted swans, cranes, geese and ducks. Berries, bulbs, mushrooms and pinenuts were plentiful.

The Central and Northern California fauna and flora and the wildlife of the Sierra Nevada can be similarly described. California's more balanced seasons provided even more food, including acorn, the staple food of many Native Californians. Since prehistoric times, the California climate attracted many tribes, making California (after New Guinea) the most complex linguistic area of the world. Furthermore geographers discuss the 'vertical' Californian tundra and arctic environment, since the Sierra Nevada is the highest mountain range in the United States with the exception of Alaska.

In Northwest Siberia along the mighty Ob River and its tributaries live the Voguls (who call themselves *Mańsí*) and the Ostyaks (*Hanti*, *Khanti*) — collectively called Ob-Ugrians (Figure 6). Together with the Hungarians (calling themselves *Magyar-s*), who separated from them more than 2000 years ago, the Ob-Ugrians constitute the Ugrian branch of the Finno-Ugrian linguistic family. The Yurak Samoyeds or Nenets, the Yenisey Samoyeds or Enets, the Selkups and the other Samoyed groups are also related to them. They occupy the arctic tundra, the taiga and the mountains of South Siberia. The Finno-Ugrians and Samoyeds together constitute the Uralic linguistic family. This family, together with Yukagir, presently occupy a vast area extending from Hungary and, in the north, from Finland across Eurasia to the Anadyr River, south of the Bering Strait. Consequently, it was not surprising to find their relatives on the American continent — the closest relatives living in Central California. This group, called the Penutians: Wintuans, Maiduans, Yokutsans, Miwokans and Costanoans (or Ohlons), occupy the coastal area north and south of San Francisco, from Bodega Bay to Big Sur, the territory along the Sacramento and San Joaquin and their tributaries descending from the Coastal Range and the Sierra Nevada.

I discovered that this Central California group is closely related to the Ob-Ugrian branch of the large Uralic family, and also identified several features that could only be explained by a strong Samoyed, especially Yurak, Yenisey and even some Yukagir influence. It was also evident that the various California groups left their Eurasiatic homeland after the beginning of the dialectal division of the Ugrian languages — an aid in dating the departure of the Californians from their original homeland.

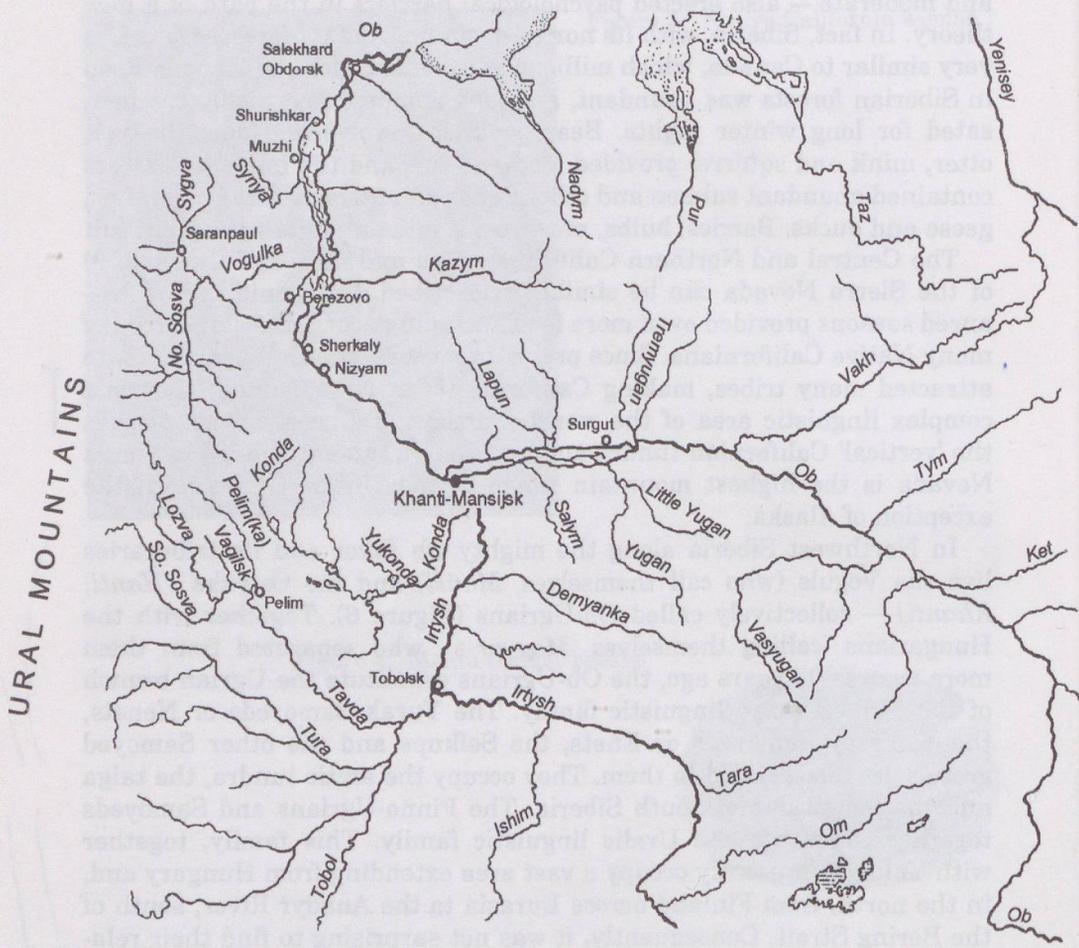


Figure 6. The territory of the Ob-Ugrians

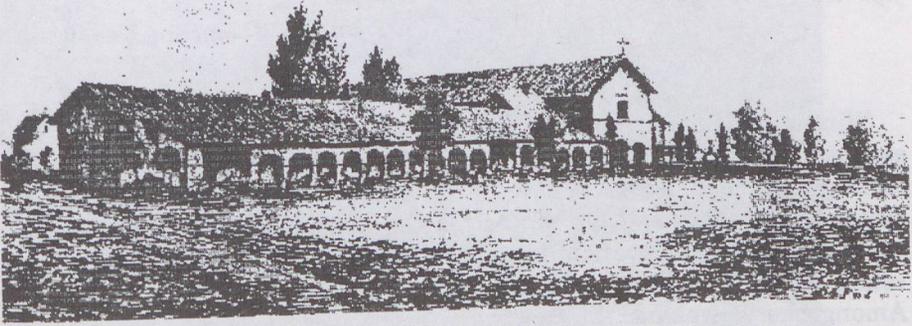


Figure 7. San Juan Bautista Mission

Because the California languages can be incorporated into the Finno-Ugrian (Uralic) language family and because they are so close to the Ob-Ugrian branch, it is fitting to call them Cal-Ugrians. *This term means that the California Penutian linguistic forms are derivable from the Proto Finno-Ugrian or Proto Uralic reconstructed forms. The same rules that govern the Ugrian and Ob-Ugrian languages govern also, to a great extent, the California Penutian languages.* This accounts for the closeness of the linguistic forms.

After leaving their Siberian homeland, the Ob-Ugrians retained the memory of the cold in the old country. The related words cold, frost, snow and ice are still found in their vocabulary in California. E.g., the Vogul *asirma* means 'freezing cold'. The close cognate of this word among the Mutsun was recorded by Padre Felipe Arroyo de la Cuesta in 1815 at the San Juan Bautista Mission (Figure 7). The Indians called 'freezing cold, winter' *asirim pire* (*pire*, 'time, weather, etc.'). It is a rare form: fortunately, Padre Juan Comelias recorded it also in 1856 in Santa Cruz at Monterey Bay, noting *asir* for 'winter' (PL 543:7).

We can summarize the words associated with winter as follows (the first word given in Ob-Ugrian /Uralic/, the second Cal-Ugrian).

asirma 'freezing, cold' (Vogul)
iski, eitik 'cold' (Ostyak)
pat, put 'to freeze' (Eastern Ostyak)
ku 'snow' (Yukagir) related to
 Hungarian *hó* 'snow' (PUr **kum*3)
keli, kile 'to shine glare, glitter' (Vogul)

poj 'ice' (Ostyak)

asirim 'freezing cold, winter' (Mutsun)
ityk 'freezing cold' (Maidu)
put, pyt 'cold weather' (Nisenan)
ko 'snow, ice, freeze, white'
 (Maiduan)
kile 'to shine, glare, glitter' (Mutsun)
kela 'snow, ice, white' (Central Sierra
 Miwok)
boj 'snow' (Nisenan)

jiyk 'ice, white' (Vogul)

-jý (²*e-jý*) 'ice' (Maidu) (a rare ²*e*-
noun prefix occurring also in
²e-dusi ~ *dust* 'ashes')

Winter came early. The sun did not rise more than six weeks. Fire was essential for their survival. It provided warmth, light, means of stone boiling their food. Fire was the center of family life, it was necessary for ritual purification and for contacting the supernatural (Figure 8). Fire was burning on the boats of the arctic travelers. No wonder, that we can relate most of the words associated with fire between the two cultures. Among the Miwokans the most significant word is *wyl-*, which is the perfect equivalent of the Vogul *wul'*, *ul'a* (MK 694a) 'fire, fireplace, glowing ashes, tinder, smoking fire against rancid smell and the pestering insect'. It also refers to "God's Fire" the *Aurora Borealis*. The Eastern Miwokan *wyl-* has also many derivatives with such meanings as 'to blaze, to burn, to catch fire, kindling wood, to shine in the dark, to keep warm and make hot'. In Central Sierra Miwok *wyl-yt-ye* means 'to take a sweatbath', which was a daily ritual among the Native Californians. This *wyl-* is the original form. But the Vogul *-l'* (a palatal consonant close to *-j-* and *-i-*) influenced further the Miwokan forms. Fortunately we have the evidence of two parallel forms. The Yosemite dialect has *wyl-ki* 'to light a fire' while Chief 'Ripples on the Water' used the form *wy--k* 'to light a fire', that is assimilating the *-l'*. The other Miwokan languages attest further a similar development of this important word: *-l'* became *-j-* and *-i-* which resulted in *wíi-ki* 'to burn' and *wiki* 'fire' in Lake and Bodega Miwok, with numerous derivatives.

Meat and fish was hung on the rafters. Figure 8 depicts salmon over the fire. Smoke in warmer weather was essential for preservation. The Vogul word *pâšém*, *posim* (MK 465b), which is related to Hungarian *fűs-t* (FUE 6) appear as *pa²um*, or *pa²m* (< **pašum*) in nearly all the Penutian languages. But an interesting meaning development took place. It refers mostly 'to smoke tobacco; pipe'. This switch is similar to the English usage of 'to smoke', with the only difference that it seems to be nearly exclusive and complete after the arrival of the Asians to California.

It was essential to keep tinder and firewood dry. The blazing fire crackled and threw sparks. The Vogul (MK 603b) *čâtxâ-nt* 'to crackle (fire)' found its way to California. We can find the perfect equivalent in Northern Sierra Miwok *catku-* 'to spark, to sparkle, to flash, to twinkle (stars)'.
(stars)'

When night set in, the flames died down, slowly the illuminated world faded away, everything became invisible and disappeared from view. The Vogul word (MK 83b) *xari-li* 'to extinguish, to die down (fire), loosing the eyesight, or voice or even "to die out (as people)"', expresses so beautifully

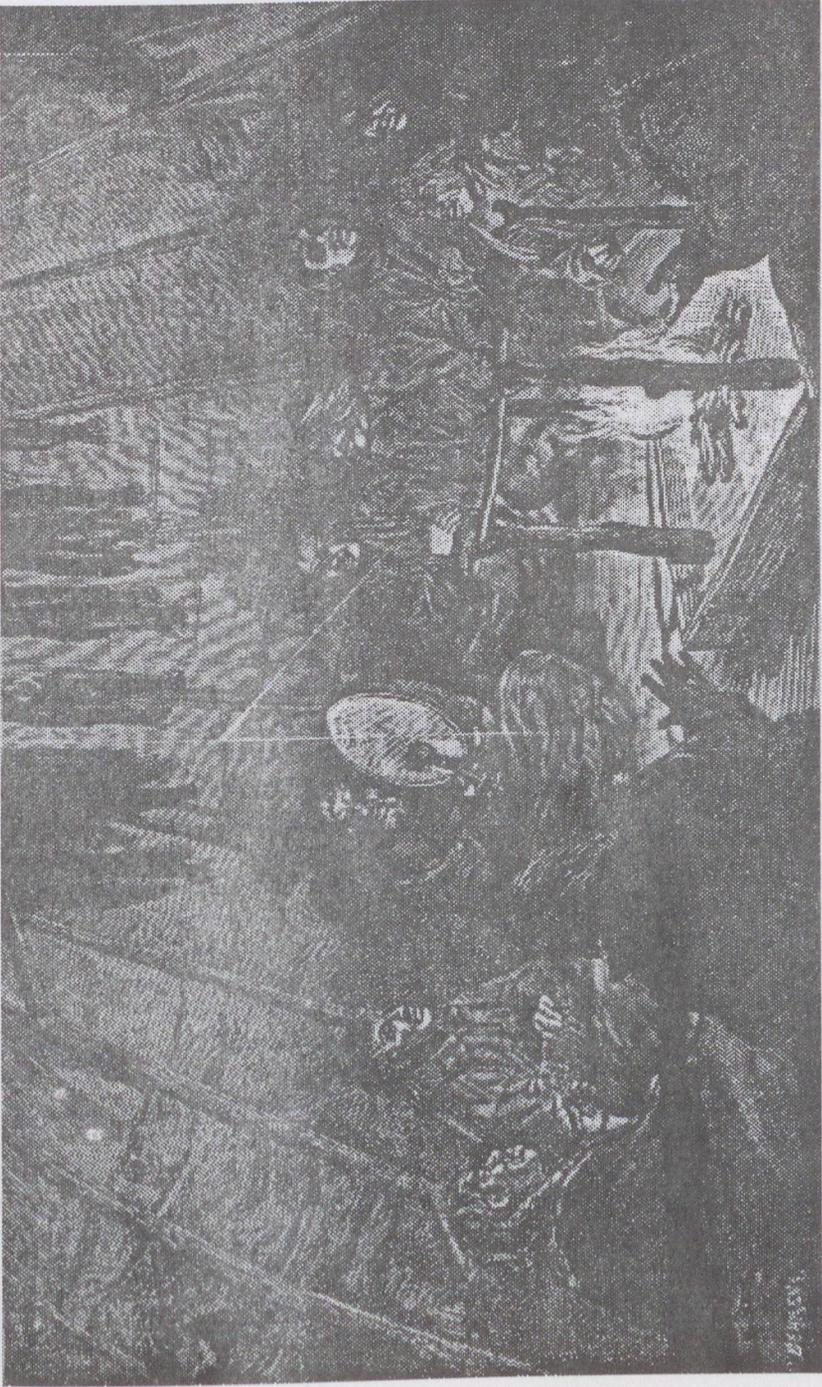


Figure 8. Ostyaks with their shaman around the fire

the mood of the twilight. This "mood" is recaptured by the Costanoan Mutsun (453) related word *xar-pa* 'to disappear, to fade away, to become invisible' and the more frightening mood, by *xar-xare* 'to become ill, to happen badly'.

Fires in a house were seldom extinguished completely. The powdery ashes remained, covering the sleepy embers.

The words for ashes are close equivalent in both language families. Northern Vogul (MK 685b) *tus-jëx* means 'dust, powder'. The Maidu equivalent is *dus, dusi* 'powder, ashes'. The Konkow form is important because of a rare ²*e*- noun prefix ²*e-dusi* 'ashes' (Curtis 1924:233).

Night set in. The blanket of darkness covered the weary travelers.

Coal, charcoal, ashes, soot, dirt, dark, black, is expressed by the Ob-Ugrians by the word **kule* (MK 121b; KT 299a). The Penutians used **kule-* to denote the same concepts. The examples are so abundant, that I quote only a few illustrative examples: Northern Sierra Miwok *kul-a-* 'coals, charcoal'; Central Sierra Miwok **kulu-* 'black and dirty'; Maidu *kulú* 'dark, twilight, night'. The Bodega Miwok say *kule* 'black bear' when talking about the ruler of their world, the most sacred animal among the Native Californians.

They had been acquainted with earthquakes in Northern Eurasia, but once across the Bering Strait, they entered one of the most earthquake-prone territories on earth. Trembles must have been frequent occurrences along the Pacific Coast — their language contains several words for earthquake. The Voguls still refer to the earthquake with the verb *nowi-ti*, 'to shake, to quake'. Earthquakes were also common phenomena to the Californians. Several of my consultants, for example, could still remember "when the bottom of the earth fell" in Sacramento Valley. In Marin County, north of San Francisco, the Miwok Indians also use the verb *nowit*. They call the earthquake *wea nowit* (*wea* means 'earth'). In Maidu, *nywyn* means 'to swing' and 'to rock', including also a child's swing hung on a tree, whereas the Vogul *nowi-ti* refers also the the child swing hanging from the tree. The root *now-* for expressing earthquake was also used by Popov when he translated the Gospels into Vogul. He rendered Matthew 24:7, "And there shall be ... earthquakes ..." with the words *ma nowne* 'earthquakes'. (The word *ma* means 'earth, place'. In Maidu **-ma* occurs in numerous place names which I will treat later.)

The Ob-Ugrians, specifically the Ostyaks, refer to the hills, steep riverbanks, peninsulas and islands in the middle of the swamps as *paj* (*pai*). Because their settlements were located mostly on these hills or islands, the word *paj* often occurs in the placenames of their homeland. We find along the Irtysh River such names as *Tabaszy pai* ('Storage Hill') (Figure 9) and *Tunt-mõx xõtzy pai* ('Gosling Hut Hill'); even *woš pai* ('town hill') refers to the remnants of an old town. In California, the

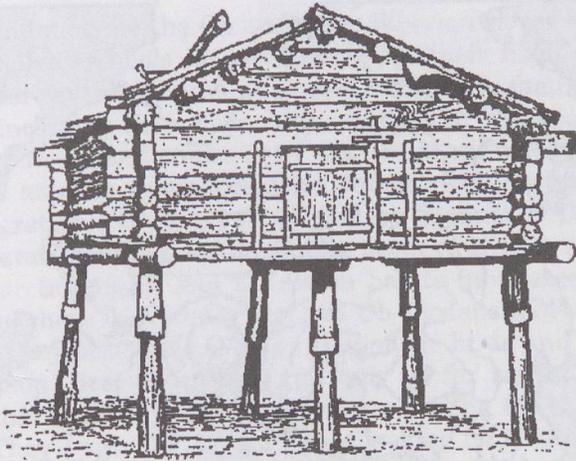


Figure 9. Ob-Ugrian *labas* food storage structure

Indians north of San Francisco used an identical word to designate hills, islands and mountains. Kostromitonov (1839), the Russian colonist who recorded the language of the Indians around Bodega Bay, wrote *pai* for mountains. Subsequent investigators wrote *pajis* or *pajih*. In Marin County Miwok, it is written as *paj-is* by Henshaw and others. The meanings are identical to the Ostyak meanings, namely, 'hill, mountain, island'. The word is well known to all inhabitants of the San Francisco Bay area as the second part of the name of the prominent Mt. Tamalpais (*Tamal-pais* 'West Hill').

The word *tamal* has various meanings in Western Miwok: 'north', 'northwest', 'upper' (in Clear Lake Miwok); 'west', 'coast', 'west coast' (in Bodega Bay Miwok) and 'Bodega people', 'Coast people' and 'mountain' or 'above' (in Marin County Miwok). *Tamal-ko* means the Coast people. The word *ko* designates people in California just as it does in Eastern Ostyak. Furthermore, the word *tamal* is a Siberian word meaning 'Ostyak'. The Selkup Samoyeds (neighbours of the Eastern Ostyaks) (*Sel-ku-p*, 'earth people'; *-p* is a suffix) call the Ostyaks *Tāmel-ku-p*, 'upstream people'. In Ostyak, the equivalent term would be *Tam3l-ko*. The close cognate of this word *Tamal-ko* means, in Marin County Miwok, the Bodega people or the Tomales people living at Tomales Bay. Consequently, *Tamal-pais* can also mean 'Ostyak Hill'.

Placenames and other evidence indicate that the main groups of the Central California Indians entered California from the ocean at Bodega, San Francisco and Monterey bays, and the Wintuans at the Klamath River (Figure 10). The Ob-Ugrians were outstanding littoral navigators.

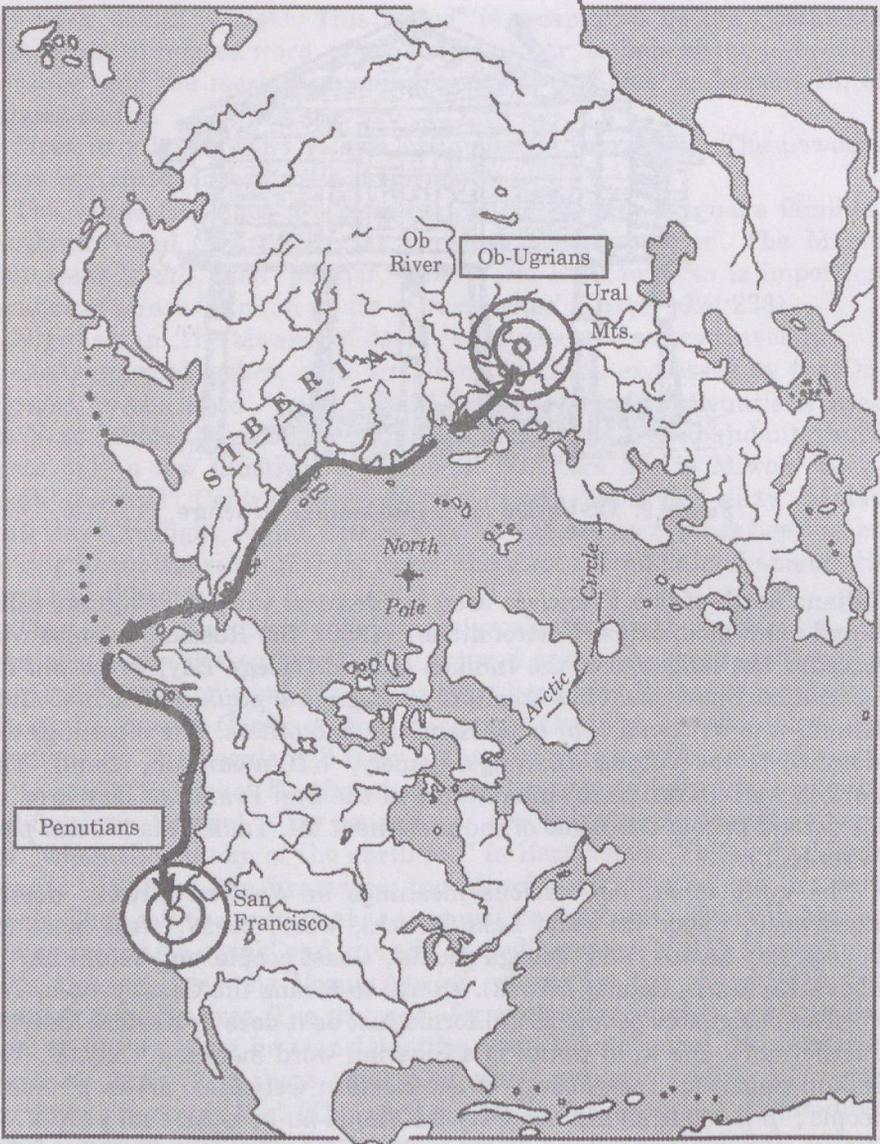


Figure 10. The theoretical sea route

The vast inundations of the Ob and other Siberian rivers and the Bay of Ob were excellent schools for navigation. On their fishing trips, which often lasted for several months, they took along their family and all their belongings, including their dogs. They camped in ecologically favorable niches, where rivers and creeks enter the Arctic and Pacific Ocean where humans and animals and the salmon found sweet water during their seasonal migrations. Chernetsov (quoted by Steinitz OA IV, 1980:106) and others established a possible contact between the Ob and the Bering Strait. Any arctic hunter and fisherman has to have excellent sense of direction, and there is evidence that the Ob-Ugrians moved to the south consciously. They observed the migration of the birds and sea mammals and the salmon. Because salmon ran only as far south as Big Sur in California, this was the end of the journey for the Ob-Ugrians, mainly fishermen. They'd found what they were looking for — a new homeland. The Ob-Ugrians must have had many stops of extended periods during their long journey, but it was only the discovery of California that satisfied all their desires.

A Mutsun word most likely reflects the discovery of Monterey Bay. The word *sasa*, in Costanoan Mutsun, means 'to discover' and 'to find land'. This word has cognates in other California Indian languages also. For example, the Vogul word *sosse*, 'living, being at, etc.', is well represented in Wintuan. The Trinity County Wintu call the Shasta County Wintu *puy-sus*, 'living on the east'. *Puy* means 'behind'; also, the Vogul word *puy* means 'behind'. As different river valleys in California were settled, one after the other, the *puy* words were convenient references for the new settlers.

A comparative linguistic exercise, on a modest level, would be quite appropriate, in order to understand the mind of the Cal-Ugrians entering their new environment.

The Sierra Miwok called the Sierra Nevada mountain range *hišy-m*, from an original **hašy-m*. (The initial *h*- requires an *-a-* vowel and the *-m* is only a suffix.) This word designated also 'East, the Easterners, the Mountain people, the Yosemite Valley people'. The Proto Finno-Ugrian word **kaća* (FUE 280) is a perfect equivalent or cognate. Finnish *kasa* means 'anything protruding', and the related Hungarian *hegy* means 'mountain; a protruding point'.

We should also note that the flatland was designated in Miwokan by the word *alla* 'the below, under place'. This word again is a perfect cognate of Proto Uralic and Finno-Ugrian **ala* (FUE 81) 'below, under'. The Finnish cognate is *alla* 'under (dative)' and the Hungarian equivalent is *al, ala-* ('below, under'). The Hungarian Plain surrounded by mountains is called *Al-föld* 'the land below'. The bottom of the mountain is called *hegy-al-ja*. In this word we can find both Californian words:

**hišy-alla*. This word *al* is widely distributed. Even the Yukagirs West and South of the Bering Strait use *-al* 'under'.

The *Miw-ko*-ans, for this is the name of the Plains Miwok, set out from the plains of the delta region toward southwest, traveling along the foothills of the Sierra Nevada. They had to halt at Yosemite Valley. Here they stopped, filled with emotion, beholding the breathtaking glory of their new home. While the women and men of the Taiga and Tundra commonly bowed their head in prayer, now they lifted their eyes in awe, gazing at the lofty splendor with silent devotion.

Silver falls gushed down from the roof of the valley creating multiple rainbows as they rushed toward the emerald valley floor. The majestic cliffs doubled their size as they mirrored in the motionless lake. The river rushed restlessly through narrow gorges, trying to find an ultimate escape at the Golden Gate.

The newcomers, deeply inspired, started to name all the magnificent features of one of the greatest marvels on Earth. We call them today: El Portal, El Capitan, Half Dome, North Dome, Cathedral Spires, Inspiration Point, Mirror Lake, Bridalveil Falls, just to name a few.

All the Native California names can be explained in Finno-Ugrian terms. I give here only a few examples.

Yosemite Falls rule the watery kingdom. The Southern Sierra Miwok call them with serene simplicity just "The Waterfall": *co-lak*. The word also means 'rapids' and it is related to the verb *colka-* or *šolka-* 'to flow'. The Northern Sierra Miwok *colo-* means 'to gush, to gurgle, to fall (as water)'. The Plains Miwok *colo-t-u* 'to run as water running from a hydrant, to drift down as a waterfall, to gush'. The Miwokan words are related to Costanoan Mutsun (452) *soro* 'to flow, to gush'.

The Finno-Ugrian (Uralic?) (UEW 40) equivalent is **cor3* 'to flow, to run'. The Finnish cognate is *soro* 'falling drops'; *soro-tta* 'to drop', Ostyak *šari* 'to flow, to gush'; Vogul (MK 607) *čork-*, *šqry-* 'to flow, to run, to trickle down as melted snow from the roof'; Hungarian *csoro-g*, *csuro-g* 'to run, overflow, to leak'.

These close linguistic forms are clear indications that the Ob-Ugrians named these magnificent falls in Yosemite Valley.

The other examples further argue for their early presence in the valley. The floor of the valley is called *tol-e* 'ground, earth, dirt, floor'. Powers (1877:364) says "Tólleh, the soil or surface of the valley whenever not occupied by a village: the commons. It also denotes the bank of a river". Powell (1877:543:8) lists *tolle* 'island'. For us it is significant that Freeland glosses *tol-e* as 'world' (Berman 1982:132).

Costanoan Rumsen retained the *-r-*. Henshaw (Heizer 1955:132) has *tura* 'the ground, thunder'. Pinart (Heizer 1952:15) recorded for Santa Cruz *turra* 'dust, thunderclap'.

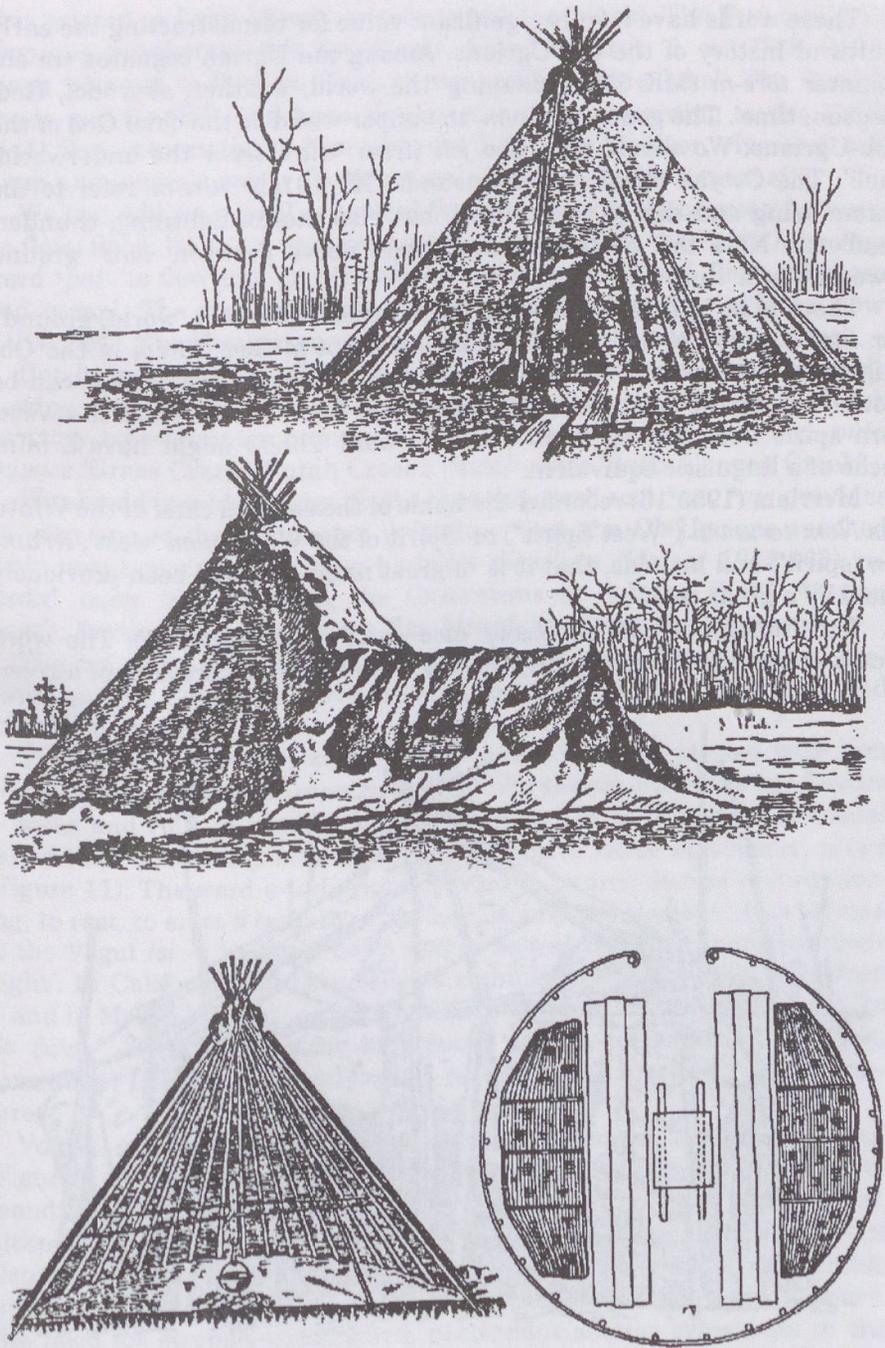


Figure 11. Samoyed shelters

These words have a truly significant value for reconstructing the early cultural history of the Cal-Ugrians. Among the Ugrian cognates we encounter *tōrè-m* (MK 657b) meaning 'the world, weather, sky, idol, God, season, time'. The god *num tōrèm* 'the upper world' is the chief God of the Ob-Ugrians. We should note also *joli* (from **ala*) *tōrèm* 'the underworld, hell'. The Ostyak forms and compounds (KT 1015b) *turè-m* refer to the same being and things as in Vogul, but also 'storm, lightning, thunder, hail' etc. Note the Costanoan connection above between *tura* 'ground (world)', and 'thunder'.

There is no indication that the Californian words *tol-e* 'world, ground', or *tura* evolved to denote the sublime concept of God *Tōrèm* of the Ob-Ugrians. The concept of an omnipotent, benevolent Creator God can be found among the Wintuans, who called their God *Nom-tes-towa* 'the Western spirit God'. Among them even the word *Tōrèm* might have a faint echo of a linguistic equivalent.

Merriam (1955:16) recorded the name of the seventh chief of the Wintu as *Nom-terumen* ("West Spirit") or 'Spirit of the West' (*nom* 'west', *terumen* 'spirit') and he adds, that it is "a great name and had been previously held by a great chief".

The Indians call Mirror Lake *awa-ja* (Powers 1877:365). The word *?awa* seems to refer to a gently flowing inundation of a creek or of a river.

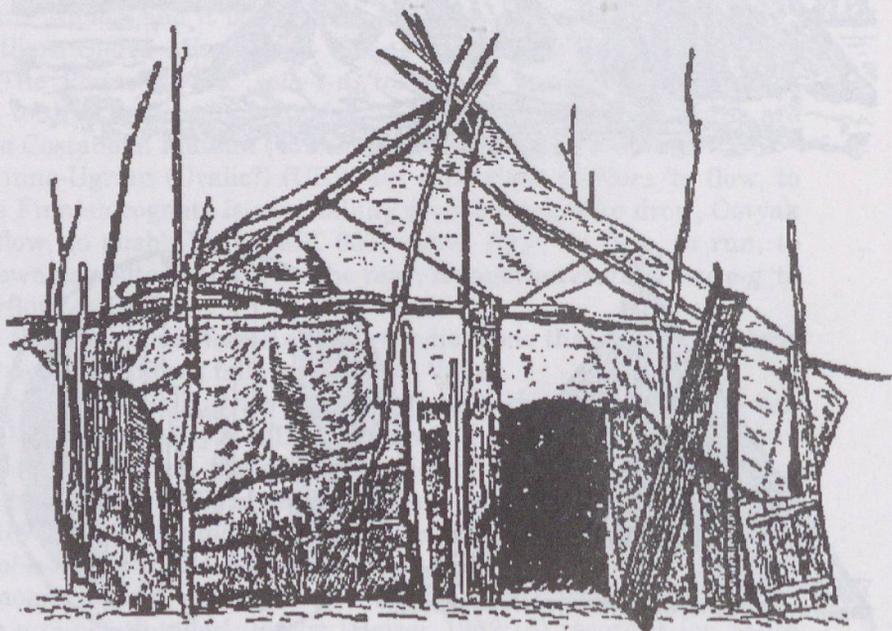


Figure 12. Ob-Ugrian summer hut covered with birchbark

It is related to Lake Miwok *wúwwe* or *wúuwe* 'creek'. The Finno-Ugrian cognates corroborate this hypothesis. Vogul *âw, ow, ü, wü* (MK 397a) mean 'stream; to flow, to flood, to run gently like a lake'. The Ostyak words *ow, äw* (KT 15b) have similar meanings. According to the UEW (544) they are related to Finnish *vuo-* 'large, broad river, riverbed' and Lapp *uwe, uwwe* 'a gently flowing river' ("*flumen placide manans*").

We can adduce a good argument for the meaning association between 'to flow, flood, lake, sea and even ocean' by analyzing the Proto Miwokan word **pol-* 'to flow' and its derivatives meaning also 'flood, float, lake, sea and ocean'. The root is clearly related to Proto Ugrian **pöłz* 'to flow' (UEW 881). The Hungarian cognate is *foly-ik* 'to flow' and *foly-ó* 'river'.

But let us return to Finnish *vuo* and Lapp *uwe, uwwe* 'a gently flowing river' and their equivalents in Miwokan. In the Lake Miwok territory we encounter numerous creek names with *wúwwe*. E.g. *púta wúwwe* 'Grass Creek' (Putah Creek); *ʔawál-wuwe* 'Butts Canyon Creek'.

We should consider it significant that this word root **ow, *aw* provides us with one of the arguments indicating that the Ob-Ugrians reached their new homeland traveling by boat. Henshaw (Heizer 1955:163) recorded *owan* 'canoe' among the Costanoans in Soledad (YoYI **ʔowon* 'boat'). Furthermore the Bodega Bay Miwok say *ʔoowit* for 'to travel'.

The sea route theory for early migrations into the Americas was proposed also by Fladmark (1970, 1986) and implicitly by Ebbesmeyer and Ingraham (1992).

The nomadic traveler, arctic hunter and fisherman carried with him all material necessary to construct a tipi-like shelter when the need arose — poles and rolls of birchbark or skins. The Yurak Samoyeds (Nenets) called their temporary settlements, composed of these structures, *ɣ-issi* (Figure 11). The word *ɣ-issi* originally meant 'to stop during the wandering, to rest, to erect a tent, to settle' and, finally, 'settlement'. It is related to the Vogul *isi* — 'to settle down and to rest as birds settle during their flight'. In California, Mutsun reflects a similar concept — *isi-we*, 'to rest' — and in Maidu Nisenan, *is*, 'to live and to stay somewhere'; also *is-kit*, 'to sit down'. This word seems to express only a temporary settlement; permanent housing and settlements require much more elaborate structures.

Voguls called most of their permanent structures *kol, kwel*, 'house' (Figure 14); their permanent towns and villages *ūs* or *woš*. The corresponding California Indian words are very similar — *kewel, use* and *bos*. Although there are other names, these are very common and, as the historical comparison indicates, ancient. Also remember that the favorable Southern California climate often made permanent housing unnecessary. The need for strongly-constructed, permanent shelter arose only in the north and in the foothill region. In South Wintuan, among the Patwin,

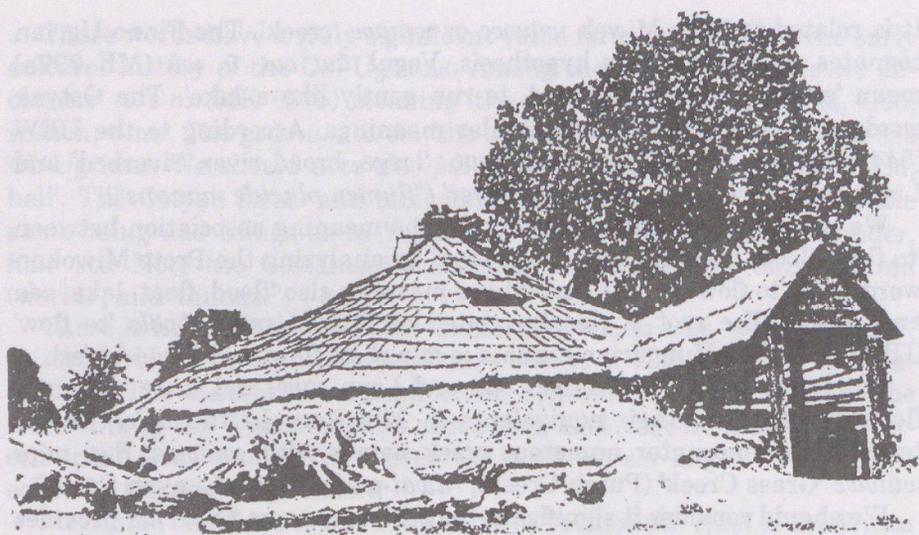


Figure 13. Nomlaki ceremonial house at Paskenta

the house was called *kwel*. This word must have been the original form. Nearly all the words referring to parts of this structure have close Ob-Ugrian equivalents. The roof in Wintu is called *kwel panti*, in Vogul *kwel panti-l*; the bottom or basement, in Wintu is *ken-ti*, in Vogul *ken*; the entrance, *pes*, in Vogul *pāš*; the central forked pole supporting the Patwin rafters, *tow*, in Vogul *tow*. And the wall, rafters, stringers etc. all have Ob-Ugrian equivalents (von Sadovszky 1983).

The allocation of place in the ceremonial house is called *wole* ('place'). To identify the status of a person, the Wintuans would ask, "What is your *wole*?" The answer might be, "My *wole* is to the right of the chief." The Northern Ostyak word for 'place' is *wol*. The ceremonial house — a much larger variety of the living house — was the pride of the community. The Indian placenames ending in *kwel* around Paskenta (in California, about half-way between San Francisco and Redding), usually indicate the location of such a ceremonial house (Figure 13). In general, however, *kwel* means 'village' e.g. *Nom-kwel* (*nom* 'west', 'west village'). Similar meaning change occurred from the Vogul *kwel* ('house') to the Finnish *kylä* ('house, village') (UEW 155). This is the only known cognate of the Vogul *kwel*. It occurs in many Finnish placenames (*Jywäs-kylä*, *Sodan-kylä*, *Kukkilan-kylä*). Now we have a chain crossing the continents: Finnish *kylä* — Vogul *kwel* — Nomlaki *kwel* — Patwin *kwel*.

The Vogul form for 'town' and 'village' (*ūs*) we find in Santa Cruz, where *use* means village. The Vogul word is clearly related to the Ostyak word *woš*, which means the same thing. Everywhere in Northwestern



Figure 14. Ob-Ugrian house

Siberia we can encounter villages that have *wos* at the end of their name — for example, *Jem-woš* ('Holy Town'), *Lajki-woš* ('Squirrel Town'), *Lor-woš* ('Lake Town'). And *woš* often refers to the 'town' as such — e.g. Tobolsk or Surgut. Wintu has a close cognate of this important word. The upper reaches of the Sacramento River is full of names of settlements ending in *-bos*. The word is clearly related to Ostyak because the *b-* to *w-* correspondence is regular. Schlichter (1981) lists the meanings of *bos* as 'home, house residence, tribe, living, etc.' Several of the neighboring tribes are referred to as *Nor-bos* ('Southern Tribe'), *Wai-bos* ('Northern Tribe'). And Edward Curtis (1924:190), who did his monumental study of the Native Americans between 1907 and 1930, lists 22 settlements ending in *-bos* (*-bâs*). E.g., *Ťánai-n-bâs* ('Cedar Home'), *Túbaste-n-bâs* ('Stump Home'), *Ťéki-n-bâs* ('Waterfall Home').

The investigation of the Vogul word *mā* (MK 288a) leads us to some remarkable conclusions. In Vogul *mā* means 'earth, land, place'. The Ostyak form is *mu*, *mi*, *miw*, and the Finnish cognate is *maa*. These words were brought to California to designate native settlements.

The Finns call their land *Suomen-maa* 'the land of the Suomi'. Their famous epic the Kalevala talks about *Ma-n-ala* 'The Lower World, The Abode of the Dead'. The Voguls in turn talk about *jol-mā-xu-m* (*jol* = *ala*) 'The Underworld People'. In Miwokan we can reconstruct **al-ma-ko* all the three words constituting the compound, side by side.

The Maiduans refer to many of their settlements as *ma* (Utan 1964:364). Therefore we have such place names as *Wata-ma* 'shore place';

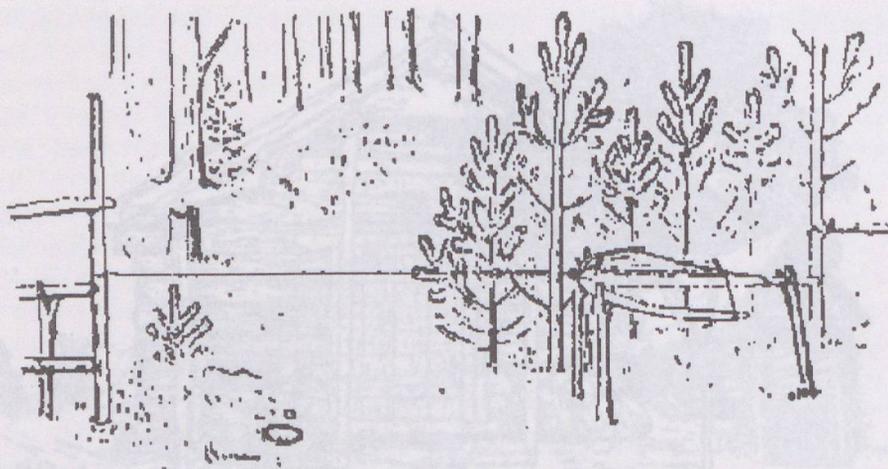


Figure 15. Ob-Ugrian elk trap with gate



Figure 16. Ob-Ugrian bow
with blunt arrowhead

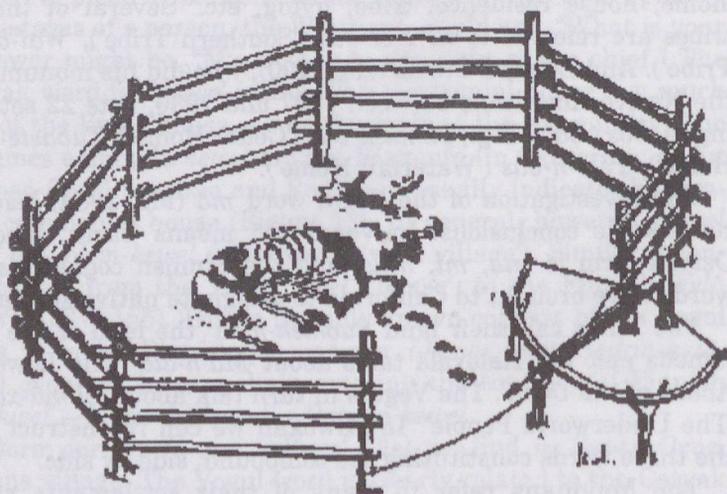


Figure 17. Ob-Ugrian bear trap with gate

Uku-ma 'raccoon place'; *Ole-tuj-ma* 'coyote (or wolf) sleeping place'; *Ustu-ma* 'funeral burning place' or *Tete-ma* 'big place' 'Nevada City in Northern California' (Littlejohn 1928:44, 32, 31, 41, 39).

The most significant cognate of this word is Vogul (MK 294a) *ma-xu-m* (with an *-m* suffix) 'people, tribe'. It appears in Northern Ostyak (Pápay-Beke 1907:42) as *mi-ko* 'people, landsman'. The same word can be found among the Plains Miwok as *mi-ko*, *miw-ko* 'people; Indians'. This must have been the original word, by which all the *Miw-ko*-ans or Miwokans refer to themselves. (The metathesis can be justified quite well linguistically.) We will use this word abbreviated as *Mi* many times throughout this volume.

The Asiatic hunter had to be well equipped to support his wife, his children and himself during his long journey. In lean days the Vogul parents often heard the word *itxa* 'hungry' (MK 70b, Kálmán 1976:234). While in their new home, on the shores of Monterey Bay, a similar word in Rumsen *itka-* 'hungry' (Heizer 1955:177b; 1952) was heard less often and with less intensity. He arrived well equipped at his new home in California. He retained his late paleolithic hunting and fishing tools — sufficient to meet his daily needs — until the arrival of the white man.

Figure 18 depicts a Maidu knife. The blade is made of flint. It is hafted to the wood handle with pitch and string. Similar larger blades (flint or obsidian) were used as spearpoints. In Nisenan this 'knife' is called *boso* also, 'spearhead', and the 'spear' itself. In Maidu *boso* means 'flint' and Dixon (1905:272) quotes *lõmin bosó* 'obsidian knife'.



Figure 18.
Maiduan knife

The Ugrian cognate is *pos* (KT 446b) 'an old-fashioned broad arrowpoint made of bone or (assumedly later on) of iron'.

Whatever it is said here about *pos* vs. *bos* can be said about Vogul *kesi* 'knife' (Hungarian *kés* 'knife' and the Sierra Miwok words for *kiče* 'knife' etc.) The Ugor cognates refer to metallic knives, while the Cal-Ugrian words refer to flint and obsidian knives. It is needless to say that the Cal-Ugrian meanings are much more original.

The Voguls and the Ostyaks were still using bow and arrow (Figure 16) in the early 20th century. Bows were not as loud as rifles and their blunt arrows did not damage valuable fur. The California hunter used the same composite recurved bow as the Native Siberian. They were nearly identical. The California bow was backed with deer sinew

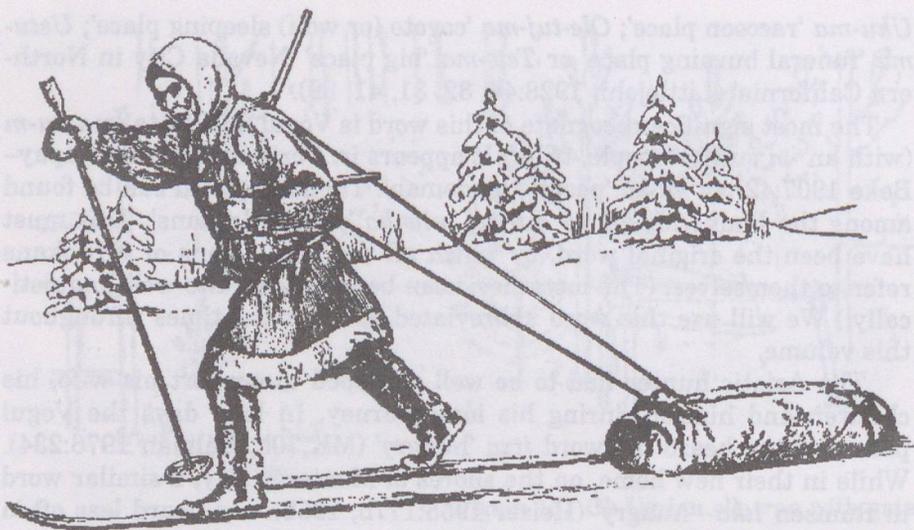


Figure 19. Ob-Ugrian modern hunter pulling packed meat with shoulder strap. Note the shovel at the end of his skipole

with a generous application of salmon glue, causing its backward curve. The Ob-Ugrian bow was also backed — not with deer sinew but with a thin film of birchbark with the application of salmon glue. The size and construction of the bow and arrow was similar in every respect; also, comparative linguistic analysis supports the identity of both weapons.

They needed a more powerful bow, when the Ob-Ugrians hunted and trapped by a clever device. In a bear trap a 'gate' *jäkw* (MK 142b) lead to a bait. During the deer hunt along the converging fences, 'gates' *jäkw* left open, where the escaping animal was shut by an automatically triggered arrow from a powerful bow (Figures 15, 17).

In California the word for 'gate, door' in Plain Miwok betrays the connection. It is *eku*, a perfect cognate. Later this word became *uku* by the very common regressive assimilation.

The Native Californian hunter set up converging fences to catch deer or ran them down with his dog. Both are Siberian devices.

The linguistic material referring to hunting tools, weapons and other devices is so extensive that we have to be satisfied here with a very limited list. (The first word is given in Ob-Ugrian /Uralic/, the second Cal-Ugrian.)

jow-t 'bow' (Vogul)

nöl, nõt 'arrow' (Vogul, Ostyak, south)

käli-y 'bowstring' (Vogul)

jawe 'bow' (Central Sierra Miwok)

nõt 'arrow' (Wintu)

käli 'bowstring' (Patwin)

tul 'quiver' (Ostyak, north)
pos 'broad arrow head' (Ostyak)

kesi 'knife' (Vogul)
jali 'flint' (Yenissey Samoyed)
jos- 'to make a notch on a tree, for
 marking a trail; trail' (Vogul)
jäkw 'gate' (Vogul)
sun, šun 'sled' (Vogul)

wāy-n sun 'sled pulled by a man'
 (Vogul)
wāy-n 'shoulder' (Vogul)

wāy-n kālī-γ 'shoulder strap' (Vogul)
 (Figure 19)
las 'net, snare' (Vogul), 'rabbit net'
 (KLE); PFU **läca*

wel 'to catch, kill' (Ostyak)

junni 'to kill' (Vogul)

tul-im 'quiver' (Clear Lake Miwok)
bos 'arrowhead, knife, spearhead'
 (Nisenan)
kiče 'knife' (Central Sierra Miwok)
laiyi 'obsidian, flint' (Nisenan)
jos- 'healed scar on a tree'
 (Southern Sierra Miwok)
ėku, uku 'gate' (Plains Miwok)
cunu- 'to slide (as sled, also to slide
 on ice)' (Southern Sierra Miwok)
**wōγγ-oțu cun-* "arm sled" (Central
 Sierra Miwok)
wōγγ-oțu 'arm' (Central Sierra
 Miwok)
wōγγ-oțu kālī "arm strap" (Central
 Sierra Miwok)
lašša 'carrying net; rabbit net'
 (Central Sierra Miwok)
lassa 'fish net' (Northern Sierra
 Miwok)
wel 'to catch, look for' (Southern
 Sierra Miwok)
jinna 'to kill' (Central Sierra Miwok)

Some of the animals that he honored, hunted or detested are listed here, the Ob-Ugrian (Uralic) term first, the Cal-Ugrian second:

uj 'bear, animal' (Vogul)

sos, sus 'elk' (Vogul)

nōp 'young male elk' (Vogul)
 + *ne* 'female' (Vogul)
 + *pu* 'young' (Vogul)
 + *lom* 'soup, stew' (Vogul)
 + *nuka* 'deerskin' (Ostyak, south)
oš 'sheep' (Vogul)

jewrə, jewər 'wolf' (Ostyak)

waxša-r 'fox' (Ostyak)
lipi 'dog of Samoyeds (some wild)
 (Vogul)

uj-um 'bear' (Central Sierra Miwok)
 (Text)
soh (**soš*) 'elk' (Southern Sierra
 Miwok) (PL)
nōp 'deer' (Wintu)
nōp-nē 'female deer' (Wintu)
nōp-pō 'young deer' (Wintu)
nōp-lum-is 'deer stew' (Wintu) (PL)
nōp-niko-l 'deer skin' (Wintu) (PL)
oh or *oʷ* (**oš*) 'bighorn sheep'
 (Northern Sierra Miwok)
 (Merriam)
Yawl-its 'wolf, yawd-, Yawel-mani,
 Yokuts, Yawd-anči Yokuts "wolf
 people" (name of Yokutsan tribes)
juwel 'fox; quiver' (Central Sierra
 Miwok)
wakše-s 'coyote' (Santa Cruz)
-lipi-še 'wild grayhound' (Nisenan)
 (Beals)

empə, oāmp 'dog' (Vogul)

pal'k 'to bark' (Vogul) (KLE)

xuntəl ~ kontəl 'beaver' (Vogul)

*šäškä 'otter' (Proto Uralic)

uska 'rabbit' (Vogul)

sōwe-r 'rabbit' (Vogul)

nomu 'rabbit' (Tavgi) (PUr)

op-op- 'squirrel' (Vogul)

sos 'weasel' (Ostyak, north)

kisi 'mouse' (Vogul)

čul' (*šul) 'shrew mouse' (Vogul)

wax-te 'snake' (from *wāyx-* 'to creep')
(Ostyak, south)

jūr 'mythological lizard' (Vogul)

wotak 'sound of frog' (Vogul)

woki 'sound of frog' (Vogul)

palēm, pällēm 'horsefly' (Vogul)

suns, sus 'flea' (Vogul)

ta- 'louse' (Vogul) (Finnish *täj*,
Hungarian *te-* 'louse')

wépa 'coyote, dog' (Maidu)

wop 'to act like a dog' (Nisenan)

app-ul 'coyote' (Yokutsan); coyote =

Canis latrans

pókke 'to bark as a dog or coyote'

(Bodega Miwok)

kotul 'beaver' (Nomlaki)

suušč 'otter' (Rumsen)

soče-t 'otter' (Wintu)

oske 'jackrabbit' (Konkow)

sewe 'brush rabbit' (Nisenan) (Beals)

nómeh 'cottontail rabbit' (Lake Miwok)

op-uk-, up-uk- 'squirrel' (Northern

Sierra Miwok, Clear Lake Miwok)

sas-sási 'weasel' (Nisenan) (Curtis)

kiči-s 'house mouse' (Costanoan,

Santa Clara)

šuulo-n 'house mouse' (Costanoan,
Soledad)

wakka-laj 'snake, rattlesnake'

(Bodega Miwok)

jir 'mountain lizard' (Wintu)

*jül- (*juwule*) 'lizard' (Central

Sierra Miwok) (PL)

wakat 'frog' (Mutsun)

pallaw-wiši 'horsefly' (Central Sierra
Miwok)

sussu 'hornet, wasp' (Plains Miwok)

ti-ʔit 'head louse' (Yokutsan)

di 'head louse' (Nisenan)

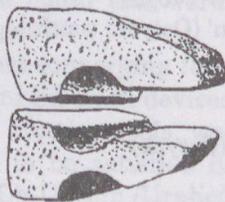
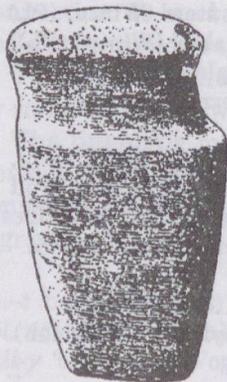


Figure 20. Maidu stone axe and
arrow-straightener

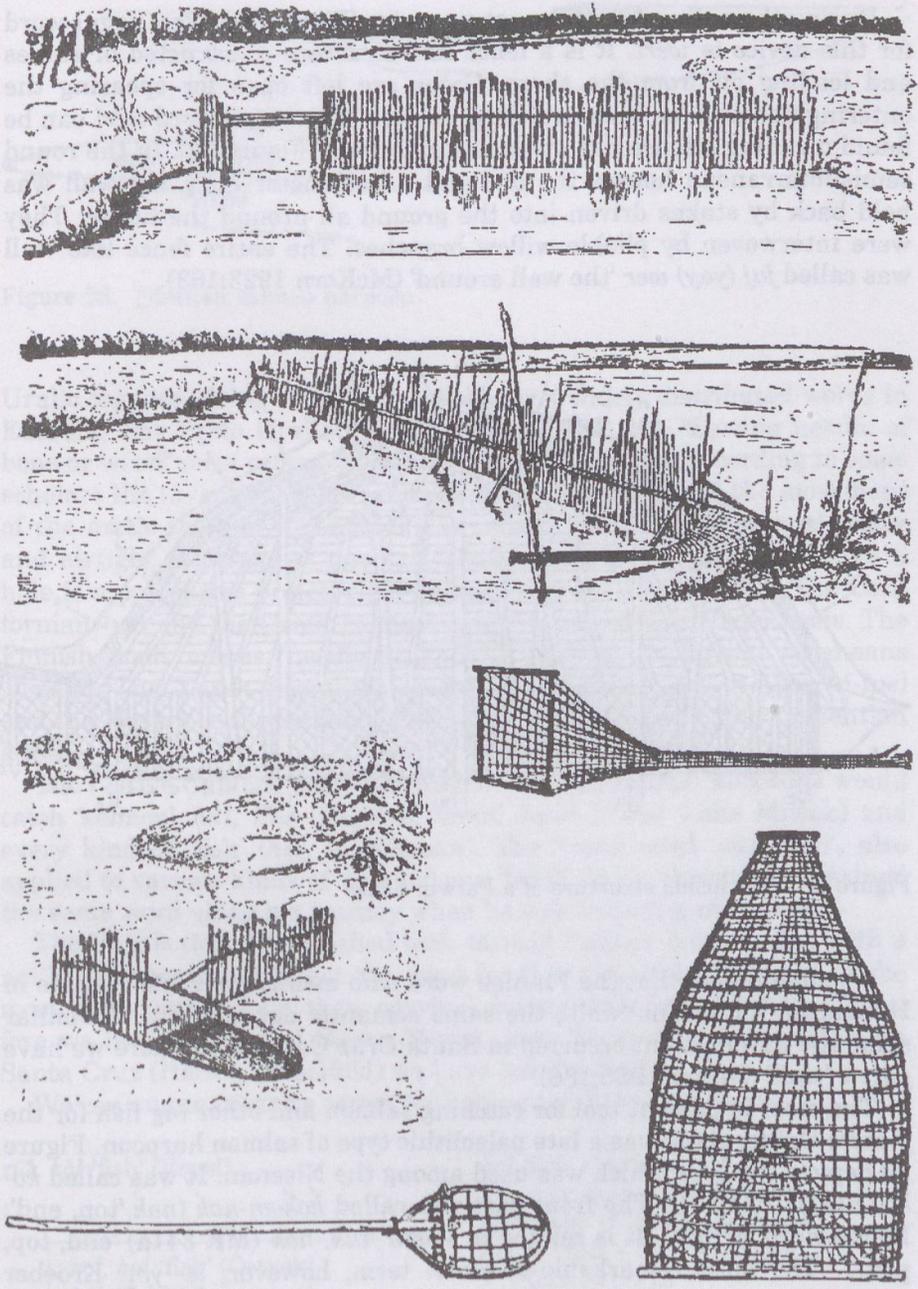


Figure 21. Ob-Ugrian weirs and other woven fishing implements

During the salmon runs, he set up weirs (Figure 21). The Vogul word for this device is *wēri*. It is a fence like structure constructed of stakes and leading off from the shore. Gates are left open for spearing the entering fish and for various fishing devices. The Vogul word *wēri* can be found meaning a fence like structure in Patwin (Figure 22). In the round semisubterranean houses the one and a half meter high dirt wall was held back by stakes driven into the ground all around the house. They were interwoven by pliable willow branches. The entire fence like wall was called *jaj (yay) wer* 'the wall around' (McKern 1923:163).

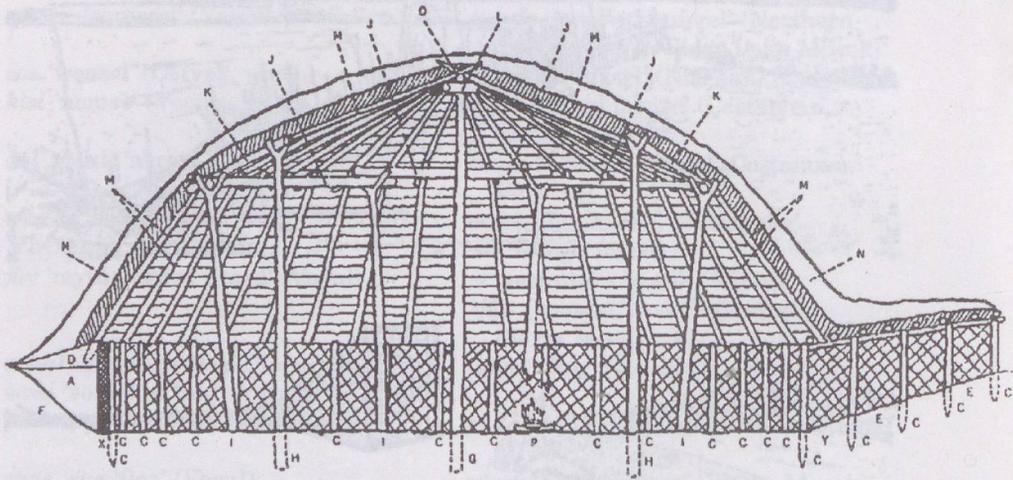


Figure 22. The inside structure of a Patwin house

We should note that the Finnish word *palo* means 'weir', its cognate in Hungarian *fal* means 'wall'; the same semantic development. A similar semantic development occurred in Santa Cruz Costanoan where we have *pale-r* 'wall' (Heizer 1955:186).

The most important tool for catching salmon and other big fish for the Native Californians was a late paleolithic type of salmon harpoon. Figure 23 depicts the type which was used among the Nisenan. It was called *ko-ko* (Beals 1933:341). The front part was called *kokom-nok* (*nok* 'top, end'; Maidu *noko* 'arrow'). It is related to Vogul *nuk, nok* (MK 341a) 'end, top, point'. The most remarkable Nisenan term, however, is *ym*. Kroeber (1929:227a, b) recorded it as referring to the 'bone toggle head of the harpoon' along the Sacramento, Feather and American Rivers. These dialects use *ym* also to denote "an awl for sewing and basketry". The

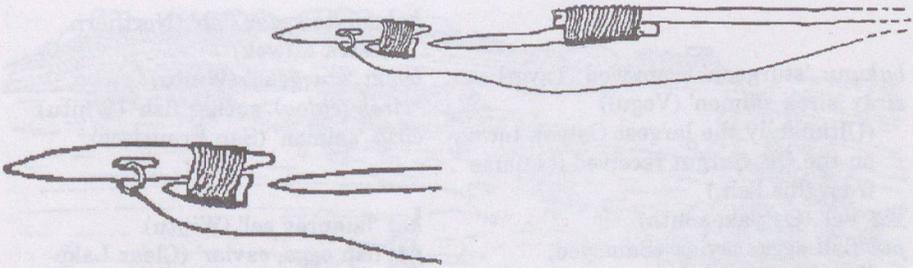


Figure 23. Nisenan salmon harpoon

Uralic cognate of this word is one of the most widely distributed words in Eurasia. The Proto Uralic form is **äjmä* (UEW 22). "Sewing needle of bone or wood" most commonly used for leather and fur. According to some scholars the invention of the eyed needle greatly enhanced the movement of the arctic traveler. It enabled his wife to sew doubled seamed water and airtight clothing. At any rate the toggle point threaded through a hole is a paleolithic prototype of an eyed and threaded needle. The Californian *ʔym* and the Uralic cognates seem to support our hypothesis. The Finnish *äimä* means "needle for sails". In Cheremis, Zyrien *im* means 'needle'. The Yurak Samoyeds at the Arctic Ocean call it *-īpe* (*n-īpe*) and the Motors in the South of the Sayan Mountains *ime*, just to mention a few.

The Native Californians, with their weirs and salmon harpoons would catch 'salmon' *hūl*, *hur* (Patwin), 'trout' *huul* (Clear Lake Miwok) and every kind of 'fish' (*hol*, in Nisenan). The Vogul word *xūl*, 'fish', also applied to various kinds of 'salmon' and 'trout'. So he essentially retained the same word along his journey when he was following the salmon.

The Voguls (MK 554b) fished with *šōx-wēl* 'fishnet' (*šōxi* 'to fish with a net'). They could not forget the word for this net, which was one of the most important tool for their survival during their long journey. Therefore we have in Central Sierra Miwok *šo-ki* 'fishnet' and in Costanoan Santa Cruz (Heizer 1955:163d) we have *šok* 'fishnet'.

We can summarize the terms for fishing the following way:

xūl, *kōl* 'fish' (Vogul)

<p><i>xol</i>, <i>kol</i> 'fish' (Ostyak) <i>hal</i> 'fish' (Hungarian) <i>kala</i> 'fish' (Finnish) <i>*kala</i> 'fish' (Proto Uralic)</p>
--

hol 'fish' (Nisenan) (PL)
hūl, *hur* 'salmon' (Patwin)
hūl 'trout' (Clear Lake Miwok)
hol-ti "fish + big"; 'sturgeon'
(Konkow) (PL)
hāl-bâk "fish + shine" 'shiner' (Maidu)
holō-meti 'fish bait, worm' (Northern
Sierra Miwok)

bakunu 'sturgeon' (Samoyed, Tavgi)
siréx 'sirok salmon' (Vogul)

(Ultimately the largest Ostyak town on the Ob, Surgut received its name from this fish.)

xat 'eel' (Ostyak, south)
pu 'fish eggs, caviar' (Samoyed, Yurak)

wēri 'fishweir' (Vogul)
palo 'fishweir' (Finnish)
fal 'wall' (Hungarian)
im 'needle' (Zyrien)

šōx-wél 'fishnet' (Vogul)
sojju 'seine' (Ostyak)

hol-wu 'to spear fish' (Northern Sierra Miwok)

bokin 'sturgeon' (Wintu)
**cirok* (*čidoq*) 'sucker fish' (Wintu)
čirik 'salmon' (San Francisco)

hat 'lamprey eel' (Wintu)
pū 'fish eggs, caviar' (Clear Lake Miwok)
wer 'wall' (Patwin)
pale-r 'wall' (Santa Cruz)

ym 'needle, awl, harpoon point' (Nisenan)
šok 'fishnet' (Santa Cruz)
sujju (*suyyu*) 'seine' (Wintu)

The arrival of the geese, duck, cranes, swans and other water birds marked the preparation for the bird hunt. Waterbirds were abundant in the sluggish waters of the bays, but the Central Delta region and the lower course of the Sacramento River, with its millions of waterbirds, presented such a sight that the padres and other travelers could nor find the words to describe it. The Russian colonizers also recorded the awe they felt on first beholding the abundance of waterbirds inhabiting the vast inundations of the Ob and its tributaries in Northwest Siberia. It is customary to refer to the Finno-Ugrian peoples as "Peoples of the Water Birds".

The California hunter retained an ingenious Siberian device, the bird-net (Figures 24, 25), to catch almost as many birds as he wanted. During the moulting season, when the geese and ducks lost and changed their feathers, the hunters drove them into these nets. From both areas, Siberia and California, catch reports are almost incredible. Within a few days, five men could catch several thousand birds. Sometimes nets were set up in the path of the flying birds (Figure 26), higher than those set for the moulting birds. The Samoyeds were the great masters of these nets. This is reflected in the Marin Miwok word *poke* ('bird-net'), which corresponds to Selkup Samoyed *pok* ('net'), Yenisey Samoyed *poga, foga* ('net') and Yurak Samoyed *ponka* ('net, bird net').

Some of the birds that our hunter would catch (Ob-Ugrian term first, Cal-Ugrian second):

čička 'bird' (Ostyak, south)
lak 'goose' (Vogul)
was 'duck' (Vogul)

čička 'bird' (Central Sierra Miwok)
**lak* 'goose' (Proto Penutian)
wat-wat 'duck' (Southern Sierra Miwok)

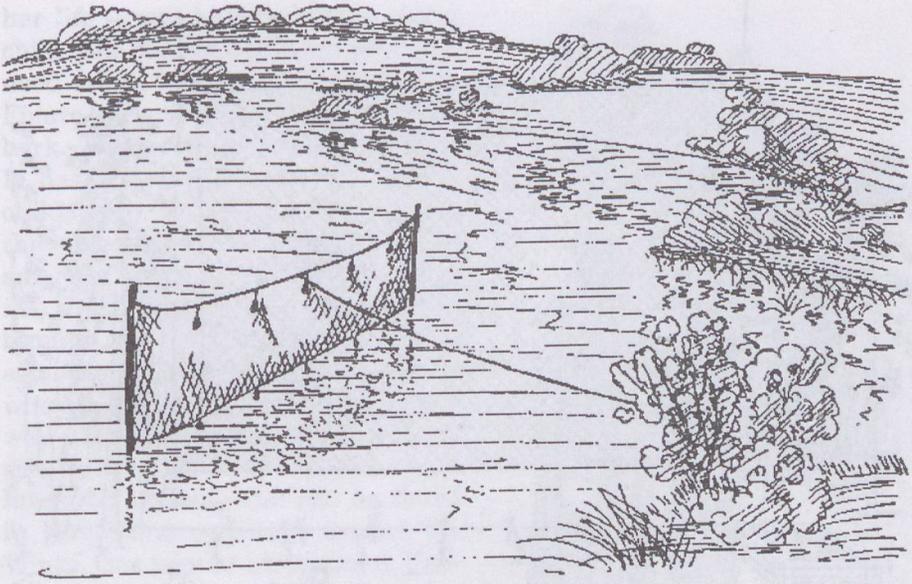


Figure 24. Miwok "fall over type" duck net

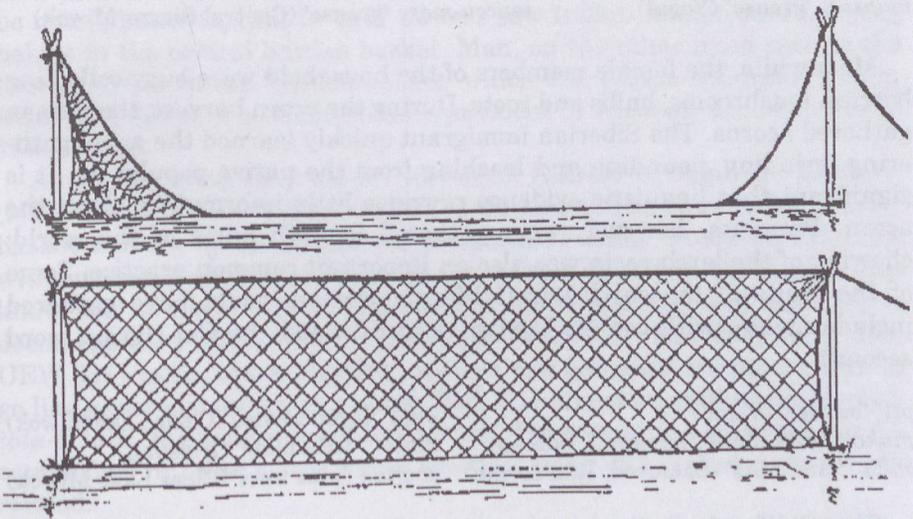


Figure 25. Miwok "lowered and raised" duck net

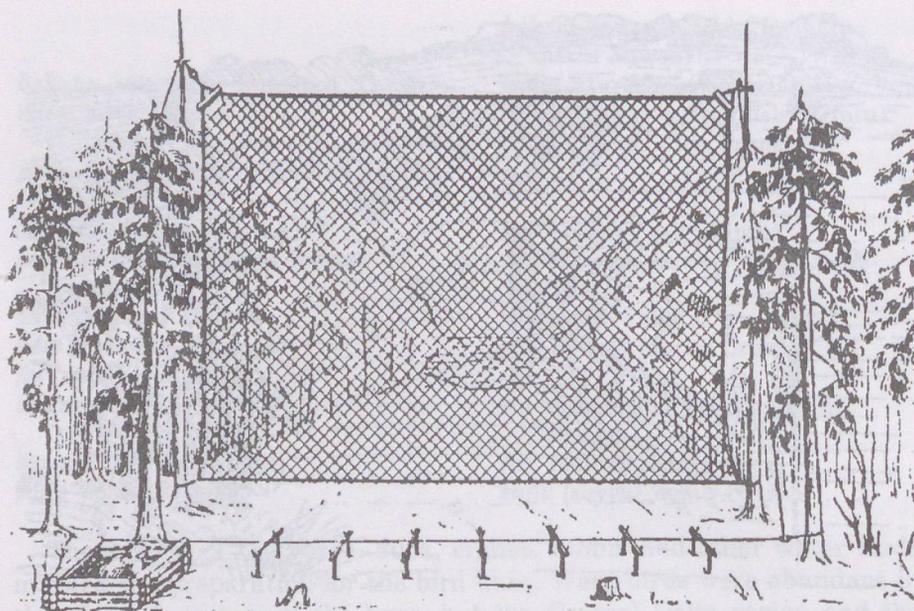


Figure 26. Ob-Ugrian goose net

paj 'duck' (Ostyak, east)
 [*xül, kol* 'fish' (Vogul)]
lūli 'diver' (Vogul)
mansi-n 'grouse' (Vogul)

poje 'duck' (Maidu, Nisenan)
hol-hol 'fish duck' (Clear Lake Miwok)
-lūli (upa-l-) 'dove' (Chukchansi Yokuts)
muccu-māsy 'grouse' (Central Sierra Miwok)

Meanwhile, the female members of the household were busy collecting berries, mushrooms, bulbs and roots. During the acorn harvest, the women gathered acorns. The Siberian immigrant quickly learned the art of gathering, grinding, pounding and leaching from the native population. It is significant that linguistic evidence provides little information about the acorn. Pinenuts, however, were gathered in both parts of the world; chewing of the larch resin was also an important common practice. Some of the fruits of the earth our California woman would have gathered include (again, with the Ob-Ugrian word first and the Cal-Ugrian word second):

<i>pil</i> 'berries' (Vogul)	<i>piila</i> 'toyon berries' (Clear Lake Miwok)
<i>mukol</i> 'wild plum' (Samoyed, Selkup)	<i>mokol</i> 'wild plum' (Nisenan)
<i>sana</i> 'pine nuts' (Samoyed, Kamassian)	<i>saanak</i> 'pine nuts' (Clear Lake Miwok)

The California Indian woman also often trapped small game, especially quail, but her most important function — certainly at one point in

her life — was to care for the young child. She carried her baby, when the need arose, in a cradle on her back. Figure 27 depicts a Vogul *āpa* of birch-bark. This is the sitting-type cradle. It has a bow over the head of the child, over which a cloth is put, so that the child's face is protected from sun, cold and insects. This is the *āpa* in which the California mother brought her child from Asia. There is something admirable about a woman who carries her child on her back half-way across the earth. All the *āpa*'s structural elements, complete with linguistic equivalents, can be found in California, especially among the Wintu. One regular exception: in California, birchbark is replaced by a woven material. Furthermore, in Wintu *aba* means the conical burden basket carried on the woman's back. In almost all other Native Californian languages, *apa* means 'to carry a baby, or a person on one's back'. It should be noted, however, that in 1877 Powers saw Indian women also carrying babies in the conical burden basket. Man, on the other hand carried the heavy burden in the 'burden basket' which the Voguls call *xūnt*, *khūnt*, *khut* (MK 125a). The Californian equivalent is Nisenan *kutu-m* (Curtis 1924: 232b).

A carrying strop (Mip *elá-ja*) was used. Related to Vogul *el-* 'to carry' (MK 34b). The Native Californians were among the most accomplished basket makers in the world. No comparative study would be complete without discussing their skill and art in basketry. The Ob-Ugrian also knew how to make woven baskets. The art of weaving and basketry is documented by many words. The Vogul word *ol* (MK 384; FUE 499; UEW 831) 'to tie, to put together, set in a row one after the other'; also 'to go like geese and ducks, in a single file'. The Miwokan equivalent is *-olut*, *ʔolu-t*, *ʔulit*, the generic word for 'basket'. The semantic connection can be established by other words where weaving, tying and basketry are closely related.

Most of the Ob-Ugrian containers, however, were made out of birchbark, which was available in great abundance in their territory (Figure 28).



Figure 27. Vogul woman carrying her child in the *āpa*



Figure 28. Ob-Ugrian birchbark baskets

The linguistic evidence in California points toward the original Ob-Ugrian art form. For example the sitting type baby basket *āpa* was made out of birchbark among the Voguls, but it was a woven basket among the Californians.

The comparative evidence provides us with an explicit connection between birchbark and woven basket. It clearly demonstrates that the California woven baskets originally were birchbark baskets.

The Ostyaks call 'birchbark' *tonts* (KT 1005a; PU **tóntz* FUE 633). It is the most important "raw material" among the Ob-Ugrians. Consequently it is not surprising to find a close cognate in Nisenan *dónte* (from **tonte*) 'basket' (Beals 1933:343).

The early Californians did not know the art of pottery and they became acquainted with metal utensils after contact with the white man. Among the Voguls a similar cultural evolution had taken place. Some of the birchbark vessels were first replaced by earthenware and after the contact with outsiders by iron. But they retained the basic words which were modified by such adjectives as 'clay, stone, and iron'. The Ob-Ugrian word **put* 'iron kettle' was one of their most important possessions. A faint echo of the original meaning still remained in Eastern Ostyak where *tontay put* means 'birchbark vessel' (KT 1005b).

The original Finno-Ugrian word must have been **pata* (FUE 184). The Finnish equivalent is *pata* 'pot, cooking pot'; the Hungarian cognate is *fazé-k*.

Even in this century containers were made out of skin among the arctic peoples.

The great contribution of the Native Californians to the history of civilization is that they help us to reconstruct the state of affairs in the



Plate I. An Ob-Ugrian woman

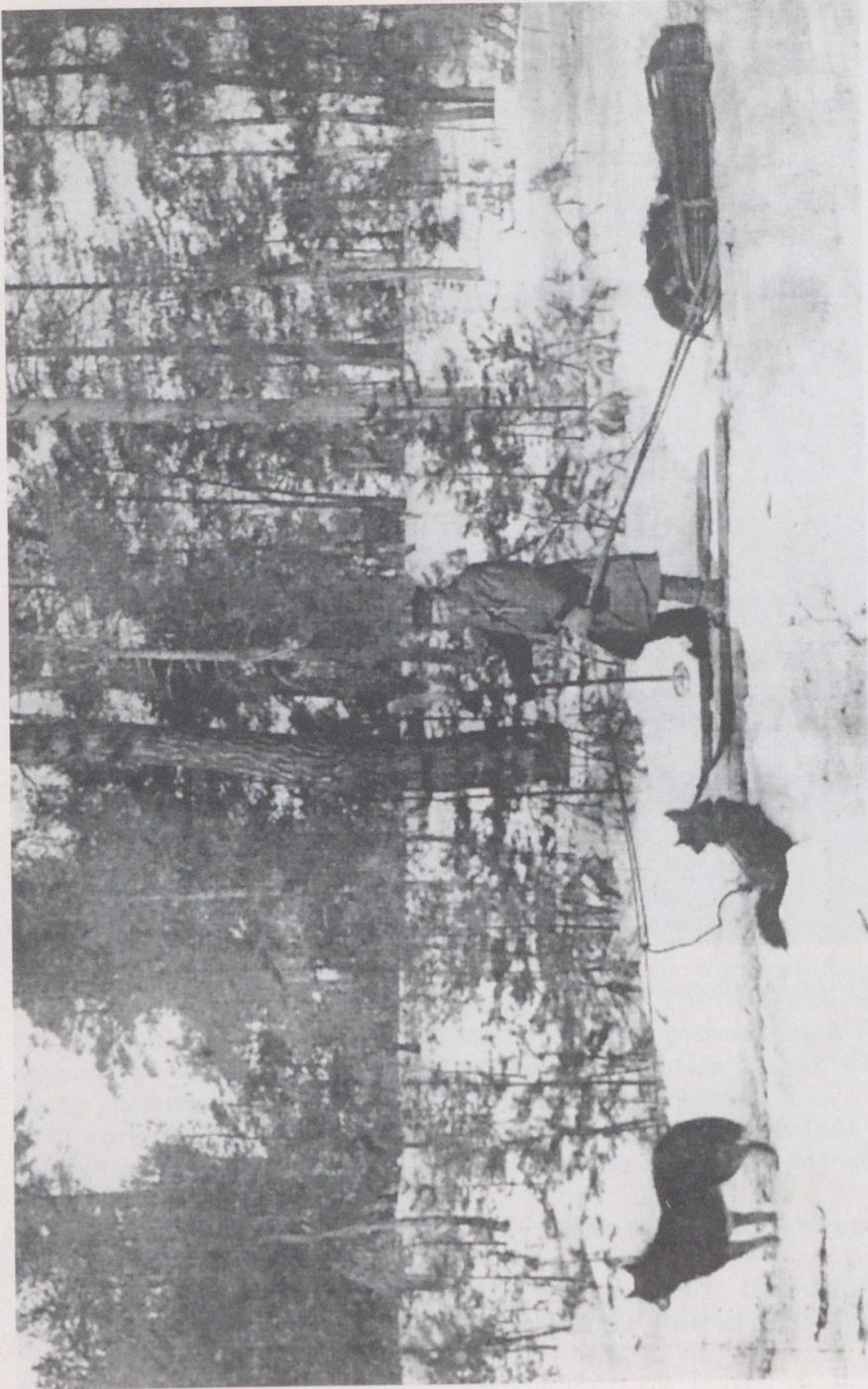


Plate II. A Konda Vogul goes to hunt

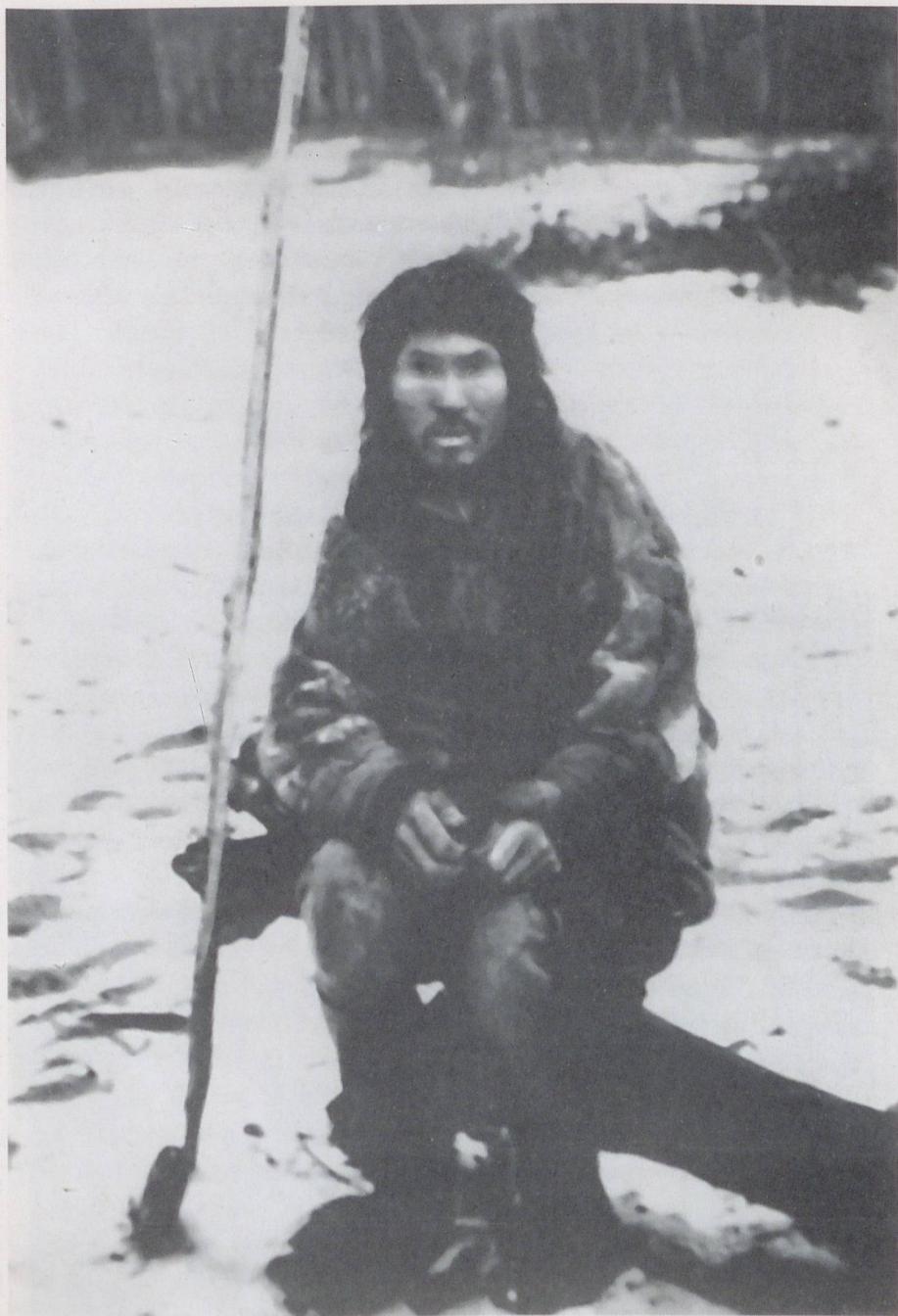


Plate III. 80-years old man from the Vakh river



Plate IV. Bear Festival in a modern setting



Plate V. Ice fishing among the Ob-Ugrians



Plate VI. Ob-Ugrian fishermen. Note the oversized visor



Plate VII. Ob-Ugrians setting out for a long fishing trip



Plate VIII. Yosemite Falls and the valley floor at the turn of the century



Plate IX. A sacred grove of the Ob-Ugrians. The seven headed figure represents Numi Torem; the structure to the right is where the sacred objects are kept



Plate X. Ishi, a Yahi, last of the "Early Californians" taking aim



Plate XI. Ishi, a Yahi, last of the "Early Californians" making an arrowhead



Plate XII. Maidu basket

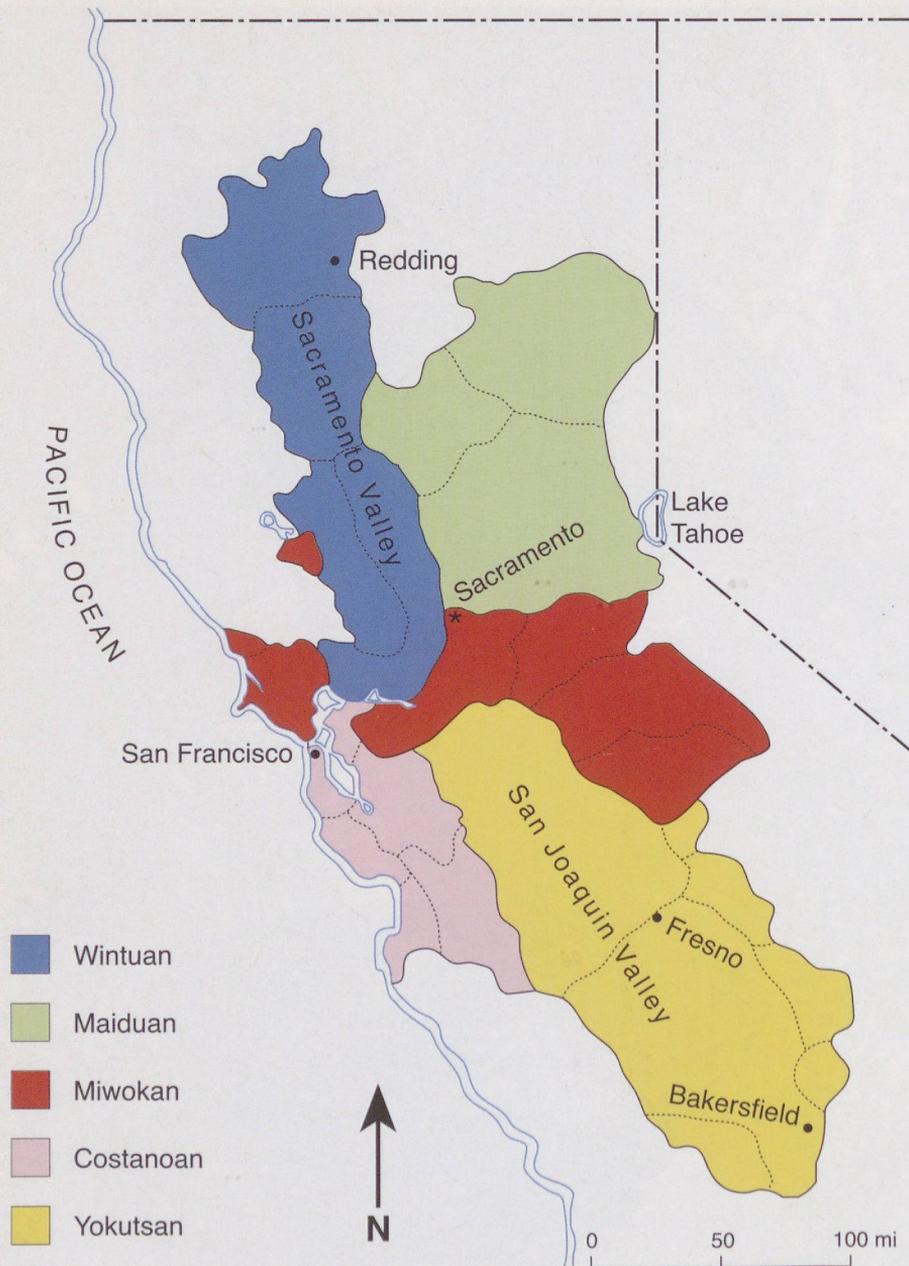


Plate XIII. The Penutian Tribes

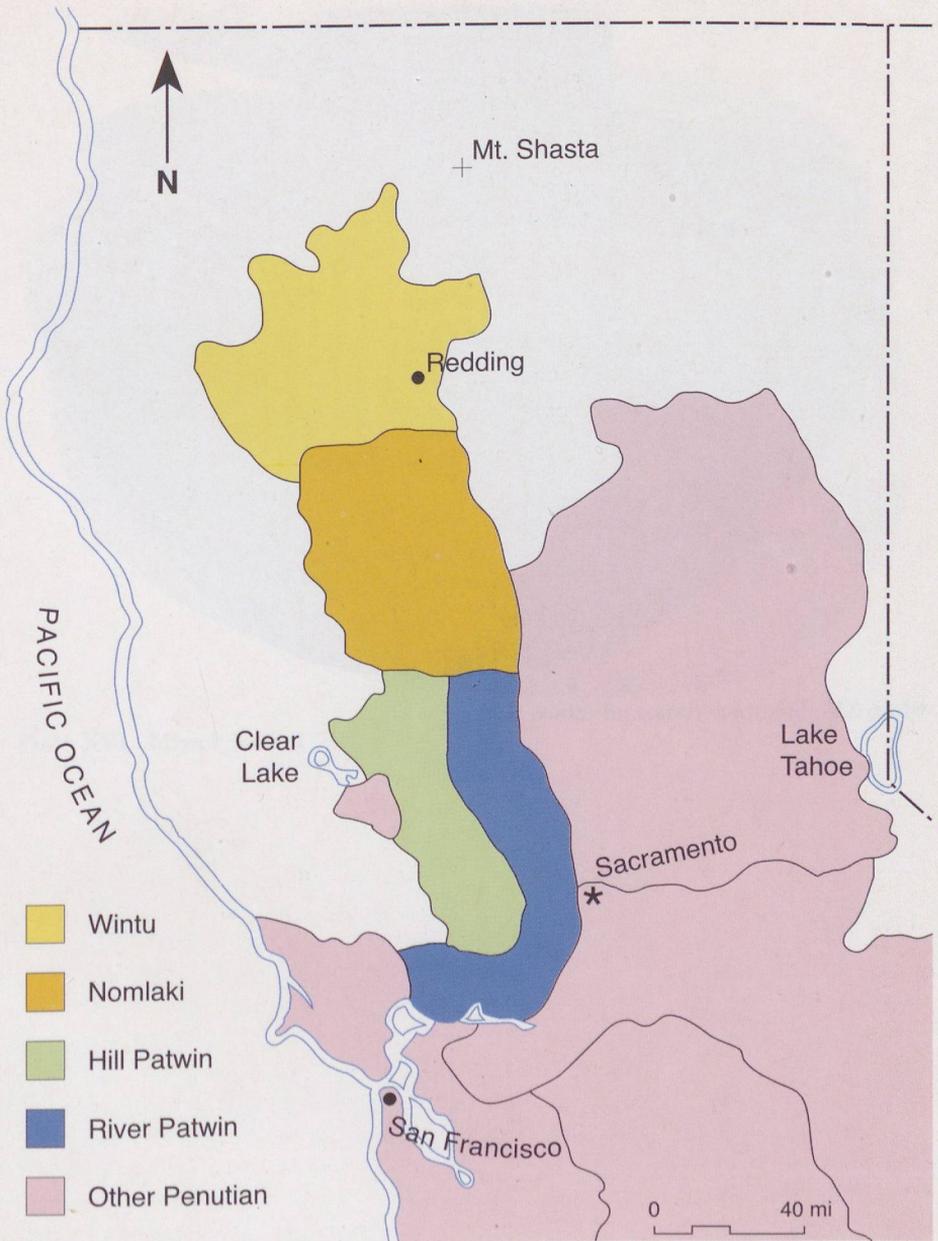


Plate XIV. The Wintuan Tribes

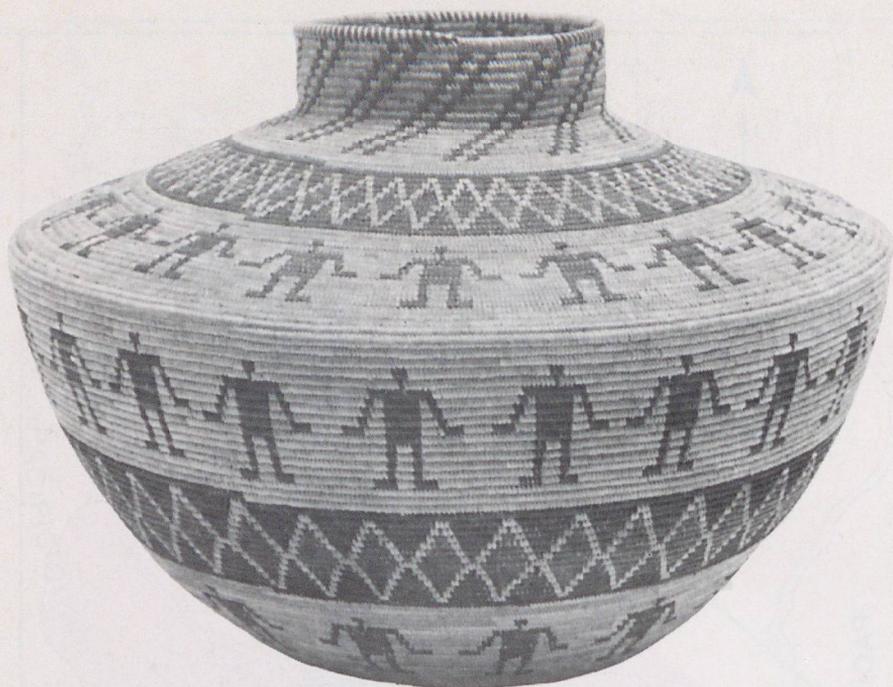


Plate XV. Yokuts ceremonial dance basket



Plate XVI. Miwok basket

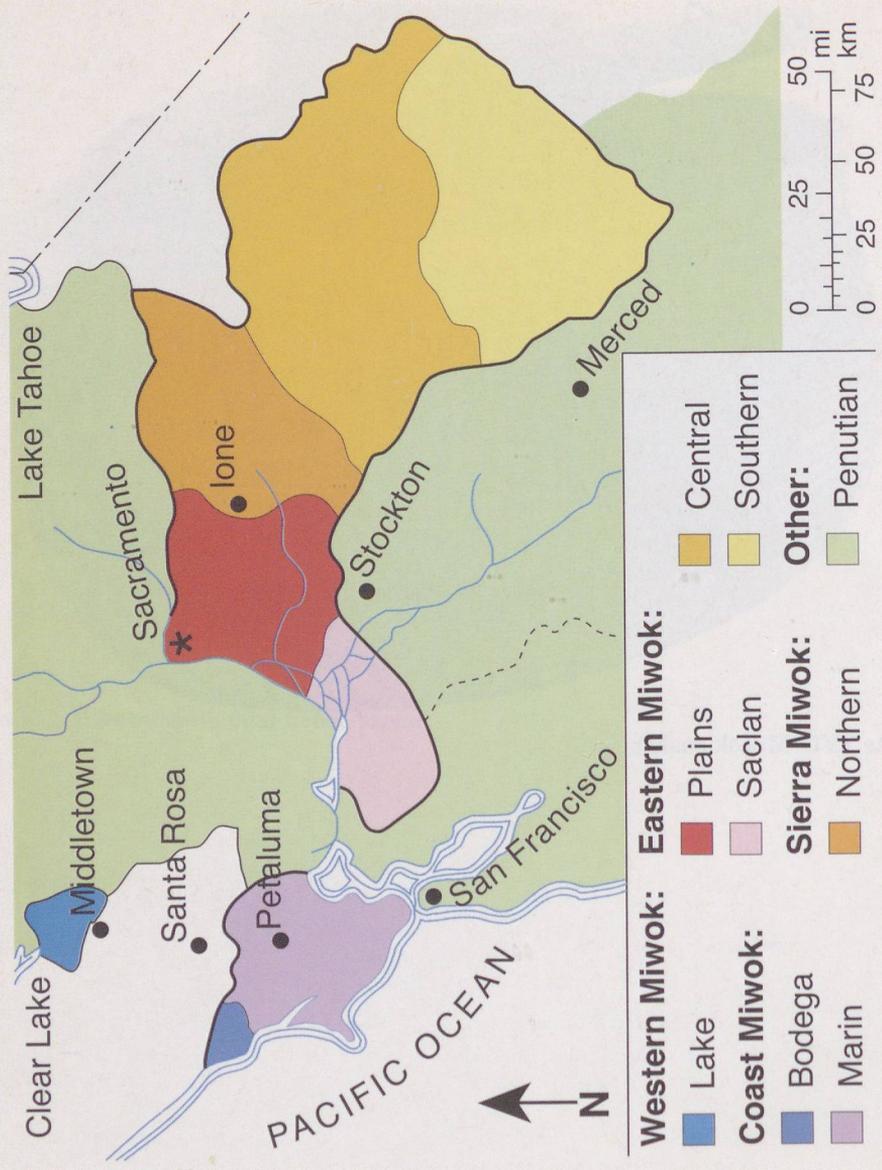


Plate XVII. The Miwokan Tribes

pre-pottery and pre-metallic age. This word *pata* is one of the most eminent examples.

The Maidu call a birchbark basket *hi-bi-m pata* (*hi-bi* 'birch'), but *pata* in general refers to any loose-woven basket used for storing food, collecting berries and even used in fishing (Figures 4, 5).

The truly original meaning of *pata* appears in Costanoan which in many respects shows extremely archaic features. Henshaw (Heizer 1955: 197, 186, 160) recorded in 1888 in Santa Cruz *patá* 'outside bark (of a tree)'; 'skin of the fish'; and 'scalp'. The word appears as 'head skin' among the Indians at Soledad.

The Costanoan meanings 'bark and skin' of *pata* must have been the original meaning in both sides of the world.

One cannot escape the association with English *pot*. This word goes back to an ancient Celtic root. The Romans borrowed it very late in the form of **pott-us*. Whether *pot* is related to the Finno-Ugrian (and now also Cal-Ugrian word) **pata* is still debated (UEW 358).

The Native Californians like all "pre-pottery people" throughout Eurasia cooked their meal by stone boiling. They dropped heated stones into watertight vessels. They replaced the cool ones with hot ones. I witnessed demonstrations of cooking with stones several times among Indians of California. Since heat cannot escape this way, I found their ancient way of cooking very quick and very effective. The prehistoric woman could cook the family meal in any watertight container made out of bark, wood, basket material and even hides.

It is not surprising that the Costanoan Rumsen at Monterey called their cooking 'pot' *aris* (Heizer 1955:171). The Vogul (MK 47b) *āris* 'fire-place, hearth, fire' is nearly identical.

Liquids were eaten with a spoon or cup; meat and fish was served on a shallow plate. The Vogul call this *āni* or *oāne* (MK 39a; KT 51a). It can be made of any material: birchbark, wood or earthenware.

The California cognates again demonstrate the original meaning of the word. The late paleolithic family utilized various shells readily available in nature. Maidu Nisenan provides us with an explicit linguistic equation. They use the shell of the 'flat lake clam' as spoons. So 'spoon' and 'clam shell' are both called *ana* (Kroeber 1929:284b; 286b). Turtle shells also must have been used for similar purpose. The Nisenan call the turtle *ʔawan* which is from *ʔa(w)an* **ʔaan* (a long vowel with an inserted *-w-*, a regular device in Penutian). The Mutsun (427) *auni-smin* or *anni-smin* 'turtle' corresponds even closer to the Ob-Ugrian form. The Konkow word is *annu-s-ma* 'turtle'.

But the Wintu call all baskets *ʔo-n*. Especially flat baskets or shallow trays for serving food. Appropriately they call the turtle *ʔa-n* (774). The

Nomlaki form is *an-*; Hill Patwin *ana* (Curtis 1924:222), both meaning turtle.

The semantic development is quite apparent. One could simply say that the Native Californian wife and mother used words brought from Asia when serving acorn soup, stew or meat to her family.

Pinenut was also an important food item for both the Siberian and Californian hunter, because its high protein content could sustain a hunter for several days. The Voguls call *Pinus cembra* nut tree *ūl'-pa*. The second element *-pa* (MK 694b) means tree. But what is *ūl'*? It can be found nowhere in Siberia. We receive the answer in California. The word for 'nut' is *ulla*. This *ulla* was so important for their survival that they called themselves *ulla-micca* 'the nut (eating) people'.

But we should not neglect to analyze the other important word, namely *micca* which means 'person, Indian' etc. This is a perfect cognate of the word *mañsi* (man, people) by which the Voguls refer to themselves. The *-ñs-* is regularly replaced by *-cc-* the 'palatal' sound indicated by *-i-* in *micca* replaced the *-a-* by regressive assimilation.

This word also constitutes the selfdesignation of the Hungarians: *magy-* as in *magy-ar*. The *-ar* element means 'man', which occurs with a regular change also in *emb-er* 'human being' (FUE 416).

Both Siberian and California women would braid their hair. Braid, in Ostyak, is *sew*; the Wintu *cew* ('braid') is a perfect cognate. In both cultures, women and men (but mostly women) would tattoo their faces. Among the Ob-Ugrians, however, the tattooing of the back of the hand was more common. Ornamentation and magical healing were the objects at both places. The beautiful wings of a bird, which Powers observed on the cheek of a California woman, was carried out with great care. The technique employed and the linguistic equivalents in both cultures is close, to the minutest detail.

Tattooing in general is called *xansa* or *xânsé* by the Ob-Ugrians (Figure 29). It also refers to any kind of ornament, making a mark to write, book, even the tracks of the bear. (Note the *-ns-* combination; MK 76b; KT 312b). The above set of rules call for Miwokan *-cc-*, and there is no vowel change, because there is no palatal consonant in the middle. Indeed we have Western Miwokan **hocca* 'to write, to print'; Marin Miwok 'tattoo'.

The Voguls use *jēti-* 'to prick' referring to tattooing. We find the same word *jet-* as *jēt-kû* in Plains and Northern Sierra Miwok indicating the wide-

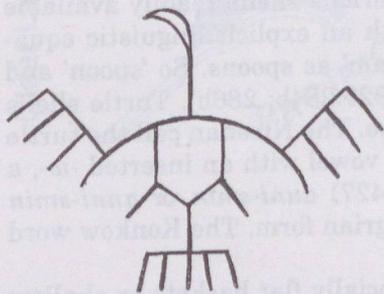


Figure 29. Vogul tattoo mark representing the grouse

spread Californian custom of women, drawing three or more lines from the lower lip down to the chin (Barrett and Gifford 1933:223).

The children brought along their toys 'to play' (MK 693b) *ūli* 'to have fun'. — In Northern Sierra Miwok *oli* 'to play'; in Southern Sierra Miwok *yli* 'to have fun, to kid around'. The Sierra Miwok children played with "buzz-saw" *lúmáa* (Barrett and Gifford 1933:269). This consisted of a looped string threaded through two holes of an acorn (European and American children use a button). The string is pulled with two forefingers which causes the acorn to rotate and produce a humming sound. The word *lúmáa* seem to be related to the Vogul word *l'om-øj* (MK 283b) 'mosquito' (*øj* 'animal, insect' etc.), which would mean "the buzzing or humming animal". We should note that the word *lumaj* in Sierra Miwok refers also to the "humming" of the hummingbird. The Vogul children had a bouncing 'ball' (made out of bladder, which was called *kōkèl'èx* (MK 218a). The Californian cognate is Wintu (206) *kokel-kokela* 'to bounce along high', *koko-ra* 'to balance'; *ɣokor-* 'to roll a ball'.

While women wore much neck ornamentation consisting of beads and shell disks, men wore mostly magical objects. The early settlers identified a very sacred piece of root worn by men on a string as *Angelica archangelica*. There is no other plant Indians valued more than this root (von Sadowszky 1989). It played an important part in their ritual. In Patwin, they call it *hutuli*. The *Angelica* in Yurak Samoyed is called *xūt'ij* (Lehtisalo 1956:206a). I could not discover anything magic about it among the Samoyeds. Among the Voguls however *Angelica* is the 'male ancestor' of the *por* or Bear people, because the mythological bear ancestor became pregnant after eating *Angelica*. As the name 'angelic archangel' also indicates, the plant was used to ward off evil in medieval Europe.

Man's most valuable ornament was a bear claw necklace, called *pojje* in Marin Miwok (Figure 30). In Bodega Miwok, *pojje* means any necklace. The 'bear claw' meaning in Marin Miwok is the original one, however, for in Vogul, *paje* means 'thumb, bear claw' (MK 401b; Kannisto—Virtanen—Liimola 1958:337).

The husband and the wife in both Siberian and Californian cultures each belonged to a different half (moiety) of the society. Originally, this



Figure 30. Californian bearclaw necklace



Figure 31. Comical performers during the bear festival wearing birchbark masks

was a strict rule: the Ob-Ugrian society was divided into the *Bear Half* and the *White Hare Half* and in California, the Miwokans, the Yokutsans and the Costanoans were divided into similar Halfs. In Miwok, one moiety was called the *Bear Half* and the other, the *Coyote Half*. Each had its own totem, and every person had to marry outside of this own half. Children belonged to the Half of the father.

The bear was the most honored animal among the Ob-Ugrians. From fragmentary information available from the Californian consultants, I reconstructed nearly all parts of the ancient bear cult.

In both cultures the "killing" of the bear was followed by ritual ceremonies. Among the Ob-Ugrians during these festivals men entertained the bear, whose skin was displayed and decorated, because ritually he or she was still alive. These comical skits are outstanding demonstration of the performing art among the nordic peoples and justly received their credit in the history of theater.

The performers, not to be recognized by the bear, covered their faces with birchbark masks: Ostyak *tontay-mul* (*mul* 'mask, cap', etc.)



Figure 32. Ostyak shaman

(Figure 31). This truly significant word has a Lake Miwok cognate *mol-ok* 'mask'; *mol-* also means 'to cover', and 'hat'. It should be noted, however, that this mask refers to an oval basket mask, having a different ritual function.

Coyote is an extremely well-known figure in California while his possible equivalent, the arctic fox, does not play such an important role in Siberian religion, folklore or social structure. However, the arctic fox is called 'God's Fox', reminiscent of the divine character of Coyote. The word for 'God's Fox' is *sede-* in Yenissey Samoyed — and exactly the same word is used in Wintu for 'fox, coyote' — *sede-*. In Wintu, *sede* also means 'dog'. This word, along with several others, proves that the ancient Californians brought the dog with them as helpers and faithful companions.

The systematic maintenance of magic and religion within both societies was the function of the shaman (von Sadovszky 1989) (Figure 32). There were benevolent and malevolent shamans. He accompanied magical acts by songs and some kind of a musical instrument. The song

and singing of the shaman is called *saw* in Ob-Ugrian. The Cal-Ugrian varieties occur in a regular form. In Mutsun, it is *sawe*, 'to sing' and *suwe-ne*, 'song'; Central Sierra Miwok, *saw-*, 'to shout, to cry out'; Southern Sierra Miwok, *saw*, 'to say "hey!"'. The regular Wintu *caw* ('to sing') and *cawi* ('song') also refer to the song of the shaman. The Northern California placename Hettenshaw Valley is from the Wintu *xetin caw*, 'camas singing'. Women sung while collecting camas there.

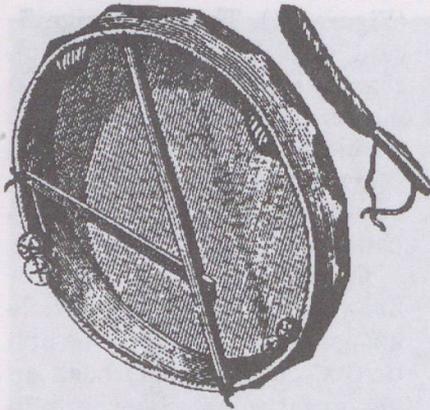


Figure 33. The shaman's drum

The Vogul compound *kaj-saw* ('prayer, hymn') leads to an important aspect of the cultural history. The word *kaj-saw* specifically refers to the shaman's song, which he sang during his shamanistic ecstasy. The compound *kaj-ne xum* means the 'shaman' (*xum* 'man'), *koj-p* ('shaman's drum, magic drum') (Figure 33).

In Clear Lake Miwok, the word *koja* means 'to sing'; *koj-ni*, 'to be happy' (also in religious sense) and *kojánni*, 'any device which produces music'. This is very similar to the Vogul word for the shaman's drum.

The identification of these two words — *koj* or *kaj* and *sow* or *saw* — cannot be overemphasized when dealing with the cultural and religious prehistory of the Central California Indians. They invite some remarkable conclusions while simultaneously presenting an intriguing question which, at present, I am unable to answer.

These two words clearly indicate — as do others connected with shamanism — that the Ob-Ugrians came to California in the company of their religious leader, the shaman (von Sadvoszky 1989). He led them, healed them, encouraged them on their way and gave them solace. He also made sure that the old ways were not forgotten. He told them about the creation of the world, man, woman and the animals. The shamans were the Indians' main contact with the supernatural.

The Ob-Ugrian shaman's main instrument was his sacred drum — small, tambourine-like, inseparable from his magic power.

There is no trace of this drum in all of California. Any kind of skin drum is completely unknown in Central California. So the great question is what happened to the magic shaman's drum? My proposed answer leads us to a hypothesis concerning the time of arrival of the Cal-Ugrians. It is unimaginable that the shaman, having a drum in his possession, would leave it behind in Asia, bringing only the word for it. (It should be noted, however, that the Vogul word *koj-p* really means 'singer' in the same way that Miwok *kojánni*, meaning 'musical instrument', can also refer to singing.)

I propose that the Ob-Ugrian shaman did not have the skin drum when his brothers left Siberia to search for a new land. There is every indication that the Ob-Ugrians used rolled-up birchbarks as a drum or something similar to the sacred California footdrum (which looks like an upside-down dugout boat). This drum is kicked with the heel while drum-

ming. It is placed opposite the ceremonial house door, the most sacred place in the house in both cultures.

After the Cal-Ugrians separated, the Ob-Ugrian skin drum was adopted from neighboring cultures. But when? If we could identify this point of time, we would be able to say when the Cal-Ugrians separated from the Ob-Ugrians. The answer would be important, and would be called the 'Cal-Ugrian drum argument'.

Archaeological data indicate that there were major upheavals in North-western Siberia in the last millenium B.C. The arrival of the Middle Horizon people in the Bay area, generally associated with the Penutians, also occurred around this time (Elsasser 1978:41).

Linguistic data argue for a relatively recent arrival. Cal-Ugrian presents typically Ob-Ugrian features, which also evolved after 3,000 years ago. Proto Finno-Ugrian **k*- became *x*- in several of the Ugrian dialects and also in Yurak Samoyed (von Sadvoszky 1985). Since Cal-Ugrian also participated in this change (about 500 B.C.), we could assume that they left after this change was already considerably developed in that area.

However, although the linguistic and cultural relationship is unquestionable, we can only speculate as to *the when, the how, the why*. But these were only the secondary objectives of my research. My primary objective was to establish a linguistic relationship with an Indian language outside the American continent, to remove the great silencer at the Bering Strait and to make the prehistoric migrators talk. Now, for the first time, we know and understand what they were saying.

I feel I was there for every step of their arduous journey. During our endless trip in the last 35 years, I have learned to admire greatly the paleolithic woman, man and child. I discovered that I wanted more and more to exalt the simple fisherman and hunter. They did not build daring pyramids, erect magnificent temples or carve monumental faces. They did not explore the mysteries of the sky by measuring the paths of the planets. But they were there when the foundations of our civilization were deposited. They told us what to do, in the beginning.

I also wanted to exalt the present generations. At the arrival of the white man on both sides of the globe they soon had to face the frightening and galloping four horses of the Apocalypse. In California these were Missionization, Secularization, Gold Rush and Modernization. Soon, the 'exiled sons of Eve' became exiles in their own homeland. The proudest monument they erected and cherished, their language, has been crushed like a masterpiece in a violent storm. Some held out, like Klavdia Plotnikova, a Kamassian, who talked to herself for 50 years in the forested mountains of Southern Siberia, because she instinctively knew that you hold on to something that you inherited from your mother, of which you

are the last keeper ... like Ishi in the Sierra Nevada talking to himself and holding on to something that nobody could take away from him.

In the last 35 years, I have lived in the company of the 'Old Californians' — Eulalia, Castro Johnson, Bill Joe, the Knights, Alma Grace, Lena Thomas Benner, Renee Coleman and Grace McKibben. It was a privilege to get to know their world and also the world of Frank Morgan, Henk Pete and Mamie Sam, Rombandeeva and Vachrushcheva. My discovery of this new cross-continental relationship is really their contribution to our civilization. It greatly widens our horizons and begins to write a new chapter in the life story of mankind and in the history of Eurasia and America.

The Ob-Ugrians

The Voguls (*Mańsi*) and the Ostyaks (*Xanti, Khanti*), known collectively as Ob-Ugrians, live along the middle and lower course of the mighty Ob river and its tributaries. Occupying the northern most edge of the forested Taiga region in northwest Siberia, the Ob-Ugrians belong politically to the Hanti-Mansi region of Russia in the Commonwealth of Independent States (C.I.S.). The capital of this region, Khanti-Mansijsk, is located near the confluence of the Irtysh and the Ob rivers. The Ob-Ugrian territory, extending to some 550,000 square kilometers, is home to a population of 125,000.

Northwestern Siberia, a great plain 100 to 150 meters above sea level, is bordered by the Ural Mountains which reach only to an average height of 700 to 800 meters. Cold spring and fall seasons, and long, heavy winters are followed by short, but pleasantly warm summers, leaving almost the entire region unsuitable for agriculture. Toward the north, the territory of the Ob-Ugrians borders the Arctic tundra, its many rivers covering the entire region with lakes and marshlands.

Much like other river peoples, the Ob-Ugrians are known according to the particular waterways of the areas they inhabit. The Vogul live between the lower course of the Ob and the Urals. Their chief settlements are along the Sosva and its tributary the Sigva. Settlements are also found further along the Konda, Yukonda, Losva, Pelimka, and Tavda.

The Ostyaks occupy the entire upper and middle course of the Ob and parts of its lower sections, as well as the lower course of the Konda and the Irtysh. Their names (corresponding to the tributaries of the Ob) are, from east to west: the Vasyugan, the Vah, the Tremyugan, the Yugan, the Nadym, the Irtysh, the Konda, and the Kazym Ostyaks.

Presently, the Ob-Ugrians are not the only people to occupy this vast area. On the far north their neighbors are the remotely related Yurak Samoyeds. To their northwest are the more closely related Zyriens, to the south, the Tatars, and to the east, the Selkup Samoyeds. Russians are also of course present in large numbers in most of the major centers.

The closest relatives to the Ob-Ugrians are the Hungarians. The Voguls and Ostyaks together with the Hungarians constitute the Ugrian branch of the Finno-Ugrian linguistic family. With Samoyed added, these groups comprise the great Uralic family of languages. In addition, there seems to

be considerable evidence which suggests that Yukagir, superficially classified within the so-called Paleosiberian languages, should also be considered as an Uralic language. Further linguistic, ethnographic, and archaeological evidence indicates that the Yukagirs once occupied a vast area in northern Siberia and today they can still be found living along the Anadyr river which flows into the Bering Sea. Taken together this would indicate that the Uralians once occupied nearly all of northern Eurasia.

Present-day linguistic relationships, however, should not be confused with clear-cut anthropological relationships on the present level (the term anthropological used here in the European sense, meaning physical anthropology). Similar multiplex linguistic influences and genetic influences also produce anthropologically complex people. For this reason, one can quote only with hesitation the following passage from Hajdú:

Anthropologically the Voguls and the Ostyaks are unlike the other modern Finno-Ugrians, and are perhaps nearest to the Samoyeds. They show mongoloid characteristics, with depigmentation of eyes and hair; they have snub noses, broadening noticeably towards the nostrils, mesocephalic heads, comparatively small faces and short stature. They are classed by anthropologists as Europosibirid or Uralic. This type came into existence through an amalgamation of Europid and Mongoloid elements, and developed later, according to Debets, with an admixture of Americanoid and Sayan-Mongoloid strains. It is noteworthy that this Uralic type, general among the Ob-Ugrians, was an important component of the early Hungarians, as Pál Lipták's researches have shown (Hajdú 1975:123-134).

While their ways of life are very similar, the Vogul and Ostyak languages display great dialectal differences, making the dialects in general mutually incomprehensible. Five decades ago there were 21,000 Ostyaks, 70% of whom were native speakers, while there were only 7,700 Voguls, of whom 59.2% spoke their native tongue. Most native Vogul speakers can now be found along the Sosva, Sigva, and Upper Losva — these northern dialects being the basis for the Vogul literary language. Toward the south, however, much tatarization and russification has taken place and it is possible that at least the Tavda dialect is by now — extinct.

The Ostyak languages are divided into three major groups of dialects. The northern speakers live from the Bay of Ob to Sherkali, speaking the dialects of Sherkali, Obdorsk, Berjozov, and Kazym. The southern dialects include those languages spoken along the Ob, Konda, Nadym, Irtysh and Demyanka. The eastern dialects are spoken along the Middle Ob from Irtysh and include those of Salym, Surgut, Tremyugan, Yugan, Vakh, and Vasyugan. The extreme dialectal variations among the Ostyaks made the development of literary language difficult and textbooks based

on the Kazym, Vakh and the Surgut dialects were only written recently (1957–1958).

The Voguls call themselves *Mańsi*. Together with its variation *mós*, the word is related to the *Magy* element in *Magyar* by which the Hungarians refer to themselves. The Ostyaks call themselves *Xanti* (*Khanti*). This again can be compared to the Hungarian *had* 'host, army' and Finnish *kuntaa* 'people'.

The word *Vogul* was used by the Russians to refer to the inhabitants they encountered on the Vogulka river, a small tributary of the Ob. The Voguls call the river *vól'-ja* 'Vol River' and the Ostyaks, *woyal'-joyan* 'Wogal River' — in Vogul, *vól'* meaning a strait waterway between two bends (Hajdú 1975:122).

The word *Ostyak*, on the other hand, can be found as a self designation of the Ostyaks. Originally it comes from *As-jax*, *As-people*, i.e. the people of the Ob where *As* equals Ob (the *-t* being a secondary element inserted by the Russians). The Ostyaks in general refer to other people according to their river names plus *jax*, for example *xunte-jax* 'Vakh people'.

While the Vogul and Ostyak languages may appear dramatically different — this difference compounded by the variations among the dialects — the cultures of the various Ob-Ugrian tribes are quite similar. Considering the unsuitability of the terrain for agriculture, hunting and fishing are their most important occupations. Along the Ob and its tributaries, however, fishing is predominant. Generally, those who settle down-river live from fishing, while those who live at the sources of the rivers are concerned chiefly with hunting.

Living in a sparsely wooded, marshy region where for over half of the year two meters of snow cover the ground, the Ob-Ugrians change their habitat according to the season. During the fishing season they move down river until the river freezes. Returning with their abundant catch, they preserve most of it for themselves, selling the surplus.

The Ob-Ugrians' most important meat sources are elk and reindeer, while furs provide them with their chief economic income. In the winter they carry valuable furs to market including squirrel, marten, weasel, rabbit, fox, wolverine, and otter. In the past, they also hunted beaver, prior to the animals' near extinction in the region. Similarly, sable is now, too, extremely rare.

While the Ob-Ugrians' chief hunting weapon was historically the bow, elk and wild reindeer were caught most successfully in traps set up along converging fences which ran up to 50 miles long. The animals were driven along the fences and in trying to escape through constructed gaps, they were caught in set traps or shot by bow and arrow. Pits, dug and camouflaged at the gaps in the fences were sometimes substituted for the traps and bows (Vuorela 1964:308). Such use of converging fences is found

throughout the Arctic region and was common in Lapland and even in Finland during the eighteenth century.

Wildfowl were also caught in traps, these set up close to dwellings, where children and older tribe members could look after them. Waterfowl, hunted in the spring, were caught in large collapsible nets (Potapov 1956:520).

The Ob-Ugrians divided themselves into two totemistic, patrilineal, exogamous moieties. In Vogul, one of these moieties was called *mos* and the other *por*. This system is still maintained among the Ob and the Sosva Voguls, though otherwise, it is practised today only in modified form. The tradition of bride wealth, *kalim*, was customary and matrilineal marriage custom kept, whereupon the bridegroom was required to work for three to four years at the home of the bride. Brides were normally paid for with tools, furs, clothing, and reindeer. Though polygamy was not forbidden, monogamy was the general rule.

Tribal organization among the Ob-Ugrians was well developed — the Russians referring to their leaders as 'princes' through whom all political and economic affairs were conducted such as the payment of taxes made with furs. The position of women in the tribes was generally subordinate. Numerous taboos surrounded their everyday life. Women did, however, enjoy relative freedom before their menses and after menopause. There were even female shamans, one of the most significant of whom led a military campaign against the Russians in 1607. (Princess Ana of Konda, with Vaziliy, the Prince of Obdorsk, organized an Ostyak uprising and occupied the Russian fort of Berjov.)

Every Ob-Ugrian tribe had a totem representing an animal whose killing was strictly forbidden. Every tribe also had their own identification mark, or *tamga*. These marks, depicting abstract drawings of birds, animals, and plants, were tattooed on the back of the hand of the tribal members and were used for a variety of purposes. A Yugan prince, for example, would certify a document in his own and his people's name by attaching a sign of a black grouse. It should be noted that the black grouse was also the favorite bird of the shaman (Figure 29).

A child of the tribe received his or her final name at the time of puberty — the same name as a deceased member of the tribe, whose spirit was thought to have entered the child at his or her birth. Tribal ancestors were seen to protect and help the community especially during difficult times and each tribe had its own burial ground in which the burial of strangers was prohibited (Hajdú 1975:133).

Sacrifices were offered to the ancestors particularly to promote a successful hunting or fishing season. Only 'official' members of the tribe were allowed to participate in such sacrificial ceremonies. Wives and brothers-in-law, those who according to the rules of exogamy were from another

moiety, were excluded. Tribal solidarity was further expressed by communal vendettas, to revenge injustices committed by outsiders against one of the tribe's members.

Shamans, male and female, performed various tasks within the tribal organization. In general they kept contact with the supernatural, they healed, predicted the outcome of an undertaking, and found lost objects. The shaman's drum, paraphernalia and songs were all considered sacred. He or she shamanized in a dark room in a trance which was enhanced by the use of *pang* '*Amanita muscaria*' (fly agaric). Here it should be noted that at the beginning of the eighteenth century, attempts were made by Russian missionaries to convert the Ob-Ugrians to Christianity, and while a certain amalgamation occurred between the native religion and Christianity, its effects were only nominal and the influence of shamans continues to the present day.

The tribal system was also closely related to the cult of animal worship as animals were sacrificed to please ancestral spirits. In one such ceremony, the image representing the ancestor was placed in a separate holy shrine where the tribe gathered to offer sacrifice. Usually, the shrine's location was some distance from the settlement and certainly was unknown to strangers. In another significant sacrifice, the mouth of a wooden image was smeared with the blood and fat of a sacrificial animal, the animal's flesh being consumed ceremoniously by the participants. There were also yearly tribal festivals, when the totem ancestor was celebrated with songs, theatrical performances and dances which had magic and totemistic significance.

The Ob-Ugrians, considered the god of the sky, *Numi Torem*, to be the creator and the giver of their culture. Natural phenomena, in addition to animals, were seen as full with spiritual forces — the river, lake and forest spirits receiving special attention. No other natural phenomenon or animal, however, awoke the imagination of the Voguls and the Ostyaks more than the bear. Perhaps nowhere in the world did the bear receive so much religious attention. The Bear Festival is still today the center of the Ob-Ugrian religious, social and artistic life. Considering contemporary rituals, however, one must remember that the bear has been the chief totem animal of the *por* moiety for countless years and that during that time the bear's functions must have gone through many changes.

Historically, the ceremonies of the Bear Festival were held during the winter hunt. Countless taboos were associated with the hunt and the bear itself, and various ceremonies were held to ensure a successful hunting season. Killed in the hunt, the bear, having to be made to 'descend,' was 'undressed' and was 'unbuttoned' (five buttons for a male, four buttons for a female, two or three for a cub — such number symbolism was pervasive during the hunt and the festival, and even beyond).

The bear was then put into a 'cradle,' or *āpa*. The skin was stuffed and taken home by sleigh to the accompaniment of prayer, music and dance. At the village, the stuffed skin of the bear (ritually still alive) was treated as a guest. The bear was set up in the cradle, placed on a platform and clothed with scarfs, precious skins and silk. The bear's claws were decorated with rings and he was feasted with meat, drinks and spirits. The hosts, careful to stay in good graces with the bear, apologized for the earlier treatment during the hunt, blaming outsiders — the Russians — who made or provided the rifles.

In the contemporary ceremony, as in the past, the bear is then entertained with plays, some of which are educational, though most are humorous. Masked men perform numerous short plays, which can be considered some of the most eminent examples of the *commedia dell'arte* of simple people in the history of theater.

In saying good-bye to the bear, he or she is gently scared away by ritual figures, with a general lament following the departure of the guest. The meat is then consumed with ceremonial meticulousness. At the close of the ceremony, the ritual paraphernalia, the birch-bark masks and the bear skull are placed in a sacred place some distance from the village.

In remote villages such festivals are still held regularly. The Soviet period, however, especially the rapid industrial development in the past decades, greatly transformed the traditional cultural patterns of the Ob-Ugrians.

Lately the Ob-Ugrians entered an era of national consciousness. It resulted in intensive cultural, linguistic, religious and artistic revival. Their newly acquired free life is full of hope for a bright future.

Sound Law, Reconstruction and the 'Cal-Ugrian' Concept

There is no valid linguistic comparison without sound law. We can define sound law as the correspondence of a sound in one language, to the sound in another language, often under specified condition. According to the Neogrammarian tenet "sound laws when properly formulated do not admit any exception".

We still adhere to this rigorous model, even though we developed new ideas how language operates in a historical setting. Phonemic borrowings, complex semantic developments, etc., help us to make the 'proper formulation'. Whenever possible, we establish and reconstruct a hypothetically possible protoform and we mark it by an asterisk (*), in order to remind us that it is only a scientific device. We should be able to derive all cognate forms from this hypothetical protoform by means of appropriate sound laws. We should, however, always keep in mind, that Buck (1933:39) states so succinctly, that

Phonetic laws are not to be understood as laws of universal validity like certain physical laws. There are no such laws applicable to all languages. The phonetic laws are merely empirical formulae of observed regularity between languages or dialects at a given period.

Even with this limitation they differ in scope, some being generic and others conditioned.

Generic changes are consistent regular changes not subject to special conditions, like that of Old English \bar{a} to \bar{o} in New English home, bone, stone and their relationship to German *Heim, Bein (-bein), Stein*.

Conditioned changes are those subject to special conditions of surrounding sounds, position (as initial, medial, final), stress and other conditioning factors.

Regressive assimilation for example which is the most pervasive rule in Sanskrit and in many Indo-European languages is the manifestation of conditioned changes.

The phonetic changes, whether generic or conditioned [...], show a remarkable regularity, far greater than can be observed in any other phase of linguistic development or anywhere else in the domain of humanistic studies. This is evident from the mere fact that the great

majority of phonetic changes need not be given for a particular word only, but can be stated in formulae that cover whole masses of words. The progression of stops in Germanic ("Grimm's Law") is only an especially conspicuous and large-scale example of the "laws", [and an elegant matrix] named after their discoverers [...], that are observed in the historical study of all languages (Buck 1933:39-40).

An initial *p*- phoneme for example marked with an asterisk **p*- establishes a matrix and can apply to many words and can have consistent reflexes in many languages under consideration.

If the reconstruction is valid we can even accommodate most of the new informations and fit the new forms into this matrix.

If the reconstructed forms are put together from a great amount of data and according to the basic principles of our science, we can be relatively confident that the protoforms will stand up to receive any new information. To illustrate our point let us assume that somebody somewhere finds a group of people who speak an 'Icelandic type' language. Since Icelandic is a Germanic language, it is reasonable to assume that in order to *incorporate* this 'Icelandic type' into the Germanic family, there will be no need for the *re-reconstruction* of Proto Germanic. It is most unlikely that this newly found language will significantly alter the shape of the proto language. We can simply fit them into the existing mold and at the same time we will *incorporate* them into the Indo-European family.

During the hundred years following the famous address of Sir William Jones to the Asiatic Society in Calcutta (1786) all the known Indo-European languages were classified. A 'family tree' was drawn, in which the *kentum* languages occupied the western area and the *satem* languages the eastern area. When Tocharian A and B were discovered at the turn of the century, they were simply *incorporated* into the Indo-European family. Several diagnostic features, however, such as the phonology, verb morphology and to a certain extent the vocabulary, aligned Tocharian, once spoken in Western China, with the western branch of the Indo-European family. In other words, Tocharian is closer to Celtic, Italic and Germanic, than to geographically and culturally close Sanskrit or Iranian.

It came as a great surprise to the Indo-Europeanists, but the undisputable comparative data and all the diagnostic features, quickly resolved the theoretical dilemma.

We are confronted here with a similar theoretical dilemma. The question is: Will the incorporation of the California Penutian languages into the Uralic family alter the protoforms of Uralic? Or: Will they affect the Proto Finno-Ugrian forms? The answer is a definite: No.

The linguistic evidence presented in this study indicates a close similarity between the California Penutian languages and the Ob-Ugrian languages. It is only fair to expect that *this new relationship will not affect in any significant way the existing Finno-Ugrian protoforms. In other words the sound laws which govern the Ugrian languages, govern to a great extent also the California Penutian languages. This is the theoretical framework of the "Cal-Ugrian" (California Ugrian) concept.*

The comparative linguist has two principal tasks. First, he or she has to demonstrate that two or more languages are related to each other. This can be done quite adequately by a simple 'prescientific' method. For this purpose an orderly lining up of the words, side by side, can even demonstrate a logical and scientific certainty. For example, to establish the notion of Germanic, Romance and Slavic linguistic relationship, a simple *Nebeneinanderstellung* 'putting side by side', an old well proven method, is quite sufficient and effective. No scientist can deny the validity of the grouping of these languages after looking at a selected word list of numerals, body parts, natural phenomena, etc. At this point even recurrent phonetic correspondences will be emerging.

Secondly, a comparative linguist has to investigate the nature of a relationship, discuss the finer points of the historical process and state the possible rules regulating the recurrent changes. The Indo-European theory was quite well established by the simple method of *Nebeneinanderstellung* before the minute details of the relationship were discussed and clarified by Grimm's, Verner's, Grassmann's and Bartholomae's Law. This is the point where reconstruction with an asterisk enters and the final line up of possible cognate forms are scrutinized.

The comparative study at hand utilizes both methods. The Cal-Ugrian theory is innovative at one hand, but on the other hand, it is the continuation of an old scholarly tradition. It makes use of well established methodology and data. These are the results of research activity, which reaches back more than two hundred years. The Finno-Ugrian scholars created the mold which can receive new data. We will illustrate our point by presenting three problems and solutions.

Let us investigate the origin of some Miwokan and Maiduan words. All of them seem to point to Proto Finno-Ugrian or Proto Uralic initial *s-. We selected these words for this very reason. Here is a simple overview, indicating the correspondences in the various Uralic languages. It is taken from Collinder's *An Introduction to the Uralic Languages* (Berkeley and Los Angeles: University of California Press, 1965:75).

The reflexes of Proto Uralic initial *s-

Vowel	fi	lp	md	ch	vty	zr	vg
Back	s	s	s	š(s)	s	s	t
Front			s(ś)	š(š)			
Vowel	os	hu	yr	tv	yn	sk	km
Back	p (j, Ø;	Ø	t	t	t	t	t
Front	l; t)		t'				

As we can see, Vogul has a *t*- reflex. While Ostyak has multiple reflexes, the *t*- reflexes occur in the Demyanka, Nizyam and the Konda river dialects. All Samoyed languages have a *t*- (*t'*-) reflex. In general, initial *s- has the most complex reflexes in the Uralic languages.

On the Californian side we selected, among others, Eastern Miwok *ty*²-, *to*²- 'to sit, to set, to put' and Maidu *tys*, *tos* 'to stand, to get up'. (We will discuss the relationship of Maidu Nisenan *tos* 'upstream, North; high' (?) later.)

In the chapter about "*The Correspondence of CV² to Vogul CVS*" we demonstrated that *ty*² and *to*² are from original **tys* and **tos*. Maidu *tys* and *tos* reflect these original forms. In the same study we compared these forms to Vogul *tuńś*, *tuś* and *tońś*, *toś* 'to stand, to put, to set'.

In Vogul we have nasal forms (-*ńś*) and forms without the nasal (-*ś*). In California Penutian as compared to Finno-Ugrian nearly all nasals, which are followed by another consonant disappeared.

Now we have to search for the Finno-Ugrian (or Uralic) cognates of Vogul *tuńś*, *tuś* etc. We have a well established set of cognates which among others includes Finnish *seiso* 'to stand'. They all can be derived from the Finno-Ugrian protoform **saŋća*-.

We included here the exact copy of the entry, which can be found in Collinder's *Fenno-Ugric Vocabulary. An Etymological Dictionary of the Uralic Languages* (= *FUV*. Stockholm, 1955:113).

PFU *saŋća-

fi *seiso-* stand (estS -ai-) | lp *čuožžo-*, Kola *čyōn'ža-* | md *št'a-* rise | ch *sinze-*, *šínže-* stand; sit | zr *siž-* settle down; sit (crouched up) | vg *tuńś-* stand | osVasjugaŋ *jal'*, Vah *lal'*, S *t'ot'*-stand; stop (intr.); Vasjugaŋ *jyńt'*, Vah *lyńt'*, S *t'ońt'*- raise.

We notice, that Collinder quotes only one Vogul form, namely *tuńś-*.

A more complete picture is provided by Rédei in his *Uralisches Etymologisches Wörterbuch* (= UEW) (1987:431).

saŋća- 'stehen' FU

Finn. *seiso-*, *seise-* 'stehen' (> lapp. S *sǣ.jsàšj-*); est. *seisa-* (dial. *saisa-*, *säisä-*), SKES *sōisa-* 'stehen, sich stellen, sich befinden, bleiben, dauern' | lapp. N *čuožžo-* -žž- 'stand, stand unused', L *tjuodtjō-*, K (777) T *čiońća-* (l), Kld. *čuońče-*, Not. *čuečče-* 'stehen', A *čoanč-*: *čoančmen* 'stehend' | mord. EM *št'a-* 'aufstehen' | tscher. KB *sənze-*, UB *šínče-* 'sitzen (KB UB), stehen (KB U)', KB *sənzä-*, UB *šínća-* 'sich setzen' | syryj. I *siž-* 'sich (irgendwo) niederlassen', P *siž-*: *čuńg kur sižis* 'der Finger wurde verstaucht und begann zu schmerzen', (Paas.: FUF 8:70) Skr. *siž-* 'CIRIL' | ostj. (OL 74) V *lyńt'*, Vj. *jyńt'*, DN *t'ońt'*, O *laś-* 'zum Stehen bringen, aufstellen' | wog. (WV 169) TJ *tōńć-*, KU P *tuńś-* 'stehen', TJ *toćt-*, KU So *tūśt-*, P *tūśt-* 'stellen, setzen'.

Im Finn. und Lapp. verbirgt sich im auslautenden Vokal das deverb. Ableitungssuffix *j*.

Im Finn., Est und Lapp. fand eine Entwicklung **ɲć* > **yc* > **jć*, in den anderen Sprachen aber **ɲć* > **ńć* (tscher. *ńć*, syryj. *ž*, ostj. *ńt'*, *ś*, wog. *ńć* usw.) statt.

Finn. und est. **aj* > *ei* ist ein sekundärer Wandel.

Im Lapp. und Ostj. (DN) wurde der anlautende Konsonant unter dem Einfluß des inlautenden Konsonanten palatalisiert.

Wahrscheinlich trat schon im Urmord. das Ableitungssuffix *ta* an das Verb und **ɲ* ist geschwun-

den; *ć hat das *t* im Ableitungssuffix palatalisiert und sein Verschlußlautelement verloren. Wegen der Betonung der nichtersten Silbe ist die erste Silbe geschwunden, wie z. B. in den mord. Fortsetzungen E *či*, M *ši* 'Sonne, Tag' von **kečä* 'Kreis, Ring, Reifen' FU.

Im Tscher. und Syrj. fand ein Wandel **aj* > *i* statt.

Die inlautende Konsonantenverbindung in tscher. KB *sänze-*, *sänzä-* wurde – wahrscheinlich unter dem Einfluß des anlautenden Konsonanten – depalatalisiert.

In ESK wird das syrj. Wort mit einem palatalisierten *s* (*śiž-*) erwähnt und mit S Ud. P *śiž-* 'sich erfüllen, in Erfüllung gehen (S), das Ziel treffen (Ud. P)' identifiziert. Zur Lautform von *siž-* s. Paasonen: FUF 8:70. Die Verbindung der beiden Wörter stößt auf semantische Schwierigkeiten.

Lindström: Suomi 1852:83; Wiklund: MSFOu. 10:95, 131; Genetz: Suomi 1897/3/13:11, 38; Setälä: FUF 2:264, FUFA 12:100–1, MSFOu. 135:41; Paasonen, MordChr. 129; Beitr. 211; Wichmann, TscherT 90; Mark: MNy. 24:36; Toivonen: FUF 19:173, Vir. 1933: 247; Ravila: Vir. 1934:229–30; Posti: FUF 31:22; E. Itkonen: FUF 31:177, LpChr. 92; FUV; Collinder, CompGr. 60, 133, 153; Lytkin, VokPerm. 185; SKES; ESK.

Here we can find some additional Vogul material. Some of them are denasalized forms such as *tuś-t*; and *toć-t* (*-t* is a suffix). But comparative dictionaries provide, by their very nature, a limited amount of information. Only by consulting the original sources can we develop a clear picture about a word, its various forms, its various meanings and derivatives. Fortunately now we have at our disposal the great work of Bernát Munkácsi, who did his fieldwork exactly one hundred years ago among the Voguls. Béla Kálmán edited and published a dictionary based on his fieldwork, under the title *Wogulisches Wörterbuch* (Budapest: Akadémiai Kiadó, 1986) (Abbreviated MK = Munkácsi – Kálmán). On page 680 we can find a rich selection. For example we can see, that the adjectival forms *tuńśej* and *tońśej* mean 'high', with specific references to *ur* and *ox*, both words meaning 'mountain'.

For the Voguls living on the foothills of the Ural Mountains these 'high mountains' are the Ural Mountains. The words *ur* and *ox* refer to the Ural in other combinations also.

This newly acquired information helps us to understand the Maidu Nisenan word *tos-* 'upstream', 'North' (Kroeber 1926:288). The name of Indian Valley and their inhabitants perhaps means rather 'high' than 'North'. Powers (1877:282) writes "In Indian Valley, up in the mountains are the Tosi-kojo" (The word *kojo* means 'valley' or 'valley people'.)

We can find one more information which is quite relevant to our discussion. In Munkácsi—Kálmán (681a) LM *tuńs-pi* with *nukh* 'up' and *vási* 'penis' means 'to have an erection'. In Maidu we would expect *tys* but instead we have the *-o-* form in *ʔe-tos-ti* 'to get an erection'. (*ʔe-* is a prefix.)

Greater amount of data will increase our efficiency in our comparative work. Further we have to remind ourselves that the Samoyed languages do not have a representative in this specific Finno-Ugrian set. This means that the easternmost representatives with *tuńs-*, *tuś* etc. are the Ob-Ugrians. Their great majority live on the eastern slopes of the Ural Mountains.

The second case deals with a similar comparative set. Collinder (FUV 71) lists the cognates as

PFU **salkə-*

hu *áll-*, earlier also *ál-* stand | ch *šalge-*, *šo(l)ge-* | vty *syl-* id.; stop (intr.); cost; etc.; *sult-* stand; rise | zr *sulal-* stand; cost; *sult-* stop (intr.); rise.

Rédei (UEW 431) provides the following forms:

salkə- 'stehen' FU

Tscher. KB *šaly-*, U B M *šoy-* 'stehen' | wotj. S *šil-*, K *sâl-* 'stehen, bestehen, stehenbleiben; kosten (einen Preis), gelten', G *šilî-* 'stehen', S *sult-* 'stehen, aufstehen; aufstehen (z. B. vom Schläfe)', G *sultî-* 'aufstehen' | syrj. S *sulal-*, P *suva-v-* 'stehen', PO *sula-l-* 'id.; kosten' | ung. *áll-* 'stehen; (still) stehen; feststehen, gelten'.

Ung. *ll* läßt sich aus **ly < *lk* erklären.

Budenz: NyK 7:40; *s-Laute* 78; EtSz.; NyH⁷; SzófSz.; Steinitz, FgrVok. 36; FUV; Collinder, CompGr. 58; Lytkin, VokPerm. 210; MSzFgrE; TESz.; Honti: MNy. 81 (im Druck).

The interesting feature of this set is, that most of the cognates are from the Finnic languages. The only Ugrian cognate is Hungarian *áll* < **álk* 'to stand'.

According to the rigorous rules of comparative linguistics we can establish a hypothetical form for Vogul. It would be something like **tal-* 'to stand, to get up'. But there is no such form. Or is there any? Yes, there is; we can find it in Miwokan. We have

PMi	* <i>tal-</i> 'to stand, to get up, to wake up'
Mim	<i>talas</i> 'to stand'
Mil	<i>tálah</i> 'to stand'
Mib	<i>tálah</i> 'to stand'; <i>tállapo</i> 'to stand up'; <i>tállepo</i> 'to wake up'
	(Note Votyak above: <i>sult-</i> 'to get up (as from sleep)').
Mip	<i>tal-i-</i> 'to get up, wake up' (? <i>til-</i> 'to stand still')
Mins	<i>tal-</i> 'to get up, wake up, to rise'
Miss	<i>talni-</i> ; * <i>tal-i-</i> (defective) 'to arise in the morning, to get up'
Mics	<i>tálni-</i> 'to arise'; <i>tál-i-</i> 'to get up (from bed?)'

In order to provide a full information for this recovered item let us quote Callaghan (1965:132) in full.

tálah iV smf. and N (1) to stand (said of a person or thing). Cf. *hácah* 'to stand (said of an animal)'. (2) to stand up (3) to be standing (4) to be in a vertical position (5) stand, a term referring to the operation of driving deer towards a waiting hunter

káccakacan tálah. There's a rainbow.

makénnetahtahto ʔótt^haja ʃúkki konʔóken. They caught eight deer at one stand.

mi kawelénʔina sáhic katálan témmac. I'll help you as long as I can: 'I'll help you as long as I'm able to stand.'

ʔincánnatu *taláhmi*. Stand on your head.

táalaʔe iV iter. (1) to be standing around, moving a bit (2) to walk around

taláapu tV iter. caus. to put up several things, such as posts

taláatukʃe iV and tV (1) to stand up (2) to get up off the floor

ćíddidik ʔiti *taláatukʃe*. He had a heart attack: 'his heart stood up on him'.

tállah iV iter. (1) to be standing (said of several objects) (2) to stand up, one by one

tállanika iV to rise up, like a dead person or a spirit

ʔálwan kówun hínna tokáaṭi miṭi dóoṣam tállanika weno. He hit the tree right in the middle and rose up on the other side.

tállapu tV smf. caus. (1) to put up (2) to stick up (3) to stick in *káatun hanakóoku* *tállapu*. The cat's sticking up its tail.

mát kontállapuṭu konwéeta. They keep on sticking it in there (in the process of weaving the basket).

maʔiskúinat kurúus kontállapu. They put a cross right there in the corner.

táli iV smf. to wake up once

táalita iV iter. (1) to wake up several times (2) to wake up (said of several people)

Again as we expected, Miwokan fits well into the Finno-Ugrian and the reconstructed Vogul matrix.

The third case deals with the reconstructed form **säje-* (Collinder FUV 11.

PUR **säje-* ('pus, decay; to suppurate, fester, rot, spoil, sour')

hu (obsolete) *ev, év* matter, pus | lp *sieggjä ~ siejâ-* matter (in a boil, wound, sore or part of the body); gum in the eye | md *sî, sîj* matter, pus | ch *šü, šüj* | [ʔ vty *sis* rotten; rottenness, corruption | zr *sys* rotten, corrupted, mildewed, decayed; rottenness] | vg *sej* matter, pus | osVasjugañ *āj, Vah lāj, S taj* || [ʔ yr *tiim-* become rotten; *tiibej* sour, spoiled, rotten | tv *t'iimi-* become rotten | yn *t'iime-* become sour | sk *tee* matter, pus, rottenness; *tembal, tebäl* rotten, sour; *teebyni-* be sour (-*ni-* suffix)].

säje 'Eiter, Fäulnis; eitern, verfaulen' U

Lapp. N *sieggjâ-j-* 'matter (in a boil, wound)', L *siedja* 'Eiter (in Wunden, Geschwüren)', K (955) T *sijj*, Kld. *sijj*, Not. *siejj* 'Eiter, Eitergeschwulst' | mord. (s-Laute 14) *sijj, si* 'Eiter' | tscher. KB U *šü*, B *šüj*, M *šüj* | wotj. S *sis* 'verfault, vermorscht, Fäulnis', (Wichm., mitg. Uot.: MSFOu. 65:425) G *sis* 'verfault', (Wichm.) G *sis̄m̄i-* 'verfaulen' | syrj. S P PO *sis* 'verfault (S P PO); Fäulnis (PO)' | ostj. (OL 189) V *lōj*, Vj. *jōj, ōj*, DN *těj* 'Eiter', O *lij-* 'eitern; sauer werden' | wog. (Kann., mitg. Leht.: FUF 21:34) T *sāj*, KU *sāj*, P *sāj*, So. *saj* 'Eiter', (ÁKE 241) P *sāj-* 'verfaulen' | ung. (dial.) *ev, év* 'Eiter' || sam. jur. (513) O *cīm-* 'faul, morsch, sauer werden'; jen. Ch. *tībā* 'sauer', *tīme-* 'sauer werden'; twg. *tīmi'e-* 'sauer, faul werden'; selk. Ta. *teé*, NP *tē*, N *té* 'Eiter', Ke. *temb-* 'verfaulen'; kam. *te²-*; koib. (Jahn., SW I61) CIRIL-

Wotj. und syrj. *ś*, jur. *m-*, jen. *ba, me* twg. *mi²e* und selk. *m̄b* sind 'Ableitungssuffixe.

In tscher. M fand unter dem Einfluß von *j*, im Wotj. unter dem Einfluß des inlautenden *ś* ein Wandel **s > ś* statt.

Wog. *s* ist anstelle des zu erwartenden *t* über die Entwicklung **s > *ś > s* entstanden, wobei sich **ś* durch das auslautende *j* erklärt, s. noch **säptə ~ dāptə* 'sieben' Ug.

Im Syrj. und Wotj. fand unter dem Einfluß von *ś* ein Wandel *j > i* statt.

Ung. *v* ist ein Hiatusstilger, das aus Formen wie dial. *eves* 'eiterig' in den Stamm des Substantivs gelangt ist.

Nomen-Verbum.

Endródi (MNy. 64:503) hat das ung. Wort mit dem Verb *ész-* (äv-) 'essen' (s. unter **sewe* (**seye-*) 'essen' FU) verbunden, was jedoch nicht akzeptiert werden kann.

Castrén, Versuch 92; MUSz. 286, 802; Anderson, Wandl. 10; Setälä: FUFA 12:37; Beitr. 201; NyH⁷; Lehtisalo: FUF 21:34; EtSz.; SzófSz.; FUV; Collinder, CompGr. 376; Rédei: NyK 65:373; MSzFgrE; TESz.; Janhunen, SW 161.

The peculiarity of this case is that Vogul does not have the expected regular **tej* but the unusual *sej*. The following explanation is given for this irregularity. Only **s-* became *t-* in Vogul. Among the other sibilants **ś-* became *s-*. Before the time when the **s- > t-* change occurred *s-* became *ś-* by the influence of *-j-*, which acted as a palatalizing factor by the regressive assimilation. So actually the word was **séj* which then regularly changed to *sej*.

The Northern Vogul form is *saj*. In addition to the forms provided by Collinder and Rédei we should quote the following related words: (MK 514a) P *sajim*, T *sèim* 'rotten, decayed' e. g. *sèim khul* 'decayed fish (stinks)' (MK 540a) T *sèim* 'ugly, bad; badly; emaciated, wasted away' (horse). (KLE 291) P *sejim* 'bad' (i.e. 'rotten'). Note also VgN (Kálmán 1976:294) *sajëm xul* 'decayed, putrid fish'.

We can relate these to Miwok:

Mip	<i>saj-e</i> 'bad, no good'
Mins	<i>saj-e</i> 'bad, terrible'
	<i>saj-e</i> 'to make a mess, to spoil, to get spoiled; to destroy, to waste'

Note also the Maidu reference in Curtis (1924:232a):

Md	<i>suyëm-hómi</i> 'putrid salmon' i.e. "stink boil, stinking stew".
----	---

We should point out that these Miwokan and Maidu correspondences reflect an early irregular form in Vogul.

These three and similar case studies represent the very essence of our theory, whereas on the practical side we can provide a useful application of the Cal-Ugrian concept.

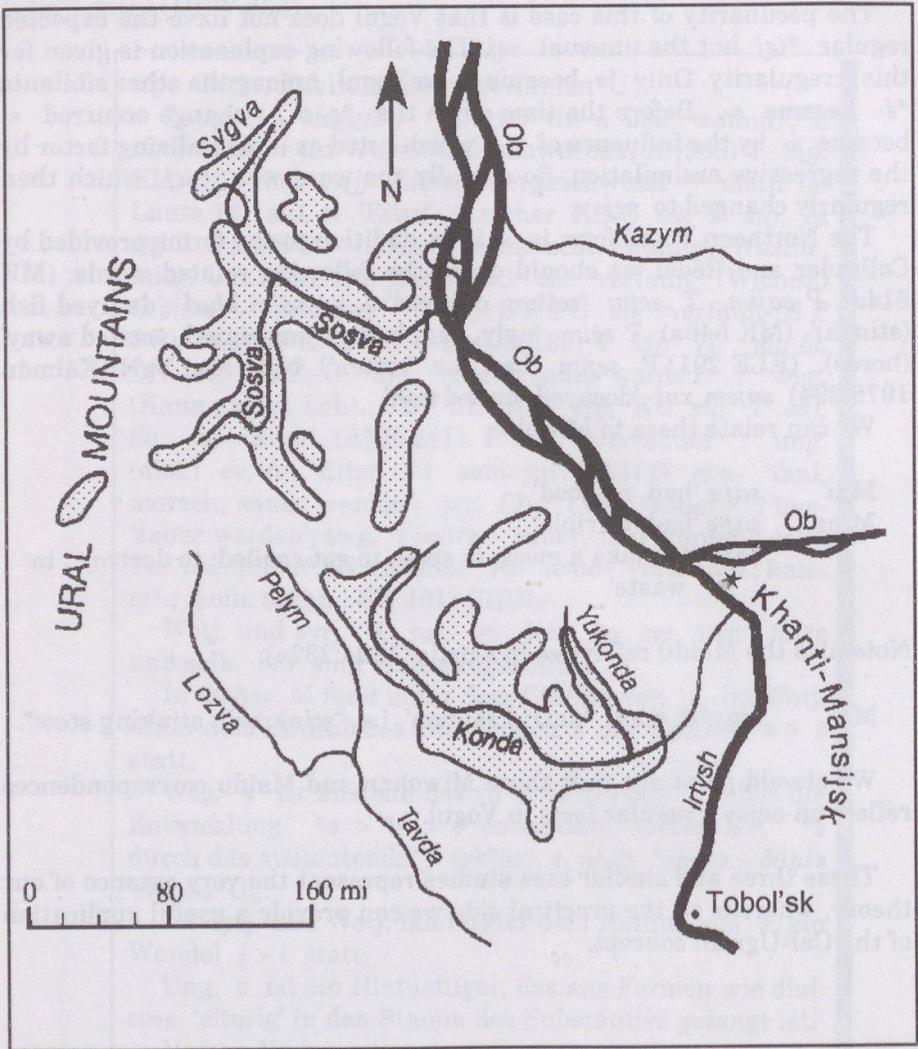


Figure 34. The present territories of the Voguls

Comparative Grammar and Phonology

Contents

Comparative Grammar

Introduction	67
Sources	69
General Structural Tendencies	69
The Uralic Protoophonemes	70
The Miwokan Protoophonemes	70
The Pronoun	70
The function of the pronoun	70
Possessive declension	72
The verbal use of pronouns	72
The plural markers	73
The <i>*-k</i> prural	73
The origin of the plural <i>*-k</i>	74
The pronouns in Miwokan	74
Independent personal pronouns in Ob-Ugrian and Miwokan	76
The order of the pronominal and case suffixes	77
The demonstrative pronouns	78
The interrogative pronouns	78
The <i>*t</i> and <i>*j</i> plural markers	79
The <i>*t</i> plural and its origin	79
The <i>*j</i> plural	79
The Dual Markers	80
The Declension of Nouns	81
1. Nominative <i>*-∅</i>	81
2. Genitive <i>*-n</i>	81
3. Accusative <i>*-m</i>	81
4. Locative I. <i>*-na</i> ~ <i>*-nä</i>	82
5. Locative II. <i>*-t</i>	82
6. Ablative <i>*-ta</i> ~ <i>*-tä</i>	82
7. Lative-dative <i>*-ń</i>	82
8. Lative-prolative <i>*-k</i>	83
9. Lative-translative <i>*-ć</i>	83
Note on the Miwokan instrumental <i>*-š</i>	83

10. Lative <i>*j</i>	83
11. Ablative (Ugrian) <i>*l</i>	83
12. Accusative (Hungarian) < determinative <i>*-t</i>	85
Vogul (Konda) and Wintu comparative noun paradigm	86
Derivative Suffixes	86
The Formation of Nouns	87
The noun suffix <i>*-p</i>	87
The noun suffix <i>*-j</i>	87
The noun suffix <i>*-m</i>	87
The Formation of Verbs	88
The verb suffix <i>*-j</i>	88
The verb suffix <i>*-t</i>	88
The verb suffix <i>*-l</i>	88
The Comparison of Adjectives	88
The emphatic element and the superlative	88
The diminutive-augmentative and the comparative	89
The Interrogative Suffix	89
Negation	89
Affirmation	90
Exclamation	90
The Verbal System	91
The subjective and objective conjugation	91
Personal pronouns added to nouns	92
The past-tense suffix <i>*-ś</i>	93
The completed-action (past), Proto Uralic <i>*-t</i>	93
The imperative suffix, Proto Uralic <i>*-k</i>	93
The potential-conditional suffix, Proto Uralic <i>*-ne</i>	94
The Uralic <i>*-ŋk</i> suffix and the infinitive	94
The past participle suffix <i>*-m</i>	95
The Numerals	95
The Adverbs	98
Comparative Phonology	101
General Tendencies	101
Consonants	101
Vowels	102
Comparative Word List	103
PUr and PFU <i>*p-</i> = Mi <i>p-</i>	103
PUr and PFU <i>*-p-</i> = Mi <i>-p-</i> ; and <i>*-pp-</i> = <i>-pp-</i>	103
PUr and PFU <i>*t-</i> = Mi <i>t-</i>	104
PUr and PFU <i>*-t-</i> = Mi <i>-t-</i>	104
PUr and PFU <i>*k-</i> has two reflexes in Miwokan: <i>k-</i> and <i>h-</i>	105
PUr and PFU <i>*-k-</i> = Mi <i>-h-</i> before labial (back) vowels	105
PUr and PFU <i>*k-</i> = Mi <i>k-</i> before palatal (front) vowels	107
PUr and PFU <i>*k-</i> = Mi <i>-k-</i>	108
The schematic representation of Uralic <i>*k-</i> reflexes in Miwokan ...	109
Uralic and Finno-Ugrian affricates <i>*č</i> , <i>*č̣</i> and sibilants <i>*s</i> , <i>*ś</i> , <i>*š</i> , <i>?*ṣ̌</i> ..	109

PUr and PFU *č- = Mi č-, (c-), s-, š-	110
PUr and PFU *-č- = Mi -č- (-c-), (-t-)	110
PUr and PFU *č- = Mi č-, (c-), š-	111
PUr and PFU *-č- = Mi -č-, (-s-, -t-)	112
The Ugrian reflexes of Uralic and Finno Ugrian *s- and *š- and their Miwokan correspondences	112
The schematic representation of the PUr (PFU) *s-, *š- reflexes (Miwokan t-)	113
Exceptions: PUr and PFU *s- = Mi s-	114
PUr and PFU *ś- = Mi s-, or š-	114
PUr and PFU *ś- = Mi č-, (c-)	115
PUr and PFU *-ś- = Mi -č-, (-c-)	116
Vogul s- and š- = Sierra Miwok t-	117
PUr and PFU *m- = Mi m-	117
PUr and PFU *-m- = Mi -m-	118
PUr and PFU *n- = Mi n-	119
PUr and PFU *-n- = Mi -n-	120
PUr and PFU *ń- = Mi n-	120
PUr and PFU *-ń- = Mi -n-	121
PUr and PFU *w- = Mi w-	121
PUr and PFU *-w- = Mi -w-	123
PUr and PFU *j- = Mi j-	123
PUr and PFU *-j- = Mi -j-	124
PUr and PFU *l- = Mi l-	124
PUr and PFU *-l- = Mi -l-	125
PUr and PFU *r- = Mi l-, CoMu r-	126
PUr and PFU *-r- = Mi -l-, CoMu -r-	127
The r > j Rule	127
Miwokan l- and -l- became j- and -j- by secondary development	127
Initial r- > j- rule	127
Medial -r- > -j- rule	128

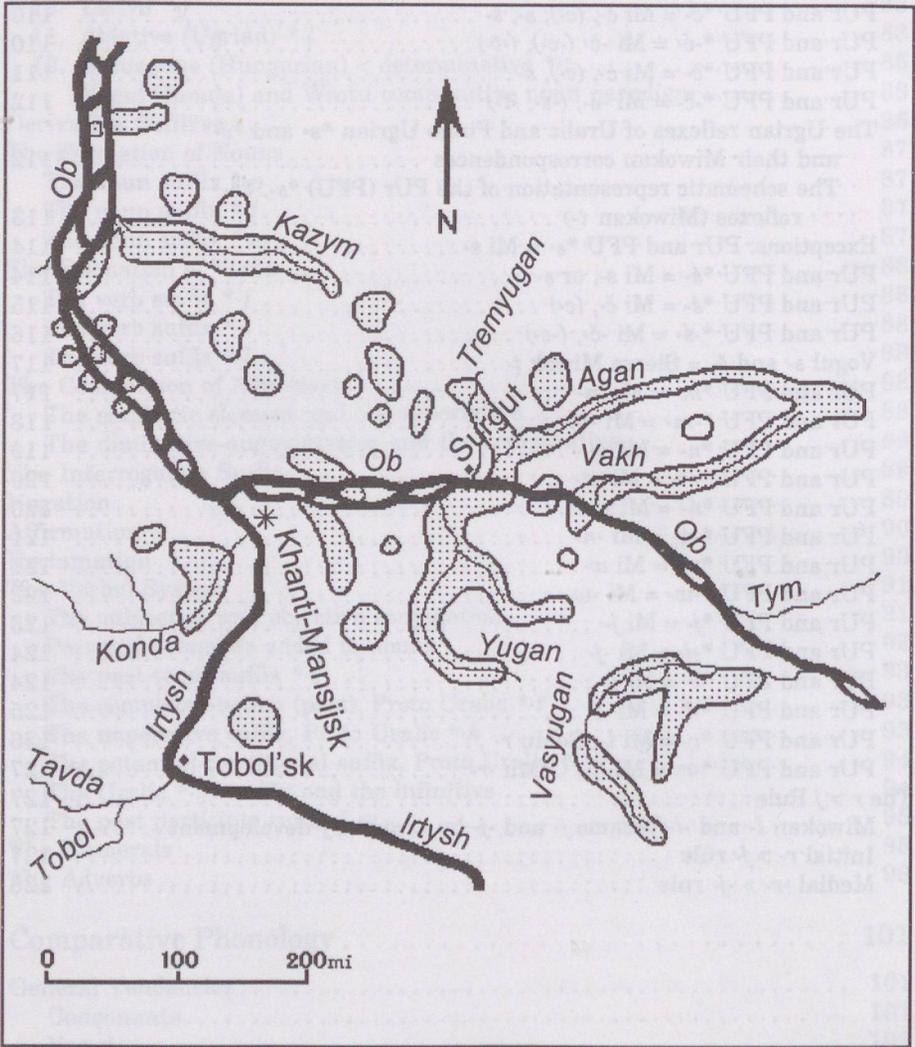


Figure 35. The present territories of the Ostyaks

Comparative Grammar

Introduction

The Finno-Ugrians and the Samoyeds constitute the Uralic family. Considerable amount of evidence argues for the relationship of Yukagir. The speakers of these languages occupy a vast area extending from Hungary in Central Europe, and from Finland in the North, across Eurasia, to the Anadyr River, southwest of the Bering Strait (Hajdú 1975; Collinder 1960; 1965). Figures 34 and 35 illustrate the division of the Uralic languages.

The Penutians occupied the territory along the Sacramento and San Joaquin rivers and their tributaries descending from the Sierra Nevada and the Coast Range as well as the Pacific Coast around Bodega, San Francisco and Monterey Bay as far south as Big Sur (Heizer ed. 1978, Charts 5-6). The Penutians of Oregon, remotely related to the Californians are not treated in this study. Since the California Penutian languages themselves present such a complex problem, it was advisable, for methodological reasons, to utilize only a cohesive group of languages in this comparative study. Miwokan was selected because extensive material is available from these languages. Their relationship to Costanoan was already recognized by Kroeber (1911). Occasionally, references are made to the other Penutian languages, especially Costanoan, Wintuan, Maiduan and Yokutsan. (Cf. Plates xiii, xiv, and xvi.)

Throughout this comparative grammar we hope to demonstrate that the Miwokan, Costanoan and the other California Penutian languages can be *incorporated* into the Uralic, Finno-Ugrian linguistic family. Ultimately it will appear that the California languages show a close similarity to the Ugrian branch of the Uralic family.

A short analysis of a Central Sierra Miwok word could illustrate the case in point.

Kroeber (1911:316) published a short Central Sierra Miwok text which originally was recorded by R. B. Dixon. In this narrative an Indian is describing a hunting and fishing trip and says: *wele-sy-m* (*temoka-j kosumo-j*) 'we caught (six fish)'. The three morphs constituting the verb *wele-sy-m* 'we caught' have Finno-Ugrian, but specifically close Ugrian cognates. The verb root *wele-* is related to Proto Finno-Ugrian **wel'ə* (FUV 105; FUE 513) and it has a close reflex in Ostyak *wele-* 'to kill, to catch fish and game, to hunt, to catch in a trap, the trap', etc. (KT 275).

The Vogul cognate is *äli* 'to kill', Hungarian *öl* 'to kill'; and Zyrien and Votyak *vini* 'to kill'. The Eastern Ostyak form appears in the phrase *kul wel-* 'to catch fish' and *kul welte ku* 'fisherman' (Gulya 1966:184, full passive paradigm of the verb on pp. 113–115). For Northern Ostyak Rédei (1965:118) gives *welti* 'to kill, to catch (fish, game)'.

The Proto Miwokan verb is **wel-* 'to catch'. It has reflexes in nearly all the Miwokan languages: Bodega Miwok *wél-* 'to get, to catch (fish, etc.)'; Lake Miwok *wélik, wlik* 'to get, to hold, to catch, to pick', including such modern derivatives as 'microphone' = 'speech catcher' and 'a baseball catcher'. In Northern Sierra Miwok we have *weli* 'catch' and *welza (welsa)* 'to hunt for' (Kroeber 1911:289). In the Yosemite dialect of Southern Sierra Miwok we have *we-l-* 'to fetch', *wel-*, *wel-h-* 'to look for' and in Central Sierra Miwok *wé-l-* 'to fetch' etc. Outside Miwokan we have a close cognate in the neighboring Maiduan Nisenan *wel-* 'to look for, to seek, to search', and among the western neighbors, the Costanoan Mutsun *ol-h-s-e* 'to kill many', which in form and in meaning corresponds the Finno-Ugrian cognates. Naturally, the word belongs to the significant inventory of the prehistoric hunter, fisherman, and gatherer.

The second morph of the verb, namely *-sy-*, is the marker of the past tense. It is the same as the *-s-* morph in the Ob-Ugrian languages. In Eastern Ostyak we have *wel-s-uj-əm* 'I was killed', *-s-* being the past tense marker (Gulya 1966:114).

The third morph of the verb, namely *-m-*, is the marker of the 1st Plural. This *-m-* occurs in the Uralic languages as the marker of the first person (as in the Eastern Ostyak form above). The plural marker is missing in the Central Sierra Miwok short form, but it appears in such Miwokan forms as the Bodega and Marin Miwok *ma-ko, maa-ko*, and in Costanoan Mutsun *mak*. This is equivalent to Hungarian *-nk* < **muk* ending of the 1st Plural 'we', originally from **me-k* 1st person + plural ending.

The order of the suffixes is identical to the Ugrian order: as in Eastern Ostyak *wel-s-uj-əm* 'I was killed' and Hungarian, where *-t-* is the past tense marker, *öl-tü-nk* < **öl-t-muk* 'we killed'.

The term 'Cal-Ugrian' is based on numerous such analyses.

Among the specifically Ugrian words we should mention those which were borrowed from Turkic during the Ugrian period, which lasted from about 2000 B.C. to 500 B.C. Some of these words, e.g. **kuntə* 'beaver' (FUE 289); **sawe* 'word, sing, song, shaman's song' (FUE 591; MK 568b; KT 827) have cognates also in California Penutian. Proto-Ugrian **sawe* has a close equivalent in Mutsun *sawe* 'sing', *sawe-n, suwe-ne* 'song'; Marin Miwok *suwe* 'love song'; Central Sierra Miwok *sa-w-* 'to shout, to cry out'; Wintu *ča-w* 'to sing, song', *łahi ča-wi* 'shaman's song' (*łahi*

'shaman' to Vogul *rax* 'magician'). It is natural to assume that at least some of the California Indians left Siberia after the word had been borrowed from Turkic (von Sadvoszky 1989).

Sources

The most systematic treatment of Uralic comparative grammar is the work of Hajdú (1966). In English the only available treatments are the works of Collinder (1955; 1960; 1965), and to some extent the work of Tauli (1966). In German we have the work of Décsy (1965).

On the Penutian side we have Lucy S. Freeland's *Language of the Sierra Miwok*, which has to be singled out, as being one of the most outstanding grammars written for an American Indian language. Further we have the several works of Callaghan and Broadbent. Most of the Costanoan works are based on the early writings of Arroyo de la Cuesta. In Wintu we have the works of Schlichter and Pitkin.

Collinder's comparative vocabulary (FUV) contains about 800 reconstructed forms for Proto Uralic and Proto Finno-Ugrian. The reconstructions for this volume (1955) were published in Collinder 1960:405-415. Lakó, Rédei and Sal (1967-1978, abbreviated as FUE) contains the full treatment of the Uralic sources of the Hungarian vocabulary and gives additional reconstructed forms for Proto Ugrian. Most of the items reconstructed in these works have California Penutian cognates, and our selection for the comparative word list is based on these reconstructions. Additional cognates, however, can be found only in Ob-Ugrian, namely in Vogul and Ostyak, and several such cognates are included in our study. In some cases, the Samoyed languages alone yield cognates for the California languages. These, along with some early borrowings from Altaic, provide us with valuable information, for reconstructing the route taken by the prehistoric migrators to California.

General Structural Tendencies

The most important general features of the Uralic languages, as compared with the well-known Indo-European languages, are: the relative simplicity of the occlusive series **p, *t, *k*. In Uralic we encounter the total absence of the voiced and the aspirated series. Uralic, however, shows a greater complexity of sibilants: **s, *ś, *š*, and palatal sets of **ń, *l', *δ'* vs. **n, *l, *δ*. In addition Uralic has two affricates **ć* and **č*. The Uralic canon CVC(C)V indicates, that it does not tolerate initial clusters. Most of the languages have vowel harmony, which can be either total,

labial, or palatal. Suffixation is predominant with extensive suffix-accumulation. Further, Uralic is characterized by the pervasive function of the pronoun in the noun and in the verb, the well-developed possessive declension and, the possibly original, subjective (indefinite) and objective (definite) conjugation.

All these features occur, to a certain degree, in Miwokan.

The Uralic Protophonemes

The complete inventory of the protophonemes is as follows: **p*, **t*, **k*; **č*, **š*; **s*, **ś*, **š*; **m*, **n*, **ń*, **ŋ*; **w*, **j*; **δ*, **δ'*; **γ*, **l*, **l'*, **r*. For the vowels Collinder (1960:149–193) reconstructs **i*, **e*, **a*, **ä*, **o*, **u*, **ō*, **ü*, **y*. According to Hajdú (1966:112–118) the most regular protovowels are **a*, **e*, **i*, **ä*, and **o*. He, like most of the Uralic linguists, agrees with Collinder (1960:149) who states that: "Notwithstanding the pioneer work achieved by Genetz, Lehtisalo, Steinitz, and Erkki Itkonen, we have not as yet got a clear picture of the vowel system of PU (i.e. PUr) or PFU."

The Miwokan Protophonemes

According to Callaghan (1973; 1974) the Proto Miwokan inventory is as follows: **p*, **t*, **k*; **h*; **ʔ*; **t*, **č*; **s*, **š*; **m*, **n*; **w*, **j*; **l*; — **i*, **e*, **a*, **o*, **u*, **y*.

In relation to the Proto Uralic system in Miwokan we encounter almost total depalatalization, the loss of **δ* and **γ* and the change of **r* to **l* and **j*. Furthermore, in general, the Uralic medial nasal clusters **mp*, **nt*, **ŋk* and **ńć* became denasalized in Miwokan. For the table of correspondences within the Miwokan languages consult Callaghan 1974: 385.

The Pronoun

The function of the pronoun The most important structural feature of the Uralic languages is the pervasive function of the personal pronouns. They are used: (1) as independent pronouns, and sometimes with demonstratives, (2) in the nominal system, especially as suffixes in the possessive declension of nouns, (3) as suffixes in the verbal system. Two distinct, a subjective and an objective, conjugation systems developed during the independent life of languages, but the original trend toward this dichotomy is discernable already in the proto-language.

Among the California Penutian languages, Miwokan exhibits all these structural features. In addition, the Miwokan structure not only closely

resembles the Uralic structure, but the pronominal morphs themselves can be reconstructed as being related to the Uralic pronominal morphs. Because of its pervasive nature, this structural similarity establishes a close resemblance between the Uralic and the Miwokan grammatical systems.

Our analysis of the Miwokan pronominal system is based on the analysis of independent pronouns and the nominal and the verbal use of pronouns. This procedure was adopted from Uralic linguistics, where such a method is used to reconstruct the proto-system from the great variety of pronouns in the various languages. Callaghan (1974) presents two distinct, but related, sets for the independent pronouns and for the possessive pronominal affixes. She does not deal with the verbal use of the pronoun. According to our analysis the 1st Plural **-m* and the 1st Singular **-m* of the verbal system are historically connected, the same way as in Uralic. Similarly the 2nd Singular **-n* of the possessive pronominal affixes and of the verbal system together with the **-n* and **-t* occurring in 2nd Plural still reflect the original pronominal forms. The **k-* for the 1st Singular, standing alone in the entire pronominal system, seems to be an innovation, from the historical point of view. It was already noticed by Kroeber (1911:305) that: "K (i.e. **k*) for the first person is common in south central California, appearing in Miwok and Costanoan, Salinan, Chumash, the Tübatulabal branch of Shoshonean, and the southernmost of the Buena Vista dialectic division of Yokuts." In other words, *k* is an areal feature appearing in at least three distinct families of languages.

The basic structure of the Uralic pronominal system is reconstructed by Hajdú (1966:69) as follows:

Table 1

Sg. 1. <i>*-m</i> 'I'	Pl. 1. <i>*-m</i> + Pl. or Du. 'we'
2. <i>*-t</i> 'thou'	2. <i>*-t</i> + Pl. or Du. 'you'
3. <i>*-s</i> 'he, she, it'	3. <i>*-s</i> + Pl. or Du. 'they'

To express the plural (or the dual) the appropriate plural (or dual) markers were added to the singular morphs. During their individual history these morphs underwent various modifications. Sound changes, assimilations, various analogical extensions and levelings effected the shape and arrangement of the morphs. The fact, however, that the pronouns diffused into the nominal and the verbal system, allows us to reconstruct the original morphs and the original structure. For example, Hungarian *én* 'I' appears as an anomaly. In the possessive declension of the nouns, however, the original **-m* morph appears, for the 1st Sg. *háza-m* 'my house'. Consequently, taking into account the general struc-

ture of Hungarian, we can reconstruct the original pronominal system, which closely resembles the Uralic system:

Table 2

*m	‘I’	*mV k	‘we’
*t	‘thou’	*tV k	‘you’
*Ø	‘he, she, it’	*ØV k	‘they’

In the older language (HB 1192 A.D.) we have such endings as *-muk* ‘our’ (*ise-muk* ‘our ancestor’) and *-tuk* ‘you’ (*látjá-tuk* ‘you see it’). Further it should be noted that Proto Uralic *s > Ø in Hungarian, consequently the -Ø ‘he, she’ was originally Uralic *s.

Possessive declension The pronominal morphs are utilized in the possessive declensions of the nouns. The Uralic languages expressed possession by adding the personal pronoun to the ‘possessed’ noun. The English expression ‘my house’ is expressed by ‘house-my’. The Hungarian system basically looked like this:

Table 3

<i>háza-m</i>	‘my house’	<i>házu-nk</i> (< *muk)	‘our house’
<i>háza-d</i>	‘thy house’	<i>háza-tok</i>	‘your house’
<i>háza</i> (< *s)	‘his, her, its house’	<i>házu-k</i> (< *sV k)	‘their house’

Table 4 contains the comparative sets of the singular in Eastern Ostyak and Central Sierra Miwok. In Central Sierra Miwok *-m* is ‘I’ in the verbal series, in the possessive series it is *-t* (Hajdú 1966:133; Freeland 1955:49).

Table 4

Eastern Ostyak		Central Sierra Miwok	
<i>kata-m</i>	‘my house’	<i>kočã-t</i>	‘my house’
<i>kata-n</i>	‘thy house’	<i>kočã-n</i>	‘thy house’
<i>kat-*s</i>	‘his house’	<i>kočã-š</i>	‘his house’

The verbal use of pronouns The Uralic structure appears in the objective (definite) conjugation of the Hungarian verb. In the following paradigm the 1st Pl. and the 2nd Pl. are from the subjective (indefinite) conjugation.

Table 5

<i>láto-m</i>	‘I see it’	<i>látu-nk</i> (< *muk)	‘we see’ (!)
<i>láto-d</i>	‘thou seest it’	<i>lát-tok</i>	‘you see’ (!)
<i>látja</i> (*s)	‘he, she, it sees it’	<i>látjá-k</i> (*sV k)	‘they see it’

The *-d* in the 2nd Sg. presents some problem. We would expect *-t* in this position. Some assume that *-t* simply became voiced. But *-d* point to an original **-nt*. According to Kálmán (Hajdú 1966:133) the *-d* < **-nt* reflects the two morphs *-n-* + *-t*, the original markers of the 2nd Sg. in the Ugrian languages. In the Ob-Ugrian pronominal system we encounter a 'puzzling' *-n* (instead of **-t*) for 2nd Sg. The original *-t* is still discernable in Eastern Ostyak *-tey* (**-tek*) 'you' (Cf. Hungarian *-tok* 'you'). This Ob-Ugrian *n* generated considerable debate among the Uralic linguists. As we will see later, it occurs also in the Miwokan languages. Furthermore, Kálmán's theory seems to be validated by a similar suffix accumulation of the two morphs (*t* and *n*) in Miwokan (Central Sierra Miwok *to-n* and *to-k-ni* 'you').

The Miwokan pronouns have a similar function in the verbal system. The following paradigm for the declarative series (Freeland 1951:43) illustrates the similarity.

Table 6

<i>jýl.y-m</i>	'I am biting'	<i>jyl.y-mâ-š</i>	'we are biting'
<i>jýl.y-s</i>	'you are biting'	<i>jyl.y-tô-š</i>	'you are biting'
<i>jýl.y</i>	'he, she, it is biting'	<i>jýl.y-p</i>	'they are biting'

Further examples are quoted in the discussion of the comparative verbal system.

The plural markers Since the plural morphs are so intimately connected with the formation of the pronouns, their usage is also pervasive. Uralic had four plural markers: **-t*, **-k*, **-j*, and **-n* in order of their distribution. Since in the Miwokan languages the *-k* is the most productive marker it is appropriate to discuss it first.

The **-k* plural The sign of the plural in Hungarian is *-k*. It occurs: (1) with all nouns: *háza-k* 'houses', *asszonyo-k* 'women', *róká-k* 'foxes', *hala-k* 'fishes', (2) on possessive plural forms of nouns: *házun-k* 'our houses', *házato-k* 'your houses', *házuk* 'their houses', (3) on the plural of verbal forms: *látju-k*, *látjátó-k*, *látják* 'we, you, they are seeing it'. Its antiquity is apparent from the reconstructed Common Finnic equivalents: **-mek*, **-tek*, **-sek* 'our, your, their'. Such an occurrence of *-k* as the plural marker in Finnic is surprising, since the general plural marker in Finnic (and in Proto-Uralic) must have been **-t* (Hajdú 1966:128)

Kroeber was the first (1911:280) to identify *-k* as the all-pervasive plural suffix in Miwokan, with the exception of Southern Sierra Miwok. He writes: "The plural of the animate nouns is expressed by *-k*, sometimes *-ko*. Thus *naña-k* 'men', *ossa-k* 'women', *ole[?]cu-k* 'coyotes',

cumme-to-k or *cumme-to-ko* 'southerners'. Numerals referring to animate nouns also take the ending: *oyisa-k tune-ko-nti* 'four daughter-s-my'. Further Kroeber (1911:283) identifies the suffix as occurring in the 2nd Pl. possessive suffix *-to-k*. This morph is related to Hungarian *to-k* (*fia-to-k*) 'your son' and Common Finnic *-te-k* 'your'.

According to Freeland (1951:157) *-ko* is evidently an old suffix of plurality, and the forms *-to-k-o-*, and *to-k-ni-*, *-to-k-su-* all meaning 'your', 'may possibly contain this element'. We should add to this Bodega Miwok *maa-ko* 'we, us' and Costanoan Mutsun *ma-k* 'we, our' containing the archaic plural endings.

Thus we can reconstruct for Miwok as one of the plural sets: **-ma-ko*, **-to-ko*, **-Ø-ko* 'we, you, they'. These forms are very close to the (colloquial, but structurally correct) Hungarian *mik*, *tik*, *ők* 'we', 'you', 'they', and Common Finnic **-mek*, **-tek*, **-sek*.

The origin of the plural **-k* Historically the Uralic plural marker **-k* is connected with the **-kk* collective diminutive suffix (Hajdú 1966:128; Collinder 1960:258). The morph *-k* as a 'collective suffix' occurs in several Finno-Ugrian languages. For example: Finnish *kivi* 'stone', *kivi-kko* 'pebble' > 'place with pebbles' > 'pebbles'; *kuusi* 'pine', *kuusi-kko* 'pine forest'.

In Central Sierra Miwok also, the 'collective-diminutive' suffix *-ti-ko* is formed with the plural morph. Freeland (1951:10, 11, 160) analyzes this form as a compound evidently from *-ti* 'an old diminutive' and *-ko* 'an old plural element'. The pluralizing nature of the 'diminutive-collective' suffix appears in Central Sierra Miwok *tún-iči-* 'little', *tún-iči-ti-ko?* 'little things'; *náy-a* 'man', *náy-a-ti-ko?* 'boys'; Central Sierra Miwok *čička-* 'bird', Southern Sierra Miwok *čička-ti-ko?* 'little birds'.

The other plural markers and the dual are discussed after the section Pronouns.

The pronouns in Miwokan The Miwokan languages exhibit a great variety of pronominal forms. But if we adopt the methodology of Indo-European and Uralic linguistics, and take the pervasive function of the pronoun into consideration, we can reconstruct a set, which could have been the most archaic. In reconstructing the Miwokan pronominal system the external evidence, in this case even the Uralic structure, should be taken into consideration.

We can start the analysis by looking at the plurals of the personal pronouns. The 1st person can be reconstructed as **mVk*. This reconstruction is based on the hypothesis that not only the 2nd and 3rd person plural had the common Miwokan *-k* plural, but all the 3 persons. This is

supported by the Western Miwok forms where the 1st Pl. is Bodega Miwok *máa-ko* 'we', Marin Miwok *ma-ko*, Lake Miwok *máa* or *máa-ko*. Furthermore, we have *ma-k* in Costanoan Mutsun. In Plains Miwok we have *muk* 'us'.

The internal evidence in Miwok clearly indicates that the plural is based on the singular forms, by adding the *-k* sign. For example in Central Sierra Miwok volitional *-ni-š* 'he' and *-niš-ko* 'they'. The Lake Miwok equivalent is *ʔi* 'he, she, it' and *ʔi-kko* 'they'. Furthermore, Maidu follows a similar pattern.

We can reconstruct the following original structure.

Table 7

Sg. 1st	<i>*mV</i>	ʔ	Pl. 1st	<i>*ma-ko</i>	'we'
2nd	<i>*nV</i>	'you'	2nd	<i>*to-ko</i>	'you'
3rd	<i>*Ø</i>	'he, she, it'	3rd	<i>*Ø-ko</i>	'they'

In this reconstruction all the forms are based on actually attested forms. One of the most remarkable thing about these Miwok forms is the 2nd singular *n* and the Pl. *to-ko* which often appears as *to-ko-ni* with the singular *ni*. The *t* morph does not appear anywhere as the mark of the singular 2nd person. On the other hand *n* is of frequent occurrence. This is clearly an Ob-Ugrian feature. In Ostyak we have 2nd Pl. *-tey* representing Proto Uralic **te-k* 'you', but in the singular there is no trace of the Uralic **te* 'thou', instead we have *n*, the uniquely Ob-Ugrian marker of the 2nd person. In all the Ob-Ugrian languages, through analogical extension *n* became the general marker of the 2nd person.

For Plains Miwok and Northern Sierra Miwok, we can reconstruct an **s* for the 3rd person. The reconstructed singular series is identical with the Ob-Ugrian reconstructed series:

Table 8

	Ob-Ugrian			Plains and Northern Sierra Miwok		
Sg. 1st	<i>*m</i>	ʔ	<i>*m</i>	ʔ		
2nd	<i>*n</i>	'you'	<i>*n</i>	'you'		
3rd	<i>*s</i>	'he, she, it'	<i>*s</i>	'he, she, it'		

The Miwok **m* ʔ is based on the *-m* morph marking the first person singular declarative and volitional verbal series and the first person plural nominal series.

The most significant aspect of these sets, as compared with the sets above, are **s* and **Ø* for the 3rd singular. These two morphs marking

the 3rd singular appear also in the Uralic languages. Hajdú (1966:74-77, 140) reconstructs for Proto-Uralic 3rd person singular *s and *Ø. The California evidence seems to confirm his hypothesis.

Independent personal pronouns in Ob-Ugrian and Miwokan

The Ob-Ugrian personal pronouns are based in essence on the Uralic system. The singular pronouns with plural endings form the plural pronouns. There is, however, one deviation from the Uralic morphs: instead of the common Uralic *t for the second person, the Ob-Ugrian languages use *n. Consequently the 2nd Sg. is *na-n* and the Pl. is *na-n*, where *-n* is the plural marker. Proto Uralic *s is represented by various phonemes in Ob-Ugrian, therefore instead of Vogul *t-* and Ostyak *l-* cognates we write the original form *s-.

The Miwokan, especially the Western Miwokan languages follow the Uralic, but in some respect, the specifically Ob-Ugrian pattern. Here the plural marker is *-k* as in Hungarian, furthermore the 3rd person is often indicated by the demonstrative pronoun: 'this' person. This demonstrative pronoun *ʔi*, however, has an Ob-Ugrian cognate: Ostyak *i*.

Table 9 contains the schematic representation of the Lake Miwok system.

Table 9

1.	<i>káni</i>	'I'	<i>máa-kko</i>	'we'
2.	<i>mí</i>	'thou'	<i>mí-kko</i>	'you'
3.	<i>ʔi</i>	'he, she, it'	<i>ʔi-kko</i>	'they'

For the full treatment of the Independent Pronouns in Miwokan consult Callaghan 1974:386.

Table 10 contains the comparative sets: Vogul and Coast Miwok (Bodega and Marin).

Table 10

	Vogul		Coast Miwok	
	Sg.	Pl.	Sg.	Pl.
1.	<i>am</i>	<i>ma-n</i>	<i>ka-</i>	<i>ma-ko</i>
2.	<i>na-</i>	<i>na-n</i>	<i>n-</i>	<i>ni-ko</i>
3.	<i>*sa-</i>	<i>*sa-n</i>	<i>s-</i>	<i>*sV-ko</i>
Ostyak	<i>i</i>	'this'	<i>ʔi</i>	<i>-ʔi-ko</i>

All the Coast Miwok forms are based on actual and frequent occurrence, except *ni-ko* which was recorded only by Arroyo de la Cuesta. *sV-ko, while one would expect it, does not seem to occur. The Vogul

am 'I', like Hungarian *én* and Coast Miwok *ka-* presents an anomaly. The Ostyak form *ma* 'I' is the regular Uralic cognate, on which Vogul *ma-n* 'we' and Coast Miwok *ma-ko* 'we' is built. In general: the plural forms are the best indication of the original singular forms **m*, **n*, **s* in both, Ob-Ugrian and Miwokan. These **m*, **n*, **s* morphs play a vital role in the verbal and also in the nominal system of both language groups.

According to Freeland (1951:30) "The independent pronouns in the Central dialect show the same characteristic as do the pronominal suffixes". While discussing the possessive pronominal suffixes she writes (1951:33): "Possession is expressed in nouns by another series of pronominal elements, differing from both of the series already discussed, though showing points of resemblance to each of them". As for the verbal use of the pronominal suffixes Freeland (1951:39) writes: "The person of the subject is expressed by means of pronominal suffix, and of the object also unless it is the third person". While the *verbal* (Series I), the *nominal* (Series II) and the *possessive* (Series III) are distinct series of suffixes, the comparative analysis reveals, as in Uralic, the basic structure. For example *-m* appears as the suffix of the 1st Sg. declarative and volitional verbal suffix (Uralic **-m*). The same *-m + k* (plural) *maa-ko* or without the plural marker Central Sierra Miwok *-m* appears as the 1st Pl. of the nominal series. In the nominal series *-n* is the marker of the 2nd Sg. and Pl., as it is in the Ob-Ugrian languages. Furthermore in 2nd Pl. we have *to + k* plural as in Uralic. The 3rd Sg. marker is $-\emptyset$. For the 3rd Pl. we can reconstruct $-\emptyset + k$ plural.

The independent pronouns are not used extensively in Uralic and in Miwokan. Since the subject (and often the object also) of the verb is incorporated in the verb forms as a pronominal suffix, it is evident that often the independent forms will not be grammatically necessary, and when they do occur, it will be for emphasis rather than clearness (Freeland 1951:32).

The order of the pronominal and case suffixes The combination of the possessive suffixes and the case suffixes follows a strict pattern in the Uralic languages. A similar pattern of ordering occurs also in the Miwokan languages. In Uralic the original pattern must have been *Noun Stem + Case Suffix + Possessive Suffix* (Hajdú 1966:70). Many of the Hungarian adverbial forms such as *melle-tt-em* 'beside me', *elő-tt-em* 'in front of me' preserved the original order. Here *-tt-* = 'locative' + *-m* '1st Sg. possessive'. Similarly Vogul *pal-t-un* 'to thee', (*-t-* 'locative' + *-n* '2nd Sg. possessive') follows the same pattern.

The structural similarity between Uralic and Miwokan extends also to the ordering of suffixes. In Central Sierra Miwok the possessive pronominal elements *-n*, *-s*, *-k* 'thy, his, their', for example, follow the locative case suffix, which in Miwokan also is *-t-* (Freeland 1951:35; 23).

Table 11

Hungarian		Vogul	Central Sierra Miwok		
<i>mell-</i>	'breast, *side'	<i>pal</i>	'side'	<i>koča-</i>	'house'
<i>melle-tt-ed</i>	'beside thee'	<i>pal-t-un</i>	'to thee'	<i>koča-to-n</i>	'to thy house'
<i>melle-tt-e < *s</i>	'beside him'	<i>pal-t-u*s</i>	'to him'	<i>koča-to-s</i>	'to his house'
<i>melle-tt-ük</i>	'beside them'	<i>(pal-t-anl)</i>	'to them'	<i>koča-to-k</i>	'to their house'

As we saw earlier, the *-d* in Hungarian *melle-tte-d* could contain, through **-nt*, the original Ugrian **-n* suffix.

But both, the Uralic and the Miwokan languages, exhibit a great variety of ordering of the suffixes, which can be taken as an evidence, that during the early period the reversed order also was in existence.

The demonstrative pronouns The Uralic demonstratives have close equivalents in Miwokan.

Proto Uralic **e* 'this', Ostyak *i-*, (*i-t*) 'this'; Hungarian *e*, *e-z* 'this' (FUE 167; FUV 9), corresponds to Central Sierra Miwok *ʔi-* 'this'. Since the locative suffix is *-t* in both Uralic and Miwokan, the locative of the *i* demonstrative is nearly identical in Hungarian and in Central Sierra Miwok: Hungarian *i-tt* 'here' and Central Sierra Miwok *ʔi-t-oʔ* 'there'. Similarly the common plural marker *-k* results in a similar plural demonstrative: Hungarian *e-z-ek* 'these things' and Central Sierra Miwok *ʔi-koʔ* 'these things' (Freeland 1951:31).

Proto Uralic **nä* 'that' (Lapp *nu ~ no* 'that way'; Selkup *na* 'that') corresponds to Central Sierra Miwok *ne-* 'this' and *no-* 'that' (Freeland 1951:31) The Miwok vowel alternation appears also in the Uralic cognates listed in FUV 38.

The interrogative pronouns The Uralic interrogatives also have close equivalents in Miwokan.

Proto Uralic **mi* 'what', Finnish *mi-*, Hungarian *mi* 'what?', Vogul *ma- ~ mä-* 'what? which?' (FUV 34, FUE 445), corresponds to Central Sierra Miwok and Southern Sierra Miwok *mi-* 'what' (Broadbent 1964:95, 256; Freeland 1951:5, 67, 172). The common Uralic and Miwokan first locative *n* appears on the interrogative Southern Sierra Miwok *mi-n-i* 'where?', the Hungarian equivalent is *mi-n?* 'on what?, where?'. This interrogative morph is very productive in both language groups. It is used with various suffixes and in compounds. The back vowel variant Vogul *man* 'what?, which?' became generalized in Central Sierra Miwok and Southern Sierra Miwok as *mana-* 'who?, someone'.

The *t and *j plural markers Uralic had four plural markers *t, *k, *j and *n. We already discussed the *k plural and its function in the Miwokan pronominal system. Here we will discuss the *t and *j markers. There is no *n plural marker in Miwokan.

The *t plural and its origin The Proto Uralic reconstructed morph is based on such forms as Finnic *kala-t*, Vogul *xul-t*, Ostyak *kul-t* 'fishes' etc. This morph disappeared in Hungarian, where the *-k* plural became generalized (Collinder 1960:297).

In Southern Sierra Miwok we have *-ti* as one of the most important plural marker. It is often combined with the other plural, namely *-ja*, thus forming *-jati*. Gatschet's material (1877) contains many examples with these morphs, while he quotes only one example with *-k*: *hiso-k* 'hairs' (Kroeber 1911:295-296); e.g. *uču-ti* 'houses', *noaha-ti* 'knives' (< Spanish); *hikka-ja-ti* 'deer (Pl.)'; *jawe-ja* 'bows'.

Broadbent (1964:115) gives *-ti* a diminutive plural with the meaning 'several little...'. The form is related to the *-ti* element in *-ti-ko-* 'plural or collective diminutive suffix' in Central Sierra Miwok. Here *-ti* is quoted as an 'old diminutive'. We have such forms as *čička-t-i* 'several small birds'; *law-a-ti-t-i-* 'several small rattlesnakes'.

In the discussion above, we saw that the Miwokan evidence reinforced the validity of the hypothesis of Uralic linguists according to which the **-k* plural developed from Uralic collective diminutives. Similarly, the Miwokan evidence seems to warrant a hypothesis, according to which, both in Uralic and in Miwokan the **-t* plural developed from collective diminutives.

The *j plural Finnish, Lapp and the Samoyed languages, and perhaps even Hungarian, had a **j* plural marker. For example the *-i* in Finnish *koulu-i-ssa* 'in the schools' and Kamassian *pa-i* 'trees' contain this suffix. It is quite possible that the Hungarian *-i-*, the marker of multiple possession, is also related to this morph: *háza-i-m* 'my houses' (Hajdú 1966:67).

In Southern Sierra Miwok *-ja* is a "fully productive" plural suffix (Broadbent 1964:104): *ʔesle-ja-* 'children', *ʔhmy-ja-* 'bears, the Bear Moiety', *miwty-ja-* 'people, Indians'.

The Dual Markers

Dual in the Uralic languages had a limited distribution (Collinder 1960: 237, 302; Hajdú 1966:68). Tauli (1966:152) writes: "...we may consider it rather probable that the du. *-k* has occurred only in the northern group of the Uralic languages, Lapp, Ob-Ugric and Samoyedic. This assumption is all the more natural as Lapp, Ob-Ugric and Samoyedic have also other common traits." In Hungarian there is a faint trace of dual *-k* in the numeral *kettő* 'two' (*-ő < -k*). Dual markers appear on Wintu *pa-l* 'two' and *pa-ləl* 'id.' (Pitkin 1985:410) and perhaps on Maiduan *pe-n*. Both of these suffixes will be discussed below.

It was suggested by some (Hajdú 1966:68) that the Finno-Ugrian word for 'two' **kakte* also contains the dual morph *-k*.

Miwokan utilizes the word for 'two' *ʔoti-*, followed by the regular 1st Pl. morph, to indicate the dual inclusive independent pronoun (Freeland 1951:30). Thus we have Southern Sierra Miwok *ʔoti-meʔ* 'I and thou' and Central Sierra Miwok *ʔoti-č-i-k* 'we (incl.)' (Freeland 1951:30). Further it is difficult to decide, whether the Miwokan *ʔoti-ko* 'two' contains the plural suffix or perhaps an original dual *-k* suffix. The Mutsun form *uti-xin* 'two', *us-xin-ja* 'they both' would argue for a dual (Cf. also Mutsun *mak* 'we', *mak-ke* 'we {dual ?}'). The more so, since the Ostyak pronominal dual endings include *-yen < *-ken*. In this case the *-n* morph is a separate dual morph appearing also in Northern Ostyak *li-n* 'they two' etc. Following the pattern, the Maiduan and the Yokutsan *pe-n* and *po-n-*, 'two' could contain the dual suffix.

One of the most productive dual markers, however, appears in Wintu (Pitkin 1984:252, 254–258). Wintu *-l* and *-ləl* are used in the inflexional pronominal suffixes and on the various dual and plural forms of the pronominal suffixes.

In Northern Ostyak *-l-* is used in the definite conjugation as the marker of dual and plural objects: *məs-em* 'I gave it', *məs-l-am* 'I gave those two' (Rédei 1965:66–70). In Eastern Ostyak *l* has a similar function (Gulya 1966:115).

General leveling between dual and plural is a common structural feature in the Uralic languages, consequently it is not surprising to see *-l* in the function of dual and of plural in both Ostyak and Wintu.

For the discussion of the dual see Callaghan 1974.

The Declension of Nouns

Table 12 contains the possible Uralic or Finno-Ugrian case suffixes (Hajdú 1966:62–67, 118–127). It is debatable, whether the cases listed from 9 to 12, can be reconstructed for the Finno-Ugrian period. They occur mostly in the Ugrian languages with cognates in Miwokan and Wintuan.

Table 12

1.	NOM.	*-∅
2.	GEN.	*-n
3.	ACC.	*-m
4.	LOC. I.	*-na ~ *-nä
5.	LOC. II.	*-t
6.	ABL.	*-ta ~ *-tä
7.	LAT.-DAT.	*-ń
8.	LAT.-PROL.	*-k
9.	LAT.-TRANSL.	*-ć
10.	LAT.	*-j
11.	ABL. (Ugr.)	*-l
12.	ACC. (Hu.)	*-t

1. Nominative *-∅ In general the ending is -∅. In Miwokan -∅ alternates with -ʔ, which is a later development. Wintu has -∅.

2. Genitive *-n This suffix completely disappeared in the Permian and Ugrian languages; otherwise, it is well represented in Uralic.

Miwokan has -n or -ŋ, where the velarization seems to be secondary. Wintu has -n. Examples: Finnish *kala-n* 'of the fish'; Northern Sierra Miwok *le-ka-n* 'of the stick', Wintu *qewel-un* 'of the house' (Hajdú 1966:118; Collinder 1960:282; Freeland 1951:19; Pitkin 1984:200).

3. Accusative *-m With the exception in Ostyak and in Hungarian, it is well represented in the Uralic languages. Wintu has -m. It is quite possible, that in Miwokan it assumed the lative meaning (Freeland 1951:22) expressing the movement toward a place. This hypothesis is supported by the fact that the Finno-Ugrian lative -j developed into an accusative in Miwok, but still maintaining the lative ('toward') usage. (See section on Lative.) Examples: Vogul *kwäl-me* 'house (acc.)'; Wintu *qewel-um* 'house (acc.)'; Central Sierra Miwok *kočá-m* 'home, to house (he has arrived...)'. (Hajdú 1966:119; Collinder 1960:284; Pitkin 1984:200; Freeland 1951:22 'indefinite locative').

4. Locative I. *-na ~ *-nä In the Uralic languages it mostly occurs in local and temporal adverbs and in postpositions: Finnish **al-na* > *alla* 'below'; Vogul *ju-n* 'inside'; Hungarian *fö-nn* 'above', (dial.) *hu-n* 'where?'.

It is preserved in Wintu as a locative with lative function: *qewel-in* 'into the house'; in temporal use *ko-m-in* 'all the time'. In Miwok (Freeland 1951:172) *-n, -in, -win* is used as an adverbial formative suffix, (similar to the general Uralic usage), *kók-o-n* 'on the right'; *tamá-l-in* 'in the north'; Cf. *mi-n-i* 'where?' (Hajdú 1966:120; Collinder 1960:286; Freeland 1951:172; Pitkin 1984:200).

5. Locative II. *-t This suffix seems to be from the Finno-Ugrian period, but its productive usage is a 'typically Ugrian' feature. It is used only in Vogul as a locative in the strict sense: *xapə-t* 'in the boat'. In Ostyak and in Hungarian it is used mostly in adverbs and in postpositions. Some Hungarian place names regularly take the *-t* locative: *Kolozsvár-t* 'in Kolozsvár', *Pécs-e-tt* 'in Pécs'. Finnish *kaike-ti* 'probably' is assumed to be connected with this suffix, similarly the Vogul and Ostyak comitative *-nat, -nät* and some archaic Hungarian suffixes (Hajdú 1966:121). Examples: Vogul *kwäl-t* 'in the house'; Ostyak *ko-t* 'where', *to-t* 'there'; Hungarian *melle-tt* 'beside', *déltáj-t* 'in the south'; *i-tt* 'here', *o-tt* 'there', *amo-tt* 'over there'.

In Miwokan *-t* is the definite locative suffix. Central Sierra Miwok *-t, -to-, -t-oʔ-* (Freeland 1951:17). In Wintu it is used with adverbs only (Pitkin 1984:263). — Central Sierra Miwok *wayá-ka-t* 'in the net', *kawy-ly-t* 'during the night'; *kočá-to-k* 'to their house' (Freeland 1951:22); Wintu *ʔol-ti* 'above', *ken-ti* 'below', *way-ti* 'other side' (Pitkin 1984:263).

6. Ablative *-ta ~ *-tä According to Collinder (1960:287) this suffix was 'perhaps' alternating with **-da ~ *-dä*. As a case suffix in a strict sense occurs only in Balto-Finnic, Lapp and in Mordvin. In Wintu *-da* 'from' is used only with adverbs (Pitkin 1984:263). Examples: Finnish *yl-ta* 'from above'; Mordvin *al-do* 'from below', *kud-do* 'from the house' — Wintu *waj-da* 'from the north', *him-a-da* 'a little while ago', *le-n-da* 'yesterday' (Schlichter 1981:56).

7. Lative-dative *-ń This suffix does not have a well-established Ugrian cognate. In the other Uralic languages it is used on adverbs. In the Ob-Ugrian languages it perhaps fell together with the Locative I (Hajdú 1966:123). The Finnish interrogative *mi-nne?* 'where to?' and Cheremis *pele-n* 'towards' belongs here.

It is possible that the Central Sierra Miwok *mí-n-i-* 'where' is this suffix and not the Locative I. In Costanoan Mutsun (Mason 1916:412) we have a *-na* 'purposive' occurring with nouns, and it is translated as 'to go for...'. Is it possible that originally this was a Lative-Dative expressing the notion: 'go towards...'? Examples: Mutsun *lalak* 'geese', *lalka-na* 'go for geese', *sirak* 'nuts', *sirka-na* 'go for nuts'.

8. Lative-prolative *-k This suffix went through various phonological changes in the Uralic languages. It expresses the motion toward something, appearing on adverbs: Vogul *ti-γ* 'hereto'; Cheremis *pel-ke* 'toward' (Hajdú 1966:123). It does not seem to have a cognate in Miwokan or in Wintu. In Mutsun (Mason 1916:410), however, it seem to appear as the second element of the locative suffix: *-ta-k* or *-t-ka*. In such examples as *oṭe-tka* '(to speak) in the ear' it has clearly a lative function.

9. Lative-translative *-ć Its existence is highly problematic, even in the Uralic languages (Hajdú 1966:65). It will be the task of subsequent research to investigate its possible relationship to the Miwokan and Mutsun Instrumental suffix: **-s* (Freeland 1951:17; Mason 1916:409).

Note on the Miwokan instrumental *-š In Miwokan the instrumental suffix is **-s* or **-š*. In Central Sierra Miwok *-š*, *-šy* (Freeland 1951: 24); Southern Sierra Miwok *-s*, *jaw-e* 'bow', *jaw-e-s* 'with a bow' (Broadbent 1964:53-54). Kroeber (1911:297) connects it with Mutsun *-sum*.

It can be compared to Hungarian *-s* (=š), an adjectival suffix which often implies instrumentality: e.g., *íj* 'bow', *íja-s katona* 'soldier with a bow' > *íjá-sz* 'bowman'; *villa* 'fork', *villá-s* 'a worker with a fork', *villá-s reggeli* 'breakfast (eaten) with a fork'. The same *-s* suffix can be found in the compound suffix *-s-t-ül* expressing comitative in Hungarian: *hajó-s* 'boatman', *hajó-s-t-ül* 'with a boat' (BBB 406-407).

10. Lative *-j In Uralic this suffix is used in adverbs in response to the question 'where to?'. For example in Ostyak *toyo-j* 'away', Estonian *eda-ja* 'forwards', it preserved its original *-j* form. In Hungarian, however, it changed to *-e*, *-é*, and *-a*, *-á* in numerous adverbs indicating direction 'where to', for example: *bel-e* 'inside', *mell-é* 'to the side', *haz-a* '(to) home', *al-á* '(to) below'. We have contrasting dialectal forms with placenames such as: *Váco-tt* 'in Vác' vs. *Vácc-á* 'to Vác' (BBB 405; Hajdú 1966:125).

In Miwokan, through an intermediate lative *-j*, it became generalized as the marker of the accusative. Freeland (1951:24) writes: "The objective case [i.e. *-j* - OJvS] is often used obliquely in expressing spatial or

temporal relations, very much as the locative [i.e. *-t* – OJvS] suffix is, but with its own shade of meaning. In expressions of time, the objective case refers to the period within which some event took place; in locative expressions it mentions the place in relation to which some object is moving.” She is giving some contrasting examples which are identical with the Ugrian usage *ne-t* ‘here’, *ne-j* ‘hereto’ (Hungarian *i-tt* ‘here’, *id-e* [*-e* < **-j*] ‘hereto’); Central Sierra Miwok *no-t* ‘there’, *no-j* ‘thereto’ (Hungarian *o-tt* ‘there’, *od-a* [*-a* < **-j*] ‘thereto’). Table 13 illustrates further the similarity between the Miwokan and the Hungarian usage.

Table 13

Proto Finno-Ugrian			Hungarian		Central Sierra Miwok	
* <i>kota-j</i>	‘home’	>	<i>haz-a</i>	‘home’	<i>kočà·j</i>	‘home’
* <i>ala-j</i>	‘below’	>	<i>al-á</i>	‘below’	<i>ʔá·la·j</i>	‘along below’

For **kota* see FUV 131; FUE 278. For **ala* FUV 2; FUE 79. **ala* is a Proto Uralic word with cognates in Yukagir and possibly in Altaic. Cf. Central Sierra Miwok *ʔal-a* ‘down, low’, *ʔa·la-* ‘below’. The Central Sierra Miwok forms are attested in Freeland and Broadbent (1960:56), Freeland (1951:171). For the general use of the accusative see Freeland (1951:17), Broadbent (1964:49); and for the comparative list see Kroeber (1911:297).

11. Ablative (Ugrian) *-l It is used (1) adverbially to express ‘movement away from’, Hungarian *alól-l* ‘from below’; Vogul *jal-el* ‘from below’, *kun-l* ‘from outside’; Ostyak *ko-l* ‘from where?’, and (2) with nouns. With suffix accumulations in Hungarian the suffix *-l* occurs in *-úl* (essive), *-ból, -ből* (elative), *-tól, -től* (ablative), *-ról, -ről* (delative), *-nál, -nél* (adessive), *-nól, -nől* (ablative with family names) and finally *-val, -vel* (instrumental-comitative) suffix (Hajdú 1966:122).

In Vogul the instrumental-comitative case is marked with *-l*, and the ablative-elative with *-nV-l*. Examples for instrumental-comitative: Hungarian *csónak-kal* (**-val*) ‘with a boat’, *kutyá-val* ‘with a dog’, *apám-mal* (**-val*) ‘with my father’; Vogul *xāp-l* ‘with a boat’, *āmp-əl* ‘with a dog’, *tō-nal* ‘out of the lake’.

In Central Sierra Miwok the suffix *-li-* expresses the notion of accompaniment and it can be translated by ‘and, with, together with’ (Freeland 1951:162–163): *čukú-li-iʔ* ‘with a dog’; *ʔitá-nti-li-i-* ‘with my mother’. Kroeber (1911:292) lists the same suffix (*-li*) as a regular comitative case suffix. Further on (1911:313), he gives the following

examples: *mana-li* 'with whom (did you come)?' (cf. Hungarian *ki-vel* 'with whom?'), *ypy-ti-li* 'with my father' (cf. Hungarian *apá-m-mal* 'with my father'). In Central Sierra Miwok the *-l* suffix appears as a 'frozen' suffix with the verb form *wy-l-* 'to go along' (*wy-* 'to go').

Wintu has a comitative verbal suffix *-i-l*, after vowels *-wil* 'together, with', *noy-i-l* 'to laugh with someone', *éa-wu-wil* 'sing with someone' (Pitkin 1984:286; 1985:186). It is not unusual to have identical nominal and verbal suffixes. For example Finnish 3rd Sg. is derived from the Uralic nominal suffix **-p* (Hajdú 1966:144; Collinder 1960:263, 270).

12. Accusative (Hungarian) < determinative **-t* A Finno-Ugrian noun modifier with determinative function was reevaluated as an accusative in early Hungarian. The original **-m* accusative was replaced, and now *-t* is the regular accusative ending in Hungarian. The morph occurs in Mordvin marking determinate nouns: *kudo* 'house' (acc. and gen. Sg.), *kudo-n* (indeterminate) 'house, of a house', but *kudo-n-t'* (determinate) 'the house, of the house'. Similarly, we have to consider the *-t* suffix occurring in the Ostyak accusatives of personal pronouns, as such a determinative element: *man-t* 'me', *nay-ət* 'thee', *tew-ət* 'him'. These examples attest to the existence of a *-t* suffix already during the Finno-Ugrian period. In Hungarian only its function was modified (Hajdú 1966:120).

In Wintuan Patwin, *-t* is used as the accusative marker of personal pronouns. Its function is the same as in Ostyak. The Patwin pattern is: *na-* 'I': *na-t* 'me', *mi-* 'thou': *mi-t* 'thee', *u* 'he': *u-t* 'him', *pele-* 'we': *pele-t* 'us', *mile-* 'you': *mile-t* 'ye' (Barrett 1919. In texts). Whether the Wintu personal object inflectional suffix *-t* is related to this determinant will need further investigation. This suffix indicates that there is a personal object of the verbal action, e.g. *doy-* 'to give': *doyu-t* 'Give it to me!' (Pitkin 1985:126).

Table 14 contains the comparative noun paradigm of Konda Vogul and Wintu. It should be noted that the Proto Uralic **-n* genitive disappeared in Vogul. The locative I *-n* has a locative-lative function in both languages. The locative II *-t* occurs in Wintu only with adverbs. The Vogul noun *kwäl* (or *kwel*) 'house' is a regular cognate of Wintu *qewel* and Nomlaki, Patwin *kewel*, which occurs in various place names in northern California.

Vogul (Konda) and Wintu comparative noun paradigm		
	Vogul <i>kwäl</i> 'house'	Wintu <i>qewel</i> 'house'
NOM.	<i>kwäl</i>	<i>qewel</i>
ACC.	<i>kwäl-me</i>	<i>qewel-um</i>
GEN.	PUr *- <i>n</i>	<i>qewel-un</i>
LOC. I.	<i>kwäl-ne</i>	<i>qewel-in</i>
LOC. II.	<i>kwäl-t</i>	* <i>qewel-ti</i>
INSTR.	<i>kwäl-el</i>	(- <i>l</i>)

Vogul paradigm from Collinder (1957:323). The Wintu *-l* is a comitative verbal suffix. Its possible relationship to the Vogul instrumental-comitative suffix *-l* is discussed in the section of *The Declension of Nouns II*.

Derivative Suffixes

There are many derivative suffixes of nouns and verbs in Uralic and in the California Penutian languages. In a strict sense any phoneme can function as a formant. To identify a suffix is a relatively easy task. Anything beyond the root canon is considered to be a suffix. But it is often difficult to find out the original function of the suffix from a diachronic point of view. Some of the suffixes must have had multiple roles creating homonymy already in the proto-language. We can, however, identify part of the basic structure of the formative process. Some, form nouns from other nouns, others, nouns out of verbs. Conversely verbs can be formed from nouns and from other verbs. Often the result is an accumulation of suffixes, which, given the basic structure of Uralic and Penutian, is one of the most prominent feature of these languages.

The list of the derivative suffixes is extensive. Collinder (1960:255–281) and Freeland (1951:146–169), for example, provide us with an extensive inventory. In order to illustrate the derivative process, we discuss a few examples of the comparative list. Note, that in a strict sense all suffixes are derivational, and we treat them at various places in this study. Here, we will include in our discussion some of the verbal nouns, such as the participles.

The Formation of Nouns

The noun suffix *-p In Finnish the present participle has the ending *-pa* ~ *-pä* which most commonly changed to *-va* ~ *-vä*. Historically it is identical with the ending *-pi* (Pl. *-vat* ~ *-vät*) of the 3rd person of the present tense: *syö-* 'to eat': *syö-pä* 'cancer', *käy-* 'to walk': *käy-vä* 'walking', *elä-* 'to live', *elä-vä* 'living'. In Ob-Ugrian and Samoyed it forms participles and agentives: Vogul *min-pa* 'going', *l'us-əp* 'weeping'; Ostyak *jant-* 'to sew': *jynt-əp* 'needle', i.e., 'the sewer'. It is problematic whether Hungarian present participle *-ó* ~ *-ő*, *fon-* 'to weave': *fon-ó* 'weaver' belong here (Collinder 1960:270).

Central Sierra Miwok *-pe* functions as an agentive suffix. Most commonly, it forms nouns denoting participants in ceremonial activities: *liw-a-* 'to speak': *liwá-pe?* 'the speaker', but *čý-l-* 'to weave': *čýlý-pe?* 'weaver, basket maker' (Hungarian *fon-ó* {-ó < *-p ?} 'weaver'). The Central Sierra Miwok *-pa-* 'agentive suffix, the one who does well' is most likely related: *mýl'i-pa?* 'a good singer' (Freeland 1951:151). Broadbent (1964:112) explains the suffix by translating it as "(he) is good at ...ing" with a present participle construction.

The noun suffix *-j The function of this suffix was similar to the **-p* suffix. In Uralic it formed agentives, Finnish *osta-* 'to buy', *osta-ja* 'the buyer'; Mordvin *sala-* 'to steal', *sala-j* 'thief' (Collinder 1960:264).

Central Sierra Miwok *-ja-* forms instrumental agentives: *mol-i-* 'shade', *mol-i-ja?* 'a parasol', *ʔiw-i-* 'to eat', *ʔywy-ja?* 'deer' ('eat-er') (Freeland 1951:153).

The noun suffix *-m In Uralic it is a productive deverbative noun suffix. It is extensively treated by Collinder (1960:266–269). In several Uralic languages it is the past participle formant. It has this function in Vogul (Kálmán 1965:55) *tot-əm sālite* 'his carried deer', and also in Ostyak (Rédei 1965:73) *-əm: mən-əm* 'gone', *mij-əm* 'given'.

The Central Sierra Miwok *-ma-* suffix has a similar function. It forms descriptive nouns from verbs: *týn-y-ma?* 'having a broken leg' (Southern Sierra Miwok *tyn-* 'to break'), *lóp-u-ma?* 'naked, i.e., stripped' (*lóp-u-* 'to strip') (Freeland 1951:151).

Several of the other **-mV-* suffixes in Miwokan seem to be related to the Uralic **-m*. Freeland (1951:148) writes: "Some of the formative suffixes resemble each other except for a difference of vowel. We find *-ma-*, *-me-*, and *-mu-*; *-pe-*, and *-pa-*; as well as the three vowel endings, *a*, *e*, and *y*. Whether this is coincidence, or whether such suffixes should be regarded as series exhibiting vowel ablaut, I am uncertain."

The Formation of Verbs

The verb suffix *-j It forms verbs out of nouns. Lapp *mân'ni* 'egg': *mân'ni-j-ik* 'to lay eggs'; Vogul *kâr* 'anger': *kâr-j* 'to be angry', *ûlâm* 'a dream': *ûlme-j* 'to dream'; Ostyak *ńetəm* 'tongue': *ńetmi-j* 'to tell a lie'; Kamassian *kola* 'fish': *kole-j* 'to fish' (Collinder 1960:272).

Central and Southern Sierra Miwok *-j* forms verbs from noun stems: *hóy-u* 'egg': *hóy-ú-j* 'to lay an egg', *ʔóč-a* 'woman': *ʔóšá-j* 'to marry a woman'; Southern Sierra Miwok *muk-u* 'road': *muku-j* 'to make a road' (Freeland 1951:164; Broadbent 1964:67).

The verb suffix *-t It forms verbs out of nouns: Finnish *voi* 'butter': *voi-ta* 'to lubricate'; Mordvin *sire* 'old': *sire-de* 'to grow old' (Collinder 1960:274; Hajdú 1966:147).

Central Sierra Miwok *-t* forms verbs (usually intransitive or semi-reflexive) from noun stems, sometimes also from verb stems: *páč-a* 'belt': *pačá-t* 'to encircle with a belt', *mol-i* 'shade': *mol-i-t* 'to become shady' (Freeland 1951:164).

The verb suffix *-l It is a productive suffix in Uralic. In Hungarian it seems to have a continuative meaning: *szó* 'word': *szó-l* 'to speak', *ének* 'song': *éneke-l* 'to sing'. Vogul *āmp* 'dog': *āmp-al* 'to scold' ('to dog'); Ostyak *kat* 'hand': *kat-l* 'to tie up' (Collinder 1960:272; Hajdú 1966:147).

Central Sierra Miwok *-l* forms verbs from noun stems, but most commonly from verb stems, giving them a progressive or continuative value: *ʔés-e* (Southern Sierra Miwok) 'child': *ʔesé-l* 'to bear a child', *wak-a* 'to smear': *waka-l* 'to flow' (Freeland 1951:165).

This suffix is probably identical with Uralic *-l* which is a deverbative verbal suffix expressing repetitive, continuous action: Finnish *tappa-* 'to kill': *tappe-le* 'to fight'; Hungarian *döf* 'to thrust': *döf-öl* 'to thrust repeatedly', *dob* 'to throw': *dob-ál* 'to throw repeatedly' (Collinder 1960:275-277; Hajdú 1966:147).

The Comparison of Adjectives

The emphatic element and the superlative The emphatic prefix *leg-* was used in Hungarian originally with adverbs only: *leg-elő-ször* 'first of all', *leg-ottan* 'right there', and only later it became used as the sign of the superlative: *leg-jobb* 'best', i.e., 'the very better'. It is related to Cheremis *ləy* 'very, right, much'. The original form could have been Proto Finno-Ugrian **lepə* > Hungarian **-lepək* > *leg* (FUE 394).

The Central Sierra Miwok emphatic morph *-lek* and *-le* has a similar function: *mas-lek* 'we indeed', *kal-ek* < **kan-lek* 'I indeed' (Freeland 1951:170, 32).

In Southern Sierra Miwok, *-lek* follows nouns, verbs and particles. It expresses some kind of a contrast and emphasis: *ken* 'no', *ken-lek* 'no, it's not' (Broadbent 1964:126, 127).

The diminutive-augmentative and the comparative The Proto Uralic *-*mp* diminutive-augmentative formant became the marker of the comparative in Finnish and in Hungarian. Finnish *suurempi* 'bigger'; Hungarian *nagyo-bb* 'bigger', *leg-nagyo-bb* 'the biggest' have cognate forms in Yurak Samoyed *ɲarka-mpoi* 'bigger', *sawa-mpoi* 'rather good, better' (Collinder 1960:260-261).

The Northern Sierra Miwok diminutive suffix *-mpula* (Kroeber 1911: 312, *-mbula*) occurring in several inanimate nouns seems to be the cognate form. Significantly this morph (like the Uralic equivalents) developed to mark the superlative in Plains Miwok: *-m-ula* or *-m-yla*, *teme* 'big', *teme-m-yla* 'the biggest'.

The Interrogative Suffix

The Finno-Ugrian suffix has a close equivalent in Miwokan, including its position in the sentence.

Proto Finno-Ugrian *-*e* (or *-*a*) 'interrogative' most commonly follows the first word in the sentence: Hungarian *Ettél-e ebédet?* 'Did you eat lunch?', Vogul *Am-a?* 'Is it I?' *Nas-a?* 'Is it a fishhook?' (FUE 136; MK 21).

The Sierra Miwok interrogative morph is *ʔa*. Kroeber (1911:288) writes: "The interrogative is indicated by the particle *a*. This is regularly the second word in the sentence." Examples are: *muli-i-tok a?* 'Will you sing?' Another example *ným-as ʔa?* 'Are thou speaking the truth?' (Freeland 1951:44; Broadbent 1964:128, 322). Note the combination of the morphs *-tek-e?* in the Hungarian translation of the same 'Will you sing?' *Énekel-tek-e?*

Negation

Negation can be expressed by various morphs in the Uralic languages. Four of these have Miwokan cognates.

1. In Coast Miwok, we have a preposed particle *ela* 'no' (Kroeber 1911:311). This word is related to Wintuan *ʔele-w* 'no, not, negative auxiliary preverb', and Costanoan Santa Clara *elle-kish* (Powell 1877:547).

Proto Miwok **hél·a* 'no, not' seems to be related also, since a *h-* < *ʔ-* change occurs sometimes in the Miwokan languages.

The Uralic cognate is Proto Uralic **elä* 'no, not' (FUV 4). Its reflexes occur in Finnish *elä*, Ostyak *äl*, Vogul *ul* and Kamassian Samoyed *ele*. In addition, we have a Yukagir cognate *ele*.

2. The Vogul negative morphs *āt'i*, *āt'*, and *at* 'no' (MK 55a, 58a) are related to Costanoan Mutsun *aṭi*, *aṭs* 'no, without'.

3. Similarly the Vogul negative particle *ak*, *aki* (MK 27a) 'no, there is not' can be equated with the Central Sierra Miwok *-ika* negative particle used in negative expressions of the purposive mode (Freeland 1951:145). In final analysis the Mutsun negative particle *ekwe* seems to be also related.

4. The Plains Miwok negative suffix *-nemi*, *-nimi* 'not, never' has a close cognate in Finno-Ugrian. To these morphs we should add also Plains Miwok *nim* 'something' as will appear from the Finno-Ugrian examples below.

The Finno-Ugrian cognates are listed in FUE (464-466) under the heading of Hungarian *ne*, *nem* 'no, not'. The *nem* morph is a compound of *ne* 'demonstrative' and *mi* 'interrogative'. Both morphs occur in Miwokan. In Southern Sierra Miwok we have *ne-* 'this' and *mi* 'what'. The cognates of these two morphs are listed by Collinder under Proto Uralic **nä* (FUV 38) and Proto Uralic **mi* (FUV 34). Thus the Vogul, Ostyak, Hungarian and Zyrien forms *nem* have to be considered as compound forms. Hungarian has another compound form: *némi* 'something', which is the close equivalent of Plains Miwok *nim* 'something'.

Affirmation

An affirmative answer to a question is expressed in the Ob-Ugrian languages as follows: Vogul *a-a* 'yes'. It has dialectal variation, such as: *a-ā*, *ä-ä*, *o-o* (MK 21a). In Eastern Ostyak we have *a'a*, *ä'ä*, *'a'a* (KT 3a). The Samoyed languages have similar forms: Yurak *ɣaʔ*, Selkup *aʔ*, *aeʔ*.

The California Penutian languages express affirmation by a similar morph: Wintu *ho-*, Nomlaki *a-o*, Miwok *ʔuu(h)*, Central Sierra Miwok *hy·ʔy·*, Costanoan *he*, *exe*, *xehe*, Maidu *hó*, *heʔé*, Chukchansi *huuhuʔ*, Yawelmani *hō·hōʔ*.

Exclamation

To express sudden pain (English *ouch!*) Vogul has *ajjuk*. The Samoyed languages have *aj,aj,aj*; *oj,oj,oj*. Lake Miwok has *ʔáaj* 'Ouch!'. Many languages of the world express the reaction to a sudden pain by a similar morph.

The Verbal System

The subjective and objective conjugation One of the most significant structural features of the Uralic languages is the differentiation between a subjective and an objective conjugation. One set of suffixes does not determine a specific object, while the other set makes a reference to the object. This dichotomy sometimes is called indefinite vs. definite conjugation. For example Hungarian *láto-k* 'I see' vs. *láto-m* 'I see it', *fogo-k* 'I am catching' vs. *fogo-m* 'I am catching it'. Sometimes a more specific object is incorporated into the verbal form:

Table 15

<i>néze-k</i>	'I am looking'	-k =	'I'
<i>néze-l</i>	'you are looking'	-l =	'you' Sg.
<i>néz-l-e-k</i>	'I am looking at you'	-l + -k	'you + I'

This type of construction is fully developed in Miwokan for nearly all possible combinations of persons acting as subjects and objects (Freeland 1951:39-49). Kroeber (1911:283) classifies the pronominal suffixes as subjective and objective suffixes. The full discussion of the relationship between the Miwokan type of subjective-objective dichotomy and the Uralic system is beyond the scope of this study, and it will require extensive research. We can, however, offer some illustrative examples.

Table 16 presents the structural analysis of a Hungarian phrase and compares it with the equivalent phrase in Central Sierra Miwok (Freeland 1951:45). Structurally the two phrases are identical, including the progressive ordering of the morphs. Furthermore the *-m-* 'we' is a Uralic morph, and the *-n-* 'you' Sg. is Ob-Ugrian. As we mentioned above, the emphatic use of the pronoun in the beginning of the phrase is also a common structural feature.

Table 16

Hungarian	<i>én</i>	<i>fog-</i>	<i>t(a)-</i>	<i>l(a)-</i>	<i>k</i>	
	'I'	catch	past	you	I'	'I caught you!'
Central Sierra Miwok	<i>maš</i>	<i>lót-</i>	<i>ak-</i>	<i>ni?</i>	<i>mà·š</i>	
	'we'	catch	past	you	we'	'We caught you!'

It is generally assumed that the Uralic differentiation between the subjective and the objective conjugation started with the 3rd Sg. forms (Hajdú 1966:74-78; BBB 422). Almost all the Uralic languages have two morphs for expressing the 3rd Sg.: one is **-s*, and the other is **-Ø*. It is assumed, that the **-s* form originally expressed the object. Later

this distinction was extended throughout the entire paradigm establishing the subjective-objective dichotomy.

We should note, that Miwokan also has these two morphs (-š and -Ø) for expressing the 3rd Sg. An investigation of the complex Miwokan system will perhaps help us understand the origin of the Uralic system.

Personal pronouns added to nouns It is the characteristics of some of the Uralic languages (Mordvin and Samoyedic) that nouns can be made verbs by simply adding the personal suffixes without any additional verbal suffix: Mordvin *loman* 'man': *loman-an* 'I am a man'.

Central Sierra Miwok has a similar feature. Freeland (1951:25) writes: "Persons expressed in all personal nouns, and in all quantitative or demonstrative expressions referring to persons, by means of a pronominal suffix. That is the expression *I, the chief* is given the form *chief-I*." Table 17 contains a comparative paradigm of Yurak Samoyed and Central Sierra Miwok.

Table 17

Yurak	<i>xañena</i>	'hunter'	Central Sierra Miwok	<i>túj-uk-</i>	'shaman'
	<i>xañena-dm</i>	'I am a hunter'		<i>túj-uk-te-</i>	'I the shaman'
	<i>xañena-n</i>	'thou are a hunter'		<i>túj-uk-ni-</i>	'thou the shaman'
	<i>xañena</i>	'he is a hunter'		<i>túj-uk</i>	'he the shaman'

According to Hajdú (1966:59) this seems to be an archaic feature in Uralic, demonstrating the lack of sharp distinction between the noun and verb.

In these Uralic languages (Mordvin and Samoyed) the noun can receive the verbal past tense ending (Proto Uralic *-š) Yurak Samoyed -š. The same is valid for Central Sierra Miwok. Freeland (1951:38) discussing the expression of past and future in the noun (§ 24) writes: "There is no verb *to be* in Miwok, so it is not surprising to find all sorts of devices developed for verbalizing the noun, and expressing within it the various modal and temporal ideas that are current in the language." Since the Yurak past tense marker is -š- and the Central Sierra Miwok marker is -šV- the structural similarities are evident:

Yurak *xañena-dm* 'I am a hunter', *xañena-dam-š* 'I was a hunter';
Central Sierra Miwok *ʔóš-a-ni-t* 'I am married', *ʔóš-aʔni-š-y-t* 'I was married'.

The past-tense suffix *-ś In Uralic, the past tense was marked by *-ś (Hajdú 1966:72, 139; Collinder 1960:271, 307). The Ob-Ugrian reflex is -s: Vogul *tot-s-um* 'I carried'; *tot-s-ən* 'you carried', *tot-əs* 'he carried'; Northern Ostyak *man-s-əm* 'I went'; Cheremis *wiđe-s-em* 'I was guiding'; Mordvin *pun-a-s* 'he gathered', Selkup *ily-sa-k* 'I lived'.

In Central and in Southern Sierra Miwok the most common past tense marker can be reconstructed as **šV* (> *-hV* in Southern Sierra Miwok) (Freeland 1951:61; Broadbent 1964:192). Examples are: *lepá-š-e-t* 'finished', *jyná-š-e* 'killed', *ʔywy-š-e* 'ate'. These stems are interpreted by Freeland (1951:64) as nominal forms of the verb. In the text (Freeland and Broadbent 1960:57) we can find such forms as: *nán-y-š-y-k* 'they found', *káč-y-š-y-k* 'they said', *ʔój-a-š-y-k* 'they called'. Kroeber (1911:313) has a phrase: *mii tunna-se-n* 'you were cold' (Central Sierra Miwok *tyn-a-* 'to be cold, to freeze'). Since there is no past-tense paradigm available perhaps we can reconstruct a set of singular forms and compare it with the set of a Vogul intransitive verb. Table 18 contains these two (1st and 3rd Sg.) hypothetical forms:

Table 18

Vogul		Central Sierra Miwok	
<i>mina-s-um</i>	'I went'	* <i>tyn-á-š-e-t</i>	'I was cold'
<i>mina-s-ən</i>	'you went'	<i>tyn-á-š-e-n</i>	'you were cold'
<i>mina-s</i>	'he went'	* <i>tyn-á-š-e-s</i>	'he was cold'

The completed-action (past), Proto Uralic *-t Suffix In Hungarian, originally a suffix of the participle, developed into the marker of the past tense: *ado-tt* 'given, he gave'. It is related to the Ostyak *-ti* participle and *-ta* infinitive; it is also related to various Permian and Samoyed morphs (Hajdú 1966:146, 72).

In Plains Miwok *-tu* and *-t* is the marker of the past tense in positive constructions: *lahwe-* 'to run away', *lahew-tuʔ* 'He ran away'; *lakni-* 'to forget': *lakin-ma-t* 'I forgot'. Note the reversed order of the 1st Sg. and the past tense marker when compared the Hungarian **ante-te-m* > *ad-ta-m* 'I gave' and Plains Miwok *anti-ma-t* 'I gave'.

The imperative suffix, Proto Uralic *-k It is preserved in Finnish (Savo dialect) *laula-k* 'sing!'; in Mordvin *vano-k* 'look!'. We can find traces of it in Lapp. In Ob-Ugrian it developed into a vowel: Eastern Ostyak *mej-a* 'give!'. In the Samoyed languages it became a *-ʔ*: Yenissey *mota-ʔ* 'cut!' Yurak *jile-ʔ* 'live!'. The Hungarian *-j* imperative developed from Proto Uralic **-k* > *-γ* > *-j*: *vág-j* 'cut!' (Hajdú 1966:136; Collinder 1960:303-305).

In Plains Miwok it is preserved as a *-k* or *-ʔ* (2nd Sg. volitional): *hat-u-k* 'get up!', *ha-ci-ʔ* 'go!'. Similarly the glottal stop appears in Central Sierra Miwok (Freeland 1951:38 Footnote 47; 40, 144). Table 19 contains a comparative set for the verb 'to give' in three languages.

Table 19

Finnish	Hungarian	Plains Miwok
* <i>anta-k</i> > <i>anna-k</i>	* <i>ante-k</i> > <i>ad-j</i>	<i>anti-k</i> 'give!'
	? * <i>veje-k</i> > <i>ved-d</i>	<i>vi-li-k</i> 'take it away!'

Finnish *anta* 'to give' and Hungarian *ad* 'id.' are ultimately from Proto Uralic **amta* (FUV 72; FUE 69). Note Plains Miwok *ʔam-y-* 'to give', and Mutsun *ami* 'to give'. For discussion see Finnish *vie-* 'to take away', Hungarian *vi-sz* 'to carry' from Proto Finno Ugrian **wike* (FUE 694) and Vogul *wij-* 'to take', Hungarian *ve-sz* from Proto Ugric **weyV* (FUE 667; FUV 140).

The potential-conditional suffix, Proto Uralic **-ne* In Uralic it has various developments in meaning. Finnish *-ne-* expresses conditional mode: *saa-ne-n* 'perhaps, probably I receive'. Cheremis *-ne-* forms desideratives: *wiðe-ne-m* 'I would guide', Selkup *-ni, -ne,* has a similar function: *čada-ni-p* 'I would kindle'. In the Vogul dialects *-nī, -ni, -nē, -ne* (in North Vogul *-nuw*) is the marker of the conditional mode: South Vogul *miñ-nē-m* (= Hungarian *men-né-k*) 'I would go', *miñ-ni* (= Hungarian *men-ne*) 'he would go', *äl-nī-ləm* (= Hungarian *öl-né-m*) 'I would kill it'. Hungarian *-ne, -né, -na, -ná* (< **-ne- + -k*) are the markers of the conditional desiderative: *lát-ná* 'he would see it', *kér-né-m* 'I would ask for it' (Hajdú 1966:137; Collinder 1960:307).

In Central and Southern Sierra Miwok, *-ni-* is the marker of the potential or conditional mode: *mýl-i-n-i-š* 'She can sing'; *jýn-a-n-i-ni-k* 'they would kill you', *wýksy-n-i-ʔ-kan* 'I would go' (Freeland 1951:88). In Southern Sierra Miwok, *-ni-* is the marker, and it is translated by 'can, might, ought to': *liwa-kSY-* 'to talk'; *liwaksy-ni-ʔ-mah-i* 'we can talk' (Broadbent 1964:111).

The Uralic **-ŋk* suffix and the infinitive In the proto language, **-ŋk* must have formed nouns from verbs. In Finnish, it expresses action: *etsi-* 'to search': *etsi-nko* 'search', *kulu-* 'to use up': *kulu-nki* 'expense'. It has a similar function in Zyriene: *kor-* 'to ask for': *korə-g* 'petition'. In Hungarian, it was once the formant for nomen agentis or actionis: *csillan* 'to flash': *csilla-g* 'star'; *virúl* 'to bloom': *virá-g* 'flower'. In Vogul, Uralic **-ŋk* became the marker of the infinitive, *-ŋkwe:*

minu-ŋkwe 'to go', *ališla-ŋkwe* 'to hunt' (Hajdú 1966:147; Kálmán 1965:54).

In Central and Southern Sierra Miwok, *-ŋku-*, *-ŋky-*, *-ŋk-* has a similar function. In Central Sierra Miwok any noun may be verbalized by the use of the suffix *-ŋky-* 'to be' (Freeland 1951:136): *hajá-po-* 'chief': *hajá-po-ŋky-* 'to be a chief' ("to chief"); *ló-ho-* 'lazy, a lazy person': *ló-ho-ŋku-* 'to be lazy' ("to laze"). But according to Freeland (1951:138), "Even more frequently than with simple nouns, the verbalizing suffix *-ŋky-* 'to be', is used with agentive tense forms of the verb. Such agentive tense form, for example: *wé-ly-j-i-* 'the one going to get', may be verbalized, forming the verb stem: *wé-ly-j-i-ŋky-* 'to go to get', in other words forming an infinitive verb stem." In Southern Sierra Miwok its function is similar: *ʔe-tut-a-* 'sunshine', *ʔe-tuta-ŋk-* 'to be sunny' (Broadbent 1964:82).

It will be the task of future research to investigate the relationship between the other tense, mode, and passive formants of the two language groups, and establish the relationship, if any, between such a set as Hungarian *látó-k*, *lát-sz*, *lát* 'I see, you see, he sees' and Central Sierra Miwok *jýl-a-k*, *jýl-a-š*, *jýl-a* 'I bit, you bit, he bit' (Freeland 1951:43).

The past participle suffix **-m* Participles and the related morphs are treated under the heading: *Derivative Suffixes*.

The Numerals

We can reconstruct the Finno-Ugrian numerals from 'one' to 'seven'. They are primary morphs. The word for the number 'seven' was borrowed from Indo-European at an early period. In Ugrian, for example, Proto Indo-European **septm̥* underwent regular changes, characteristically complex, like any other reflexes of **s-*. Thus we have the anomalous Vogul *sat*, Southern Ostyak *tapət*, Northern Ostyak *labət*, Eastern Ostyak *jawət*, etc. (KT 1081), and Hungarian **ét* and secondary *hét*.

No Samoyed numeral can be reconstructed as being related for certain to the Finno-Ugrian set of numerals. The word for 'two' (e.g. Yurak *side*, Taigi *kidde*) is perhaps related to Proto Finno-Ugrian **kakta* or **kaktä* (FUV 21; FUE 360). In the case of the word for 'five' we have not insurmountable semantic problems. If we assume, that Proto Finno-Ugrian **witte* 'five' originally meant 'much, larger number', we can equate Yurak *jut* 'ten' and Koibal *bet* 'id.' with the Proto Finno-Ugrian word for 'five' (FUV 67, FUE 519). These questionable examples highlight an important methodological procedure. Samoyed was incorporated into the Finno-Ugrian family of languages without the linguistic relationship of the numerals. This is contrary to the Tocharian vs. Indo-European

situation. While in Indo-European the numerals 1–10, 100 and even 1000 are fairly stable, the Finno-Ugric numerals cannot be expected to go beyond the relatively narrow (Western) area of the Uralic languages.

This, however, does not mean that the Penutian numerals cannot be compared or derived from morphs available in the Finno-Ugric languages.

The California numerals, being descriptive compounds, consist of strings of morphs, and these morphs can be compared to the Uralic inventory. We can make the following general observations:

1. The numerals in California seem to be associated with counting on the fingers. For example in Miwokan, the word for 'eight' is associated with the middle finger, no matter from which direction the counting is started. 'Five' often means 'all the fingers' or 'one hand' and significantly also 'half the hand'.

2. To indicate 'twenty', California Penutian follows the typically Ugric custom of equating it with 'one person', 'one human being', i.e., 'a Maidu', 'a Wintu', or 'a Miwok'. Reference is being made to a person from head to toe. For a discussion see FUE 311–312 s.v. Hungarian *húsz* '20', and compare Lake Miwok *kóoca* 'person, man, Indian'.

3. In our discussion of the numerals we have to include the ordinalia and the multiplicativa and the system utilized for the numerals 11–20.

The following short comparative survey utilizes mainly Miwokan and its relationship to Uralic.

Proto Ugric **kVnV*, Hungarian *könnyű* 'light, few, small, insignificant', Vogul *kinna*, Ostyak *kene* 'light' seems to be related to Proto Miwokan **kenne*, Western Miwok **kenne* 'one, some, few' (Cf. Powell 1877:547). This word is utilized in Miwokan in compounds indicating also 'five', 'seven', 'nine', 'eleven', 'twenty', and various other numerals.

The Vogul morph *os-* 'to repeat, again, once more' can be equated with Miwokan *ʔoʃs-* 'two', Bodega Miwok *ʔoʃsa*. The morph has a cognate in Mutsun *ʔoʃoj (osioi)* 'again, another time' and *uʃ-ʃina* 'twice' and *uʃ-xin* 'two'. This morph is also utilized in various numerals.

Vogul *akw, äkw, uk* 'one, the very one, same' is related to Central Sierra Miwok *ʔoká-* 'the same, the very one' and other Miwokan cognates. For example, Vogul *akw-tot* 'at that very place' (Kálmán 1955:44) must be equated with Central Sierra Miwok *ʔoká-t-oʔ-* 'at the same place'. The Southern Sierra Miwok word *ʔokah-* 'same, all' also has the meaning 'only (i.e. *one-ly)'.

The Proto Finno-Ugric **mu* or **mū* Vogul *mot* 'the other, second' (Hungarian *más*) is utilized in various other Finno-Ugric languages for 'second'. In Vogul (MK 317b) *mõt wärmäl* means 'to be pregnant' i.e. 'in an-other condition'. In Central Sierra Miwok *mót-ye-* 'to become preg-

nant' and *mot-é-ye* 'pregnant' seems to be an abbreviated form. The equation appears also in the Vogul meaning of *mot* 'middle', which in Central Sierra Miwok is *moťá-m-* 'halfway', and *mó-ťa-me-* 'middle of the night'.

Plains Miwok *ʔo-ja-*, *ʔoj-a-* 'double (i.e. fruit), a twin', *ʔo-jo-k-o-* 'two' cannot be equated with the word for 'two' **otsa* in Miwokan. The morph *ʔo-ja-* seems to be related to Vogul *woj-pa* 'similar, like two people, or two things' (MK 730a).

We should mention in connection with the numerals two significant semantic and structural features of the Uralic languages and their equivalents in California Penutian.

Nearly all the Uralic languages refer to the fourth finger (ring-finger) with the expression 'nameless finger'. In the Indo-European languages only Russian and Sanskrit have a similar designation. This seems to be an indication, that they adopted it from the Uralic languages. The ring-finger is endowed with magic qualities, it is used in healing and receives a prominent place in the Kalevala. Consequently, namelessness indicates more 'tabooed' than just a simple lack of name. If it is so widespread in the Uralic area, one would expect a similar designation to appear in the California Penutian languages.

Callaghan (1965:74) recorded for Lake Miwok *lákten-helak* 'fourth finger': 'without a name'.

The other cultural feature concerns all parts of the human body occurring in pairs. It is the unique feature of the Uralic languages to refer to such pairs by the singular: one eye, one leg, one hand. Having lost one of these, the Uralic speaker will speak of 'half eyed, half legged, half handed' person. One would expect such a widespread 'worldview' to appear also in California.

We can find a trace of it in Wintuan, and perhaps future research will uncover it in the other Penutian languages as well.

Powers (1877:233) writes: "In the Wintun, five is literally 'one-half hand' or 'one side hand' [...] for by the simple word *sem* the Indian means both hands." But: in Patwin, 'five' is "one hand" (ibid.). Pitkin (1985:61-62) recorded *čan* 'half, side, one side, one half'; *čan-seh* 'five', *čan-sem* 'left'. Note also: *čan-tu-m sileles* 'blind in one eye', i.e., 'half-eye blind'.

The cardinal numerals from 'eleven' to 'nineteen', in Vogul, consist of three elements: after the unit 'one', 'two' etc. comes the word *xujp* (*xuj-p*) then the numeral *low* 'ten': *akw-hujp-low* 'eleven', *kit-hujp-low* 'twelve' etc. This can be translated as either meaning 'one + ten' or rather 'one away from ten'. The second translation is also feasible since the numerals from 'twenty-one' are formed with the word *nüpäl* 'toward': *wät nüpäl xüräm* = 'twenty-three', literally 'three towards thirty' (Kálmán 1965:41).

In Central Sierra Miwok the numerals between 'thirteen' and 'nineteen' and 'twenty-one' and 'twenty-nine', etc. and the higher decades are formed with the word *héji* 'more'. In Southern Sierra Miwok *heji* means 'away, away from', which was perhaps the original meaning. The development to mean 'more' was natural. In counting it was interpreted as meaning 'more'.

Marin Miwok adds *lilek* 'up, above, over' to express the numerals from 'eleven' to 'nineteen': *osa-lilek* 'twelf' = 'two over'.

The multiplicativa are expressed in Vogul by the word *śos, śás* '-times'; *akw-śos* 'once'; *kit-śos* 'two times' (MK 603a).

The cognate form occurs in Bodega Miwok: *śáti* '-times', *ʔóş-şati* 'two times', *kíccih şati* 'ten times'.

The second morph to express multiplicativa in Vogul is *por* '-times' (*po-r*), related to Northern Ostyak *pus*: Vogul *xurəm por* 'three times', Northern Ostyak *xŷləm-puš* 'three times' (MK 456a; Rédei 1965:54).

It is related to Southern Sierra Miwok *-pa* '-times' in *tolko-pa* 'three times' (Broadbent 1964:87; Freeland 1951:153). Further cognates can be found in Mutsun *emeţs-pu* 'once' and in Wintu *-pom* 'times', *pal-pom* 'two times'.

In Eastern Ostyak, multiplicative numerals are formed by *-pä* and *-pa* suffixes: *koləm-pa* 'three times' and *aj-pä* 'once' (Gulya 1966:71).

The Adverbs

Adverbs are numerous both in Uralic and in California Penutian. Most of them are formed from nouns and have multiple derivatives built with the aid of locative and various other suffixes. In some cases the suffixes became integral parts of the word and cannot be further identified. They are divided into adverbs of place, adverbs of time, and others, but the line of demarcation is rather tenuous. In the strict sense they belong to the section of comparative dictionary or to such areas as the demonstrative pronouns, and they were treated there accordingly.

In the following list we present some of the adverbs treated by Freeland (1951:169–173). We present only some of the basic forms and their Uralic (Finno-Ugrian) equivalents.

1. Central Sierra Miwok *ʔa-la-* 'below'. — Proto Uralic **ala* 'below'; Finnish *ala*, Hungarian *ala-tt* 'below' (FUV 2; FUE 79).

2. Central Sierra Miwok *lil-e* 'up, high', Southern Sierra Miwok *lile-h-* 'to raise, tr.'; Proto Miwok **li-le* 'up' (palatalization) — Vogul North (MK 286a) *l'ül'i* 'to stand (up)'; *l'ül'i-ŋ* 'high'; Popov Mt. 5:45 *l'ul'* 'to make the sun rise'.

3. Central Sierra Miwok *wál-i-* 'down; earth, world', *wal-ty-* 'to divide'. — Proto Finno-Ugrian **walka-* 'to descend' (FUV 122; FUE 667).

Finnish *valka-* 'landing'; Vogul (*jol-*)*wayl-* 'to descend'; Hungarian *válik* 'to become, to divide'.

4. Central Sierra Miwok *kót-o-* 'distant'. — Proto Finno-Ugrian **kitV* ~ **kütV* 'distance' (FUV 91; FUE 379), Ostyak *kõt* 'distance'; Hungarian *köz* 'interspace'.

5. Central Sierra Miwok *šók-e, súk-e* 'all'. — Proto Finno-Ugrian **čokkV* ~ **čukkV* 'much, all' (FUV 114; FUE 553). Cheremis *čoka-* 'thick, compact'; Vogul *šoxe, šokh* 'all', *sau* 'much'; Hungarian *sok* 'many'. For the Vogul cognates 'all' and 'much' compare Central Sierra Miwok semantic equation: *to-ko* 'all, much, many'.

6. Central Sierra Miwok *naké-* 'end, edge', *nakè-j-* 'as far as'. — Vogul *nak* 'end, segment, etc.' (MK 324b)

7. Central Sierra Miwok *hojè?* 'early, ahead, next, morrow', *hoj²epa-j-* 'early, in the morning'. — Proto Finno-Ugrian **kojō* 'dawn' (FUV 90, FUE 246); Finnish *koi* 'dawn'; Vogul *kuj* 'morning'; Hungarian *haj-nal* 'dawn'.

8. Central Sierra Miwok *háj-e-t* 'near', *háj-e-* 'to approach'; Southern Sierra Miwok *haje-* 'to touch, near'. — Vogul *xoji* 'to touch, to near, to approach'.

9. Central Sierra Miwok *ne-* 'this', *no-* 'that'. — Proto Uralic **nä* (**no*) 'this, that' (FUV 38): Finnish *ne-, ni-* 'these', *nuo* 'those'; Selkup Samoyed *na* 'that'.

10. Central Sierra Miwok *tó-t-o* 'far, a long way' (loc.). — Proto Uralic **to* 'that, yonder' (FUV 64; FUE 639): Finnish *tuu* 'that'; Vogul *to* 'that'; Hungarian *to-va* 'away', *tú-l* 'beyond'.

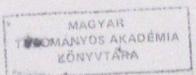
11. Central Sierra Miwok *manik* 'more'. — Proto Finno-Ugrian **moni* 'much, many' (FUE 277; FUV 133): Finnish *moni* 'many', Lapp *moanâk* (Pl.) 'more than a couple'; Vogul *-man* ~ *-mæn* '*ten': *nali-man* 'forty'; Hungarian *-van, -ven* 'id.': *negy-ven* 'forty', *hat-ven* 'sixty'.

12. Central Sierra Miwok *tyša(-)n* 'in vain; to do in vain', *tyšá-n* 'to fail to do'. — Vogul *tüssin* 'in vain' (MK 685b).

13. Northern Ostyak *nik-li manti* 'down-going', *nik* 'shore, the place below', Irtysh Ostyak (Patkanov) *nik* 'downwards, from the land towards the shore, down at the water', (KT 569) *nik* 'from upland to downland'.

Related to Central Sierra Miwok *-nyk* 'down, from, from a lower place' and *ʔy-nyk* 'down, from, from a lower place' (Freeland 1951:170); the Central Sierra Miwok word *nyk-a-* 'to rain; rain' developed from this morph. The opposite *lile-* 'up, upward' has also an Ob-Ugrian cognate. See GO DOWN, TO. **n-* 4. For the Wintuan cognates of Ob-Ugrian adverbs, verbal prefixes and postpositions see von Sadovszky 1980.

1. Central Sierra Nevada...
2. Central Sierra Nevada...
3. Central Sierra Nevada...
4. Central Sierra Nevada...
5. Central Sierra Nevada...
6. Central Sierra Nevada...
7. Central Sierra Nevada...
8. Central Sierra Nevada...
9. Central Sierra Nevada...
10. Central Sierra Nevada...
11. Central Sierra Nevada...
12. Central Sierra Nevada...
13. Central Sierra Nevada...
14. Central Sierra Nevada...
15. Central Sierra Nevada...
16. Central Sierra Nevada...
17. Central Sierra Nevada...
18. Central Sierra Nevada...
19. Central Sierra Nevada...
20. Central Sierra Nevada...



Comparative Phonology

General tendencies While Miwokan, as compared to the Proto Uralic and Proto Finno-Ugrian phonemic system, shows considerable amount of archaism, such tendencies as depalatalization, denasalization, and the partial elimination of the medial clusters reflect the Uralic protoforms. All these tendencies can be found in the various Uralic languages and the beginning of these processes must date back to a very early period.

Consonants The table of contents at the beginning of this chapter presents the list of the principal consonant correspondences. For the sake of simplicity and in order to avoid lengthy discussion, we listed only cognates which provide a good starting point for an introductory grammar. Naturally, several other factors must be taken into consideration when dealing with more complex sound correspondences. For example, we did not deal with the possible *l* vs. *n* correspondence, or the possible *ji-* > *ci-* > *ki-* correspondence.

The most complex Miwokan feature is the representation of the Uralic affricates and sibilants. Here we must take into account the possibility of dialectal variations.

Depalatalization is a common Miwokan feature, but palatalization is still evident in some forms in Costanoan Mutsun, which seems to be more archaic with a full series of palatalized consonants.

Miwokan in general denasalized the Uralic medial nasal clusters **mp*, **nt*, **ɣk* and **ńć*. This tendency is consistent with the general tendency to eliminate the medial clusters. While they are preserved in some cases: Uralic **paška* 'gnarl, ball' to Central Sierra Miwok *póško* 'ball', the same type of cluster is dissolved by an epenthetic vowel: Uralic **poška* 'the calf, the muscle of the lower leg' in Central Sierra Miwok *pasú-ka* 'muscle'. The same type of medial cluster can be eliminated by assimilation: Uralic **pučkō* 'angelica plant' appears in Lake Miwok as *pácca* 'angelica plant'.

Miwokan lost the Uralic **δ* and **ɣ* phonemes, which have limited representative sets.

In Miwokan, Uralic **r* in general became *l*. Costanoan, however, preserved the *r*, and in the comparative sets we are quoting mostly

Costanoan examples. Wintuan also has an *r* reflex. In Miwokan we encounter an *r > j* correspondence also. We treat this under subtitle 'The *r > j* rule'.

Vowels At the listing of the Uralic protophonemes we quoted Collinder, commenting on the difficult task of reconstructing the Proto-Uralic vowel system. Our reconstructions, however, represent the full set of Uralic vowels. We did not organize our comparative material according to the vowel correspondences for two reasons, first, it would have made this summary even more extensive; second, the Miwokan reflexes are rather close to the Uralic vowels, or when there are major deviations from the protoform, Miwokan seems to reflect the Ob-Ugrian vowels.

The comparative word list was put together according the following guidelines.

1. A maximum of ten cognates is listed for each sound correspondence; eight for the initial and two for the medial correspondence. For the sake of brevity only the principal protophonemes are treated.

2. The English gloss is followed by the reconstructed form whenever it is available. Sometimes we quote only Ob-Ugrian cognates according to the established sound correspondences and illustrated by the preceding examples. These entries further illustrate the closeness of the Ob-Ugrian languages to Miwokan.

3. The sources are mostly from Collinder's FUV and from Lakó, Rédei and Sal's FUE. The FUV reconstructed forms are listed in Collinder 1960:405-415.

4. In some cases it was advisable to treat the sound correspondences in a tabular form: e.g. Proto Uralic *s- and *š- to Hungarian Ø-, Vogul *t-* and Miwokan *t-*.

5. We included a more extensive schematic word list of the Miwokan reflexes of Proto Uralic *k-. This illustrates the productivity of the sound-laws and illustrates again the close structural similarity between Ob-Ugrian and Miwokan.

6. In general the duplication of entries for medial and initial correspondences, and the repetition of the morphs treated in the grammatical section was avoided.

Comparative Word List

Uralic and Finno-Ugrian *-p remained p- in Miwokan.

1. TREE, BUSH, WOOD — PUR *pu (FUV 53; FUE 171) Fi *puu*, Hu *fa*, Vg *-pã*. — Md *pa* 'thicket, bushes', 'to stand as a tree'; Mi *-pa, Miss *tat-pa* 'leather tree'; Mins *la-pa* 'elder'; Mip *ʔoca-pa* 'water oak'.

2. BURST, TO — PFU *pakka- (FUV 105, FUE 177) Fi *pakku*; Vg *pokat-*; Hu *fakad*. — Miss *pak-ty-* 'to burst'; Mip *pakte*; Mib *pák-še*.

3. PRESS, SQUEEZE, TO — PFU *puće-rə- (FUV 110; FUE 171) Fi *puserta-*; Os *posər-*; Hu *facsar-*. — Mil *pác-* 'to wring out'; Mics *pič-wa-* 'to press'.

4. ANGELICA ROOT — PUR *pučkō (FUV 52) Fi *putki* 'hollow stem of plant'; Md *počko* 'Angelica'; Sk *puuty*. — Mil *pácca* 'Angelica root, good luck charm, used as medicine'; cf. Mib *pácca* 'poison; to poison'.

5. MUSCLE — PUR *poška (FUV 50) Fi *pohkea* 'calf of leg'; Sk *paktur* (metat.) — Mics *pasú-ka* 'muscle'; *pasu-ka-* 'sinew, gristle'.

6. STOMACH, HEART — PUR *pVrkV (FUV 50) Vg (šâm)-*perk* '(heart) and stomach'; Os *parək, purk* 'stomach, insides'; Sk *parke*. — Mib *púluk* 'belly, stomach'; WiWt *phu-rus* 'heart'.

7. FREEZING, ICE — PU *pVtə (FUE 185) OsS *pot* 'to freeze', OsN *pot* 'high layer of ice' (hail); Hu *fázik* 'to be freezing cold'. — Mim *potoj* 'ice' (hail); Ni *pyt* 'cold'.

8. FLOW, TO — PU *pVlə (FUE 212) OsN *polij-* 'to flow out'; Hu *folyik* 'to flow', *folyó* 'river'. — PMi *pol- 'to flow', Mip *pol-uk* 'to flood'; Mim *pulok* 'lake', *pola* 'river'; Mics *pol-u-ku-* 'lake, sea'.

Uralic and Finno-Ugrian *-pp- = -pp- or -p- in Miwokan and Ur and FU *-p- = Mi -p-.

9. COVER, TO — PFU *lappe (FUV 95; FUE 398) Vty *l'ip-* 'to cover'; Hu *lep*; Vg *lep-* 'to cover' (funeral shroud), *l'ap-* 'to bury' (MK 282a). — Mins *lep-a-* 'to bury someone'.

10. GALL, BITTER — PFU *sappä (FUV 112; FUE 158) Fi *sappi* 'gall'; MdvE *səpe* 'bitter'; Hu *epe*; Vg *tep-*. — Miss *tep-tep-* 'bitter'.

11. CRACK, TO — PFU **repV* to Mi *lopa-* see correspondences with *r-* = Co *r-* 5.

Uralic and Finno-Ugrian **t-* remained in all the languages. In Miwokan it remained *t-*.

1. LAKE — PUr **towə* (FUV 62; FUE 634) Zr *ty*; Hu *tó*; Vg *tō*; OsE *tox* 'pond, puddle'. — Miss *taʔji-* 'pond, puddle'.

2. FIRE — PU **täwtə* or **täytə* (FUE 648) Hu *túz*; Vg *towt*; OsS *tut*. — Mil *túʔ* 'to catch fire', *túk-* 'to spark, flare, blaze'; WiWt *-tuq-*: *ʔel-tuq-ama* 'to set on fire'.

3. STITCH, SEW, TO; NEEDLE — PFU **tekə-* (FUE 649) Vty *tuj-* 'to stick in'; Vg *tayi*; Hu *túz* 'stick in, stitch, needle'. — Miss *tuk-nu-* 'to sew', *tukun--a-* 'stitches'; Mics *ʔu.k-* 'to bore a hole'; Ni *tuke-* 'hole'; Miss *ty.k-* 'to thread a needle'.

4. BACK, BEHIND — PUr **taka* (FUV 61) Fi *taka* 'behind, back'; Yr *taka-nu* 'being behind', *tagay* 'going behind'. — Mil *ták-*, *ták-muʔi* 'to run after', *takah* 'to lie, to fall on one's back'; Mu *taxara* 'to go after, to follow; in a line, in file'.

5. FAR, AWAY — PUr **to* (FUV 64; FUE 639) Fi *tuo* 'that, yonder'; Hu *tova* 'away'; Vg *to-* 'that, there, away'. — Mics *tó-t-o-* 'far, a long way', *tó-t-o-to-* 'long'; Mip *to-t-o-* 'far away' (-*to* allative suffix).

6. THROAT, VOICE — PU **turə* (FUE 638) Hu *torok* 'throat, neck'; OsN *tur* 'throat, voice'; Vg *tur*. — Mu *tur-tunin* 'throat, neck'; ?Mil *tuule-wa* 'inside, voice'.

7. ADAM'S APPLE — Vg *tox* 'throat', *tokh* 'Adam's apple'. — Mics *tók-o-lo-la* 'Adam's apple'; Mib *tokkáni* 'throat'. — Mu *tuk-mur* 'Adam's apple'; SCr *tuh'-mur*; WiWt *dok-* 'neck, throat'.

8. DIVER, MUDHEN — PFU **tōktV* (FUV 119) Fi *tohta-ja* 'blackthroated diver' (*Colymbus arcticus*); 'long-tailed duck'; OsS *taxtən* 'diver'; Vg *tōxt* 'id.'. — Mim *toti* 'mudhen'; Mil *tóhlok* 'mudhen' < WiPah *toʔok* 'mudhen'; Mip *tohkol*, *tok-ol* 'mudhen'.

Uralic medial **-t-* = Miwokan *-t-*.

9. INTESTINES — PFU **putV* (FUV 74) Lp *buttëgë* 'rectum'; Os *püti* 'id., large intestine'; Vg *puti*. — Mip *put-ul* 'guts, intestines; umbilical cord'; Miss *put-kal* 'guts', *po-tol* 'rectum'.

10. DISTANCE — PFU **kütə* or **kite* (FUV 91; FUE 379, 380) Vg *kwät'-l* 'middle'; Os *köt* 'distance, middle'; Hu *köz* 'distance, interspace, (middle)'. — Mics *kó-to* 'distant, far, beyond'.

Uralic and Finno-Ugrian **k-* has two reflexes in Miwokan: *k-* and *h-*.

This phonemic split reflects a characteristic Ugrian sound change. In the Ugrian languages, with the exception of Western and Southern Vogul, and Eastern Ostyak, Uralic (Finno-Ugrian) **k-* > *x-* before velar (back) vowels. Hungarian later developed **x-* into an *h-*. In some Hungarian words such as *hím* 'male', *hegy* 'mountain', *héj* (*haj!*) 'peel, skin', etc., the original vowel was a back vowel, as it is attested in the various cognate reflexes. Proto Uralic and Proto Finno-Ugrian **k-* remained *k-* in every Ugrian language before a palatal (front) vowel.

In our study discussing the time of arrival of the California Indians in the light of this sound change, we present an abbreviated list of more than a hundred representative cognates with *k-*, *x-* and *h-* in the various Penutian languages. In this section we are presenting a short summary of both changes and a schematic résumé. Table 20 highlights the Ugrian character of the Miwokan languages.

Uralic and Finno-Ugrian **k-* = Miwokan *h-* before labial vowels.

1. FISH — P_{Ur} **kala* (FUV 21; FUE 250) Fi *kala* 'fish'; Hu *hal*; OsN *xul*; OsE *kul*; VgS *kul*; VgN *xül*. — Mil *huul* 'trout'; MaNi *hol* 'fish'. 'Salmon-trout' and 'fish' are called by the same words in several California Indian languages.

2. DIE, TO — P_{Ur} **kole* (FUV 28; FUE 250) Fi *kuole* 'to die'; Hu *hal*; OsE *kal-*; Vg *xöl*. — Mics *hul-w-* 'to die of hunger or thirst'; Miss *hül-w-* 'to starve'. (Note *starve*: German *sterben*.)

3. USED UP, TO BE — PFU **kulə* (FUV 92) Fi *kulu-* 'to be used up, consumed, worn'; Zr *gylal-* 'to fall off, fall out little by little'; OsE *köl-*, OsS *höt* 'worn, disappear, pass away, fall short, not to reach, end' etc. (Patkanov); Vg *xol* 'id., to come to an end, to become short' (MK 98b-99). — Mib *hule* 'to use up, to finish'; Miss and Mics *hül-* 'to fall short, short, not to reach, give out, break down, forget, etc.'

4. DAWN — PFU **kojə* (FUV 90; FUE 246) Fi *koi* 'dawn'; Hu *haj-nal* 'dawn, morning redness'; Vg *xuj* 'id.' — Mics *hoj-[?]epa* 'morning', *hój-*

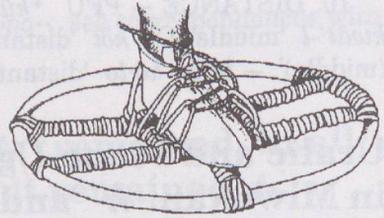
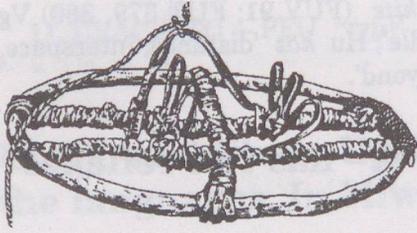
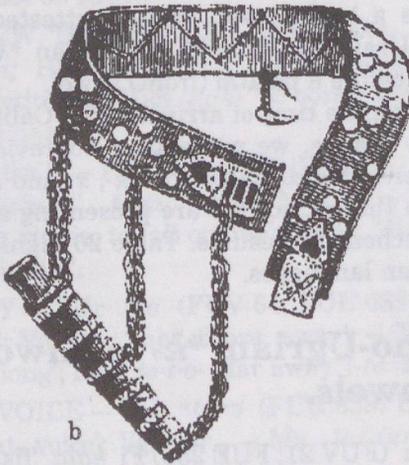


Figure 36. Maidu snowshoes.



a



b



a



c



d



Figure 37. Ostyak objects: a) Birchbark masks used during the Bear Festival; b) Belt with knife. Note the bear tooth hanging on the back; c) Snow goggles; d) Skis covered with reindeer skin.

'early, old, ancient, begin, ahead, morrow'; Miss *haj-*, Mib *húje* 'to be out (sun)', *hín húje* 'sunrise'.

5. TOUCH, TO — PFU **kajə* (FUV 85) Fi *kajoa* 'to touch, to touch upon', OsE *kaj*, OsS *xoj* 'to dash against, hit, strike, hit the mark; cost'; Vg *xōj-* 'to hit, touch, meet, arrive, near, find, cost, be worth' (MK 95a-96). — Miss *haj-e-* 'to touch, near, approach'; Mics *háje-*; Mil *háaja* 'to reach puberty (both sexes)'.

6. REST, TO — PFU **kujə* (FUV 89) Zr *kuj-ly* 'to lie'; OsN *xoj* 'to lie'; Vg *xuji, xoji* 'to lie, to rest, to sleep' (MK 116a-117). — Mib *hójj-, hójj-ak* 'to rest all the time, to be resting'; cf. PMiw **ho-je* 'to put, lay, set down'.

7. THROW, TO — PFU **kaja* (FUE 245) Zr *koj-ny* 'to shovel, to pour'; MdvE and M *kaja-ms* 'to throw out'; Hu *hajít* 'to throw, to toss'. — Mics *ha-j-* 'to throw, to toss'.

8. BEAVER — PU **kuntə* or **kumtə* (FUE 289) Vg *xuntil'* 'beaver, muskrat, mole' (MK 125b) > OsN *xundil'* 'mole'; Hu *hód* 'beaver'. It is generally assumed, that the word is a borrowing from Turkic, where it has a wide distribution. It must have been borrowed during the Ugrian period, when the **k-* > *x-* change already occurred. Turkic **qundə-* 'beaver'. — Mip *hen-it* 'beaver' *Castor canadensis* from < **hent* < **hont*. The *-i-* is an epenthetic vowel for the dissolution of the medial cluster. Denasalization occurs in Nomlaki and in Wintu, but note the reflex of the Vogul suffix *-l'*. WiNo *kotul* (Curtis) 'beaver'; WiWt *xutul* 'mountain beaver' *Aplodontia* (a woodchuck-like rodent resembling the beaver).

Uralic and Finno-Ugrian **k-* = Miwokan *k-* before palatal (front) vowels.

9. HAND, ARM — PFU **käte* (FUV 87; FUE 362) Fi *käsi* 'hand'; OsS *ket* 'hand, fore paw'; Hu *kéz*; Vg *kät*. — Miss *kat-mil* 'armpit', *kit-pil* ~ *kiti-pel* 'elbow'; Mim *kuppis* < **kut-pis* 'elbow'; Mip *ka-puh* < **kat-pus*; MaNi *kipis* < **kit-pis* (Kroeber); WiNo *khete* 'arm'; WiWt *qed* 'arm(s), hand(s), bear's paw'. For the compounds cf. Vg *-mil*: *kat-xüt-mil* 'bend of the elbow', *kät-pis* and *ket-pis* 'elbow'.

10. BARK (OF TREE) — PFU **kere* (FUV 87; FUE 353) Fi *keri* 'bark'; Hu *kéreg* 'bark, crust'; Os *kär*; Vg *ker* 'bark, shell'. — Mil *keta* 'to chip bark off a tree', i.e., 'to bark'.

11. TWISTED — PFU **kerä* (FUV 88; FUE 354) Fi *kerä, kierä* 'twisted, crooked, cross-eyed'; Hu *kerül* 'to go around, avoid, get to, cost'; *kerék* 'wheel' ('round' etc.); Os *kör-* 'turn, round'; Vg *ker-* 'go around', *kir-* 'turn to the side'. — CoMu *kerö* 'twisted as a tree'; Mil *kéluh* 'to be crosseyed', *kéju* 'to be crooked'.

12. GADFLY, BLOWFLY — PFU **kili* (FUV 88) Fi *kiili* 'gadfly, blowfly'; Es *kiili* 'gadfly, grasshopper, dragonfly to' ?Os *külé* 'larva of the gadfly, blowfly; tuber on the body of animals, containing such a larva'. This fly is referred to as the "Curse of the Arctic". — Mip *-kiliw-a-hom-ok-iliw-a* < **hom-mok-kiliw-a* 'blowfly'; WiWt *xili-t* 'blowfly', *kili-t* 'fly' (Schlichter). Note MaNi *kül* 'nit, louse egg' (Kroeber), which seems to be a close cognate of Os *kül* 'larva of the gadfly'.

13. ROPE, STRING — PFU **kewde* (FUV 91) Fi *köysi ~ köyte* 'rope, line' (? Vty *kal* 'string'), OsN *kul*, OsS *kät*; Vg *kwali* 'rope, string (bowstring)'. — Mim *kali: kol-kali* 'garters' (*kol* 'foot, leg' to Os *kor*); WiPa *kali* 'string'. Regular correspondence to MaNi *kät* 'string', *kät-no* 'to string a bow'.

14. BOW, RAINBOW — PFU **kečä* to Mi *kec-a* see -č- 5.

15. KNIFE — PFU **kečə* to Mi *kiče* see -č- 6.

16. SING, TO — PFU **keje* to Mi *koja* see -j- 9.

17. BLOOD, RED — PUr **käle* to Wi *kile* see -l- 9.

Uralic and Finno-Ugrian *-k- in general remained -k- in Miwokan.

18. DIVIDE, TO — PUr **jaka* to Mi *joka-* see j- 3.

19. STITCH, TO — PFU **tekə-* to Mi *tuk-* see t- 3.

It should be noted, that some words retained the *k-* before a back vowel. Perhaps we are dealing here with dialectal variations. PFU **kota* Mi *koča* 'house'; PFU **kuñcu* Mip *kac-a* 'long'; PUr **kojčV* 'man' Mi *kocca* 'man, Indian'.

**The schematic representation of the Uralic *k-
reflexes in Miwokan**

Protoform		Finnic		Ugrian	Miwokan
*kala	'fish'	Fi	kala	Vg xul	hul
*kole	'to die'	Fi	kuole	Vg xol	hul-
*kulə	'use up'	Fi	kulu	Vg xol	hul-
*kojə	'dawn'	Fi	koi	Vg xoj	hoj-
*kajə	'to touch'	Fi	kajoa	Vg xoj	haj-
*kuja	'to rest'	Zr	kuj-	Vg xaj	hoj-
*kaja	'to throw'	Zr	koj-	Hu haj-	haj-
*kuntə	'beaver'	—	—	Vg xunte-	*hont-
*käte	'hand, arm'	Fi	käsi	Vg kät	kat-, kit-
*kere	'bark'	Fi	keri	Vg ker	kel-
*kerä	'twisted'	Fi	kiera	Vg ker	kel-
*kili	'blowfly'	Fi	kiili	Os kül'	kili-
*kewde	'rope'	Fi	köyte	Vg kwali	kali
*kečä	'bow'	Zr	kic	Vg kis	kač-
*kečə	'knife'	Ch	keze	Vg kasi	kiče
*keje	'to sing'	Zr	koj-	Vg kaj-	koja
*käle	'blood, red'	Lp	gielo	Vg kel-	kyly
Examples for exceptions or dialectal variations					
*kota	'house'	Fi	kota	Os xot	koča
*kuñču	'long'	Zr	kuž	Vg xosa	kača
*kojčV	'man; twenty'	Lp	kujj	Vg xos	koča

References and Hungarian reflexes for the last three items are: FUV 130; FUE 278 Hu ház; FUV 81; FUE 303 Hu hosszú; FUE 311 húsz.

**Uralic and Finno-Ugrian affricates *ć, *č,
and sibilants *s, *ś, *š, ?*š'**

and their reflexes in the various languages present a complex picture. For example: "It is difficult to distinguish *ć etymologically from *s (and *š)" (Collinder 1965:77). Furthermore *s and *š fell together in Ugrian and in Samoyed with such multiple reflexes as: *t, t', Ø, j, l, λ*. In Miwokan we encounter a somewhat similar complexity. Even internally we have such pairs as Miss *colka-* ~ *šolka-* 'to flow', Mics *čós-e-*, Miss *sos-e-* 'to pound

acorns', and the single representation of Miwokan *s-* and *š-*, *t-* and *t̥-* in Mip *s-* and *t-*. In Western Miwok *-č-* often alternates with *-š-*, and sometimes with *-t̥-*.

Initial *t-* is the typical Vogul, Southern Ostyak and Samoyed representation of Proto Uralic **s-* or **š-*. Table 21 contains the Miwokan reflexes of these phonemes. The Hungarian reflex is \emptyset .

Uralic and Finno-Ugrian **ć-* has *č-* (*c-*) and *s-*, *š-* correspondences in Miwokan.

1. WILLOW — PU **ćayə-lə* (FUE 115) Hu *csigolya* 'a type of willow'; Vg *šəplo* 'willow'; Os *sayəl-* 'a type of willow'. — Mics *sakəl-y* 'willow'; Miss *sikil-* 'large willow', *sakal-* 'small willow used for basket-making'.

2. DRIP, TO — PUr **ćorə* (FUE 123) (?Fi *soro* 'to drip'); Hu *csoro-g*, *csuro-g* 'run, flow, drip'; Vg *šurri*; Os *šori-* 'to flow'; Sk *šor-mba* 'it flows'. — Miss *šolka*, *colka* 'to flow', *co-lak* 'waterfall, Yosemite Falls, rapids'; Mu *soro* 'to flow, to gush', Mip *colo-tu-* 'to run (water), to gush, to drift down like a waterfall'.

3. SMALL — PUr **ćVnə* (FUE 129) Zr *činnj* 'to become small', Hu *csűn-ik* 'to remain, to become small'; Os *šən-* 'to shrink'; Sk *šyn-* 'to become small'. — Miss *cini-* 'small, little, to cut up small, in bits; young'; CoMu *čuni*, *čunu* 'to shorten'.

4. DROP; DRIP, TO — PFU **ćVppə-* (FUE 115) Vty *čop* 'drop, drip'; Fi Livonian *sippa* 'drop'; Hu *csepp*, *csöpp* 'drop', *csep-* 'to drip'. — Miss *cep-a-* 'to drip' (intr.).

5. SPLIT, TO — PFU **ćälä-* or **šälä-* (FUE 577) Fi *säle* 'splint(er)'; Hu *szel-* 'to split, to cut in strips'; Vg *sili*, *šili*, *səl-* 'to split'; Os *sil-*, *sul-* 'to cut open, to split (especially fish)'. — Miss *čilawa* 'cutting salmon in strips' (Gifford). — For the Miwokan *s-* (*š-*) reflexes, see Uralic and Finno-Ugrian **š-* = Mi *s-* (*š-*) 6.

Uralic and Finno-Ugrian **-ć-* = *-č-* (*-c-*) and sometimes *-t-* in Miwokan.

6. MEAT, TO DIVIDE MEAT — PFU **oća* or **ońća* (Collinder 1960: 404; FUE 507) Fi *osa* 'part, share, lot, (dial.) piece of flesh'; Es *osa* 'portion flesh'; Lp *oaž'že* 'flesh, meat'; Hu *oszt* 'to divide, distribute',

osz-lik, osz-ol (intr.) 'divide, to fall apart', *osztály-rész* 'portion'. — Mics *ʔóč-u-ku-* 'flesh, meat', *ʔóč-ku-me-* 'a fleshy person, fleshy'; Miss *ʔoc-uk* 'lean, of meat'; Mil *ʔotta* 'flesh, boneless meat, nut meats', *ʔot-* 'to cut meat, to butcher (to lance, to cut off meat)'.

7. FALL, LAND, TO — PUr **āce* (FUV 10; FUE 162) Zr *us-* 'to fall'; Hu *es-ik* 'to fall'; OsS *es-t-* 'to drop, to let down, let loose'; Vg *is-* 'to descend, to land as a bird, as an insect', VgK *asi ~ osi* (MK 137b). — Mip *ʔoc-e-, ʔoce-* 'to land as a bird, as an insect'; CoMu *isi-we, isu-we* 'to rest'.

8. STOMACH, BELLY — PFU **wāca* (FUV 123) Fi *vatsa* 'stomach, belly'; Vg *was, VgS wase* 'stomach, belly' (MK 721a). — Miss *ʔoce-* 'belly' < **woce; ʔocet-me-* 'pregnant'.

9. PRESS, TO — PFU **puće-rə* to Mics *píč-wa-* see p- 3.

10. PORTION — PFU **ričə* to CoMu *ris-* see r- 8.

Uralic and Finno-Ugrian *č- has č- (c-) and š- reflexes in Miwokan.

1. MUCH, ALL — PFU **čokke* (FUV 114; FUE 553) Zr *čōk* 'thick, dense'; Os *šak, šox* 'thick, dense, bushy'; Hu *sok* 'much'; Vg *saw, šow* 'much', *saw-it* 'multitude'; *soxe, šokh* 'all'. — Mics *šók-e* 'all', *súk-e* 'id.'; Mip *syk-e*, Mil *čáke* 'all-', *čáku* 'bushes'; Hill Patwin *cake* 'many'.

2. SMASH, GRIND TO — PUr **čukka* (FUV 55) Os *cok* 'fragment, broken piece', *čokat* 'to break to pieces'; (? Yr *taha-*); Vg *sâx-t-* 'to smash, to break to pieces'. — Mip *cok-a-* 'to smash, mash, to grind', *cok-a sak-yc* 'She is mashing pine nuts'.

3. RECEDE, TO; (WATER; WET) — PUr **čoka* (FUV 7) Lp *coakke* 'low water'; Sk *cage-mba* 'shallow'; Yukagir *čogunné* 'to be shallow (of a river)'. — Mip *cakah* 'wet'; WiWt *čuq-* 'to dip, to make wet (deer tail dipper), to strain, water to recede, stop flowing'.

4. SOUR — PFU **čämə* (FUV 118) Zr *som* 'leaven; sourness'; OsE *čim*, OsN *šim* 'to turn sour (of dough), to get spoiled, decay, rot from humidity (garment or rope)'. — Mil *cúm-cum* 'to be sour, bitter, the bitterness of acorn; tannin'; CoMu *sumu* 'to decay'.

Uralic and Finno-Ugrian medial *-č- in general remained -č- in Miwokan (sometimes it changed to -s- or -t-).

5. BOW, RAINBOW — PFU *kečä (FUV 24; FUE 345–346) Fi *kehä* 'frame, ring, circle'; Zr *kyč* 'ring, ring around the moon or sun'; Hu dial. *kegye-let* 'rainbow'; Os *kōč* 'hoop, ring on the ski-pole'; Vg *kis* 'hoop, bow on the cradle', *kis-tilep* 'rainbow'. — Mip *kyc-a, kec-a* 'bow (for shooting)'; Mil *kácca-* 'rainbow'; Mib *kácca-*; Mim *kača* 'bow of wood, rainbow'.

6. KNIFE — PFU *kečə (FUV 88; FUE 356) Ch *keze, küzü* 'knife'; Hu *kés*; OsS *kečə*; Vg *käsii*. — Mins *kiče* 'knife', Mics *kiče* 'black obsidian, arrowhead, arrowhead design on baskets' (Barrett and Gifford 1933:256, 244, 217); Miss *kiče* 'arrowhead'.

7. BEAVER, RAT — PUr *puča (FUV 45) Mdv *pača* 'otter, mink, polecat'; Yr *puddo* 'mus amphibius'; Sk *put* 'beaver', *puttoltama* 'big rat' (*tama* 'mouse'). — Mics *pút·e·se-* 'rat'; cf. *pús·i·na* 'rat'; ?Ni *pāncaka* 'beaver'.

8. WATCH, GUARD, KEEP — PUr *oča- (FUV 43) Fi *odo-tta* 'wait, await'; Mdv *učo* 'wait, await'; Sk *ätty-, āča, āca-* 'to guard, to stand guard over, lie in wait, to be in lookout for someone, to spy on someone'. — Mib *ʔócca* 'to be saving'; Mip *ʔoc·e-* 'to save, keep'; Mil *ʔoccu*. For semantics: cf. German *bewahren* 'guard' and *aufbewahren* 'to save'. Mu *uša-si* 'to guard, protect (child)', *utu* 'to guard', *atue* 'to watch, view', *ata-s-pis* 'lookout', *ata-s-pis-mak* 'watchtowers' (Mason 1916:445, 441, 406, 433).

Note: Uralic and Finno-Ugrian medial *-čk- is assimilated to -cc- in Miwokan.

The Ugrian reflexes of Uralic and Finno-Ugrian *s- and *š- and their Miwokan correspondences.

9. ANGELICA PLANT — PUr *pučkō (FUV 52) Fi *putki* 'hollow stem of a plant'; Lp *bos'kâ* '*Angelica archangelica*'; Mdv *počko* 'tube, Angelica'; [Ch. tube, horn, angelica]; Sk *puuty* 'Angelica'. — Mil *pácca* 'angelica root, used by singers as medicine to avoid getting hoarse, good luck charm'. Worn by the California Indians around the neck, used in ritual and in purification'; *pácca-čalaj* 'ladybug; good-luck bug'.

Table 21 contains, probably, the most significant diagnostic list identifying Miwokan as being an Ugrian-type language. While Finnic, in general, preserved Proto-Uralic and Proto Finno-Ugrian *s- and *š-, in the Ugrian languages these protophonemes underwent complex modifications. Especially Ostyak shows complex and multiple reflexes. In Hungarian they became Ø-. In Vogul and in the Samoyed languages they became t-. Some of the words in the list have Samoyed cognates, but most of them have cognates in Ob-Ugrian. We selected Vogul to illustrate the close similarity. For the full treatment of the cognates consult FUV and FUE. The references are given in the second column.

Table 21

The schematic representation of the PŪr (PFU) *s-, *š- reflexes			
Proto phoneme	Hungarian	Ob-Ugrian Vogul	Miwok
*s- FUV 71	<i>áll</i> 'stand'	Zr <i>sul-</i>	Mil <i>tala-</i> 'stand'
*s- FUV 117	<i>öl</i> 'bosom'	Vg <i>täl</i>	Mil <i>t-éele</i> 'breast'
*s- FUV 77	<i>ér</i> 'vein, root'	Vg <i>tär</i> 'id., design'	Mics <i>tela</i> 'design'
*s- FUE 161	<i>er-</i> 'let go'	Vg <i>tor</i>	Mil <i>tola-</i> 'let go'
*s- FUE 90	<i>ar-</i> 'span'	Vg <i>tor-</i>	Miss <i>ṭul-t</i> 'span-worm'
*š- FUV 82	<i>ig-en</i> 'yes'	Lp <i>šuvva</i> 'good'	Mib <i>tów-ih</i> 'good'
*s- FUV 117	<i>ev-</i> 'eat'	Vg <i>te-</i>	Mib <i>tú-</i> 'food, feed'
*s FUV 64	<i>ujj</i> 'finger'	Vg <i>tul'</i>	Mil <i>tíi</i> 'fingernail'
*s- FUV 112	<i>epe</i> 'gall'	Vg <i>tāp</i>	Miss <i>tep</i> 'bitter'
*s- FUE 78	<i>aka-d</i> 'stop'	Vg <i>tax-</i> 'stop boat'	Mil <i>tak-</i> 'land boat'
*s- FUV 58	<i>ín</i> 'tendon'	Vg <i>tan</i> 'sinew'	Mip <i>tan-</i> 'sinewed bow'
*š- FUV 118	—	Vg <i>tewl-</i> 'to fly'	Mics <i>tiw-</i> 'to fly'
*s- FUV 118	—	Vg <i>tas</i> 'pin (net)'	Mics <i>tas-</i> 'needle'
*s- FUV 58	—	Vg <i>týt</i> 'cedar'	Mics <i>tuttu-</i> 'fir'
*s- FUV 57	—	Vg <i>tow-t</i> 'snowshoe'	(WiWt <i>tow-</i> 'snowshoe')
*s- FUV 113	—	Vg <i>tuńś</i> 'stand'	(MaMd <i>tys</i> 'stand')
*s- FUV 55	—	Vg <i>tolma-</i> 'wolverine'	Mics <i>tol-om-a</i> 'lynx'
*s- FUV 116	<i>ősz</i> 'autumn'	Vg <i>tüks</i> (OsN <i>sus</i>)	Mics <i>síska-</i> 'autumn'

Exceptions, where Uralic and Finno-Ugrian

*s- = Miwokan s-.

The last entry in table 21 indicates, that in some cases we are perhaps dealing with dialectal variations.

1. AUTUMN — PFU **sükse* or **sikse* (FUE 517; FUV 116) Fi *syksy*, *syys* 'autumn'; Hu *ősz*; Os *sōyes*; Vg *tüks*. — Mics *siska-no* 'autumn' (-no 'season'; metathesis)

2. BARK OF TREE — PFU **sōme* or **sōōme* (FUV 116) Fi *suomu* 'fish-scale, scale'; Os *sam*; Vg *sām* 'scale, fish-scale, outer bark of a tree (fir, cedar), shell, peel' (MK 523b). — Miss *sem-i-la* 'bark'; (Mics) Mib *šimme* 'thick bark (such as oak bark)'; (Mil, Mip); CoSol *šimi-č* 'outside bark'. Note: The PFU form is Collinder's reconstruction. The Os and the Vg s- is irregular.

3. COMB — PUr **siŋə* (FUV 56) Vty *syn* 'comb, carding comb'; Zr *synan* 'comb'; to Yr *tii-* 'comb'; Sk *tipsin*. — Mim *sone-k* 'comb'.

4. SING, TO; SHAMAN'S SONG — PU **sawe* to Mics *sa-w-* 'to shout'; CoMu *sawe* 'to sing', (see Introduction). The typically "Ugrian" word's see Hu reflex is *szó* 'word'; *szól* 'speak, call', 'sound', *szava-l* 'to recite'. Borrowing from Turkic during the Ugrian period.

Uralic and Finno-Ugrian *ś- often equals s- or š- in Miwokan.

1. EYE — PUr **šilmä* (FUE 579; FUV 57) Fi *silmä* 'eye'; Vty *sim*; Hu *szem*, *szem-öldök* 'eyebrow'; *szem-pilla* 'eyelashes'; Os *sem*; Vg *sām*; Km *sima*. — Mip *sem-puk-qj* 'eyebrow'; CoRu *sim-pur* 'eyebrows, eyelashes'; CoMu *sin-pur* 'eyebrows'; Miss *sym-p-* 'to blink, to close the eyes'; (Vg *sampelti* 'glance'), Mics *sympy-*; WiWt *ćim* 'to wink, blink, to shut the eyes', *ćimi-ra* 'to blink fast'.

2. SALIVA — PFU **šul'ke* (FUV 117) Fi *sylki* 'saliva'; Os *sōjəy*; Vg *sul'k*. — Mics *sil-i-ty* 'saliva'.

3. FUNGUS, WART — PFU **šene* (FUE 580; FUV 113) Fi *sieni*, *siena* 'fungus'; Hu *szén* 'coal, hot ashes'; OsE *sanə-* 'tree-fungus, tinder-fungus'; Vg *seni* 'fungus, tuber, protuberance'. — Miss *sen-e-* 'wart'. — Cf. OsS *t'anə-k* 'wart, pimple', **ć-* (KT 911b).

4. TEAR, TO — PU **šakke* (FUE 561) Hu *szak* (dial.) 'small broken part', *szak-ít* 'to tear'; Os *sak-* 'to break up, into pieces'; (KT 831). — Miss *sak-*, *sa-k-* 'to tear, tear up'; Mics *sak-*.

5. SPLIT, TO; SHINGLES — PFU *šalk (FUV 111; FUE 563) Zr žal 'split lath, stave in a cask'; Hu szál 'stem', (dial.) 'direction of splitting'; Vg saylä 'lath, pole'; Os sayəl 'lath, board, splint, shingle'. — Miss salak-a- 'roofing shingles'. Note the dissolution of the cluster by epenthetic vowel.

6. CUT, SLICE, CHIP, TO — PFU *šälä or *čälä (FUE 577) Fi säle 'splinter, lath'; Hu szel 'to cut, split'; Os sil-, sul- 'to split up an animal (fish, deer), to butcher, to skin', Vg sili, sel- 'to split, cut'. — Miss sel-u 'to chip, like flint and obsidian (BG 211)'; Mip si-ly- 'to skin deer'; WiWt čil-, čel- 'to split, rip, tear'.

7. SKIN, BARK — PFU *šudə (FUV 115) Vty sul 'bark'; Vg sül 'bark, crust (of bread)', VgK son-sül 'the woven cover of the reindeer sled' (MK 571a). — Mil šül-uk 'skin of an animal, fruit, fish, egg shell, turtle shell'; cíppan šuluk 'bread crust', šúli-, šúuli- 'to shed skin or bark, to peel'; Mib šul- 'skin, to skin, buckskin, rabbit skin'; (cf. Mil šul- 'to be thin {clothing}'), Mim sul-uk 'skin'; CoScR sillu 'rabbit skin'.

8. STICK, WOOD — PFU *šawya (FUV 112) Fi sauwa 'staff'; OsS söw 'stick, pole (driving reindeer), ski-pole'; Vg sū, suw 'id.', kät-suw 'walking stick' (kät 'hand'). — Miss su-n- 'to get firewood'; Mics su-n-u; CoMu sumna, sumua 'sticks of wood'; WiWt ču-s 'wood, stick, club, log, firewood' (Schlichter). Cf. WiWt t-uw- 'to walk with a stick', and Mics šy-š-y 'wood, firewood'.

9. HEART — PUr *šidä(-me) (FUE 590; FUV 59) Fi sydä-me- 'heart'; Hu szí-v; Os sə-m; Vg si-m. — CoMu sire 'heart, mind'; CoRu sire; CoScR sire 'liver'; CoSol side 'liver'; CoRu siri.

10. SHELTER, BED — PFU *šoja (FUV 115) Fi suoja 'room, shelter, protection, mild weather'; Os saj 'bed curtains', Vg saj 'protected place, the place behind something'. — Mib suja, sujja 'bed'; Mim suja.

Uralic and Finno-Ugrian *š- corresponds Miwokan č- (c-).

1. SIFT, TO — PUr *šakV- (FUV 56) Ch šakta- 'to sift', Sk tuakta- 'to mix up flour'. — Mil cákal 'to sift', cáakala or čaakala 'sifter'.

2. SLIDE, TO; SLED — PFU *šona (FUV 76) LpK čyönne 'sled'; Vg šun, sun 'reindeer-, dog-sled'. — Miss cu-n-h- 'to slide down'; Mip cunu-s-u- 'to slide', cunu-sum ke-lam 'I am sliding on ice' (p. 303 in Mip Addenda).

3. SALT, BITTER — PUr *šekV (FUE 586) Vg *sex, šex* 'salt'; Sk *šak* 'salt'; Hu *szik* 'alkali, soda, natron field'; *szék-es* 'bitter tasting and smelling'. — Miss *cek-cek-y-* 'bitter'; Mip *sek-sek* 'bitter'; *cek-cek* 'good tasting'.

4. DIARRHEA — PFU *šarə or *čarə (FUE 568; FUV 117) Ch *šur, šor* 'to defecate, to have diarrhea'; Hu *szar* 'excrement'. — Miss *cal-a-k* 'diarrhea'; Mip *cul-ka* 'to have diarrhea'; Mil *coł-* 'diarrhea'.

5. LIGHT — PFU *šala (FUV 111) Fi *sala-ma* 'lightning'; Os *säl-* 'lighten'; Vg *säl-* 'lighten, light up, fire, twinkle as a star' (MK 520a). — Miss *cal-tu* 'to become morning', *cala-tu* 'star'.

6. HEDGEHOG, PORCUPINE — PFU *šijele- or *čijele- (FUE 557; FUV 113) Fi *siili* 'hedgehog'; Ch *šülə*; Hu *sül, sün.* — Miss *cyl-a-* 'porcupine quill, awl'; PMie **cylla* 'awl'. Cf. Miss *tyl-a* 'ear-pin'.

7. PROMONTORY, CLIFF — PUr *šukkō (FUV 8) Lp *čok'hâ* 'summit, mountain top'; Zr *ćuk* 'lonely hill, conical peak'; Sk *soq, sok, hok* 'promontory, hilly cape'. — Miss *co-ko* 'cliff, rough place'; PMi **co-k-* 'cliff, bank, creek'.

8. BIRD — OsS *šiška, čəškə*, OsN *šiški, siska* 'little bird'; OsS *čička*, Vg *sänkš.* Cf. FUV 8. — Miss *cicka* 'bird'; Mics *čička* 'bird'. Cf. Mip *cici-p-u* 'little bird'.

Uralic and Finno-Ugrian medial *-š- corresponds -č- (-c-) in Miwokan.

9. LIVE, DWELL, STAY, TO — PUr *ašō- (FUV 4) Fi *asu-* 'live, dwell, reside', *asunto* 'residence, home, dwelling'; Yr *ŋ-ōšo* 'to stop, to put up a tent', *ŋ-yysy* 'tent, settlement', *ŋ-esy* 'camp, township'. — Miss *ʔucu-, ʔuc-u-* 'to live, to dwell, to stay', *ʔu-cu-* 'house, home, dwelling', *ʔu-cani-* 'uterus' ('baby's home'); Mip *ʔu-cu-* 'to be situated, stay, be in or on something'.

10. GOOD, STRONG, HEALTHY — PFU *kōša (FUV 91) MdV E *kožav* 'rich', M *koze* 'id.', *kož* 'good'; Os *kos* 'power, strength', *kas-ta* 'bad' ('not strong') (KT 436a), *kos-əŋ* 'well-to-do'. — Mics *kučiči-* 'good, to be well, to feel well, well behaved'; Mins *koce-, kuci* 'good'.

Vogul s- (South Vogul š-) from original PFU *ś- or *ć- often corresponds to Sierra Miwok (Mics, Miss) t-.

Table 22

1.	MK 517	<i>saka-</i>	'choke'	Miss	<i>to·k-</i>	'choke'
2.	MK 518	<i>saki</i>	'rot'	Miss	<i>toke-</i>	'rotten'
3.	MK 529	<i>sōp, sap</i>	'soft wood' (for personal hygiene)	Miss	<i>to·pa-</i>	'pile of grass' (for personal hygiene)
4.	MK 540	<i>seli-</i>	'shine'	Miss	<i>telu-</i>	'reflect light'
5.	MK 540	<i>šēli-</i>	'understand a language'	Miss	<i>tele-</i>	'to understand a language'
6.	MK 541	<i>sēməl</i>	'black'	Miss	<i>toml-</i>	'having a black eye'
7.	MK 555	<i>soxtli-</i>	'to coil up'	Miss	<i>toki-l-</i>	'to coil up'
8.	MK 565	<i>sos-</i>	'to bubble up'	Miss	<i>toṭ·ju-</i>	'to bubble up'
9.	MK 566	<i>soswe</i>	'rabbit'	Mics	<i>toś·ewe-</i>	'rabbit'
10.	MK 566	<i>sōt</i> < * <i>sowt</i>	'luck'	Mics	<i>towé·č-</i>	'to be lucky'

Note to item 3. Vogul *sōp, sap* refer to the soft woodshavings made from partially decomposed willow. It has the appearance of grass or hay. It is used for all sanitary purposes including underlayer in the baby's basket. The Miwoks had a similar practice according to Barrett and Gifford (236). Among other things they used soft marsh grass for the same purpose. Vogul *sap* is the close cognate of Mim *sappa, sapa* 'tule, marsh grass; hair'; Mib *śappa* 'grass leaves adhearing to stalk, thin bark, such as willow bark, covering'; Mil *śapa* 'hair on the head'. For semantics cf. Mim *kōlē* 'grass, *kōlē-mōlū* 'hair'; *mōlu sapa* 'crown of head'.

Uralic and Finno-Ugrian *m- remained m- in Miwokan.

1. PASS, QUIT, TO — PFU **mulə* (FUV 100; FUE 452) Lp *molâ-* 'to pass someone unnoticed'; Vg *mul-* 'to go by, to elapse'; Hu *múl-* 'to go by, pass; past, quit, end'. — Miss *mul-* 'to quit'; *mul-h-hak-* 'menopause' = 'quitting'; Mib *múleh* 'to be quiet', *muléh-mi!* 'Be quiet!'. For semantics cf. Eng. *quit, quiet* < Latin *quietāre* and Vg *pojti* 'quit, stop menstruating', *pojten!* 'Quiet!'.

2. GO, TO — PUr **mene* (FUV 34; FUE 428) Fi *mene* 'to go'; Hu *men-*; *men-ten* 'right away'; Os *mən-*; Vg *min-* 'to go, to run, of a roads'. — Miss *meno·k-* 'to run (of a road), to keep on doing something';

Mics *menó-k-* 'to go on, to continue', *men-ty* 'right away'; CoMu *meno-* 'to go under, sink, and drown'.

3. INFECTUOUS DISEASE — PFU **mučə* (FUV 97; FUE 242–244) Ch *mōž* 'disease, evil spirit (the cause)'; OsN *moš* 'disease, guilt'; Vg *mās* 'scrofula, hole, defect'; Hu *-máz, -mász* in *hagy-máz* 'typhus, fever causing delirium'. — Miss *mas-l-* 'to have smallpox, chicken pox, sty'; Mip *mac-yly-* 'measles'; Mip *mo-loj* (? < **mos-loj*) 'chicken pox'.

4. GROUSE — PFU **menčä* (FUV 99) Fi *metos* 'grouse' (*Tetrao urogallus*); OsN *manšij*, Vg *mansin*. — Mics *múč-a-ma-ši-* 'Sierra grouse' (Miss) = 'sharp-tailed grouse', *muc-* 'sharp'; *-ma-šy* is the denasalized form.

5. BEE — PFU **mekše* (FUV 132; FUE 429) Fi *mehi-läinen* 'bee', Ch *müķš*; Hu *méh*. — Miss *-mukse, kuj-mukse* 'black bee' = 'honey bee', *kuj-* 'sweet, honey, nectar' (Gifford 1916:157), Mins *moke* 'fly', Mics *homo-kosu* < **hom-mokosu* 'fly', CoSCI *ho-moske* 'mosquito'. — The Finno-Ugrian word is compared with Sanskrit *mákṣa-s* 'fly', *mákṣikā-* 'bee'. Burrow (1955:26) derives the Sanskrit word from Finno-Ugrian; others assume borrowing from Indo-Iranian into Finno-Ugrian.

6. MAN, PERSON — PU **mańćə* or **meńćə* (FUE 415), Hu *magy-ar* 'Hungarian', *megy-er* 'id. in place names'; Os *mās, māńt'* 'name of a fraternity'; Vg *mańś ~ mańši* 'Vogul, Ostyak'. — Mib *mícca* 'person, man, Indian'; Mim *miča ~ muča* 'id.', *muča-ko* 'people'. Cf. Os *mos-jox* 'Pleiades' = 'Mos-people' and Mil *muccu-juk* 'a certain constellation consisting of seven stars'.

7. BERRY, NUT, ACORN — PFU **mel'ə* (FUV 98; FUE 427), Vty *mul'i, mol'i* 'berry, nut, acorn'; Hu *meggy* 'sour cherry'; Vg *wər-məl'* 'red currant'. — Mim *molus* 'gooseberry'; Mics *myla-* 'hazel, hazelnut', *myj-y* 'acorn, fruit'.

8. BUNDLE, ROLL — Os (KT 528b) *montəl, muntəl* 'a bundle, a roll; to wrap, roll in a bundle'; Vg *mont'* 'roll, bundle'. — Mib *motol* 'to wrap, to roll (a blanket)'.

Uralic and Finno-Ugrian medial *-m- remained -m- in Miwokan.

9. RABBIT — PUr **ńoma-* 'rabbit'. — PMiw **ńome-š* 'cottontail rabbit'. See under PUr *ń-* 2.

10. BARK OF TREE, SCALE — PFU **somV ~ *sōmV* 'scale, shell, bark of tree'. — PMiw **šim-e-* 'bark of tree'. See under PFU **s-* = Mi *s-* 2.

Uralic and Finno-Ugrian *n- remained n- in Miwokan.

1. MUCUS — PUr *natta (FUV 38) Fi *natta* 'mucus'; Es *natt* 'snot'; Yr *naad*. — Mip *noto-pej* 'snot'; Miss *nu-nat* 'nasal mucus', *ny-na-t-poksu-* 'to wipe one's nose'.

2. NO, NOT — PUr *nä (FUV 38; FUE 464) Zr *nem, nem* 'nothing'; VgN *ne-, nem-* 'no-'; OsN *nēm-*; Hu *ne* 'not', *nem* 'no'. — Mip *-nimi, -n-emi, -nHimi-* 'not, didn't, never'.

3. NAME — PUr *nime (FUV 39; FUE 468) Fi *nimi* 'name'; Vg *nām* 'name, fame, prominent'; Os *nem* 'name', *nemiŋ* 'truth', OsS *nemasa* 'truly, really'. — Miss *nym-a-* 'to tell the truth'; Mics *ným-a-* 'id.', *nymí-š* 'like, resembling, as though, as it were'; cf. CoRu *nepa-j* 'name'.

4. THINK, HEAR, UNDERSTAND, TO — PUr *namV- (MK 339b; KT 581) Yr *nam-* 'to hear'; Vg *nam-* 'remember, think'; Os *nom-* 'think', *noməs* 'memory, mind', *nomməs* 'soul, spirit'. — Mim *nomas* 'thing that scares a person in the night'; CoMu *nam* 'to hear, listen, understand'.

5. SEE, SHOW, TO — PFU *näke (FUV 101; FUE 470) Fi *näke*; Md *neje-* 'to see, to show, to notice' (cf. German *be-merken* 'to see'); Hu *né-z;* Vg *neyl* 'be visible'; Os *ni-, niw-* 'visible'. — Mics *ná-n-y* 'to see'; PMi **ne-na* or **neena* 'to show' (Mics deriv. 'to show the way, to mark the way, to blaze trail, to plan to go, to order {to go}'), Miss *nenu-t-* 'to recognize, to know', Mip *nenu-p-u* 'markers, spotting' ('to spot, to mark by rocks'); Mil *nénu-t* 'to know, to learn'. For *-nu* cf. Mics *-nu ~ -ny* 'transitive, iterative, causative verbalizer' (Broadbent 1964:175-181).

6. END, DISTANCE — PFU *näkV (Collinder 1960:403) Fi *nikama* 'knot (in plant stalks, etc.)'; Vg *nak, näk* 'end, segment, step, luck', etc.; OsN *nak* 'knot (stalks), distance, duration from one end to another'. — Mil *náka-* 'end, extent, so far'; *núku-s* 'luck', Mics *naké-* 'end, (horizon)', *nák-pa* 'follow, overtake, catch up with'; Miss *na-k* 'to reach a time or space'; Mib *nákih*.

7. CRY, MOURN, TO — VgT *nošo-* 'to cry, sigh' (MK 344a). — Miss *nocu-* 'to cry, mourn, whine' (Mics, Mins). Also *noṭa-* 'to snort, growl'.

8. FINE FEATHER — Vg *nas* 'feather', *nasi-y* 'fine-feathered, tasteful (also food)' (MK 332a). — Mil *náṭi* 'fine feathers used in basket making', *naṭi-²olut* 'feathered basket (duck, woodpecker, meadowlark, oriole)'.

Uralic and Finno-Ugrian medial **-n-* remained *-n-* in Miwokan.

9. TWIST, WIND, SPIN, TO — PUr **puna-* (FUV 51, 109; FUE 213) Fi *puno-* 'twist, turn, spin'; Hu *fon*; VgT *pun-*; OsS *pun-* 'to twist yarn on knee'. — Miss *pun-ete* 'pliable, flexible, tender, soft'; MaMd *pán* 'to roll strands of bark, deer sinew or other material on the naked thigh in order to make a rope', *pún-ja* 'knot'; MaNi *pún* 'to tie knots, to invite with knotted string (to a feast etc.)'.

10. BELLY, STOMACH, HEART — PFU **konV* (FUE 143) Zr *kin-* 'belly'; Hu **ju-xun* 'belly, stomach, inside, heart, mind, liver, loin'; Os *xon* 'belly'. — Mics *hón-ať-ki-* 'pelvic girdle'; PMa **hon* 'heart, breast, feeling, mood, breathe, breath, speech, word; inside, shelled acorn'; CoRu *xon* 'liver'.

Uralic and Finno-Ugrian **ń-* lost its palatalization in Miwokan (> *n-*).

In the Mim **ńoti* (*nyoti*) 'short' and Mutsun **ńotsó* (*niotsio*) 'short, bob-tailed' we seem to have an archaic survival of original *ń-*.

1. CUT OFF, SHORTEN, TO — PFU **ńäče-* (Collinder 1960:403; FUE 482) Zr *ńeč-, ńeć-* 'pluck, tug, tear (hair, grass)'; Hu *nyes* 'cut off, lop, shear, weed'; Os *ńät', nät'* (KT 640b) 'cut off grass w. a knife, pluck, hair, feathers, nibble'. — Mib *nócca-* 'to cut grass, tree, fish', *nos-* 'to cut with a knife, to cut off', Mim **ńoti* 'short', *nóca-ja* 'scissors'; CoMu **ńotsó* 'short, bob-tailed.'

2. RABBIT — PUr **ńoma* PFU **ńoma-le* (FUE 491; FUV 43) Zr *ńima-l* 'rabbit'; Hu *nyú-l* (< **nyuv-l*); Tv *ńomu*, Sk *ńoma*. — Mib *nómeħ* 'cottontail rabbit', PMiw **ńóme-š* (Mim, Mil). WiPa *nomi-k* 'little brown rabbit'.

3. TONGUE — PFU **ńälmä* (FUE 480; FUV 43) Lp *ńjalme-* 'mouth, (also of river)'; Hu *nyelv* 'tongue'; Vg *nelm*; Os *ńäləm*. — Mip *nep-it* 'tongue', *nem-it* 'throat, gullet, neck, windpipe'; Miss *nep-it-* 'tongue' (Mics).

4. GO DOWN, SETTLE, TO — PUr *ńike-* (Collinder 1960:402) Lp *ńjákkä* 'bend down, stoop down, settle, sink'; Yr *ńiihü, ńoho* 'stoop down, to bow, to pray'. — Mil *ńiik* 'to settle', Mics *-nyk* 'down'. See also *Adverbs 13*.

5. FENCE, DAM — PU **näkə* or **nekə* (FUE 478) Hu *nyék* 'woven fence, protection, a forest on the side of the river', *Nyék* 'one of the early Hungarian tribes (occurs also in place names)'; Vg *nēy-* 'to tie'; Os *nēw-*. — Mil *náake* 'dam, to dam, to cover, close eyes'; WiWt *nik-* 'to stop up a hole, stop something for running out, plug up, close' (Schlichter: *nik* 'dam, beaver dam, to shut water off; deaf').

6. BACK OF NECK — PUR **nukka* (FUE 474) Hu *nyak* 'neck, back of neck'; Sk *nukka* 'back of neck'. — Mim *noka* 'back, shoulders' (= *espalda*).

7. PRESS, KNEAD, TO — PUR **nolə-(mə-)* (FUE 488) Vg *ńoli* 'to press, to knead'; Os *ńol-* 'to knead, to smash, to mash'; Hu *nyo-m* 'to press, impression, track, to track etc.' — Mib *nojja* 'to knead, to plug'; Mil *núja-* 'to stuff, stop up, shove under'; Mip *ni:je* 'to press down'; Mics *no:j-* 'to turn something over'.

8. WEAR OFF, TO — PUR **ńike* or **ńúke-* (FUE 494; FUV 103) Fi *nyki-* 'jerk, tug, bite'; Hu *nyű-, nyűv-* 'to wear off, to fight'; Vg *ńaw-, ńűw-* 'to pluck'. — Mip *niki-ʔti-* 'dull (knife)', *noko-ʔto-* 'blunt, broken off, stubbed'.

Uralic and Finno-Ugrian **ń-* became depalatalized in Miwokan.

Some archaic palatalized forms appear in Costanoan Mutsun: e.g. **ańi* (*anyi*) and *ani* 'another' to Yurak Samoyed *ŋ-āńi* and *ŋ-āni* 'another'.

9. MOTHER, STEPMOTHER, AUNT — PUR **ańa* (FUE 87–89) Vg *uńi, ońi* 'aunt'; Os *ońeki* 'aunt, stepmother'; Hu *anya* 'mother', *án-gy* 'wife of older brother'; Mdv *ańaka* 'older sister'. — Mil *ʔúnu* 'mother', *ʔunúu-ko* 'mother's sisters'; Miss *ʔan-i-s* 'aunt, mother's sister, wife of father's brother'; CoMu *ana* 'mother', *ana-knis* 'stepmother'; PCo **ana* 'mother'; CoSCr *an-si* 'aunt'. (Note: PCo **apa* 'father' = PFU **apa*.)

10. THROW, VOMIT, TO — PFU **kanə-* (FUE 262) Zr *kun-* 'dig, cast'; Os *xon-, kon-* 'dig, dip'; Vg *xūn-* 'dip', *xun-təp* 'shovel'; Hu *hány* 'throw out, dig, to vomit'. — Miss *ho-ne-* 'to vomit'.

Uralic and Finno-Ugrian **w-* in general remained *w-* in Miwokan.

Like in Uralic, it is sometimes lost before a labial vowel. In some Uralic words beginning with a labial vowel a homorganic *w-* developed and

resulted in such pairs as PUR **ujō* ~ **wojō* 'to swim' (FUV 64) and **utta* ~ **wutta* 'road' (FUV 65). A similar development occurred also in Miwokan.

1. SCRATCH, SHAVE, TO — PFU **wačə-* (FUE 678) Zr *wuš-* 'to scratch'; Hu *vásik* 'to wear off'; Os *woča* 'to plane woodshavings'; Vg *os-γ-* 'id.', *ossi* 'fine woodshavings, towel, sanitary napkin' etc. — Mib *wócca* 'to plane wood'; Mil *wóca-*, *wócca-* 'to scrape, to shave wood'; *wócca-ku* 'shavings from planning a board'.

2. DUCK — PFU **wajće* (FUV 122; FUE 698) Es *wais* 'goldeneye duck'; Hu *vöcsök* 'crested grebe'; OsE *wasex* 'duck'; Vg *wās* 'duck'. — Miss *waṭ-waṭ-* 'duck'; Mil *wát-maj*; CoSF *oča* < **woča* 'duck'.

3. KILL, CATCH, HUNT, TO — PFU **wel'ə* (FUE 105; FUE 513 *-δ-) Zr *vi(y)* 'to kill'; Hu *öl* 'to kill'; Vg *äl-* 'kill, hunt'; OsE *wel-* 'kill, catch (fish, game), hunt', *wel-pes* 'trap'. — PMi **wél-* 'to fetch, catch (fish)'; Mics *wé-l-* 'to get, take', *wel-šy-* 'to seek, to look for'; Mins *weli* 'catch', *welsa* 'hunt for'; CoMu *olhs-e* 'to kill many'.

4. LIGHT, LIGHTNING, WORLD — PFU **wal'ka* (FUV 122; FUE 691) Fi *valkea* 'white, light, fire, flame'; Hu *világ* 'light, world, flowering season', *villám* 'lightning'; Vg *wal'γ* 'to shine'. — Mip *wel-i-* 'bright, light', *welki-* 'burn', *wile* 'flower', *wil-ep* 'lightning' (Mics, Miss); CoSF *wilka-* 'lightning'; WiPa *wilak* 'world'.

5. BLOOD, RED — PFU **wire* or **were* (FUV 124; FUE 684) Fi *veri* 'blood' (deriv. 'new, young, red, lively, beautiful'); Hu *vér* 'blood', *veres* 'red'; Os *wər* 'blood'; Vg *wīr* 'red, blood', VgS *ūr* 'menstruation' (MK 726b). — Mib *wīlak* 'to menstruate'; Mim *wilak koča* 'menstrual hut'.

6. FLOW, DESCEND, TO — PFU **walka-* (FUE 667; FUV 122) Fi *valkaa* 'flow'; Mdv *valgo* 'to descend, go down'; Hu *válik* 'divide, select, change, become'; Os *wayel* 'go down'; VgN *wayili* 'to go down, sink, kill a bear'. Original development: 'descend, go down, flow, go away, separate, divide'. — Mics *waká-l-* 'to flow' (deriv.: 'creek, river, flood; weep'), *wali-* 'to fall down' (down, earth, ground, world); Miss *waka-l-m-* 'Merced River, descending from Yosemite Valley'. Numerous derivatives in all Miwokan languages. Maiduan: Ni *wakkaj* 'boat, log raft'; CoMu *wakis* 'river, torrent'; WiWt *woket* 'river'.

7. CREEP, TO; SNAKE — Vg *wayki* 'to creep (as a caterpillar)'; OsN *wayx-* 'to creep', denasalized: OsI *wax-ta waje* 'snake' ('creeping animal'), *waykila-* 'to creep'. — Mib *wákkalaj* 'snake'; Mip *wak-a-li* 'rattlesnake'; Mim *wakali*.

8. BANK OF RIVER, EDGE — Vg *wāta* 'bank of river, edge, margin, seam'; *wata-p* 'scarred' (MK 721b; Kálmán 1976:321). — Mil *wáte* 'scar'; MaMd *watá* 'shore, bank of river, edge, margin'. For semantics cf. IE **sker* 'scar, scab, shore'.

Uralic and Finno-Ugrian medial **-w-* remained *-w-* in Miwokan.

9. FLOW, TO; CREEK — PFU **uwV* or **wuwV* (FUV 125) Fi *vuo* 'stream, current'; LpS *uwe, uuwe* 'placid stream'; Vg *ow* 'stream, current; to flow'; OsS *ōw*. — Mil *wúwwe* 'creek', *-wuwe* in numerous river names: e.g. *ʔudti-wuwe* 'Putah Creek'.

10. CALL, NAME, TO — Vg *wowi* 'to call, to call by name' (MK 744a) Os *uw-* 'to call God during the sacrifice'. — Mip *ʔow-a-* 'to name, to call someone names', *ʔowa-se-* 'name'; Mib *ʔáwe* 'name'.

Uralic and Finno-Ugrian **j-* in general remained *j-* in Miwokan.

Like in Uralic, sometimes it is lost before a palatal vowel.

1. JOIN, ADD A PIECE, TO — PUr **jutta-* (FUV 18) Vty *jity-* 'to add a piece, to join'; Zr *jit-* 'to join, to keep together, to tack, solder, weld'; Yr *jute-* 'to add a piece, to tack'. — Miss *jat-a-* 'to piece together', *jut-a-* 'to plaster, to glue', *ju-tu* 'gum, pine pitch'; Mics *jót-mu-* 'to hold on to something'.

2. GOOD, HEAL, SHAMAN — PU **jomə* or **jamə* (FUE 339) Hu *jó* 'good', *javít* 'repair', *gyógyít* 'to heal', *javas* 'a quack', *jós* 'seer, prophet'; Vg *jomə-s* 'good, beautiful, happy, excellent', *joməs khum* 'healer, doctor'; OsN *jam*. — Mil *jómu* 'laugh, laughter', *jomún-naka* 'to be excellent, noble, fine, beautiful', *jóm-ta* 'doctor'; Hill Patwin *jom-ta* 'doctor'; MaNi *jom* 'shaman, to treat, to such out disease'; MaMd *jôm* ~ *jów* 'shaman'; WiWt *yom* ~ *yum* 'magic, poison, shamanistic power to poison'.

3. DIVIDE, CUT UP, TO — PUr **jaka* (FUV 17) Fi *jaka-* 'to divide, share, portion out'; Tv **jaki* 'to cut in pieces (reindeer carcass)'; Yn *johe*. — Mim *joka-m* 'small part, less than half', *joke* 'small'; CoMu *joxo* 'a load of meat'.

4. NIGHT, DARK — PUr **jütV* (FUV 20) Ch *jut* 'night'; Vg *īt', ēt'*, *jit'* 'night'; OsNi *jet-n* 'in the evening'; Sk *üüte* 'evening'. — Mib *júte* ~

jütte 'to be dark', *jütte mícca* 'Night Man'; Mim *wala-juta* 'night'; Miss (Gatschet) *jutu-ja-ti* 'evening', *jute* 'getting dark'.

5. LIGHT; BURN, TO — PUr **jelä* (FUV 17) Lp *jâl'li* 'to get bright, lighten'; Yr *jal'a* 'light, day, sun'; Tv *jale* 'day'; Ch *jül-* 'to blaze, to burn, light a fire'; Yukagir *jelo-ze* 'sun'. — Mip *jul-a* 'light (of any kind)'; Miss *jul-a* 'grave fire'; Mics *jyl-a-* 'a blaze of fire'.

6. GRIND, POUND, TO — PFU **ješV* Zr *iz* 'to grind'; OsS *is* 'to grind', *isem* 'hand mill' (Zr *izan*); Vg *jěsi* 'to grind, rub, crumble, wear off' (MK 156a). — Mil *jéca-* ~ *jéec-* 'to crush, mash', *jécca* 'to crush, pound'; *jecéela-* 'to crumble'.

7. TURN, TO — Vg *janxi* 'go around, to turn, whirl, become dizzy'; 'to wander, moon (wanderer), to direct, to lead' (MK 173a). — Miss *janlaj-ny-* 'to roll around, lie down'; Mics *jýŋ-e* 'to become dizzy, to get drunk'.

8. DANCE, TO — OsS *jōk-* 'to dance' (in honor of the bear); OsN *ūna jāk* 'high dance (of spirits during bear festival)'; Vg *jekw-* 'to dance', *anśux jekw* 'bear dance'. — Mip *jahwo* 'to kick' (cf. Mics *ká-l-* 'kick' and *kala-ŋ-* 'dance'); MaMd *júkbo* 'a romping bouncing dance imitative of the bear and done dressed in a bearskin'.

Uralic and Finno-Ugrian medial *-j- remained -j- in Miwokan.

9. SING AS A SHAMAN, TO — PFU **keje* or **kVjye* (FUV 79; FUE 346) Lp *gikkâ* 'to mate, flirt, sound of shaman'; Zr *koj-* 'mating call of grouse'; Hu *kéj* 'pleasure, lust', Vg *kaj-* 'to sing as a shaman', Os *kōj-* 'sing incantations as an ecstatic shaman'. — Mil *kója* 'to sing; song', *kojánni* 'music, musical instrument', Mib *kója* 'to sing'; *kójwa* 'to flirt', Miss *koj-pa* 'to suck for a disease object (as a shaman)', Mil *kój-ni* 'to be happy', *ʔutél kójni-wili* 'magic song (this was sung while fasting in order to gain power and invincibility)'.

10. HILL, MOUNTAIN, ISLAND — Os *paj* (KT 654b; FUV 74) 'hill, mountain, island, crowd'. — Mib *paj* (Kostromitonov) 'mountain', *pájiš* 'hill', *Támal pájiš* 'West Hill' in San Francisco Bay area, Mim *pajis* 'mountain, island'.

Uralic and Finno-Ugrian *l- remained l- in Miwokan.

1. BONE — PUr **luwō* (FUV 32) Fi *luu*; OsN *low*; Vg *lu, luw* 'bone'; *ses-luw* 'spine, backbone'. — Mics *luwʔa-* 'spine'.

2. APPEAR, TO — PUr *lakV- (FUV 32) Zr *l'ik-my-* 'appear', Vg *lakw-* 'to stride, come forth, to arrive, to approach' (MK 247b). — Mics *lák-šy-* 'to appear, approach'; Miss *lak-h-* 'to appear, emerge'.

3. SNARE, NET — PFU *lämcä (FUV 94) Zr *leć* 'snare for rabbits and birds'; Vg *lēs* 'hunter's snare for martens and birds', Os *lis* 'snare, sling'. — Mics *láš-a-* 'rabbit net, carrying net'; CoMu *lasun* 'net'.

4. TAKE OFF, SKIN, TO — PFU *lačkō- (FUV 94) Fi *laske-* 'let go, unharness'; Vg *loškəm* 'come loose'; OsN *losxij* 'to unharness, to skin a bear ceremoniously'. — Mics *lút-u-* 'to skin an animal', *luŋu-je-* 'naked'; WiWt *lo-s, lo-sa, lo-hca* 'to scalp'. Among the Ob-Ugrians the practice of scalping and the skinning of the bear is ritually connected (Munkácsi).

5. SHOVE, BEAT, TO — PFU *lökkV (FUV 96; FUE 409) Fi *lykkää-* 'to shove, to throw'; Hu *lök* 'shove, throw'; dial. *lükő* 'pestle'; arch. *lüköd* 'beat'; Vg *lökəm* 'shove' OsS *lökim-*. — Mip *lik-ta* 'to beat'; CoMu *lik-i, likni* 'to beat, to kill'; MaMd *lok* 'to shove'; *by-lók, jo-lók* 'mash up'.

6. SOUP, BROTH, FEAST — PFU *lēmē or *leme (FUE 392; FUV 95) Fi *liemi* 'broth, soup'; Hu *lé, leve* 'broth', *leves* 'soup'; Vg *lām, loam* 'soup'. — Mil *lúmaj* 'festival, occasion'; MaNi *lumaj* 'feast, a soup party' (Dixon) reported by Powers (1877:326); WiWt *nop tummis* 'deer stew' (*nop* 'deer') (Powell 1877:532).

7. GO OUT, TO — PFU *läkte- (FUV 94) Ch *läktä* 'to go out'; *lukta* 'id.'; Os *lüyat*. — Mics *lukta-* 'to go out, to exit'.

8. SPEAK, TO — Vg *lawi* 'to speak, to talk, to tell'. — Mics *liw-a-* 'to speak', *liwá-* 'language, word'; Miss *liw-a* 'to talk, to tell'.

Uralic and Finno-Ugrian medial *-l- remained -l- in Miwokan.

9. BLOOD, RED — PUr *käle (FUV 12) Lp *gielo* 'clot of coagulated blood'; Vg *kelp* 'blood, red'; *kelp majt ...* 'the blood became liver-like' = 'coagulated'; Yr *sielw* 'hard blood, to paint red'. — Miss *kyly-t-* 'to bruise (tr.)', *kyl-a-* 'liver', PMi **kyl-a-*. (Md) WiWt *kilah* 'liver', WiPa *kil-kile* 'red'; WiWt *kili* 'paint' (DuBois); CoRu *kilpum* 'vermillion, cinnabar'.

10. SING, TO; SHAMAN'S SONG — Vg *mul* 'magic, prayer' (< Os.); *muli* 'the prominent, sacred place opposite to the door'; Os *mul* 'magic spell, curse of a shaman; sacred place in the house' (Steinitz 1975–1980: OA, II, 110). — Mics *mýl-i-* 'to sing'; *mý-li-* 'song'.

Uralic and Finno-Ugrian *r- remained r- in Costanoan but changed to l- in Miwokan.

It changed also to l- in nearly all the Samoyed languages.

1. STICK TO, TO — PFU *roykV (FUE 523) Os *roykə* 'to stick together with a needle, to get stuck'; Hu *ragad* 'to stick, get stuck, to glue; stickers of the thistle'. — Mip *lok-a-* 'to stick with a needle, get stuck'; *lok²a-tu-* 'sticker, bull thistles'.

2. SHAKE, TO — PFU *rečə or *reñčə (FUE 532) Ch *rüz* 'to swing', *rüzj* 'shake'; Vg *räs* ~ *ris-* 'tremble'; Hu *rezeg* 'shake, tremble'. — CoMu *ruisu*, *ruisin* 'tremble, shake, stir'; Mip *lyt-a-* 'to shake'.

3. UNRAVEL, TO — PFU *rońčV (FUE 536) Ch *rońče-* 'unravel', Os *rače-* 'fall apart (cloth)'; Hu *rongy* 'rag, ragged; fall apart'. — CoMu *roči-we* 'disentangle, free, release'.

4. DECAY, DISEASE — PFU *rotV (FUE 540) Ch *rot* 'to decay', Os *rut* 'wart, smallpox' (KT 811b), Os *rötax* 'brittle'; Hu *rút* 'ugly', *rút-ság* 'pus', *rot-had* 'decay'. — CoMu *ručü* 'wart'; CoSol *rutu* 'sickness, sick'.

5. CRACK, OPEN, TO — PFU *repV (FUE 529) Fi *repiä* 'tear'; Lp *räppät* 'to open'; Vg *ripsä-* 'to crack open'; Hu *reped* 'burst, split, open'. — CoMu *ripsa* 'to open with a knife', *ripu* 'to prick'; Mip *lup-* 'to pull up (grass)', 'smash a hole through'; *lup-u-* 'acorn cracker; rock for cracking nuts'; Miss *lop-a-* 'pound, smash', *lopa--a-* 'small mortar'.

6. BLINK, TWINKLE, TO — PFU *remke- (FUV 110) Lp *râw'kâ*, *râm'ko* 'wink with the eyes, get dusk, dark eclipse'; Os *rimək* 'dusk, twilight, darkness'. — Mil *lem²-* 'to blink, to flash, to twinkle (Morning Star)'.

7. STRING, CORD — PFU *rešV- (FUV 136) Mdv *rišme* 'rope', Lp *riečme* 'rope of root fibers', Vg *räsne*, *rāsen* 'rope, cord'. — CoMu *ru-ris* 'bowstring', *ri-res* 'arrow-cord, spear-cord', *ruk-esma* ? < *ruk-resma 'double cord' (*ruk* 'cord'). It is also compared to Sanskrit *raśanā* 'cord, rope', *raśmi-* 'id.'

8. SMALL, PORTION — PFU *răčə or *ričə (FUV 111; FUE 531) Zr *roc* 'part, piece'; Hu *rész* 'part, portion'; Vg *-rís*, *-rəs* 'diminutive suffix, used also in terms of endearment'. — CoMu *ris-ui* 'young coyote' (*ui* 'animal' ?), *ristest* 'to serve, distribute', PCo **ris* 'meat' (Semantics: PFU **oča*, **ońča* 'divide, portion, meat').

Uralic and Finno-Ugrian medial **-r-* remained *-r-* in Costanoan but changed to *-l-* in Miwokan.

Sometimes by secondary development it became *-j-* or *-Ø-* in Coast Miwok.

9. FOOT, LEG — Os *kur* 'foot, leg, tracks' > Vg *kur*. — PCo **koro* 'foot, leg'; PMiw **kolo* 'foot, leg, tracks'; Mib *kojja* 'to be tracking', *koo* 'foot, toe, track'.

10. COVERING, ROOF (HAIR, GRASS) — PFU **korə* (FUV 79) Lp *goarâ-n* 'hairy skin covering the reindeer's drag-rope'; OsE *körə*, OsS *xörə* 'roof (of a house, boat, sled), fur-coat, birch-bark roof, leather case', OsE *kat-körə* 'roof of the house'. — Mim *koča-koli* 'roof of the house' (*koča* 'house'), *kōlē-mōlū* 'hair' (*mōlū* 'head'), PMiw **kóle* 'grass, hay'.

The *r > j* rule

Miwokan *l-* and *-l-* became *j-* and *-j-* by secondary development.

In the example *-r-* 9. FOOT, LEG Os *kur* 'foot, leg tracks', PCo **koro* 'foot, leg'; PMiw **kolo* 'foot, leg, track' has the secondary development in Bodega Miwok *kojja* 'to be tracking'.

In most instances between *r* (*l*) *j* no intermediate *l* forms are available.

The examples for the *r > j* rule are listed without Finno-Ugrian, Uralic proto forms.

Initial *r- > j-* rule

- | | |
|---|--|
| 1. Vg (MK 491b) <i>rax</i> 'groats, gruel' | Mil <i>jókko</i> 'a corn gruel' |
| | CoMu <i>rok-ie</i> 'powder' |
| 2. Vg (MK 491b) <i>raxt, roxt, räkt</i>
'mud, clay, dirt' | PMiw <i>*jotok</i> 'mud, clay, dirt'
(metathesis) |
| 3. Vg (MK 492b) <i>rami</i> 'to dig, to bury'
(German: <i>graben</i>) | Miss <i>jam·eH</i> 'grave, grove
yard' (morning ceremony) |
| | CoRu <i>rum-</i> 'canyon, rivulet' |
| 4a. Vg (MK 499a) <i>rēp</i> 'steep bank of a
river or a sea' | Mil <i>jébba</i> 'to break off a
bank; WiPa <i>yébt?</i> 'bank' |
| 4b. Vg (MK 495a) <i>ropi</i> 'to cave in, to
fall down (roof, ditch)' | Mil <i>jéb ~ jép</i> 'to cave in, to
break off' |

5. Vg (MK 494a) *räs-ki* 'to chew, to gnaw'
6. ?Vg *ris, -ris* 'small; old man (man, male)
cf. *r-* 8. small portion
- 7a. Vg (MK 495b) *rawi* 'to shake, to swing, to shake a tree, to stir, to mix'
- 7b. Os (KT 793) *rewi* 'to shake, to tremble, to wag tail'

Mil *jássu* 'to chew'
 CoMu *ra-ras* 'molar tooth'
 PMiw **-jis* 'man, male, old man, woman'
 PCo (*-*)*ris* 'small, old person'
 Mins *jawa* 'to mowe, to twitch, to put up tail;
 PPe **jaw* 'to stir, to mix';
 Miss *ju-w* 'to row'
 Mins *je-wa* 'to shake, to quake; *jewa-* 'earthquake, to shake a tree'

Medial *-r-* > *-j-* rule.

1. Vg (MK 48b) *āri* 'much more, to add more'
2. Vg (MK 66a) *ēri* 'to like, to love; dear, nice'
3. Vg (MK 329b) *nar* 'to scold, to curse'
Vg (Ka 270) *nar* 'taboo, prohibition, sacred'
4. Vg (MK 329b) *ner* 'anger, angry (producing anger and punishment by the supernatural)'
5. Vg (MK 223b) *kur* 'foot' < Os (KT 418b) *kor* 'foot, leg' (KT 426a) *kor-em* 'track; to step, to go'
6. Vg (MK 193b) *kar-elli* 'to drill'
7. Vg (MK 193b) *kār-kej* 'sturgeon, sterlet'
8. Vg (MK 175b) *jor* 'pride; to praise (biblical); to brag'

Miss *ʔaj-* 'to add'
 Mip *ʔa-j-* 'more'
 CoMu *ar-ka* 'to increase'
 PMi *ʔej-* 'to like, to love; nice'
 Miss *naj-* 'to scold'
 Mics *naj* 'top argue'
 WiPah *nari* 'to scold'

Miss *nej* 'to quarrel; angry'

Mil *kólo* 'foot'; *kóolo* 'to track'
 Mib *koo* < **kojo* 'id.' *kojja* 'to be tracking'
 PCo **koro* 'foot, leg'
 Mins *kaj* 'to drill, for making fire'; *kajan* 'matches'
 CoMu *karka* 'to kindle fire with small sticks'
 CoRu (H) *kar-k* 'fire drill'
 Mim *kaj-kaj* 'sturgeon'
 Miss *jo-j-* 'to praise; to brag'

The Correspondence of Eastern Miwokan CV[?] to Vogul CVS

Most of the sound correspondences in this comparative study are quite simple and transparent. Miwokan *p-* = *p-* in Vogul; *t-* and *ṭ-* = *t-*; *h-* = *x-* (but *x-* is written *h-* by Collinder). The Miwokan forms show also a general denasalization, as compared to Vogul, often with complementary lengthening of the consonant or the vowel: e.g. CV(C)C or CV(V)C = Vogul CVNC. This rule operates also within the various branches of the Ugrian languages. Items 3, 4, 7, 10 etc. in the comparative word list illustrate the case in point.

In Hungarian this gave rise to the voiced stop series in medial position: Vogul *āmp* = *eb* 'dog'; **amt* = *ad* 'to give'; Vogul *xanx* = *hág* 'to climb'.

A more complex sound law operates in regards to Miwokan [?] in root final position: CV[?]. This glottal stop ([?]) can be equated with Vogul *-s-*; *-š-*; and *-ś-*. Through the process of denasalization Miwokan *-ʔ-* equals also Vogul *-ns-*; *-nš-*; and *-ńś-*. This Miwokan [?] Vogul *S* (Sibilant) sound law is very pervasive. The subsequent list (and their internal cognates, which are not quoted) contains about 90% of all occurring Miwokan forms with CV[?].

The phonemic process **S > h > ʔ* occurs internally especially in the Eastern Miwokan languages, as it appears in items 29 and 63 in the following word list. The partial process *S > h* is also common especially the *š > h* rule between Central Sierra Miwok (Mics) and Southern Sierra Miwok (Miss). This (*S > h*) must have been the intermediate stage through which Vogul *S* ultimately became Miwokan [?] in root final position.

Similar (*S > h*) sound law operates between Proto Finno-Ugrian and Finnish, Proto Indo-European and Greek. The complete loss of Proto Finno-Ugrian **s-* and **š-* in Hungarian can be explained by the intermediate stage of the same process.

The subsequent list is a schematic overview.

- 1 Mics *páʔmy-* 'to smoke tobacco' VgLM (465b) *pásm* 'to smoke
YoKo *paʔomʔ* 'smoke' (fish, meat)
Note: The semantic development, after the discovery
of America, is similar to English 'to smoke'.
- 2 Mics *páʔ-y-* 'to divide in two' VgLM (416a) *paš* 'a split,
division'
- 3 Mics *póʔ-* 'to open' VgLL (479a) *poš-*, *pānši* 'to
open'
- 4 Miss *poʔ-ok* 'blunt pointed' VgLM (412a) *pāns* 'blunt pointed'
- 5 Mim **peʔak* 'swallow (bird)' Vty (FUE 186) *poškě* 'swallow'
(Hu *fecske*)
- 6 Mip *poʔ-oh* 'toy' VgP (485b) *pyšus* 'toy doll'
- 7 Mics *tóʔ-* 'to sit'; *tyʔ-* 'to put'; VgLM (681a) *tuš-*, *tūnš-* 'to set,
Mins *toʔ* 'to put' to put, stand' (tr.)
- 8 Mins *toʔ-a* 'base framework' VgN (662b) *tōs* 'wooden cross-
pieces, framework'
- 9 Mins *toʔ-* 'stiff' VgLM (663a) *tōs* 'dry, solid, stiff'
- 10 Mins *tuʔ-* 'measuring worm' VgLM (680a) *tūnš* 'earthworm'
- 11 Miss *tiʔ-p-* 'hold one's breath' VgLM (685a) *tus* 'mouth'
"to close mouth"
(-p suffix indicating 'closing')
- 12 Miss *tiʔ-jaH* 'chief'; cf. Mip VgLM (634a) *teš* 'brave'
-ja 'animate suffix'
- 13 Mics **taʔ-* "bald" as an eagle; VgT (633b) *tas* 'bald'
to 'take off scalp' Note: Tatar *taz* 'bald',
(Gifford 1916:156) Mongol *tas* 'a gray eagle'
- 14 Mip *taʔ-* 'to catch (ball)' Vg (KLE 382) *tus-l* 'to catch
(ball)'
- 15 Mip **kuʔi* 'knife'; also *kuc-i* VgK (196b) *kāsi* 'knife'
(Mins *kuci*, Miss *kiče* 'arrowpoint')
- 16 Mim **kaʔi* 'eggyolk' VgLM (198b) *kāš-m* 'yellow,
(CoScl *kaš-* 'yellow') eggyolk' (*Kazim* river)
- 17 Mim **kaʔo* 'brother in law' VgK (226a) *kuš* 'brother in law'
- 18 Mics *háʔ-* 'to throw, to knock VgN (111b) *xos* 'to throw,
down' to knock down'
- 19 Mins *hoʔ-* 'flexible' VgN (112a) *xās-nā* 'flexible'
- 20 Mics *héʔ-* 'to lean' VgN (130a) *xūsi* 'leaning'

- 21 Mics *hi²-a* 'to get well'
"strong, hard"
Miss *hiš-a-ša* 'rigid' VgN (126a) *xuńś* 'hard'
- 22 Mins *hy²-y-* 'to know' VgN (77b) *xańśi, xas* 'to know'
- 23 Miss *ha²-* 'round'
Note: The *h-* in Miwokan presupposes
an original labial vowel following. VgN (86b) *xās* 'hook'
- 24 Mics *mo²-* 'partner, friend'
Note the semantics: CoMu *miw*
(*miwok*) 'friend' VgN (316a) *mos* one of the two
Vogul "fratria"-s. Related to
māńśi 'Vogul' and
magy-ar 'Hungarian'
- 25 Mics *mo²-tu* 'illness'
(Gifford 1955:266) VgN (315b) *mos* 'illness'
- 26 Mics **ma²e* 'shirt' (Curtis) VgLM (303b) *māš-ne* 'clothing'
Mib *lush-mahe* 'shirt' (Kostromitonov)
- 27 Miss *me²-* 'to open (mouth),
to unfold' VgLM (306; Ka 366) *mēši*
'riverbend, to wind; mouth of
the river; bay'
- 28 Mics *ná²-a-* 'twenty; ten'
(twenty bear claws
on the necklace) ?VgN (358b) *ńās, ńas* 'hook, bear
claw' (twenty "fingers")
Note: **tisū* 'hand, fingers, nails, obsidian
imitation bear claws'.
- 29 Miss *na²-* 'even, just, right' VgN (338a) *ness, nas* 'even,
just'; (Ka 270)
- 30 Mip *no²-* 'to choke', 'to smother' VgN (369b) *ńos* 'to choke'
- 31 Mip *no²-* 'to push, bump'
Mins *no²* VgN (374a) *ńusi, ńunsi*
'to stretch by beating,
pushing and pulling'
- 32 Mip *nu²-* 'to cry (dog)'
Miss *noc-*; Mins *nocu* 'to cry, mourn,
howl' VgT (344a) *nāšā* 'to cry'
- 33 Mics *wó²-* 'to go home' "to home" VgT (705b) *ōš ~ wōš* 'town;
domestic' "home"
- 34 Mics *wó²-e-* 'to be nauseated' OsI (Patkanov 448) *wos, us*
'nauseated; 'throw up, yawn'
- 35 Mins *wa²-e-* 'wilds; valley' VgN (716a) *wāns* 'grass,
meadow'
- 36 Miss *wo²o-k* 'to howl, bark' VgN (739b) *wōś* 'pain'; OsN 'to
pine, to howl'

- 37 Miss *wo²ta-* 'to throw (a rider)' VgN (740a) *woś* 'to throw to the ground, to beat'
- 38 Miss *wa²-* "leave half" OsN (PB82) *was* 'to divide, split'
- 39 Mip *we²ci* 'color; to look like' VgN (724b) *wēs, wēńś* 'beauty, appearance' < Os (KT 254) 'to look like'
- 40 Miss *wo²co-* 'clown' VgN (395a) *oś-xol* 'joke' OsN (VH 182) *oś-halt ho* 'clown' (*ho* 'man')
- 41 Mins *we²y-* 'to pry open' VgK (739a) *wās* 'to burst, split open'
- 42 Miss *ja²* 'to take a step' ?VgLM (177b) *jaš* 'path'
- 43 Miss *je²-* 'to believe, decide, obey' VgL (156a) *jēs* 'reason, mind, (*je-h-* 'to think, meditate') memory; clever'
- 44 Mins *ja²-* 'twilight' VgT (178a) *jās* 'clear up'
Note: *xuj* 'morning, evening twilight'
- 45 Mil *jo²-* 'to hand to' VgK (185b) *jōs* 'to give a gift' (178a) *jōs* 'hand'
- 46 Mics *lúw²a-* 'spine' VgN (277b) *luwsa-m, LM lušm* 'spine' (*luw* 'bone')
- 47 Miss *lo²·o-* 'laxative'; "cascara sagrada", "sacred bark" VgN (268b) *lās-* 'empty, to empty, (*loh-a* 'medicine') loose, lax'
- 48 Miss *la²-* 'meadow' VgN (277b) *lūs* "meadow", (Ka 261) 'swampy meadow'
lo-ha 'swamp, bog'
- 49 Miss *lo²-* 'to join' VgT (267b) *lōš* 'yoke'
Note: *join* < Lat *jungo*;
(< *yoke* < IE **yeug*)
- 50 Mics *lú²-* 'to drop' VgN (268a) *lās-* 'to slam' KLE 180 *lo-s* 'plump'
- 51 Miss *sy²·yl* 'wild animal' VgN (580a) *sus* 'wild animal; bear, elk'
- 52 Mics **só²-pa* 'to pour' VgN (565a) *sōsi* 'to run (*sis-a* 'scatter' (water), pour, scatter'
si-sa 'rivulet')
- 53 Mins *so²se* 'hair erect, crest' VgLM (566a) *šoši, šonši* (?) 'to make hair erect'
- 54 Mins *so²mu* 'to catch' OsN (PB64) *sēs* 'trap'; (KT 880b)

- 55 Mins *sa*[?]- 'to settle (mud or acorn flour)
- 56 Miss *ce*[?]- 'to hit a person with an overhand thrown object'
- 57 Miss *cu*[?]- 'to trot (horse)'
- 58 Mins *ca*[?]- 'to dawn'
cf. Mics *čaksi* 'dawn'
časka 'to spark';
Mins *casu*- 'to shine'
- 59 Mil *ćó*[?]- 'to whine'
- 60 Mip *co*[?]*o-pa* 'willow'
Mins *sos*^o 'white willow',
(**-pa* 'tree'),
Maidu *pa* 'bush; to stand as a tree'
- 61 Miss *ʔa*[?]*ʔt* 'crow'; (?) 'raven';
(Barrett 1919:26, 27)
- 62 Mins **ʔo*[?]- or **ʔoh* (Merriam 1904:
Schedule 72:38)
o^h-*kala* 'bighorn sheep'
(-*kala* is a common suffix)
- 63 Miss *ʔy*[?]*ʔj*- 'to not like'
Mics *ʔyšy*[?]-š 'to not like'
ʔyš[?]-y- 'bad'
Miss *ʔysy*- 'bad, spirit'
ʔysy[?]- 'disease, seriously ill'
(*ʔysy-ma*[?]*ti* 'grizzly bear', "the evil thing")
Miss has -*s*-, -*h*- and -*ʔ*- variations of this root.
- VgN (556a) *sošsā*- 'to settle (people)'
- VgN (691a) *sās* 'to sprinkle with water' (In purification ritual it is substituted by snowball thrown at a person.)
- OsI (Patkanov 315) *čuš* 'to go by steps (as a horse)'
- OsN *šoš* 'to step'
- VgN (565a) *sas*- 'to sparkle, to scatter sparks' cf. *soši* 'to pour, scatter'
Also (603b) *šos*- 'scatter sparks'.
Above No. 52.
- VgN (596b) *šís*- 'to whine, to howl as a dog'. (Onomatopoeitic. Vocalism?)
- VgN (533a) *sās*,
LM *šoāš* 'birchbark'
(-*pa* 'tree' VgN (400a))
- ?VgN (42a) *ańsux* 'old man, bear, elk, ghost, etc.' 'raven' is: *xulax o*[?]*jka* "raven old man" (119b); *o*[?]*jka* (381b) 'old man, bear wolf, Vg *urin-ekwa* 'crow-"old woman"'
- VgN (391b) *ōs*,
LM *ōš* 'sheep'
- VgN (136b) *is* 'shadow, shadow-spirit, ghost'; rel. to Hungarian *isz*, (arch.) 'cancer, serious, illness evil, bad' (FUE 327-329)

Addenda

- 64 Mip *wo*^o 'to lean over'
wos- 'to bend'
 Mins *wos* 'to lean by bending'
- 65 Miss *pu*^o 'to squat';
 'to perch (bird)'
- 66 Mics **wo*^o*é* 'nine'
 Semantics: CoMu (445)
wate "to near" = 'to come' and 'to go'
 (Mason 1916:439) 'nine' ?
wat-su < **wati-isu* "near finger"
- OsKa (KT 258a) *wos-alliti*
 'to bend'
- VgN (444a) *pit'i* 'nest', to "nest" <
 PUr **pesa*, Fi *pesä*,
 Hu *fészek*.
 Note: 'nest' Germanic **ni+s(i)t*
 "to sit down" = 'nest'; and
 "squat" of an animal. English:
 "squat of a hare"
- VgN (722b) *wat'i*
 LM *woete* 'short, near':
 Semantics: Vg (386a) 'nine =
ontil-low "on the side of ten"
aptil (388a) 'rib, side' FUE (366)
 s.v. Hu *kilenc* 'nine'

Contribution to an Ugrian-Maiduan Comparative Dictionary

The Maiduan languages are divided into *Maidu*, *Konkow*, and *Nisenan*. They have been called "Northeastern Maidu" or "Northern Maidu"; "Northwestern Maidu" and "Southern Maidu" respectively. Their

... traditional homes were in a roughly rectangular area with corners at Mount Lassen, Honey Lake, Sacramento, and some point a few miles south of Lake Tahoe (Shipley 1964:1).

For Maidu we have outstanding ethnographic and linguistic records. The most significant are: Powers 1877:586-600; Dixon 1905, 1911; Gifford 1927; Curtis 1924; Kroeber 1924; Shipley 1963, 1964; Riddell 1978 in Heizer ed. 1978; Potts 1977.

For Nisenan we have Powers 1877:311-345, 419-432, 586-600; Kroeber 1929; Beals 1933; Faye 1923; Uldall 1965; Littlejohn 1928; Wilson and Towne in Heizer ed. 1978, 1982. In general the volume 8 of the *Handbook of the North American Indians* edited by Heizer (1978) provides the best summary on the Maiduans. Taylor (1991:146-147) published an outstanding photographic panel of Dixon's Maiduan collection gathered between 1899-1903. Ultan (1964) lists 314 reconstructed Proto Maiduan forms and lists other 58 sets which are most likely related. These reconstructed forms are cited by us whenever appropriate, with Ultan's numbers. This is the first entry in the right hand column, preceding all Maiduan forms. e.g. 20 PMA **hón* 'heart' (79, 80).

Konkow has not been described systematically. We have only scattered data in the above mentioned ethnographic and linguistic works. Note however Powers 1877:282-312, "The Maidu". For this reason we quoted only a limited amount of Konkow forms.

The Maidu phonemic inventory is as follows:

Consonants

Restricted:

voiced imploded stops *b*, *d*; voiceless glottalized stops *p̥*, *t̥*, *c̥*, *k̥*, *ʔ*

Unrestricted:

voiceless plain stops *p*, *t*, (*c*), *k*; spirants *s*, *h*; nasals *m*, *n*; semivowels *w*, *j*; lateral *l*.

Restricted consonants are limited to syllable-initial position.

Vowels

High *i, y, u*

Low *e, a, o*.

This inventory includes a glottalized series, which in view of other Penutian languages must be considered as secondary development. One can say the same about the two voiced 'implosive' stops *b* and *d*. The comparative data clearly indicate, that they originated from voiceless 'explosive' stops. A similar process: where voiceless stops became voiced (*p* > *b*) took place in the Uralic languages often under unknown conditions. This happened in Lapp, Permian, Hungarian and Southern Samoyed.

Thus in our comparative sets PFU **p-* and **t-* is often represented by Maiduian **b-* and **d-*.

Denasalisation often takes place in Maiduian. The process of denasalization of the medial clusters began already in Vogul: *tuńś* and *tuś* 'to stand' is related to Maidu *tys* 'to stand' without the *-n-*. Maiduian further has the tendency to drop root final nasals.

The depalatalization process in Maiduian is responsible for the reduction of FU **ń* (*l'*) to *n* and (*l*) and the complex problem associated with the reflexes of FU *ś, š, ć, č*.

The Maiduian reflexes of FU **s* follow the Ugrian and Samoyed example and became *t* (> *d*). This is an important diagnostic feature which further strengthens the Cal-Ugrian hypothesis. We will provide more information about this at the end of this introduction.

The most stable phonemes are initial **m-*, **n-* and **w-*. They remained unchanged.

Maiduian **j* has two historical sources. One set is from FU **j*, and the other from FU **r*. This *r* > *j* rule is well established in Maiduian and in Miwokan. Siegl (1994:45) quotes several examples and he calls it "Sadovszky's Second Law". The rule of change of FU **-s-* to *-ʔ-* in Miwokan and Penutian Siegl calls "Sadovszky's First Law" (Siegl 1994:43).

The root vowels are relatively stable, but in view of vowel harmony in both language families, the second vowels are unstable.

But let us return to the Maiduian reflexes of PFU **s*. This phoneme became *θ* in Proto Ugrian, which later became *t* in Vogul and *θ, t, l, j* in Ostyak. In Maiduian it is *t* (or > *d*). Example: Entry 79. PFU **sayća* 'to stand'; Vogul *tuńś* denasalised *tūs* 'to stand' corresponds to Maiduian *tys* 'to stand' (some reflexes occurring with *s* > *ʔ*). Further examples in 11 and 77.

The **s-* > **t-* > **d-* process took place in entry 12, PUr **soks3* 'to bite', Vogul *tow*, Maiduian *do* 'to bite'.

A special set of cognates, which is not included in the comparative sets, requires more explanation. It is an important set, for linguistic, ethnographic and paleolinguistic reasons. The Vogul (MK 666a) word is *tôt, tat* 'Siberian pine', *Pinus cembra*, German: *Zierbelkiefer*. For the Ostyak cognates see KT 1059. The Penutian cognates are as follows: Nisenan (Kroeber 1929:285a) *tytyk* 'fir' (?); Beals (1933:353) gives *tutuk* 'fir'; Barrett and Gifford (1933:145) quote *tuttukine* 'white fir' for Central Sierra Miwok; Curtis (1924:236) has Valley Maidu *tytyky*; Hill Maidu *tytyky-m* 'Douglas spruce'.

The Proto Uralic form is **soks3* (**saks3*, **sęks3*) (Rédei UEW 445). Linguistically it is significant that this word contains in Vogul, Nisenan and Miwokan the diagnostic *t* in "initial" and in "medial" position.

The ethnographic reason for the importance of the set is, that the nut of this tree was one of the most important food items of the Ob-Ugrian and other Siberian peoples. In California, pine nuts (beside acorn) constituted the staple food of the Indians. We should note that the Bodega Miwok, living north of San Francisco, call themselves *ulla-micca* 'the nut people', meaning the pine nut. The word *ulla* is related to Vogul *ul*, another word for the Siberian pine.

The paleolinguistic importance of the Siberian pine is, that it has a limited geographic distribution in Eurasia. Its eastern limit west of the Ural Mountains extends only to the Pechora River and the Kama River region (Hajdú 1975:31 map, 34). With the aid of this, and with other paleolinguistic data, Uralicists attempt to determine the original homeland of the Uralic peoples. Similarly the close Californian cognates strengthen our theory about the original homeland of the Penutians.

We should note, that some Turkic languages borrowed the word from an Ugrian (perhaps Vogul, Rédei UEW 445) language. So we have Uigur, Kirgiz, Chakassian *tyt* 'larch' and Yakut *tit* 'larch'.

The order of comparative sets is as follows. The entries on the right side were listed in the Maidu alphabetic order: *b, c, d, h, j, (r- > j-), k, k, l, m, n, s, t, t, w, ʔa, ʔe, ʔi, ʔo, ʔu*.

For the sake of brevity only five (5) cognate entries were selected for each correspondence.

Comparative Sets

1

- Os (KT 655b) *paj* 'storm, storm-cloud, thunderstorm, thunder' — Ni *ba:j* 'rain'

2

- VgN (MK 413a) *pāŋxw* 'morning twilight'; (KLE 253) connected with (MK 412b) *pāŋx* 'fly agaric' (*Amanita muscaria*); 'shamanistic ecstasy; drunk'. Ritual narcotic mushroom of the Ob-Ugrian shaman.
— Os (KT 688b) *paŋx* 'id.' Extensive (shamanistic) compounds.
- PMa **banák* 'light' (3)
— Ni *banaka* 'daylight, dawn'.
— Md *banák* 'brightness, light'; *benek* 'tomorrow, morning'.

3

- VgN (MK452a) *pol'xəs* 'boots'; 'the hind leg of bear'; P *pāl'kəs* *närä-pum* 'hay (*pum*, cf. 65), put in the reindeer boots'.
— Md *bolok* 'shoe, footwear'. In the winter the Maidu use hay (*pò* cf. 65) in their footwear.

4

- OsV (KT 740b) *pos* 'arrow with a sharp narrow point'; Kr *pus* 'arrowhead (bone, iron)'; Ka *pos* 'a special old fashioned arrowhead; arrow (tabooword during bear festival)'.
— PMa **bosó* 'flint' (15).
— Md *bosó* 'flint, arrowhead'.
— Ni *boso* 'knife, spear, spearhead'.

- Os (KT 695b) *pelək* 'half, side, beside';
- VgN (MK 404b) *pāl*; T *pāl* 'side, region, direction; etc.'
- Hu *fél* 'half, side, etc.'
- PUR **pälä*; FUE 194.
- Md *beléw* 'side, beside' (nine, '9')

- Os (KT 929a) *čox* 'wood fallen treetrunk, tree, beam'; (Patkanov) *čox*, *šox* 'sticks, dry wood, (fire wood)'
- PMA **čah* 'tree' (23).
- Md *ča* 'tree, wood, stick'.
- Ni *ča* ~ *ča* 'id.'

- VgN (MK 515b) *saj* 'the place behind something, shadow, protection'.
- Os (KT 815a) *saj* ~ *šaj* 'behind, curtain, the cover, partition, shade, etc.'
- PMA **čáj* 'different' (24).
- Md *čâj* 'the away (from here) place, elsewhere, the other one(s)'.
- Ni *čaj* 'different, other, else'.

- Os (KT 846b) *sax-se* 'fat, tallow, fish oil, butter'; *jux-sax-se* 'tree fat' = *jux-woj* [*woj* 'frish oil, fat, tallow, butter'; Hu *vaj* 'butter' cf. 85. MaNi *waj* 'glue?'].
- Md *čakám* 'pitch, resin, gum, wax'; *caka mi* 'chewing gum'.
- Ni **čak* 'tarweed (a resinous plant)'.

Semantics: Latin *adepts arboris* 'gum' etc. literally 'fat, tallow of tree'. (Prokofyeva, etc. 1956: 523) "It was very common to chew resin, predominantly larch resin, which was considered the means of preventing scurvy."

The California Indians chew pine resin.

— VgN (MK 524b) *sami* 'to cut across, to hack, to cut (and saw) wood'.

— Md *čammi* 'knife' (Curtis 233); *s!ámmi* 'elkhorn wedge'.
cf. Mu *sami* 'to cut hair'; Mil *šame* 'saw'.

— OsTr (KT 914a) **šopəl*, *t'opəl* 'to caress, to kiss', (Patkanov) *t'apəl* 'to embrace, to kiss'.
— Vty *čup* 'kiss'.
— Vg (MK 549a) *sip* ~ *šip* ~ *šip*; T *šāpkh* 'to suck, (to kiss)'.

— Md *čopót* ~ *čobót* 'kiss'.
— Ni *čobob* 'to make sucking noise'.

— VgN (MK 615b) *taxi* 'to get to, to get stuck, to hit an animal, a target'.
— Os (KT 1054b) *toy* ~ *tox-* 'to hit upon, to meet, to hit (a target), to get to'.
— Hu *akad* 'to get stuck, to hit upon, to find, to meet, to hang, got hung up; hindrance'.
— PUGrian **sökkə-* or **šökkə-*; FUE 78.

— PMa **dák* 'to adhere' (43).
— Md *dâk* 'to stick, to get stuck; glue sticky substance'.
— Ni *dək-* 'to make the sound a spear produces when it hits the basket (target?)'.

— VgN (MK 669a,b) *tow-* 'to bite, to chew' (also: 'dog-bite, insect-bite'; etc.).
— OsS (KT 1057b) *toyət-* 'to bite'

— PMa **dóh* 'to bite'.
— Md *dó* 'to taste (something), to bite'.
— Ni *do-* 'to bite' (also: 'snake-bite').

— VgN (MK 685b) *tus-jəx* 'dust, powder'; LM *mō-tus-jəx* 'earth dust' (*mō* 'earth').

— Md *dūs*, *dusi* 'powder', *káw-dusi* "earth powder" = 'dust'; *pi-dusi* "charred powder" = 'ashes'.

- VgN (MK 618b) *tā-kəm*, *tā-xəm* ‘louse’;
 - Os (KT 974b) *tew-təm* ‘louse’;
 - Hu *te-tú* ‘louse’;
 - PFU **täje*; FUE 631.
- PMa **díh* ‘head louse’ (49).
 - Md *di* ‘head louse’.
 - Ni *di* ‘head louse’.

- Vg (MK 679) *tum-si*, *tum-p-si* ‘to spray, to spill’.
- Ni *dum* ‘wet’ (‘to wet?’).
 - Wintu (128) *dum-ca* ‘to wash the body, to bathe, to swim’;
 - McCloud *tumpča* ‘to bathe’.

- Vg (MK 93b) *xâx-relaxti* ‘bitter (to feel taste)’.
 - Os (KT 292b) *xay-* ~ *xax-*, *xix-* ‘bitter, sharp, hot (gall, vodka, salt, food, smoke)’.
- Md *hâk* ‘bitter, gall’.
 - CoRu (Henshaw 1955:171) [*ša*]-*kak-si* ‘whiskey’ = “bitter-water” (*si* ‘water’).

- VgN (MK 117b) *xûl*, T *khôl* ‘fish’. [Note: *xulêp* ‘fish net’].
 - Os (KT 380a) *xul-*, *xut’* ‘fish’.
- Note: (KT 708a) *pun* ~ *pon* ‘fish creel (weir)’.
- Hu *hal* ‘fish’.
 - PUr **kala*; FUE 250.
- Ni (Powers 592) *hōlli* ‘fish’, *hōl-tih* ‘sturgeon’, *hól-main* ‘id.’; (Kroeber 1929:284b) *hol-hol* ‘loon’.
 - Ko *hōl-ti* ‘sturgeon’ = “big fish”.
 - Ni (Beals 1933:347) *hól-em bin* ‘fish net’ (*bin* ‘net’).
- Note: Md *báno* ‘fish creel’ (Powers 297 *bon*); (Curtis) Md *benekem* ‘fishweir’. (Kroeber 1932:278) *bôno* ‘fish dam, fish weirs at Koru and Saka on the Lower Sacramento River’.
- Md *hal-baka* ‘shiner’ (a sp. of fish), **-bak* ‘to shine’, cf. 62.

- VgN (MK 79a) *xap* ‘threshold, boat; breast of bear’ (ferry, ship, etc.), *xāp-γa* ‘poplar’.
- OsN (KT 323b) *xop* ‘boat, breast and belly of bear’; *xop-jux* ‘aspens’ (“boat tree”); *xop* ‘log used as a threshold’.
- Ni (Kroeber 1929:287a; 260) *hápa* ‘log raft’. Description: Dixon 1905:198.
- Md *hap* ‘to pull up a long stemlike object’.

- VgN (MK 90b) *xis-γi* T *khas-* ‘to slip, to slide on snow and ice’ (German: *schlittern*; note: *Schlitten* ‘sled’, *Schlitt-schuh* ‘ice-skate’).
 - Md *hās* ‘to slip, to slide on the feet’ (derivatives: ‘ski, ice skates’, etc.).
- Note: Ni *ʔok-ak* ‘to slide on belly’ to Os *oγal* ‘sled’.

- Os *xon* (KT 308b) ‘belly, the belly side of animals, fishes, the fleshy part of palm and fingers; to become pregnant’, etc.
- Vg *xon Vanka* “Gutton Ivan”, name of an Ostyak.
- Hu **-xun* as in **ju-xun* ‘the inside, belly, stomach; heart, sense, liver, loin’; FUE 142–143.
- PMA **hón* ‘heart; to breathe’ (79, 80).
- Md *hôn* ‘heart; to breathe, to live; to speak; to blow; wind’.
- Ni *hon* ‘heart, chest, breast; to feel, mood; to breathe; inside (tuberculosis, asthma, cold); *hon-di* (loc.) ‘deep in’ (well, tunnel, hole, etc.), *hon-na* (allative) ‘deep in(to)’; *hon-nan* (ablative) ‘(from) inside’. — Ko (Curtis 232) *hón-na* ‘West’. One of the most productive roots in Penutian.
- Miwokan **hen* < **hon*.

- VgN (MK 140a) *jā*; K *jø* ‘river’.
- Os (KT 142, 148) *-jox, joyæn* ‘river’ as in *Vas-yugan, Yugan*.
- Md *já* ‘to swim, (fish)’; *jó* ‘to move through water, to dive, to come to surface’; *jo-nó* ‘to gush forth, as a spring of water’.

- Hu *-jó* ‘river’ (in river names).
- PUr **joke*; FUE 339.

- Ni *jo* ‘flowing water; to swim under water in order to catch something’; *jo-no* ‘to run (of water)’.
- Miss *jow-e* ‘flood; to flood’; Dixon (1905:212) *sěwim jōēn* ‘the river is running’. cf. 71.

22

- VgN (MK 170b) *jom-ēs* ‘good, right, beautiful, happy; healthy’; *jomēs-pāl* ‘right side’; *jomes khum* ‘doctor’ (*khum* ‘man’).
- Os (KT 167a) *jəm* ‘good, pretty, etc.’; OsS (169b) *jəm-pelək* ‘right (hand) side’; *jəm-saj* ‘right hand (side)’; (169a) *jəm-* ‘to heal’.
- Hu *jó* ‘good’, *javít* ‘to repair’, *javas asszony* ‘a quack (doctor) woman’; *jó-s* ‘prophet’, *jobb* ‘better, the right (hand)’.
- PUgrian **jom*₃ or *jama*₃; FUE 339.

- PMA **jim* ‘right arm’ (99, 100), PMA **jom* ‘shaman’ (106).
 - Md *jim-* ‘right hand, right arm’; > ‘arm’.
 - Ni *jim-* ‘right side’.
 - Md *jôm* ~ *jów* ‘shaman, doctor’.
 - Ni *jom* ‘to treat (shaman)’, *jom-my-se* ‘doctor’ (*my-se* ‘person’).
 - Md *jomim kylé* ‘female shaman’, *jom-pa* ‘sorcery, witchcraft’.
- [Note: Md *ja* ‘good; to want, to like’.]

23

- VgN (MK 142b) *jäx-xäti* ‘to shake’.
- OsN (141a) *jak* ‘dance’, *jok-ta* ‘to dance’, *woj-jak-ti* “to dance the bear” = ‘to perform at bear ceremony’.

- Md *jyk-kyk* ‘to shake, to tremble (person)’; *jokol* “tremblers”. Ceremonial “flags”, “banners” made out of tassels, feathers, etc. Description, illustration: Dixon 244, 313, 236, *jokol-kö* ‘deerhoof rattle’, *joko-ti* ‘a dance’, *júk-bo* ‘a romping and bouncing dance imitative of the bear and done dressed in a bearskin’.
- Note: Miss *jakak-ak* ‘to shake (person)’.

- Os (KT 143a) *jux, jox* 'tree, wood (tree trunk)'; (KT 325) *hop-jux* 'aspen log boat'.
- VgN (MK 159b) *jiw* 'tree, wood'.

- PMa **ják* 'bridge' (93).
- Md *ják* 'bridge', *-jàká* 'boat', (Powers 590:3) *jakkáh* 'canoe'.

- OsS (KT 202b) *jutta* 'to rub, to make soft (skin, flax); by rubbing between hands'; (Patkanov 455) *ju-* 'to rub, to prepare hide'.

- PMa **júh* 'to rub on' (107).
- Md *jú* 'to rub, to rub on', *ju-to* 'to rub in'.
- Ni *ju-* 'to scrape with knife, to scrape off bark'. For preparation of hides by scraping, soaking and rubbing. See: Dixon (1905:141).

- VgN (MK 192b) *kapaj*, LM *käpi* 'big, huge, mighty, horrible, gigantic, plump, gross'. (Always suffixed, e.g. berry, lake, boat, mountain, man, dog, etc.)

- Ni *kapa* 'bear', (Beals 1933: 390) *kopa* 'bear', *kopatí* 'bear shaman', (Kroeber) *ka-pa?* 'grizzly bear' (*Ursus horribilis*), *-ke-paj* 'very, extremely', *ne-ke-paj* 'to be very old'; (for *ne-* cf. 53); *la-j-ke-paj* 'very little'; (for *la-j* cf. 44); *lokti ke-paj* 'very much', *ne-ti-ke-paj-in* 'extremely'; (*ne-* 'to grow'); *ne-ti* 'to make grow'.
- Mib *kawaj* 'large, tall, big'.

- VgN (MK 505b) *rōwi*; LM *rōyi* 'to near, to fit, to suit, to match, to be allowed (not allowed: tabooed); to like; likeable, dear; related; relatives'; (KLE 277) *rox* 'liking, affection'.
- Os (KT 800) *rax-ta* 'relative; to come near, to fit, to favor, to like, dear'.

- Md *ják* 'to be like' (German: *gleich*), 'to be as if, to resemble'.
- Ni *jak-ka* 'to be alike, to resemble'; *čaj jakka* 'another but similar'.

The semantic equation is apparent in English *like* ('similar') and 'to like'; 'to match as a pair because of similarity'.

— Hu *rokon* ‘relative, near, similar’; *rokon-* (German: *gleich-*); ‘kin, kindred’.

— ?Fi *rakas* ‘dear, to love, to like’.

— PUr **rakka(-)*; FUE 535.

28

— VgN (MK 497a) *rēyi*, *rēy*; T *rěj*; ‘warmth, heat (of fire, sun, steamboat); shamanistic ecstasy’.

— Os (KT 792a) *row*, *rēw* ‘heat, excitement; drunk ecstasy, breath of the god coming to shaman’.

— Hu *rejt* ‘to hide, to perform magic’, (dial.) ‘loose, consciousness, extreme heat’; *rég* ‘ancient’; *reggel* ‘morning’; *rege* ‘saga’; *regős* ‘singer of old (shamanistic songs)’.

Extensive cognotes from the realm of Ugrian religion.

— PU (Uralic?) **reṅ3* or *rek3*; FUE 527 and PFU **reṅk3*; FUE 526.

— Ni (Powers 590:4) *jâkuh* ‘morning’; (591:6) *jewko* (?*jiwko*) ‘morning’; (594:4) *jâwuk* ‘tomorrow’; (595:5) *jaka*; (7) *joko-tobi* ‘tomorrow’. Note also **r-* > *l-* sound law in Ni *láj* ‘warm (of weather)’, *laj-men* ‘summer’ (“warm season”); *pi-laj* “hot”; (Powers 594:1) *laji* ‘warm, hot’; (590:1) *laj-da* ‘morning’.

Note: Miss *jy-n* (*jyn-jyn*) ‘to pass out as from heat; to have a fit’.

29

— VgN (MK 495b) *rawi* ‘to shake’ (e.g. a tree); *raw-ti* ‘to mix, to stir, to turn around, to scatter’ (‘to chat’).

— Os (KT 793b) *râwat-* ‘to stir, to mix, to grind, to undermine shore (by diluting the clay), to chat, to talk mixed up’.

— Md *jaw* ‘to stir’.

— Ni *jaw* ‘to stir, to mix, to dilute’, *jawe* ‘to pick’ (fruit?), *jaw-ni* ‘net sack, carrying sack’ (-*ni* instrumental).

Note: Md *jawí* ‘to read (to pick out, pick up)’.

Semantics: German: *lesen* ‘to collect, to pick out, to pick up’ ~ ‘to read’.

— Mins *jy-wy-* ‘to mix’; *juwa-l-y* ‘to stir’.

— Miss *juwa-l* ‘to stir, to row (a boat)’.

— VgN (MK 504b) *rosi* ‘to be delayed, to stay, to stop, to remain (somewhere); to be held up’; (German: *auf/ge/halten*).

— Md *josá ~ jesá; josá-no* ‘to halt, to stop (car, horse), to cease moving’ (intransitive).

— VgK (MK 500a) *rep-si* ‘to tear, to fall apart, to burst open, to split’.

— Hu *reped* ‘to burst, to split, to fall apart, to wear out’. — FUE 529.

Note: VgLM (MK 499a) *rēp* ‘the steep bank (of river, lake, sea)’ (KLE 277) *rēp* ‘to cave in, to fall’; (Kálmán) *rap* ‘cliff swallow’.

— Os (KT 806b) *rep* ‘steep bank of river, hill, mountain’. (Patkanov 292) *rēp* ‘steep hill, shore’, *rēp-wōje* ‘cliff swallow’ (*wōje* ‘animal’).

— Ni *jebek* ‘to crumble down, to erode, to cave in’.

— Md *jap* ‘to slide down’.

— Mil *jéeba* ‘to break off, to slide down, to cave in’ < Patwin *yéb-* ‘to cave in’; *yé-biʔ* ‘bank (of the river)’.

— Mil *jep-, jéep-* ‘to flake off, to break off’ (fall apart, slide, slice to break into small pieces).

— Mins *jep-* ‘to wear out, to get spoiled; rotten’.

— CoSL *wa-rep* ‘land, earth’ (*wa-* ‘nom. prefix’).

— VgN (MK 499a) *rēpi*; T *rīpā-* ‘to throw, to lay eggs, to rattle, to shake (to throw out)’; (500a) ‘to be in heat (as a female dog)’.

(Kálmán) *rēpi-* ‘to build a nest’.

— Os (KT 808a) *repe-* ‘to blink’, Ka *rapśal-* ‘to blink, to wink several times; (to clap) to shake, to rattle (humans and sled on an uneven road)’.

— Hu *repül* ‘to fly, to flatter’ (of heart: “to have butterflies”), ‘to have a nervous twitch; to test wings’.

— FUE 529.

— Md *jypy-* ‘to have the first menstrual period; to pubesce (girls)’; *jypy-hèkiti* ‘menopause’ (*hèkiti* ‘to stop, to quit, to cease’). [Semantically similar: Miss *mul-* ‘to quit; to have’ menopause related to Vogul, Hungarian *mul-* ‘to cease, to quit, to pass’, FUE 452.] *jypy-m sòli* ‘girls puberty ceremony’ = “menstrual song”.

— Ni *jypy-e* ‘to scatter’.

— Mib *juppa* ‘to dump, to pour’ (Mip). For semantics see: Mil *púl-lun-jomi* ‘ovaries’ = “menstrual place” (or ‘egg place’).

Note: Vg (T) *ripä* 'to throw, to lay eggs' corresponds to the Maiduan cognates. The semantic connection is apparent in Mil *púllu* 'to menstruate' (ovulate!), Mib *púllu* 'to lay eggs' (*puulu* 'egg').

33

— VgN (MK 196a) *kās* 'mood, happiness, happening, entertainment, affair'; *kāsiŋ* 'happy; possible'; *kasé-si* 'to agree, to want, to wish'; P *kaš ... kaš* 'either ... or'.

— Ni *kasi* 'dance, ceremony'. Occurs in several names of dances and ceremonies.

— Md *-kasi* 'id.' (Dixon 1933: 295–302), *oläling-kasi* (*?oleliŋ-kasi*) "Coyote dance" (296). cf. 112.

Borrowed by the Central Sierra Miwok: *Hele-kasi* (Gifford 1955:279a).

34

— Hu *hó, hava-* 'snow'.
 — Vty *kim* 'fresh snow'.
 — Yr *xaw* 'snow'.
 — PUr **kume*; FUE 287. Collinder (1960:377) relates Yukagir *ku* 'snow'.

— PMA **ko* 'snow; white, gray'.
 — Md *kó* 'snow' ('hail, sleet'), *kók* 'white'.

— Ni *ko* 'frost, (hail)', (Kroeber) 'ice'; *kow* 'white, silver' (white); 'white woman'.

— [Mil *koko* 'swan']

— Mim *hu-tuj* 'snow'; cf. Vg *tuj-* 'snow; to snow'.

35

— Os (KT 299a) *xülz* 'soot, dirt, black', *xüla-* 'to blacken'; OsE *kuli* 'black', etc.

— Md *kulú* 'dark; evening, yesterday', *běj?im kulú* 'this evening'; *hulu* 'black', *hulu-pit* 'blackberry' [-*pit* related to Vg *pil* 'berry'].

— Ni *kylym* 'black, dark (weather)'; *pi-kylys* 'jet black', (Kroeber) *kyly-myse* "black man", 'Negro'.

Note: Mics *kúl-a* 'the coals', *kulul-i* 'black', *kul-uŋu* 'dirty'.

— The first member of the Maiduan compound is related to PUr **koj(e)-mɜ*

— VgN (MK 122b) *xu-m*, K *kho-m* 'human being (man), man, male, husband', T *nī-xu-mu* 'wife and husband'. Similar compound in reversed order: 'woman + man' vs. 'man + woman'.

— OsE *ko* 'man'.

— OsN (PB 44) *nej-ko* 'woman + man', 'human being'.

— Hu *hīm* 'male' FUE 286. For the compound see FUE 151.

— PMA **kóno(j)* "man + woman" (118).

— Md *ko-nój-to* 'couple, man and woman'. Ugrian type of compound *ko* = 'man', *noj* = 'woman'; similar to Ko **ku-ne (cu-ne)* (Powers 599: 9) 'man'; *majen-ko* ? < **maj-ne-ko* 'chieftainness' (Gifford 1955:262a). cf. Mib *ullī-neko* 'an Indian' = "nut person" (*ullī* to Vg *ul* 'cembra pine nut' and *ne-xum* 'person', "woman + man". PMi **ko* 'person'.

Ultan glosses PMA **kono(j)* as 'girl'. This could have been a secondary development (?).

— The second member of the Maiduan compound is related to VgN *nē* 'wife, woman, female, etc.'. cf. 53.

For PMA **né* see 53.

— OsS (KT 383a) *koj* 'moor grown over with small firs, swamp'; OsE *koj* 'moor with hills, knolls and a low forest'; OsOb *xoj* 'tundra', *koj-lok* 'a swampy pool between two solid drylands' (for *lok* cf. 41) (KT 473), (MK 261) related to the Nisenan word for 'valley'.

Note Os *lok-oxti* 'bank of the river'.

cf. *kaw* (38), *lok-* (45), ?*okit* (108).

— Md *koj* 'valley, meadow, field, [heaven] "upper meadow"'. Occurs in numerous placenames (Heizer 1978:370).

— Ko *kojo* 'valley, meadow (island); *Konkow* 'the Konkow tribe', the word is a contracted form of *kojon-kaw* 'meadowland people, people of the (Sacramento) valley' (for *kaw* cf. 38).

This *kojo* environment is described by Riddell (1978:373) as follows: "In the mountain environment of the Maidu, softbottomed glacial valleys were covered with snow during the winter months.

Melting snow transformed the valleys into spongy meadow or marsh and sustained a heavy river flow during the summer season.”

38

- VgN (MK 202b) *kaw* ‘millstone, stone, pebble; testicle’; ‘to grind, to make flour’; *kew-mā* ‘stone-land’ = ‘Ural’; (“stone” of fruits, pupil of the eye, pearl, tonsil, kidney, etc.)
- OsN (KT 385b) *kew* ‘stone’.
- Hu *kő*, *köve-* ‘stone’, *köve-cs* ‘pebble’. Note: *kova* ‘flintstone’, *kavi-cs* ‘pebble’.
- Fi *kivi*.
- PFU **kiwe*; FUE 368.
- Vg *käw jäsi* ‘the millstone grinds’; *jäsi* ~ *jesi* = Lake Miwok *jéca-* ‘to crush, to mash, to pound with a rock’; Md *ʔes* ‘to gnaw’.
cf. 100.

- PMA **kaw* ‘ground, earth’ (132).
- Md *kaw* ‘ground, earth dirt’; (dust, ashes, fireplace).
- Ni *kaw* ‘ground, country, land, world, year, time’, *kaw-nan-di* ‘below’, *kaw-jakka-ti* ‘to make lower’; *kaw-lu* ‘hole in rock’.

For the tribal name of the *Konkow* < **kojon-kaw* “meadow-land (people)”. cf. 37.

- PMi **kawa-či* ‘pestle, large oblong pebble used to pound acorns’. — Mins *kaw-an-y* ‘acorn flour’; Mics *kaw-a-či* ‘tobacco pipe, made out of stone’.

Semantics: — cf. Hu *lükött* ‘millet porridge’, s.v. Md *lok* 46.

39

- OsS (KT 463a) *kidz* ‘brother-in-law’.
- VgN (MK 213a) *kil* ‘brother-in-law; sister-in-law (the wife’s older sister)’.

- PMA **kedé* ‘brother-in-law’ (133).
- Ni *kede* ‘brother-in-law’ (man’s reciprocal term).
- Md *kede* ‘id.’.

40

- OsS (KT 462b) *kētɜ* ‘string, thong, rope, fish line’, *šaš-keł* ‘knee band’ (*šaš* ‘knee’).

- Ni *kat* ‘string’, *kat-no* ‘to string a bow’.

— VgN (MK 230b) *kwāli-γ*, P *kwäl*, T *kālu* 'string, rope'; (Kálmán) *jowt-kwāli-γ* 'bowstring', *šaš-kwāli-γ* 'knee-band'.

— Wintuan Patwin *kāli* 'string'; Mib *kāle-n* 'to tie (string, stick)'; Marin Miwok *kol-kali* 'garters' [**kolo* 'foot' related to Ostyak *kor* 'foot' (Proto Costanoan **koro* 'foot, leg')].

41

— VgN (MK 102b) *xomi* 'to bend, to turn over (a person, basket, boat), and at the same time to cover'; *xomə-l* 'grave, ditch'.

— Os (KT 307a) *xom-* 'id.'; *xom-ti* 'ditch'.

— Hu *homorú* 'concave', *hom-lok* 'forehead', etc.

— PUr **kuma* "to bend over, to turn over and to make or to have a cavity"; FUE 296.

For semantics see Os *lut* ~ *lot* 'ditch, grave, hole' = Wintuan *tut* 'roundhouse, ceremonial house'.

— PMA **kúm* 'roundhouse' (145).
— Md *kum* 'hole'; *kúm-hý* 'sweat house', "hole house", *kum-laj* 'hibernate' ('cave, hole, mud', etc.), *kumú* 'dance house, community dwelling', *kum-mèni* 'winter' (*-mèni* 'season, time').

— Ni *kum* 'roundhouse, hump, gopher mound'. The semisubterranean *kum* is the center of Maiduan religious and social activity. A suffix *-kum* occurs in numerous place names.

cf. Miss *ham-e-* 'to bury', *ham-* 'to cave in', *hame-j-aH-* 'grave'.

42

— VgN (MK 239b) *kwons*, *kwos* ~ *kos* 'nail, claw; to claw, to scratch, to rake; bear claw, barb; to dig in the ground as a mole'.

— Md *kočo-*, *ba-kočo* 'to scratch with the claws in the dirt (*ba-* 'to dig')', *ʔes-kočo* 'to gnaw' (*ʔes-* related to Vg *jesi-* 'to rub', etc. and -Mil *jéca-*).

cf. 38, 100.

43

— VgN (MK 271b) *lu*, K *lo* 'bone'; *šip-lu*, *sop-lo* 'neck'; (261a) *päyk-lo-él* 'skull' (*päyk-* 'head') (MK 245-246), *lol-sirx-lu* 'shinbone' (*lol* 'leg').

— PMA **lu-* 'leg, (bone)' (153).
— Ni *lo-lo* (Kroeber) 'bone'; (Uldall); 'old burned bones, fossils' (Beals 1933:409a), *lolo* 'shinbone'; *so-to-lo* 'throat'.

- Os (KT 1044a) V *lox* 'bone'; OsKa *kor-λou* 'shinbone' (*kor* 'foot, leg' to PPenutian **koro* 'foot, leg'); OsTr *λokəy tur* 'wind pipe' = "bony thoat" (*tur* 'throat').
- Fi *luu* 'bone'.

- Md *lu-lu* 'stem, tube, waist (to hug)', *kuj-lu-lu-mi* "throat" (*kuj* 'neck'). Nisenan *lu-l* 'leg' [could also be a cognate of ML Vg (MK 244a) *lol* 'leg'.]

44

- VgN (MK 246a) *laj*, K *läj* 'small, tender, young, weak'; *laj āyi* 'little girl', *laj p̄i* 'little boy'.
- Os (KT 469a) *loja-* 'weak (because of old age)'.
- Hu **lë* < **laj* in *lë-ány* 'daughter, girl (virgin)' < **laj-ańz* 'young woman, mother'.
- FUE 393.

- Ni *la-j* 'small, little' (Beals 1933:409), *laji-ma* 'little finger' (*ma* 'finger'); *hunam-laj* 'baby' (*hunam* 'little'); (Powers 594) *laj* 'young'; (588:4) *laj-* 'infant, son'.
- Md *lej-wo*, *le-wo* 'a (small) part of the larger whole'.

45

- Os (KT 473b) *lox* ~ *lok* 'bay; swampy bay, river bank with a meadow'; V *koj-lok* 'a swampy pool between two solid drylands' (for *koj* cf. 37; *lok-oxti* 'bank of the river'. cf. 108.

- Ni *lok-lo* 'valley', (Kroeber) *lok-ló* 'world'.
- Ko (Dana in Powers 1877: 599.9) *loko-lók* 'river' ('the Sacramento River').
- Mil *lók-lo* 'field, clearing; valley, a small treeless valley in the hills, lawn'. PMi **lóklo*.

46

- Os (KT 477a) *lok-* 'to shove, to stick in'.
- Vg (MK 246b, 247b) *laki* 'to shove'; *lakwi* 'to move, to push', etc.
- Hu *lök* 'to shove, to throw, to beat, to mash up'; (dial.) *lükö* 'pestle', *lükött* 'millet, porridge', *lük-tet* 'to pulsate'. cf. 38.
- PFU **lükke*; FUE 409.

- Md *lok* 'to shove', *jo-lok* 'to mash up', *lyk: ha-lyk* 'to pulsate, to pulse, to beat', *lyk-mit* 'to crawl into, as an animal into a hole'; *lykínno* 'enter, to crawl into the sweat-house'.

- VgN (MK 249a) *lām*, LM *loām* ‘soup, thin porridge’ (stew, etc.).
- Hu *lé*, *leve-* ‘sauce, brew’; *leves* ‘soup’.
- PFU **lēme* or **leme*; FUE 392.

- Ni *lumaj* ‘feast’ = ‘soup (dinner), (Dixon 1905:228, 326; Powers 1877:326) > Mil *lúmaj* ‘festival, occasion’.
- Wintu *lam* (*tum*) (Powers 532a) *nop lummis* ‘deer stew’ (*nop* ‘deer’); Dixon (1905:326) “the spirits, speaking through the shaman ask for someone of the new members to call a ‘soup’ or feast for the tribe”.

- Vg (MK 306b) *mij* ~ *mej* ~ *maj* ‘to give’, (307a) *maj* ‘to lend, to sell, to give (a daughter) in marriage’.
- Os (KT 500b) *maj*, *mij* ‘to give presents (gifts, bribe)’.

- PMa **mé·j* ‘to give’ (166).
- Md *měj* ‘to give’, *mej-to* ‘to buy’ (store, salesman), *maj* ‘to lend’, *dam-maj* ‘to lend’.
- Ni *me·j* ‘to give’, *me·j-pe* ‘giver’. Beals (1933:373) ‘to give (a daughter) in marriage’.

- Vg (MK 288a) *mā* ‘earth land, place, region, world, part, field’; N *xarès* – *pum-pä* – *mā* ‘sparse – grass-y – place’; P *pat-mō* ‘flat land’ [*pat* flat to Md **bat-pe* flat-(ish)]; N *huj-né mā* “sleeping place” = ‘bed’.
- Os (KT 504a) *məx*.
Extensive treatment: OsV (504b) *mə·γ-uj-kat* “ground – under – house” ‘underground dwelling, used in earlier times’. For the Ni cognate of *uj* cf. 113.
- Fi *maa* ‘earth ground land, country’.

- PMa **-ma* ‘place’ (156).
- Md, Ni, Ko **-ma* ‘place’ occurs in numerous placenames in Maiduan territory (Heizer 1978:370, 388; e.g. Ni *Ustu-ma* ‘Nevada City’ in California = “burning place”).
- Md *tuj-ma* ‘sleeping place = bed’; *Ole-tuj-ma* “place where the wolf sleeps”.

- VgN (MK 299a) *mañ* ‘small, tiny; young’; *mañ tãram* ‘bear’ = ‘little god’; *mañ-ĩsi-kè-m* ‘younger-sister-(diminutive)-mine’, ‘my little younger sister’; *mañék pĩ* ‘my youngest son’; *mañ-luw* ‘colt’ (*luw* ‘horse’).
- Os (KT 530a) *mañz* ‘younger brother, nephew, stepson’.

- Ni *manaj* ‘small, boy’, *te-m-manaj* ‘small son; small deer, fawn’, *te-n-aj* ‘boy’ (*aj* to Ostyak *aj* “small” is another word for small, with numerous cognates in Western Miwokan).

- VgN (307b) *mil*, K *mel* ‘deep’; *milit* ‘a deep place’.
- Os (KT 556b) V *məl*, OsI *mal* ‘deep’, *mət* ‘small lake’, DN *met* ‘deep, depth’.
- Hu *mély* ‘deep, deep water’.
- PUG **melz*; FUE 432.

- Ni (Kroeber 1929:285b) *mul* ‘deep water’, (Powers 590) *mul* ‘lake’ (316), *Mu-lam-ča-pa* (**Mul-lam*) ‘long pond by the trees’; other place names with *-mūl* (Littlejohn 1928:361).

For semantic equation cf. Mil *liwa* ‘deep, lake’; Miss *ʔawa-ja* ‘deep, lake’.

- VgN (MK 311b) *mol* ‘precious furs, riches, possession, bridal gifts, merchandise, treasure’; *mol-ōlt-mèt* ‘riches in (precious) skins, furs’ (*ōlt-mèt* ‘possessions, riches’).
- The Californian evidence could justify the equation of Vg *sow*₂ ‘skin, fur, pelt’; Vg *sow*₁ ‘star’ (MK 267–268).

- PMA **mól-* (174).
- Ni *mol* ‘fleece; to skin an animal’, *mo-lo* ‘star’, (Riddell 1978: 383b) “the stars were (considered to be) soft like buckskin” (Kroeber 287) *móloi* ‘buckskin’.

cf. Miss *mol-t* ‘to trade’ (extensive cognates in Penutian!)
The protoform is glossed by Ultan as ‘to slip’ (?).

- VgN (MK 333a) *nē* ‘wife, woman, female of animals (hen of birds)’.

- PMA **né* ‘mother’ (181).
- Md *né* ‘mother, hen’.
- Ni *ne* ‘mother’, *ne-* ‘old, to grow’ (?).

- Os (KT 576a) *ney* ‘wife, woman, female’; *aj-ye* ‘young woman’, *ney-yu*, *ne-ko* ‘human being’ = “woman and man”.
- Hu *nǒ* ‘woman, wife, female; to marry’; *-né* = ‘Mrs.’
- PUr **nijä*; FUE 472.

According to Marie Potts (1977:5). “The women were mostly called just ‘old woman.’”

Wintu *ne* ‘female, woman, mother, aunt’, etc.

Cf. 36ab.

54

- VgN (MK 324b) *nak* ‘a section, joint, layer, part grade, steps, end, room, cause, fate, sin, mis-fortune, (good) luck’; *nak* “a space or time from one end to another”.

- Md *nâk* ‘vicinity; near, nearby, at’, *nakí* ‘place’.

— Ni *nok* ‘end’. This word refers to the arbitrary designated “end”, as that of a football field.

— Mins *na·ky?* ‘to reach, to be up to’; *nake·* ‘end, edge’; Miss *na·k* ‘to reach a time or place’; Mics *naké-t-i* “the great end” = ‘horizon’; Mins *nok-wa* ‘to break off the end of something’ (*-wa* destructive suffix). cf. 55.

55

- VgN (MK 341a) *nǎyx*, *nōx*; K *nokh* ‘up, up towards the top’.
- OsS (KT 566b) *nox* ‘up toward the top, upstream (in Siberia generally South), South’. Productive morph.

- PMa **nók* ‘arrow’ (top, end).

— Ni *nok* ‘top’.

— Md *nok* ‘arrow, bullet (neologism)’.

— Ko *nok* ‘arrow’.

The Nisenan word *nok* ‘end’, fell together with *nok* ‘top’.

cf. 54, 107.

56

- VgN (MK 349a) *ñax-mēli* ‘to laugh loud’, *ñaxi* ‘to whine (dog)’.
- Os (KT 601b) *ñax* ‘laughter, joke; to make fun of’; *ñǎyǎŋ* ‘happy, jolly’; *ñǎx-ta* ‘to laugh’.

- Md *nuk* ‘to laugh’, *núk-bus-no* ‘to laugh very hard (very “sound”)’ [*bus* ‘sound’ to Vg *pus* ‘sound’, etc.], *núk-čéce* ‘smile’; (*čéce* ‘little’), *núk-sasà* ‘id.’; *núk-sa* ‘jolly’.

— VgN (MK 344a) *nos-li* ‘to lie around, a gentle “quiet child”’; *nos-èlti* ‘to lie quietly (child)’.

— Os (KT 397a) *nosəl* ‘to bend down, to lie around (a tree)’.

— Ni (Powers 596:4) *nōs-kit* ‘to sit’ (*kit* ‘down’) (333), *nos-kit* ‘dweller’. *Kákin-nōs-kit* “spirit dweller” is a name for the shaman during the big spring festival, which includes “jugglery, spiritual manifestations, ventriloquy (sic), concerts and perhaps other features.”

Beals (375) *nós-kit* ‘sit down’, ‘to a visitor entering the house’. Costanoan Rumsen *nošo* ‘to rest’.

— VgN (400a) *-pä*, T *-pã*, etc. ‘tree, bush’;

— Hu *fa* ‘tree, bush, wood’.

— Fi *puu*.

All Uralic cognates are monosyllabic!

— PUr **puwe*; FUE 171.

— Md *pa* ‘thicket, bushes, brush’; *pa-di* ‘in the brush’ (the thick growth of brushwood); in various bush (and tree) names *-pa*; and *pa* ‘to stand (as a tree)’.

— Ni *pa-naka* ‘thick brush’ (Kroeber) *pa-pak* ‘tree stump’, Powers (592:4) *ča-pa* ‘forest’ (*ča* ‘tree’), “tree + bush” (brush crane, brush rabbit, wood-pecker, beaver, etc.).

— Os (KT 695a) *pałax* ‘head ornament of women’; ‘various ornaments woven into the braids and hanging down on forehead and side of the face’.

— ?VgN (MK 408b) *pali* ‘mane, (extending also to the forehead) of horses’.

— Md *pálak* ‘a forehead ornament made of quills and yellow hammer feathers’ (Kroeber) *pa-lalak*. Wintu (Pitkin 458) *palaq* ‘to tie up the bun of hair’, *pá* ‘to twist, to tie, twine’ (Powers: Figures 30, 31).

— VgN (Kálmán 1976:287) *poni* ‘to wind, to spin, to twist (rope, sinew)’; T (MK 453a) *pōn* ~ *pun* ‘to spin, to twist (rope)’; *kālu pun-xōtā* ‘a string is being spun’ (*kālu* ‘string’ to Ni *kat* cf. 40). (Soswa *pōn-* ‘to wind, to twist, to build a nest’).

— Os (KT 715b) *pun-* ‘to roll on the knee (lower thigh), string, rope and thread’ [also between the palm; (705b) *pan* ‘string rolled on knee, thread’, *čaš-pan* ‘knee thread’].

— Kazym Ostyak (KT 706b) *pon-λ ti* “zwirnen auf dem Knie”: it is done on the upper thigh or on the outer side of the calf of the leg.

— Hu *fon* ‘to spin, to braid, weave (baskets); *fon-al* ‘string’; *fon-at* ‘braid’.

— Fi *punoa* ‘to roll, to twist, to make thread’.

— PUr **puna*; FUE 213.

The two Hungarian expressions illustrate the relationship between ‘braid’ and ‘tie’: *kosarat fon* ‘he “braids” a basket’, *kosarat köt* ‘he “ties” a basket’. cf. 117.

— PMA **pan-* ‘to make string’ (198); **pun* ‘knot’ (231).

— Md *pan* ‘to roll strands of bark, deer sinew or other similar material on the naked thigh in order to make rope’; Md *pun-ja* ‘knot, a knotted string used for day-counts. One knot was untied each day; when all the knots were untied, the designated day had arrived’. Note: *pýn*, *pyt* ‘to untie’.

— Ni *pun* ‘to tie knots, to invite with a knotted string’.

— PMA **pán-dak* ‘bow’ (198) is analyzed by Ultan as *pan* ‘to make string’ and **dak* ‘to adhere, to glue’, cf. 11. The activity of making a bowstring and glueing sinew on the back of the bow is expressed. cf. 85. Similar semantic equation appears in Costanoan *tan-uka* ‘bow’; related to Vogul (MK 624b) *tān* ‘sinew, string, bowstring’, Hu *ín*; PUR **sōne*; FUE 319.

— VgN (MK 400a) *pā* ~ *pāj* ‘toward (the shore, mountain forest), away (from fire)’.

— OsN (Rédei) *paj-* ‘to reach as far as’. OsI *-pa* ‘up to, toward’; V (KT 567) *nux-pa* ‘upwards’ (for *nux* Ni *nok* ‘top’ cf. 55)

— PMA **-paj* ‘against’ (193).

— Md *paj* ~ *pa* ‘against, up against, toward’.

— Mics *-pa* ‘upon, up to’.

— Miss *-pa-* ‘directional suffix’, *ʔyny--pa-* ‘to come to him’.

— VgN (MK 448b) *pok-api* ‘to break open; to shine, to glitter’. References to the sun: ‘it breaks through the clouds, it rises; East’, etc.

- PMA **pók* ‘luminary’ (213).
 — Md *pók* ‘luminary, month’ (Powers 590:3 *poko* ‘moon’), *kulúm pòkò* ‘moon: “dark (night) luminary”, *ʔékím pòkò* ‘sun’: “day luminary”, *ʔékdám pòkò* ‘sun’: “dawn luminary”; *póm pòkò* ‘moon’: “night luminary”.
 — Ni *po-m-bok* ‘moon, month’ (*po* ‘night’), *ʔe-bak* ‘to shine, to glitter’, *byk-kaj* ‘daylight’. Md *hál-baka* ‘shiner’ (a sp. of fish). cf. 17.

— OsK (KT 675b) *piwə-l* ‘the straps for carrying the birch basket’: *kont*’; S *pīγə-t* ‘carrying-strap’; – rope, root; string, (fish) line’. OsI (Patkanov) *piget-* ‘to string together, to unite, to tie together; necklace’.

— Hu (archaic) *fiú* < **fiw* 1. ‘rope for measuring the land’; 2. ‘open field between two allocated fields’; 3. ‘a collective unit of a group of land owners’.

— PU **piw*₃ (?); FUE 207.

- PMA **píw* ‘root’ (209).
 — Ni 1. *piw* ‘grapevine rope’, 2. *pi-we* ‘open treeless country’, 3. *pi-we-nan-myse* ‘people’: ‘open-country-from-people’ (*nan* ablative suffix, *myse* ‘people’) (Kroeber) *pi-we-di* ‘outside’, cf. *hy-pyw* ‘camp’ (*hy* ‘house’), ‘house outside’; *pyw* ‘camp’.
 — Md *píw* ‘root’, *cám piwi* ‘tree roots, used in twined baskets for forming the base of the basket’.

For the markings of land ownership among the Maiduans see Dixon 1905:225.

— VgN (MK 429a) *pēl- ~ pel-*; T *pil-* ‘to light fire, to flare up, to burst into flame’ (brand, fire-brand), (to light candles, cigarettes); LL *tāt pēletalne tøykw* ‘fire lighting moss’ (for *tāt* ‘fire’ cf. 78).

- Ni *pil* ‘to shine’, *pil-pil* ‘(shiny) shell pendants’; *pi-lu* ‘torch, burning stick’; (Kroeber) *pi-lo* ‘brand, half burned wood’; *wis-pil* ‘lightning, to lighten’.
 — Md *wi-pil* ‘lightning, to lighten’. [*wi(s)-* is a prefix referring to weather.]

- VgN (MK 475a) *pum, pom* ‘grass, hay’ (meadow, island, reed, green). In numerous plant names = ‘-weed, -wort’, etc.
- Os (KT 701a) *pum, pom* ‘grass, hay’ (meadow, valley, turf, lawn, etc.).
- Hu *fű* ‘grass, -year’ (as to the age of animals).
- PUGrian **pim*₃; FUE 223.

- PMd **pō-* ‘hay’ (*pō-pō*) (230).
- Md *pō* ‘grass, hay’, *pō-pō* ‘hay’.
- Ni *pō-pō* ~ *pō--pō* ‘dry grass, straw’.

Littlejohn (1928:36) *po-po-ke-mul* ‘Deep water in a little place where tule (reed grass) grows’. cf. 51.

Originally **pow* < **pom*, cf. Md *jow* ~ *jom* ‘shaman’ 22; and *siw* ~ *sim* ‘black’ 73.

- VgN (MK 474b) *pul-p*, K *pol-əp* ‘cork, cover, stopper, plug’; [-*p* ~ (-*pe*) is an agentive suffix = ‘-er’ (e.g. *stop* — *stopp*‘-er’). It is related to Md *-pe* ‘agentive suffix’.] *surəm pul-p* ‘a wrapped bundle of hay on a pole, used to “plug” or cover the smoke hole on the roof of the dwelling’.
- Os (KT 784a) *pul-ép, put-ép* ‘cork, stopper’; “covering of the smokehole”. V *pul-* ‘to stick in, to shove in, to thread, to have an intercourse with a woman, to stick in (foot in shoe, etc.), to stick on a spit’.
- Hu *fulánk* ‘sticker, stinger, point’; (archaic) *fűl* ‘to drive animals with a goad, a pointed stick’.
- PUGrian **pul*₃; FUE 221.

- Md *pol* ~ *pol* ‘to shove in’; *-pol* ‘to dislocate’; *-pul-* ‘to dislocate, to remove’; *pul* ‘open’; *pulum* ‘the place between’.

— Ni *pyl-* ‘open, to uncover, to remove covering, to untie’.

— Mics *pel-u-j* < **pol-u-j* ‘to seal up’. cf. 67.

- VgN (MK 429) *pēli* ~ *pēl’i*, K *pīli-*, *pīl’i-* ‘to perforate, to stick in (needle)’, *pel-p*, *pil-p* ‘pointed sharp; quick, fast, skilled’.

- Md (Dixon 1911:724) *pel-* ‘to perforate’; *pije-* ‘to sew’, *pije-ky* ‘needle’ ‘the sewer’ < **pile-* Miwok (Gifford 1916:151) *pile-ku*

— Os (KT 787a) *pet ~ pel* 'to perforate, to pierce, to string; to stick, to get stuck', etc.

'shell nose stick' (sharp and ornamented)'.
— Mics *pilé-ky* 'nose stick'. cf. 66.

68

— VgN (MK 485b) *put* 'water over the ice sheet'; (Steinitz) *put* 'ice sheet'.

— Os (KT 760b, 769) *pot* "snow crust", 'ice sheet'; *pot-* 'to freeze, to become cold'; *potam sem* 'hail', "frozen eye".

— Hu *fáz-ik* 'to freeze, to be cold'.

— PUr or PU (?) **pōts(-)*; FUE 185.

— Ni *pyt* 'cold (weather)'.

— Ko (Powers 594:1) *pūt-teh* 'cold'. Marin Miwok *potoj* 'ice', *kik* *potoj* 'hail' (*kik* 'water'); Bodega Miwok (Kostromitonov in Powers 1877:554b) *podoj* 'frost'.

69

— VgN (MK 438a) *piʔ*, LM *pū*, T *pu*, *pou* 'boy, son, child, young of animals'.

— Os (KT 664a) *pax*, *pox* 'boy, son'.

— Hu *fiú*, *fi* 'son, boy, child, young of animals'; (dial.) 'young tree'.

— PFU **pojka*; FUE 206.

— PMA **pó* 'daughter' (211).

— Md *py* 'boy, child', *py-be* "little" 'boy' (-*be* diminutive), *kylém py-be* 'girl, female child', *py-tyty* 'boys'.

— Ni *py-jyty* 'children'.

— Md *pó* 'daughter', Ni *pó* 'daughter'; (Powers 1877:588.3) *küllem-púbeh* 'girl', "woman child", *pú-beh* 'boy'.

70

— VgN (MK 538a) *saw* 'grove, glade, bush'; *jiw-saw* 'bush'; *ur-saw* 'mountain grove'. The sacred places of the Voguls. P *wul'-pe-sau* 'cembra nut-tree grove' [*wul' ~ ul'* = Mib *ulla* 'nut' cf. 99, for *pe* cf. 58.] (MK 568b) *sâw* 'bud'; *jiw-sâw* 'tree bud', *pum-sâw* 'grass bud'.

— Md *saw* 'foliage, bush'; *saw-sip* 'to leaf out (in spring)'; *saw-no*, *saw-wono* 'to go to seed (pass maturity)'; -*sâwí* 'in plant names (peppermint, pennyroyal)', *mún-munim sâwí* 'wormwood bush'. The sacred (ritual) plant of the Maidu.

— Ni (Kroeber 1929:287b) *sa²-weda* < **saw-weda* 'feast (*weda*) in the spring'; "leaf" 'season' follow-

— Os (KT 926b) N *šaw* 'bud, tassel'; O *saw* 'tender shoots of willow', etc.

ing the *jo^o-weda* 'feast in the flower season'. (Dixon 1911:692) *sāwi* 'grass'; *bat-wāsi* 'head plume' (sic).

— Md (Shipley) *bát-caw* "the typical California headstall or headband, made of quills and yellowhammer feathers" (also *pálak* cf. 59); *bat* *ring, (crown) and *saw* 'leaves, feathers'.

For similar semantic equation note Lake Miwok *pakah* 'flower; feather; yellow-hammer feathers used in headdresses'.

(a) VgN (Kálmán 1976:605) *sāw-yantāli* 'flow quietly', Yukonda Vg *šow-əmlaj* 'id.'; *šāw-yi* 'to whisper'; *šāw-šaw-šāw* (or *šow*) 'the onomatopoeic expression for the gliding of the boat'.

— VgLM (MK 536b) *šäu* ~ *šāw*, K *sāu* 'quiet, peaceful'. LM *šāw-jä* 'a quietly flowing river' (*jä* 'river'); *šäu-l au-ti* 'quietly flowing'; ('to quiet down a person or animal'). Place names: "quiet river town"; "quiet lake town".

(b) Note: Vg (Kálmán) *pōl-po-pōl* 'onomatopoeic expression for the splashing of the water while rowing'.

— Os (KT 694b) *poli-* 'to spring forth (water), to splash', etc.

— Hu *folyik* 'to flow', *folyó* 'river'.

— PU **pōls*; FUE 213.

Related to PPenutian **pol-*; Ko (Powers 590:1) *pol-poleh* 'lake', PMi **pol* 'to float, to flood, to run (creek); lake, pond; "big lake" ocean, bay', etc. In Mins "any natural body of water".

— PMA **séw* 'river' (241).

— Md *sew* 'river, creek'. Occurs in several rivernames, place names and tribal names (Heizer 1978:370).

— Ko *sew* 'river', (Powers 1877: 283) *šu* ~ *seu*, *ktwim-seu* 'little water (creek)'; *nem-seú* 'big water (creek)'.

— Ni *sew* 'river', (Powers 1877: 317) *Nem-Séu* "great river" = 'Bear River'; *Népem Séu* "greater river" = 'Sacramento River'.

Note: Mil (p. 287) *šiw-kuṭi* 'to run (water)'.

The two Vogul morphs *šāw* 'flow quietly' and *jä* 'a quietly flowing river' appear together in Maidu (Dixon 1905:212) *séwim jöēn* 'the river is running'. For *jö* 'to flow' cf. 21.

— VgN (MK 581b) *suw* ~ *sū* ‘stick, “goad”, a long stick for driving reindeer, ski pole’. Among the Ob-Ugrians (and other Siberian tribes) the upper end of the ski pole ended in a flat digging stick. Used by the hunter to dig out items from under the snow. Illustration: Prokofyeva 1964:519.

— PMa **sy-* ‘to stick in’ (252, 254).

— Ni *syw* ‘digging stick’; *sy* ~ *sy-* ‘to point, to poke, to dig in; to feel with a stick’, etc. [Miss *sy-pe* “digger” = ‘digging stick’.] PMa **sýk* ‘to dig’.

— Md *sy-* ‘to stick in, to dig, to pierce, to bite (mosquito)’, etc.

Note: Proto Costanoan **siwot* ‘gopher, mole, “the digger”’.

PPenutian **sū* ‘stick, wood’, etc. with numerous cognates.

— VgN (MK 541a) *sēm-él* T *ši-m-él* ‘black’; *sēm-l-uj* “black animal”, ‘beaver (also bear)’; *sēm-l-uj-tus* “black animal ace”, “the ace of spades” (*tus* < Russian: ‘ace’); *sēmi* ‘to have, to get a suntan’; *sēmél mā* ‘the black earth’. An often used expression; *sēmél mā aṅkuw* ‘our mother the black earth’.

— Md *sim* ~ *siw* ‘black’, *cám simí* ‘tree moss’, *ʔo-sim-no* ‘dark, black of countenance’ (*ʔo* = ‘head’). English entry ‘swarty’; *síw-síw-pem-rók-pem hòní* ‘the ace of spades’ “black sharp heart”; Wi (50) *ci-mel* ‘black maiden hair fern stem used in basketry for black design’.

— VgLM (MK 557a) *sál-yi* ‘to sing (church songs)’.

— OsVy (KT 893a,b) *sól’ak* ‘to produce a sound’ (the breath in cold weather); *sál’ak* ‘to ring, to rattle’; (908b) V *t’aləy-* ‘to ring, to produce a sound’.

— PMa **sol* ‘to sing’ (247).

— Md *sol* ‘to sing; song’, *-sólí* ‘elegy, requiem, song sung after the funeral’ (hum, play music, musical instrument, gambling song, ceremonial rattles, rattlesnake).

— Ni *sol* ‘to sing’, (Beals 1933:398) *sol* ‘cocoon rattle’, (399) *sol* ‘(ceremonial) singer’; (Dixon 1905:268) *sólōja* ‘long handled cocoon rattle’.

- VgN (MK 640b) *tē-li*, T *tī-l* 'to be born, to create, to grow, to become, to originate, to appear, to begin'.
- PMA **téh* 'child' (261).
- Md *té* 'child'; *te-ky* 'to give birth' (fawn, pregnant); *té-te* 'to play (as children)'; *te-kyto* 'parent and child together as a pair'.
- Ni *te* 'son'; *te* 'father' (reciprocal kinship term); *tī* 'to give birth'.

- VgN (MK 666a) *to* 'to bring, to carry, to take, to spread out'; 'to take in, to tolerate'. A very productive morph.
- Os (KT 1031a) *tu* 'to bring, to lead, to carry in, to transport'.
- Ni *to* 'to bring, to carry'; *to-je* 'to take along'; *to-je-ju* 'single tree' (an instrument for carrying); *to-no* 'to transport'.

- VgN (MK 636b) *těj* ~ *tějγ*; LL *tī* ~ *tī* 'to eat; to copulate; to burn, to freeze'; *taj-im* 'food'; *tē-p* 'cereal, food of seeds'; *-tē-p* 'eater' in the names of animals: *xul-tep* "fish eater" = 'otter'; LL (639a) *lām-tēp* 'soup, coarse cereal meal'; cf. 47.
 - Os (KT 999) *te* 'to eat' (to copulate cf. Ni *pa* ~ *pa* 'to eat' ~ 'to copulate'); ('food, bait'), etc.
 - Hu *e-szik* 'to eat', *é-tel* 'food'.
 - PFU **sewe-* or **seye*; FUE 164.
 - Ni *tu* 'flour (from seeds)'; (Curtis) *tu-m* 'pinole'; (Kroeber 286b) *te-l* 'coarse acorn meal' (*l* partly surd). — *de* 'to eat with three fingers'.
 - Mib *tun* 'grub, food on hand, left over food, groceries'; *tu²e* 'to feed'; Marin Miwok *tu* "bread".
- In the Lord's Prayer translated by Dufлот de Mofras (1844) *tu mako* 'our food'.

- VgLM (MK 664b) *toåt* 'fire'; *tat-jiw* 'fire-wood'.
- Os (KT 1029a) *tut* 'fire', *tut-peš* 'split stick for holding the torch'; *tut-sōḡən naj* 'a small lamp';
- PMA **to-* 'to ignite' (264).
- Md *tý* 'to burn', *ty-ti* 'to burn something' (+ inflammation), (?) *týt-tý* 'kindling, twigs'.

fat, charcoal and a wick in a small dish'; (*sōḡan* 'dish'; *naj* 'fire, light').

— Hu *túz* 'fire'.

— PUgrian **täwtš* or **täytš*;
FUE 648.

— Ni *îa* 'to burn', *îa-no* 'to burn completely'. Mil *túʔ* 'to catch fire (to light fire, match)', *tuʔ-kuşini* 'fire, starter (kindling)'; *tuʔuk* 'to spark fire'.

79

— VgN (MK 681a) *tūs-* 'to stand (transitive); to place; (680) LM *tuńś-* 'to stand up, to stop, to get up'.

— Os (KT 1118a) *t'ońt'* 'to stand up, to stop'; Ni *toś-* 'to stand up'.

— Fi *seiso* 'to stand'.

— PFU *saŋća*; UEW 431.

— Md *tys* 'to stand; to be vertical; to stop, to get up'.

Note: Ni *tos* 'North' (upriver).

— Miss *ty·ʔ-* 'to lay down'

— Mins *to·ʔ-* 'to put, to sit'.

80

— VgN (MK 616b) *taxti ~ takti* 'to spin, to braid'; *taxte-p* 'spindle'.

— Os (KT 1060b) *taxta* 'to braid, to weave (basket), to tie, to weave together the stakes of the weir'.

— Md *îada* 'to braid, to plait'; *ʔonóm îada-kym májdy* 'Chinese' = "head-braided person".

— Mib *tátta* 'a braid; to braid'.

— Mil (p. 287) *tatik* 'to braid hair'.

— Miss *toţuk-...* 'a braid', *toţk-* 'to braid'. Mins *tuţ-a-* 'to braid hair; string'.

81

— VgN (MK 627a) *tap-ér* 'a very small piece cut off'; K *táp-er-ti* 'to break, (to cut) into small pieces, to crush (sugar)'. Note: *tâpi ~ tâpi* 'to break; to chip, to get a chip, to break off a piece of the edge (of a knife and of a cup), to break (glass, ice)'.

— Os (KT 1007a) *tap₃* 'a chip cut off from the edge of a piece of wood'; (Patkanov) 'wood chips, to cut off thin wooden chips'.

— Ni *îep* 'to chip (e.g. arrow-heads)'.

— Mil (p. 287) *tép-teţi* 'to crumble (rock)'.

— Mins *tep ~ te-p* 'to cut, to mow, to slice'; *tep-wa* 'to break off'.

— Mics (Barrett and Gifford 1933:237) *tepe-lila* 'stone flake'.

— Miss *te-p* 'to cut, to plow, to wound', *te-pani* 'Creator'.

— Os (KT 968a) *tuj-* ~ *toj-* 'tired, exhausted' (to become) (PB glosses as "erschlaft". German *schlaft* vs. *schlafen* 'to sleep'.) OsS *toj-* 'to totter as a drunk person'.

— PMa **túj* 'to sleep' (269).
 — Md *toj* 'physically weak'.
 — Ni *toj* 'lame, limp'.
 — Mins *toj-* 'lame, limp'.
 — Md *tyj-* 'to recline, to lie down'; *tuj-* 'to sleep'.
 — PPe **tuj-* 'to sleep'.

— VgN (MK 662a) *tār-tōwar-* 'to lock, to close (door, clothing)' (Kálmán 1976:314); 'to put up a barrier, to dam up a river'.
 — Os (KT 981a) *toyār-* 'to lock, to stop up the den of bear, to fence in, to dam up a river with a weir, to cover a basket with a lid'.

— Md *tú* 'fence, dam, barrier'; *tú-čik* 'to dam up (*čik* 'to close'), to build a dam'.
 — Ni *ti-l-* 'to dam'; *til* 'to stop up (a hole); *til-ka* 'resin', (Kroeber) 'gum, pitch used for stop up holes'.
 — PMA **tú-l* regular Ugrian *-r > -l* correspondance.

— Vg (MK 649a) *to* 'lake', *to-khuš* 'swampy meadow'; *-to* '-lake'. Occurs in numerous lake names.
 — Os (KT 971) Ni *tou* 'lake', V *tox* 'puddle, pond, little lake', K *tow*.

— Hu *tó*, *tava-* 'lake, pond', *tó-csa* 'puddle' (*-csa* diminutive).

Cognates in nearly all the Samoyed languages.

— PUr **tow*₃; FUE 634.

— Ni *ti-²u* 'standing water'; Miss *ta-²ji* 'pond'; *ta²i-tki* 'rain puddle' (*-tki* diminutive). YoChu *ta-²iý*. Misac *tawik* 'sea'.

The second element **-ji* ~ **ij* could be related to Os *jiŋk* 'water'. The Miwokan **-a-* vowel seems to be the original. Cf. *til* ~ **tul* in 83.

— VgN (MK 730b) *wōj* 'fat, lard, tallow, candle earwax, (goose) fat, (ant-)acid (formic acid), fish fat = *khul-wōj*; (seed) oil, "tar, petroleum, butter", *jiw-wōj* 'tree-fat, oil, resin, pitch'.

— Ni *waj* 'glue', Salmon glue produced by boiling the head, skin and intestine of salmon. (Kroeber 1929:287a; Dixon 1905:203). It is used to apply strips of sinew on the back of the bow; also, any

Similar to (374a) *ńuli-jiw-áyx* 'resin or the pitch of pine', and Os *jux-saxs3* cf. 8.

— Os (KT 6b) *uj* 'fat, tallow, butter, oil greasy substance of milk; fish, bear, horse; hemp seed, (egg yolk)'; Vy *wojəy kul* 'a fat fish', V *jux-woj* 'tree oil; resin', (502b) *may-woj* 'honey', (*may* 'sugar, honey').

Similar semantic equation occurs in Latin *adepts arboris* 'gum, resin, pitch' (*adepts* 'fat, tallow, grease'). Vuorela (1964:312) has this to say: "In Ob-Ugrian and Lapp the word which corresponds to Finnish *voi* (butter) means fish fat. This indicates that the fat of fish was an important food in early times. The Ostyak and Vogul method of collecting this fat undoubtedly represents a primitive technique: the insides of the fish were boiled in large pots and, when the liquid had cooled, the fat was skimmed off with a round, short-handled spoon. Boiled fat was easily kept and served to flavour thin broths such as that made from the meal of dried fish heads."

A similar procedure was used in the preparation of salmon glue, which was used by the Ob-Ugrians to glue thin strips of birch bark on the back of the hunting bow.

— Hu *vaj* 'butter, fat'.

— PFU **woje*; FUE 666.

— The Yurak Samoyeds call the salmon *jur-xul* 'fat fish'.

glue, such as resin, pitch, gum, or tar used in attaching heads, spearheads, and feathers to the arrowshaft. (Curtis 231a) *wój-ko* 'dog-salmon' (*Oncorhynchus keta*, "hook-nose"). Abundant in the streams of the Pacific, from Sacramento northward as far as Japan.

— Mics (Gifford 1916:153) *hun-uj* 'salmon fat' (*hun-* 'to fish').

— Mim (Henshaw) *hulu-woj* 'smelt', **fish + fat*. The smelt (*Osmerus*) salmon is running in San Francisco has tender, oily body. Its English name "smelt" is indicative of its oily nature. It is a loanword from Danish (*smelt*). Note: German *schmalz* 'fat, grease'. PIE **(s)mel-* 'to melt'.

- VgN (MK 721b) *wata* ‘shore, bank of river; margin, edge, side, border, wall’; (Kálmán) *-wata* ‘to the (edge)’, *āni-wata* ‘to the cup’; *jos-wata* ‘the healed scar on trees (made for marking the path)’, *jos-‘path (sign)’*.
- Os (KT 263) *wat* ‘furrow, notch, to cut, to notch’. *wata* ‘tradesman, “shoreman” (?); merchandise’; P *wotāli* ‘to trade’ (business, shop).
- Md *watá* ‘shore, bank of stream; margin edge’.
- Mil *wáte* ‘scar’.
- Mib *wat-* ‘to cut deeply with a knife, to gash’.
- Ni *wotuj* ‘to trade, exchange’ (also *botuj* exchange).

- Os (KT 275a) *wel ~ wet* ‘to kill, to catch, to get, to hunt (game, fish, birds, insects); (trap, snare)’.
- VgN (MK 33a) *ali, āli* ‘to kill, to get game’, etc.; ‘to hit, to wound, to cause pain, to fight’; (traps, weapons).
- Hu *öl* ‘to kill, to butcher, to torture’.
- PFU **weδe-*; FUE 513.
- Ni *wel* ‘to look for, to seek, to search for’; *wel-ket* ‘to steal unseen’, “get-by sneaking” (*ket* ‘to sneak’, *wal* ‘to steal’).
- Mins *we-ly* ‘to get, to take, to gather, to reach out for, to save someone’; *wel-a* ‘snare’; *wel-sy*, Mics *wel ~ wyl-* ‘to hunt (to catch fish)’. Important word in both cultures with the meaning to catch game, fish, to gather insects, plants’.
- PPe **wel-*.

- OsI (Patkanov) *wante-* ‘to call together (many), to lead’; (KT 229b) ‘to lead (also by hand), a person (a blind), an animal’.
- VgN (MK 716a) *want* ‘a herd (e.g. of reindeer), a group, a flock’, *pas-pe-γ lunt-want* ‘the forked goose flock (in “V” shape in flight); to lead (people, old and young and animals)’; *vānt-āli* ‘to wander, to migrate (generally with a herd), to
- Ni *wa-ta-tan* ‘to club together, to pool resources’. Regular denasalized form with complementary lengthening of the vowel.

lead a nomadic life; to be on the move, to change habitat, to settle new land’.

— VgN (MK 689b) *uj*, K *wuj* ‘game, animal, bear, elk, reindeer, beaver, bird’, *mā-kwol-iŋ ùj-sâw* ‘earth-house-animal (= bear) star’ “bear-star” = *Ursa minor* ‘little dipper’. **uj* = ‘elk’ = *Ursa maior* ‘Big Dipper’.

— Os (KT 204) *wōjz* ‘elk’; in compounds = animal; Big Dipper; ‘bear’; OsI (Patkanov) ‘(brave) human being’; Vy ‘bear; any living being (except humans)’. Extensive entry; several taboo forms.

In general the bear is associated with the *Ursa Minor* (in *Ostyak* also the polar fox *woxsér*) and the elk is associated with *Ursa Maior*.

The Ob-Ugrians, like all arctic peoples used the Big Dipper for telling direction and time.

The Siberian hunter would align his ski-pole or reindeer-driving staff to the “pointers” of the Big Dipper and tell the time very accurately. Young men who acquired watches in the Soviet army, were amazed at the skill and accuracy of their elders.

— Ni *wi-n* ‘elk’ related to Wintu *wi-mah* ‘grizzly bear’, (Pitkin 1985:702) *wi* ‘man, chief’, ultimately to *wi-n-tu* ‘man, living being, Wintu’.

— Mics (p. 59:3) *ʔu-j-um* ‘black bear’.

Note: Ni *win-na* ‘to whirl around’; Md *wyn* ‘to turn’; *wyn-nynŋ-j* ‘to turn around (in axis-like sense)’. Ni (Curtis 234a) *wyny-ti* “*Ursa Major*” “The Big Dipper”.

The Maiduan leader had to be skilled in telling time. Dixon (1905:330) writes: “... the shaman would talk to the new leader, and tell him what his duties were. *He was particular to ask him if he knew the stars of the Dipper, and could by them tell the time at night.* Should the new candidate or leader say ‘No.’ the shaman would have to sit up alone with the new leader and teach him how to determine the time by the position of this constellation. It was of great importance for him to be able to do this, as at the burnings and in warfare the period just before dawn was the one of greatest importance, and the leader was the person who had to determine when this time had arrived.” (Italics by OJvS.)

- VgN (MK 26a) *aji* 'to drink'; *aj-ti* 'to serve drink, to serve food'.
- Hu *i-szik* 'to drink'.
- ? OsN *jańś, jaś* 'to drink' (KT 176b).
- PFU **juke-* or **juye (-ū-)*;
FUE 329.

- Md *ʔáj* 'to dish up, to serve up'.

- Os (KT 5b) *aj* 'news, message, information, tidings' (German: *Kunde*; *-kunde* 'science, -logy'); OsS *aj-ket* 'id.' + 'word, proverb'; (Patkanov) 'story', *jis aj-ket* 'ancient story, tradition, saga, heroic, legend, cosmogonic saga' (*-ket ~ kel* 'speech, word'); *aj-ket-potər* 'speech' [*potər* 'speech' = Vg *potər* 'id.', related to Maidu *betėj* 'to recount, to tell a story'; *betěji* 'story myth' ('ancient times'); *betėj bokò* 'a shamanistic performance', "calling the spirits by banging cocoon rattles against the main post of the dance house ..."]

- Ni *ʔáj kat* 'creator', (Beals 1933:381) *áj-kot*.
- Md *ʔáj, ʔáj-kakàt* 'to surmise, to ponder, to thing'; *ʔáj-kate, ʔáj-te* 'presumably' (hearsay?); (Shipley 1964:52) *paʔaje* 'long ago in ancient and mythical time'; (it is similar in function to *ćój* 'it is said' quotative suffix, narrative past).

The semantic equation is the same as in Greek *mythos* 'speech, fable, tale, talk, speech'.

- VgN (MK 39b) *āni*; LM *oāne* 'cup, dish, container, tray, bowl' (German: *Schale* ~ English *shell*) (originally made of wood and bark, later clay, porcellan, iron, etc.)
- Os (KT 51b) *ānэ* 'cap, dish, bowl', etc.; *ānэ-sōŋən* 'birchbark cup; food offering for the spirit of the deceased' (Vg "skull, head of bear", Os "knee cap", etc.)

- Ni (Kroeber 1929:286) **ana* 'spoon of clam shell', (284); *ána* 'flat lake clam'.
- PPenutian **a-no* (*āno*) 'shell, turtle', Patwin, Maidu ritual; *ano-sma* (Kroeber 1923:436; Curtis 231 Ni *annusma*); Costanoan Mutsun (425) *anne-smin* 'turtles' (*-smin* adj. suffix) (427) (*auni-smin*; San Francisco, Santa Cruz *auni-*; Rumsen *awun-in*; Maidu Nisenan *ʔawan* 'turtle'.

[The other Maidu word for turtle contains the word *-sol-* 'shell'; Mil *ṣul-uk* 'skin, crust, shell (also of turtle)' to Vg *sul* (MK 571a) 'skin, crust, bark'.]

93

- VgN (MK 399a) *owta*, T *auta* 'spear with an iron head (used for killing bear)'.
- OsI (Patkanov) *ōḡda*, *ōḡta* 'spear'. (KT 40a) *oḡta* 'spear, for killing bears'; 'any long shafted (iron) pointed object for moving ice floes and driving reindeer'.

- Ni (Kroeber 1929:287a) *á·ʔta-n* 'spear with obsidian head'. The Maidu construction is more original (Dixon 1905:133, Fig. 2).

94

- VgN (MK 45b) *āpa* 'cradle'. Generally hung but also carried on the back with a child in it. *āpa* refers also to the "cradle" of the bear in which the dead (but ritually still alive) bear is carried home on the back and in which she or he lies during the bear festival. Illustration: Prokofyeva etc. 1956:533.

Note: Os (KT 69b) *apə-t ~ apə-l* 'armful; to embrace, to take into the arm, to cling, to hold onto (as a child to mother); to carry something with both hands and pressing to the chest'.

- Md *ʔáp ~ ʔapá ~ háp* 'to hoist, to lift, to carry on back (something alive)'; *ʔap-doj* 'to hoist up onto one's back (e.g., a child)'; *ʔap-bòḡno* 'to mount for sexual intercourse (as animals)'.
- Ni *ʔap* 'to carry piggyback; pack around on the back ceremonially'; *wi-hapaj* 'to pack on the back'. Beals (1933:382) describes part of the bear ceremonial: "Annually in spring (foothills) owner of bearskin hangs it on tree outside. Displays all his beads, baskets, etc., during which anyone may approach, point at him, demand gift (usually exorbitant). He must make trifling present (usually few beads; in modern times, cheap handkerchief most common). In lieu of gift, owner may carry man (woman, child) around camp on his back. Also gives big feast."

— Os (KT 133b) *jaj3*, Tr *jeji* 'elder brother, uncle'.

— Ni *ʔej* 'elder brother' (Beals 374) *ʔeji* 'id.'.

— VgN (MK 32a) *äl*; T *äl* 'the front part of the body, thigh, lap'.

— OsN (PB 4) *äl* 'body'; (KT 110b) *et* 'body, surface of the body, skin, rump'.

— Ni *ʔe-la* 'belly'; *ʔe-la-pe* 'to be pregnant'.

One would expect **ʔe-ta* in Nisenan. The *ʔe-la* form is a northern form in Ob-Ugrian.

— VgN (MK 45b) *ēp* 'steam, air, vapor (fog, breath); to steam, to boil; soft'; (Erdmann 1826: 233:4), *ep* 'spirit'.

— Md *ʔepin* 'above, over', *ʔepinim kojo* 'heaven' = "fields above".

— Ni (Uldall 105 footnote 112) *ʔop-lo* means "steam food". "The technique was the same as with the sweat bath." Only clover was cooked this way. Miss *ʔopa*- 'cloud'.

— Os (Patkanov) *et-* 'to look'; *ēttep-* 'to show' (causative).

— Ni *ʔeta* 'to look, to watch'; *ʔeta-ti* 'to show' (causative).

— OsN (PB 6) *ēwi* 'girl, daughter'; (KT 16a) *ēws*.

— VgN (MK 22b) *āyi*; T *āw* 'girl, daughter' (sister, niece, cousin).

— Ni (Beals 1933:374) *ewi* 'younger sister, younger female cousin'.

— VgN (MK 156a) *jēsi* 'to rub, to wear off, to grind, to mill; to scratch off'.

— Md *ʔes* 'to gnaw'.

— Ni *ʔas-kət* 'to gnaw'.

— Mil *jeca* 'to crush, to mash, to pound'.

101

— Os (KT 49a) *ətək* 'cold, frost'; (Patkanov) *eitik* 'frozen, cold'; V *ət'əx*; N *iški*.

— Md *ʔityk* 'freezing, cold'.

102

— VgLM (MK 179a) *jit*; T *it*, N *jot* 'with' (postposition), *nē-t-jot* 'with women'; K *məkg vit-jot räu-ti-te* 'he is mixing the flour with water'.

— OsV (KT 195a) *jot* 'with', *mä jot-äm joyä!* 'Come with me!'

— Md *ʔidi* 'with' (postposition); 'to do something along with someone; to eat with someone'; *sól ʔidì* 'to sing along with someone', *ʔy-kój-ʔidi* 'to go along with someone' (for *ʔy* cf. 118); *kój* ~ 'to go away'.

103

— Os (KT 51a) *in* 'now, just', *in-təm* 'immediately'; (Patkanov) *in-ta* 'now'.

— VgN (MK 40a) *ań*; T *in* 'now'; T *in-ti* 'now'.

— Ni *ʔin-ta* 'now, now then'. cf. 104.

104

— Os (Patkanov) *in* 'this, now'. Same as *in* 'now'. In Maiduan it is not as explicit as in Ostyak. cf. 103.

— Md *ʔin-*, *ʔin-ki* 'the close place, beside, the alongside place', opposite to *ʔán* 'that yonder', *ʔin-ʔán-to* 'between, side by side; alongside of'. cf. 103.

105

— VgN (MK 137b) *isi* 'to sit down'; 'to alight, to settle (of birds, insects)'.

— Os (KT 91a) *estə-* 'to let, to let down, to settle, to settle down on the ground'.

— Ni *ʔis* 'to live, to stay'; *ʔis-kit* 'to sit down' (*kit* 'down'); (Powers 1877:591:6) *es-hu* 'lodge' (*hu* 'house').

Note: Ni *ʔəs* 'to tumble'.

— Hu *esik* ‘to fall, to rain, to get somewhere, to happen; evening (*est*) “*nap-este*” ‘the setting of the sun’.

— PUr **eć3-*; FUE 162.

106

— VgN (MK 21b) *aum*; T *ɔum* ‘pain, sickness’, *-aum* ‘in names of various sicknesses’; *siméltēné aum* ‘tuberculosis’ (s. ‘black, dark [?]’).

— Md (Dixon 1905:268) *ōmeja* ‘pain’; object which causes disease and which is extracted by the shaman; (Shipley) *ʔoméjji* ‘fetish, bone or stone’, *helájkym ʔoméjji* ‘any small fetish bringing good luck to a gambler’.

— Ni (Kroeber 1923:422) *ome-ya* ‘pain’, (Beals 1933:409) *ćú-kum-wamaj* ‘tuberculosis’; [*ćy-k* ‘to deteriorate physically, to waste away; to become thin, sick with consumptions’. Vg (KLE) *šúk-r* ‘to die, to waste away’; Vg (MK 569) *šux* ‘to cough, cough’. Note: Mins *koleʔme* “much cough” = ‘tuberculosis’. Md *ćyk-wém-ćy-ćyk-ti* “Bad Cause-to-Vomit Man”, ‘a mythical and evil being’.]

107

— Os (KT 21a) *ox* ~ *o-* ‘head’; *ux-ey* ‘with a head, with a hood’; OsE *o-ku* ‘head man’; (*ku* ‘man’); *o-konči-p* ‘comb’ (*konč* ~ *koč* ‘claw’ is related to Maiduan *kočo* ‘to claw’, cf. 42).

— PMA **o-* ‘head’ (305, 309).
— Md *ʔo* “head”; ‘having to do with the head’; *ʔo-no* ‘head’, *ʔo-s* “head”. E.g. *ʔo-núk-no* ‘to put on a hood’; *ʔo-nuk-no-ky* ‘hood, winter cap’; *ʔo-nuk* ‘head’ [*nuk* ‘up, on’; also in *wu-nuk* ‘cover, blanket, robe’; Ni *nok* ‘top’ to Vg (MK 346) *nuyke nuykh*; Os (KT 366b) *nox, nux* ‘up, top’; cf. 55.]

— Md *ʔo-kén-ky* “head under-(thing)” = ‘pillow’. [Vg (MK 191a)

kan ~ ken 'place, floor, anything to stand, sit or lie on'.]

— Ni *ʔo-* 'head'; *ʔo-paj* 'to put heads together' (for *paj* cf. 61.)

108

— Os (KT 31b) *oxtɜ* 'surface, the top, above, on'; Tr *lo'-oyti* 'the upper surface of a steep bank'; S *xot-oxtɜ* 'roof'; *məy-oxtɜ* 'the earth surface'.

cf. 45, 49, 107.

— Ni *ʔokit* 'end, extremity (as of a road, piece of land, etc.); bank, shore (of river, ocean, etc.); end of day' ('end; upper and of a valley, river').

Seems to be related to the word **ʔo ~ *ox* 'head'. cf. 107.

109

— Os (KT 68) *ebet-* 'to rise (water) overflow, to flood, to run out of a container (while boiling)'.

— Md *ʔopin* 'to gush out, to run out, to be disgorged'; *ʔopin-ti* 'hawk up' (e.g. blood or some object [*ʔomeja*], as a shaman does when curing); *ʔopit* 'full' ('to fill').

— Mins *ʔepo-ku* 'to overflow (barrel, creek); Mics *ʔep-* 'to spread out (of water)'.

110

— Os (KT 68a) *ōpēt-* 'to bark at (game)'; *amp opttəm jux* "dog's barking tree". (A tree to which the hero ties his dog.)

— Ni **ʔo.p > wop* 'to act like a dog'; *wop-paj* 'to bark (at)'. But see also p. 28. For *paj* cf. 61.

111

— OsN *os* 'thing'.
— VgLM (MK 705a) *uš ~ ūs* 'thing, objects, valuables, possessions'.

— Ni *ʔose* 'thing, food, clothing, valuables'.

— Md *wasasa* 'things, stuff, material, ingredients'; *bám wasása* 'salt'.

— OsK (KT 41b) *ōle-x* ‘cunningness, trickery’; in Tremyugan Ostyak folklore *olekəŋ moŋt* ‘trickster saga’. “The hero is a cunning scoundrel who cheats, steals and commits criminally foul deeds”.

Note: Ka (41) *oli moli* ‘unreasonable, dumm’; Tr *ol-mol-t* ‘crazy, demented’.

— PMa **ʔole-(l)* ‘coyote’ (308).

— Ni *ʔole* “Coyote”, the “Trickster” in California Indian mythology and folklore; *ʔole-sykyn* ‘rainbow’, *sykyn* ‘wicker granary’; (Powers 323); (Curtis) ‘granary basket’.

— Md *sykyn* ‘creel (for fish)’ [*ōlēlij-kos* ‘lightning’ (Powers 590:2), Md *ʔolél* ‘coyote’ (Kroeber 1932:381) *oleli* ‘crazy’].

— Os (KT 7a) *uj* ‘a place (German: *Raum* ~ room) under something (a place underground, under an upside down turned boat, under a table (snow, water), etc.

Vy *məy-uj-kat* “earth-under-house”, “Underground dwelling (of the Ostyak) in olden days”. cf. 49.

— Vg (MK 692a) *uji* ‘to go under (earth, water), to dive, to sink, to set (sun, moon)’; *uj-* ‘to press down, to put down, to let down’.

— PMa **ʔúj* ‘house’ (312).

— Md *ʔúj* ‘shed, house, small structure’; *čòs-ʔúji* ‘menstrual house’ (Dixon 233), *dómim-uji* [*čòs* ‘to menstruate’ to Vg (MK 565a) *sōsi* ‘to flow’ etc., (Patkanov) *čos* ‘to flow’]; *ʔuj-uk* ‘to stay (camp) overnight’.

— Ni *ʔuj* ‘to hide’; *ʔuj-di* ‘inside’, *ʔuj-na* ‘id.’ (locatives). (Powers 590:1, 2: Ko *ujeh* ‘house’, *wi* ‘id.’.)

Note: Ni *ʔuj* ‘to hide’ meant originally: “to put something under something”.

— Os (KT 53b) *ūn₃* ‘big; older’; (Patkanov) *ūn*, *ūna* ‘big, old’.

— Vg (MK 385b) *ōn*, *ōni* ‘great, lofty, glorious’ (< Os) ‘Attribute of the god *Tōrem*’. Vg (MK 695b) *ūni-ŋ* ‘id.’

— Ni *ʔuno* ‘to be old’.

— Miss *ʔona* ‘big’; *ʔono-* ‘old’; Mins *ʔona-ʔye* ~ *ʔunaʔ-ye* ‘to get old (woman)’ (-*ye* medio passive suffix). Numerous cognates in California Penutian.

— Os (KT 45a) *om-* ~ *um-* ‘to sit, to be at, to set, to put, to produce young offsprings, etc.’ A productive verb with various meaning developments.

— Ni *ʔum* ‘to roost’ (‘to sit on a branch’).

— VgK (Ahlqvist 1891:64a) *ūšə-m* ‘jealousy’, Popov’s Bible translation: Mt. 27. 18 “invidia”; ‘envy’; *ūšme-ŋ* ‘jealous, angry’; (MK 724b) *wəsə-m* ‘hatred’; *wəsmə-li* ‘to be jealous; to hate’; *wəsmə-ŋ* ‘evil’.

— Ni *ʔu-s* ‘jealous; to be jealous’; *wisəs* ‘to dislike, to hate’.

Note: Md *was* ~ *wasó* ‘angry, displeased’, etc. Nisenan *ʔu-s* ~ *wis* reflects both Vg forms: *ūš* ~ *wəs*.

— VgLM (MK 384a) *ǎlt* ‘a row; in a row (boats, houses)’; *ǎltiy* ‘geese, cranes, swans with their young; a flock, an orderly single file of birds’.

— VgN (MK 384b) *ǎlti*, T *ǎlt* ‘to put together, to tie together’, (KLE 25–26) (a raft, pieces of skin), to sew together a ‘birchbark boat (*ol-mət-xap*) used in olden days by warriors’; ‘to build’. Expresses the joining together in an orderly way.

— Os (KT 130b [124b]) *ottə-* ‘to put together, to tie (clothing), to lengthen; *ulwa* ‘attached piece’.

— Hu *olt* ‘to graft (to tie), to inoculate’; also *al-kot* ‘to create, to make’.

— PUgrian **al₃-* (*tt₃-*); FUE 499.

— Ni *ʔullit* ‘flat basket’, ‘tray’, used as measure for borrowed flour; basket shaped like pan, used as a dish (bigger than *tew*), (*tew* ‘flat basket for sifting and winnowing’; Mil *téwe* ‘to weave a basket’; PMi **tew* ‘to weave’).

— Mins *ʔul-iṭa* ‘flat basket, pan’, etc.; Mil *ʔulút* ~ *ʔolúut* ~ *ʔolut* ‘basket’. A schematic representation of a group of birds is a favorite design on California Indian baskets.

Note the semantic parallel: Vg (MK 645a; Kálmán 311) *tiji* ‘to tie, to weave’; Os (Patkanov) *teje-* ‘to make nets’; PMie **tyj* ‘to tie, to make nets; back pack, pack basket, tumpline (carrying strap)’.

- VgN (MK 163a) *jiw*, T *ji* 'to come, to become, to near'.
- Os (KT 196) *jə, ji* 'to come, to arrive, to become'.
- Hu *jö-n, jő* 'to come, to get to (future, income)'.
- PUgrian (or FU?) **jōŋ*; FUE 340.

- PMA *ʔy-* "motion" (313).
- Md *ʔy-* "a general morpheme occurring as first member of a large number of compound stems with meaning involving 'motion' or 'location'." E.g. *ʔy-nó* 'to walk'; *ʔy-dík-no* 'to arrive'; *ʔy-jé* 'to come'.
- Ni *ʔy-* 'id.'.

- OsI (Patkanov) *us* 'to yawn' (note: Md 'sleepy'); 'vomit, dizziness, to feel sick' (German *übel* ~ evil); (KT 86a).
- VgN (MK 707a) *ūs-* 'to yawn'.
- Hu *ás-ít* 'to yawn, to wish' (*ács-* 'to yearn, to wish').
- FUE 97.
- [Note also:
- Os (KT 87) *is* 'soul, host'.
- Hu *ísz* 'cancer, evil spirit, which causes disease'.
- PFU **íce* ~ *íse*; FUE 329.]

- PMA **ʔys-* 'dazed' (314).
- Md *ʔýs* 'dazed, stupefied, somnolent, (sleepy), drunken (twilight, to get lost, sleep-walker, sleep-talker)'; *ʔýs-wá-lulù-m wá* "drunk-mushroom-stem-mushroom" 'poisonous fungus' = *ʔys-wa-lulù* 'evil and sinister character' in stories and popular speech: "devil"; cf.43; *ʔys-kaje* "devil" (same as above) (*kaj* 'twilight').
- PMi *ʔys-* 'evil'.

- VgN (MK 31a) *al*, LM *äl* 'over, upper, top'; *ala, älä* 'roof, cover' (upper region of a river, toward the mountain, etc.).
- Os (KT 116b) V *elə*, Ob *al*; S *etə* 'cover, lid (of a birchbark basket)'.
- Vg *Ur-ala* 'the Ural Mountains' = "mountain top" (Kálmán 1989:134).

- Ni *ʔəl-am* ~ *ʔəl-ləm* 'over, up, top, past (a stated number)'; *ʔələm-sip* 'to appear on top (of a hill)'.
- Mics (Freeland 1951:10) *ʔəl-am-y-to* 'on the top'; *ʔál-am-y-top*. cf. Ni (Beals 1933:410) *aulu* 'hood on the cradle', *ʔolu* 'to cover head'; *ʔo-lu* 'head covering'.
- Md *ʔolé* 'man's knitted cap, of netting; any hat'.

The Ob-Ugrian Elements in the Adverbs, Verbal Prefixes and Postpositions of California Wintuan*

The dual function of this paper is to demonstrate the close genetic relationship between Ob-Ugrian and Wintuan by presenting selected examples of grammatical elements and by illustrating some cultural implications of this proposed relationship.

For general information concerning the Wintuans consult the *Handbook of North American Indians*, vol. 8. *California*, ed. by R. F. Heizer, Washington: Smithsonian Institution, 1978. The Wintuan, mostly Wintu, examples are from the *Wintu Dictionary* of Pitkin (1985). The numbers in parentheses after the Wintu word refer to the pages of this dictionary. I quote Schlichter (1976) occasionally. The Patwin forms are taken from Barrett (1919), McKern (1923), Kroeber (1923, 1932), and Shafer (1961). The Vogul examples are mostly from Munkácsi and Kálmán (abbr. MK). The number in parentheses refer to this work; in other cases the name of the author is cited.

Adverbs of Space

The *Wintu adverbs* often occur with the locative suffix *-ti* (Vg *-t*). Most of the adverbs function also as verbal prefixes. Almost all Wintu adverbs have Ob-Ugrian cognates.

* The original version of this paper was presented at the Fifth International Congress of Finno-Ugrists held in Turku, Finland in August 1980. Subsequently it was published in the proceedings of this Congress, Pars VI: *Dissertationes sectionum: Phonologica et morphologica, syntactica et semantica*. Red. Osmo Ikola. Turku: Suomen Kielen Seure, 1981, pp. 237-241. Since its publication two important works appeared, namely, Munkácsi and Kálmán's *Wogulisches Wörterbuch* (1986) and Pitkin's *Wintu Dictionary* (1985). I checked the forms, which I quoted in the article, in these works and indicated the sources by referring to the appropriate pages. This increases the usefulness of this overview.

OB-UGRIAN

- Vg *ēl-* (61) 'forward, in front;
away'
- Vg *alū* (33) 'roof'
ali 'up, above'
- Vg *panti* (411) 'to roof'
- Vg *num-* (345) 'above, top, up'
- Vg *pom* (475) 'grass, field'
- Vg *pat* (746) 'flat'
- Os *pil-* (KT 779) 'together'
- Vg *pā* (400) 'to the bank'
- Os *tup* (Steinitz 1942:95) 'last'
- Vg *tū* (672) 'there to'
- Vg *tārā* (628) 'in the direction'
- Vg *tq* (649) 'that one'
- Vg *kēn* (205) 'in'
- Vg *kon* (237) 'outside, out'
- Vg *kāli* (228) 'to rise'
- Vg *kwāl* (Ahlqvist 1891:17) 'to
increase'
- Vg *xal* (72) 'rift, crack'
- Vg *xaln* (73) 'between (to)'
- Vg *xals-* (74) 'foreign'
- Vg **xals-kēl-* (KLE 74, 230) 'foreign
language'

WINTUAN

- ʔel-* (779) 'toward, in'
- ʔe-l-* (783) 'away, all over'
- ʔole-l* (802) 'up, above'
- ʔol-pes* (Kroeber 1932:318) 'roof-
entrance'
- pan-ti* (402) 'on, upon; roof'
- *nom-ti* (385) 'uphill'; 'west'
- pom-in* (431, 186) 'on the ground,
down'
- po-m* 'earth, land, ground'
- cf. *čar-* (64-65) 'grass, field'
- pat* (407) 'flatland; out, outside'
(MaMd *pāt*)
- pileta* (Schlichter 1981:68) 'together,
on both sides'
- pa-* (589) 'at the bank'
- tepin* (590) 'behind, last'
- tu* (619) 'straight ahead, forward
or down'
- tune* 'forward, first, front'
- tara* (Barrett 1919:481) 'in the
direction'
- to-* (611) 'that one'
- ke-n* (196) 'in'
- xan* (725) 'away, off, out'
- kel-e-l* (191) 'far, long ways'
- kela* 'to be tall, long'
- kelama-* 'to lengthen'
- xal* (725) 'apart, separate'
- xal-l* (725) 'other, different, strange'
- xal-qol-* (729) 'foreign language'
- qo(·)l* (490) 'language, mouth'
(cf. *-kele*)

- Vg *juj-* (181) 'behind'
- Vg *jol ~ jal* (166) 'under, back'
- Vg *kan ~ kăn* (191) 'place, floor, field'
- Vg *-ultā* (694) 'through, across'
- Vg *numi* (345) 'top, top part, upriver'
- Vg *puj* (471) 'behind'
- Vg *sir* (549) 'way, constitution, kind of, species; habit, folk-way'
- OsN *sir* 'family, clan, gens'
- Vg *xūlp* (119) Os *xalew* 'net'
- Vg *xul* (117) Os *xul* 'fish'
- Vg *nāl* (351) OsS *ńot* 'arrow'
- Hu *szer, -szer* 'order apparatus, time, group *gens; -times, construct, produce, in various directions, to love, to unite, to copulate'
- To PU **ser*₃ (FUE 585)
- yay* (742) 'back side, around, encircling'
- yel-ti* (745) 'in back of, behind' (*yal-*)
- ken* (194) 'down; to go down'
- ken-ti* 'under; bottom, basement'
- nomelti* (384) 'west across'
- **nom-elti* 'uphill across'
- nom ~ num* (683) 'west'
- puy-ti* (443) 'behind, over' (*puy* 'east')
- ser* (534) 'crosswise, twice, in two directions, -times'
- sere* (Kroeber 1923:363; 1932:342; McKern 1922) 'family, clan, relatives, paternal lineage; "functional families"; carrying out a trade such as'
- **hlapi* or **hlube* (making) 'nets' (Curtis 1924:225)
- xu-l* (fishing) 'salmon' (Shafer 1961:23)
- not, no-t* (391) (making) 'arrows'
- **ser-ławi* (535) 'eight' (2 × 4)
- ser-panuť* (535) 'six' (2 × 3)
- sire* (541) 'to copulate'

Adverbs of Time

- Vg *kāli* (228) 'to rise'
- Vg *ta* (609) 'that', *tā* 'but'
- Vg *mān-tal* (298) 'while'
- kel-tan* (191) 'finally'
- kel-e-l* 'ago'
- sani-kele-l* 'all day long'
- tan* 'while; although'
- men* (Schlichter) 'while, and'

Vg *xon-äl* (103) 'at one time;
future time'

Vg *xötal* (112) 'sun, day,
sunshine'

Vg *ti-xötal* 'today'

Vg *xötal-äli* 'to shine'

OsS *sanki* (KT 850) 'light'

OsI *saya* ~ *sayka* 'clear, bright
sky, heaven, God'

Sayka-Jig 'Light Father'

Sayka Turum 'God,
Bright-World'

OsE *süyk* (KT 849) 'sun'

Vg *satil* (Kálmán 1976:297) 'shade'

Vg *añ, in* (40) 'now'

Vg *us* (705) 'already, so,
then, again'

hon- ~ ho-n (176) 'already, formerly'
'soon'

hon-da 'long ago, (for) a long time'

hon-hima 'this early morning'

ho-n-pom 'ancient'

holol (171) 'sun, sunshine'
(regressive assimilation)

cf. YoN **hotol* (Kroeber 1959:111)

'fire' (semantics: Vg *nāj* 324

'fire, sun')

holol-to 'out in the sunshine'

holol 'to shine (sun, moon)'

sani (519) 'day'

po-sani 'today'

ko-m-sani 'every day'

sun'h 'sun' (Patwin)

cett (Shafer 1961:18) 'shade, dark;
ghost'

ʔun-a (810) 'now'

ʔus (817) 'in a little while,
some, sometime'

Particles

Vg *a-ā ~ o-o* (21) 'yes'

Vg *äl* (692) 'not'

Vg *ul* (692) 'not'

OsN *an'* (Rédei 1965:120) 'no'

Vg *-a ~ -e* (21) 'interrogative
of acceptance and
uncertainty'

a-o, o-u (Powell 1877:526) 'yes'

ʔel- 'no, not'

ʔule-s (809) 'almost, as if'

ʔan- (Powell 1877:526) 'no'

-i (186) 'interrogative'

Verbal Prefixes

The difference between adverbs and verbal prefixes is not sharply defined in Wintu, and almost all adverbs can function as verbal prefixes. The verb follows immediately the adverbial root. Such constructions are very productive in Wintuan and constitute a high percentage of the dictionary entries. The limited space available allows me only to give a few examples.

UGRIAN and FINNISH

Vg *kon + läj ~ lij* (237, 258)

'out + throw'

Hu *ki + lö*

'out + shoot'

Fi *- + lyö-* 'to hit'

Os *si-l + Vg tol-* (652)

'away + break'

Hu *szé-t* 'apart'

Vg *el + tol* (61, 652)

'away + break'

Hu *el* 'away, off, apart'

Fi *ede-* 'in front'

Following the same structure:

Vg **pom-an + tox-* (475, 650)

Hu **füv-ön + dug-*

'grass + loc. - lat. + hide'

Fi *-n + tunke-* 'to push'

WINTUAN

xan + ley ~ liy (726, 298)

'out + throw'

'to throw out, throw away'

se-tʰaɫ (527, 639)

'apart + break'

'to break apart'

ʔel-tʰaɫ - (779, 639; 831)

'away + break, break open,

to break'

**pom-in dok-ča* (431, 186, 123)

'ground + loc. + hide'

'to cover something on the

ground (field), in order

to hide it'

Similarly:

Vg *ēl + tox-* (650)

'away + press'

Hu *el-dug-* 'to hide away'

Fi *ede- + tunke-*

'forward + to push'

ʔel-duk-a (779, 125)

'to hide several things by

putting them inside something'

Vg *tox* 'to press' to Wintu *dok-* 'hide' is well established also by such forms as Vg *tōx* 'throat', Wi *dok* 'throat'; VgK *tōkh* 'Adam's apple' to Mics *tok-o-lo-la* 'Adam's apple'; but Vg *tokh + lak* 'sponbilled duck' + 'waterbird', to Patwin *toh-lok* 'mud-hen'. Vg *lak* 'goose' has a cognate in Wintu *laq* 'goose'.

Note: Ob-Ugrian prefixes such as Os *vana* 'near', Vg *ilä* 'forward', *lap* 'in, to', *jal* 'down', *šup* 'across', used in Wintu as verbs of motion, e.g., *wana-* 'to near', *ʔil e-* 'to forward', *lap-* 'to move toward', *jal-* 'to down' and *čup-* 'to cross, wade, ford a river'.

Postpositions

Vg <i>-l'al'-t</i> (281) '-wards'	<i>λal</i> (290) '-wards'
Vg <i>puru-</i> (459) 'backwards'	<i>-pur-</i> (476) 'reciprocal suffix'
OsE <i>-pə</i> (Gulya 1966:87) 'negative suffix'	<i>-pe-</i> (461) 'negative suffix'
Vg <i>-xojtal</i> (96) 'in the manner of'	<i>-koyit</i> (212) 'habitual doing, desiderative mode marker'

Wintuan *-koyit* also means '-er', as *balas-koyit* 'liar', *bal-* 'to lie'. Os *pol-* 'to lie, to talk', *poləs* 'a lie', Vg *polis* 'slander, speech' corresponds to Wintu *bo-las* 'speech, story, talk', *bom-bo-lis* (*pom-bo-lis*) 'fairytale; cottontail, rabbit'.

Particles

Comparative Text Analysis

The ultimate test of every valid comparative work is a comparative text analysis. I selected a West Central Miwok story narrated by Thomas Williams a highly respected member of his tribe and an outstanding *liwape* 'speaker' for the Miwok. The text and its English translation was published by L. S. Freeland and Sylvia M. Broadbent (1960:59). The story relates a mysterious shamanistic experience in which a group of bears turn a man into a bear shaman. I analyze and compare, chiefly to Ugrian, nearly the half of the text. I adopted the following procedure:

First I quote the word as it occurs in the text: e. g. 79, *čt·pyj·inky·p* 'they go and stick into the ground'.

Secondly I segment the word into its morphological elements: *čt·p·y·ji·nky·p* '(to) stick into the ground going-to-they', which are marked by the letters a, b, c, d, e.

Thirdly, I explain each morph by giving first the Central Sierra Miwok entry and the other Miwokan cognates as much as they are pertinent to the full understanding of the morph. I often make reference to the grammar of Freeland (Fr. 69) with the number referring to the appropriate page.

The Ugrian (if any) comparative morphs follow. First I quote Vogul from Munkácsi and Kálmán (VgLM MK529a) *šáp-* 'to stick a pole into the ground', then the Ostyak forms and if necessary Hungarian or the cognates from other Finno-Ugrian languages. Here, because of the extensive material is glossed in German, I refer to the sources, the pages (MK529a) and the columns (*a* or *b*).

It should be noted, that I do not quote all the cognate Miwokan or Penutian forms. In Ugrian, Finno-Ugrian or in the Uralic languages a more complete list of the cognates can be found at the appropriate places quoted at the end of the comparative list (e. g. FUV, FUE).

This text contains about 100 morphs, many of them occurring several times. From these thirteen do not seem to have cognates in Uralic.

If all those comparisons, which I indicated as being tentative or questionable, would turn out to be correct, the percentages of the related (90%) and unrelated (10%) are similar to the percentages I encountered in my other comparative word lists. Please consult the comparison at the chapter of this volume: "The Correspondence of Eastern Miwokan CV² to Vogul CVS".

The closest cognates can be found, as I indicated before, in the Ob-Ugrian languages.

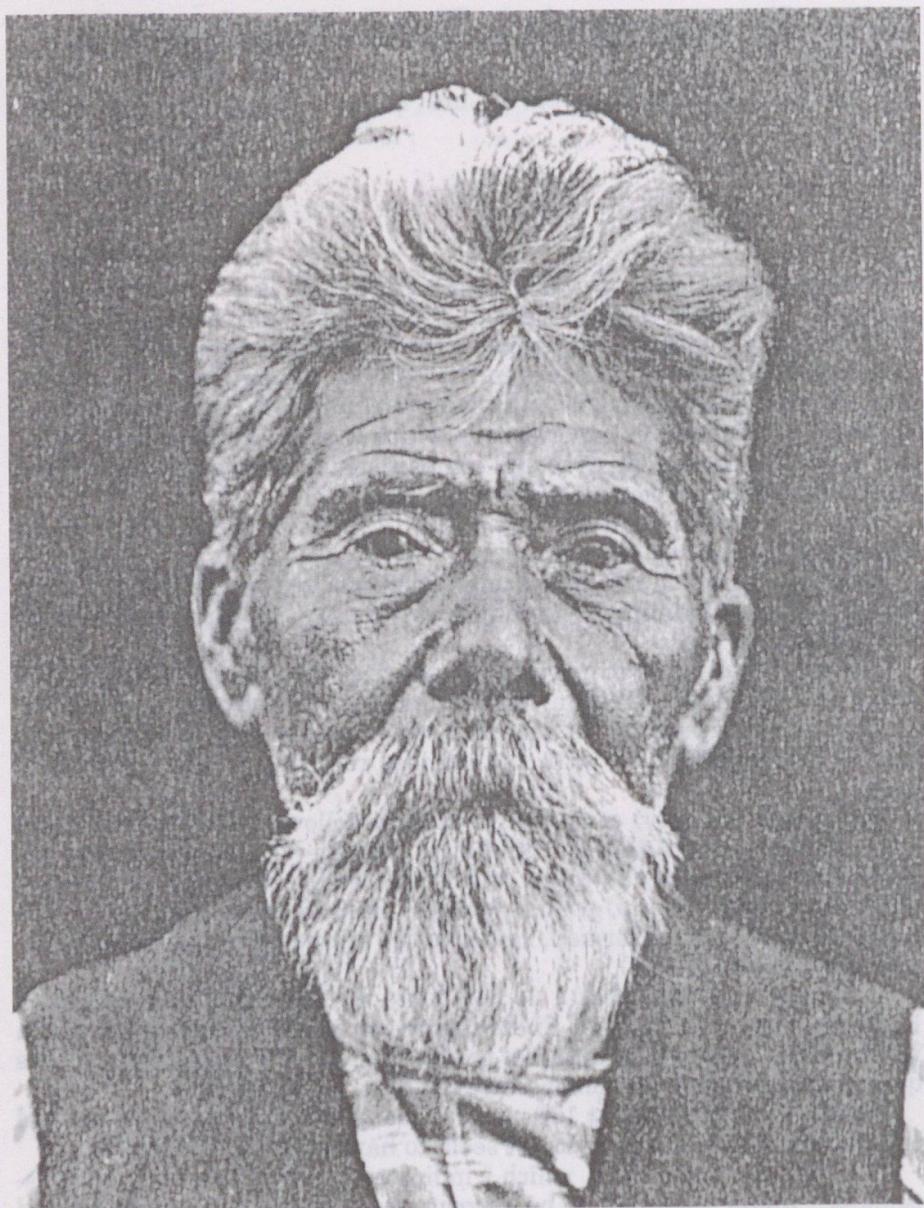


Figure 38. Thomas Williams, of Jamestown, Central Sierra Miwok, narrator of the Bear Shaman song

SHAMANISTIC EXPERIENCE (Central Sierra Miwok)

Bear Shaman

1 2 1. wýʔ-anyk hojʔepaj
 3 4 šók-et-ikoŋ míw-y-ko-n,
 5 6 7 wýʔanyk lemè-j. lolúk-uš
 8 9 10 nét-oʔ šyle-j, máʔtana-
 11 12 palát-at-aj lé-ka-t.
 13 14 2. "kót-o-č! kósjan-aʔ
 15 16 há-naʔ." týwkimšaš
 17 18 19 pájpu-ŋ, kós-ajpuŋ-u. ʔýš-a-
 20 21 ʔynýn-ana-, máʔtana-
 22 pájpú-j.
 23 24 25 3. wóʔla-š, háč-ič-y
 26 27 múk-um ʔyšy-maŋiʔ
 28 29 ʔúj-umuʔ. šyŋ-ewawŋky
 30 31 ʔyšy-maŋiʔ, nomót-uč-u
 32 33 34 má-ŋa-š. liwá-ny týšà-n.
 35 36 móʔ-utwawŋky ʔyšy-maŋiʔ.
 37 38 39 má-ŋaš ló-tu- pokí-šy
 40 41 42 ló-tuʔpa-k. patý-ty wyjé-to-š,
 43 44 45 ʔúknu wyjé-toš ʔyšy-maŋiʔ.
 46 47 šok-et-ik kaláŋpakyp
 48 49 50 ʔís-aky-j. šók-it-ij wé-ly
 51 52 wýškiš-y-š, pútkalyš-yš
 53 54 55 ʔyšy-maŋiʔ. ʔís-akyj wí-kyp
 56 57 58 pó-sesas líl-em-yʔ. wik-ekoŋ
 59 60 kalá-ŋy-p, ʔís-akyj
 61 62 kaláŋpaky-p. ʔój-is-aj
 63 64 kawý-lyj kaláŋpaky-p.
 65 66 67 čamý-šaʔ ʔucù, tín-yj
 68 tél-yč-yʔwawŋky.

1. They went out early in the morning, all the people, they went out into the hills. When he had collected a lot of fledgelings in one place, he shot a woodpecker on a white oak.

2. "You all go on," he said when his arrow stayed there, stuck, "I'll throw stones at it for a while." He kept on throwing stones at it, and finally he hit the arrow and made it fall.

3. As he was going home, there stands in the trail a bear, a black bear. The bear does not see him it has its head down as he passes. He speaks to it all for nothing, it does not answer. But the bear as he passes seizes him, makes him faint with fear as it seizes him. It takes him to its hole, brings him into its hole, the bear. All of them are dancing for him. Everything the bear takes out of him, his heart, his guts, and they fill him up with down. After they have filled him, they dance, for him they dance. Four nights they dance for him. Like a corpse he stays, he does not hear anything.

69 70 4. ʔój-is-aj kawý·lyj
 71 72 ná·kyʔpa·k, “wóʔle-nì-š!”
 73 74 75 káč·y·p. h́jkap šók-et-ik
 76 77 78 ʔyšý·matì-k, ʔečàm súksuj
 79 80 čí·pyj-ìŋky·p. ʔójšuʔpa·k,
 81 82 83 “wóʔlu ʔíw-in,” káč·y·p,
 84 85 h́jkašak-o-ŋ. tujá-ŋyʔpak
 86 87 88 kýjwa súksuj. wý·šap
 89 90 ʔyšý·matìk káljanik
 91 92 woʔúlnukup senék·y·č.

4. When they have reached four nights: “Let him go home!” they say. All the bears shout, outside they go and stick a live oak twig into the ground. As they do it, “He is going home now,” they say, shouting. As he jumps and runs he bites in two the live oak twig. The bears have started out, and dancing as they go, they bring him home, all of them in a line.

Overview of the Compared Morphs

A Root morphs

(The numbers in parentheses refer to the first occurrence in the text)

1 (1)	<i>wy-</i> , <i>wi-</i> 'to go; to take'	Vg	<i>wi</i> 'to take'
2 (2)	<i>hoj-</i> 'early morning'	Vg	<i>xuj</i> 'dawn, early'
3 (3)	<i>šok-e-</i> 'all'	Vg	<i>sāxä</i> 'all'
4 (4)	* <i>miw-ko</i> 'people'	Os	<i>māyi-ko</i> 'inhabitant'
5 (6)	<i>lemè-</i> 'hill, woods'	Vg	<i>limä-</i> 'wood'
6 (7)	<i>lol-</i> 'bunch, to gather'	Vg	<i>lol-</i> 'to patch, add a piece'
7 (8)	<i>ne-</i> 'this'	Vg	<i>-nä</i> 'to this'
8 (9)	<i>šyle-</i> 'fledgeling, to fly'	VgT	<i>šul'ä</i> 'wing'
9 (10)	<i>ma?</i> 'to shoot,'	?Vg	<i>māyi</i> 'to pierce'
10 (11)	* <i>pa</i> , <i>-pa</i> 'wood, tree'	Vg	<i>-pä</i> 'tree'
11 (12)	<i>le-ka-</i> 'stick, tree'	Vg	<i>l'eyk</i> 'spit, peg'
12 (13)	<i>kot-o</i> 'distant'	Os	* <i>kot</i> 'distance'
13 (14)	<i>kos-</i> 'to throw, to notice'	VgP	<i>kāse-</i> 'to notice'
14 (15)	* <i>ha-na</i> 'hold'	Vg	<i>xani</i> 'to hold on'
15 (16)	<i>tyw ~ tyk</i> 'shoot, stick into'	Vg	<i>tayi</i> 'to stick into'
16 (17)	* <i>paj-</i> 'brush, hill'	Os	<i>paj</i> 'hill, brush'
17 (19)	<i>ʔyšä-</i> 'later'	Vg	<i>uš</i> 'later'
18 (20)	<i>ʔyn-y-</i> 'to come'	Vg	<i>in</i> 'to come'
19 (23)	<i>wo?</i> < * <i>woš</i> 'to go home'; 'to home'	VgT	<i>wōš</i> 'town, settlement' cf. 21
20 (24)	<i>hač-</i> 'to stand; stall'	Vg	* <i>xas</i> 'stall'
21 (25)	<i>ʔyč-y ~ ʔuč-u</i> 'be, house'	Vg	<i>wōš, ūš</i> 'home' cf. 19
22 (26)	<i>muk-u-</i> 'trail'	?Vg	<i>mūyè-</i> 'winding (trail)'
23 (27)	<i>ʔyšy-</i> 'evil, spirit, ill'	Vg	<i>is</i> 'spirit, (disease)'
24 (28)	<i>ʔuj-u-</i> 'black bear'	Vg	<i>uj</i> 'animal, bear'
25 (29)	<i>šyj-</i> 'to see'	Os	<i>sij</i> 'to see'

26 (31)	<i>nomo-t</i> 'to bow head'	Vg	<i>nom-</i> 'to meditate, bow head'
27 (32)	<i>ma-y</i> (<i>men-</i> 'go') 'pass'	Vg	<i>min-</i> 'to go (by)'
28 (33)	<i>liw-a</i> 'to speak'	Vg	<i>lāwi</i> 'to speak'
29 (34)	<i>tyšan</i> 'in vain'	Vg	<i>tüssin</i> 'in vain'
30 (35)	<i>mo²-</i> 'to answer'	Vg	<i>mō-</i> 'other, (Hu answer)'
31 (38)	<i>lo-t- ~ lowo-t-</i> 'catch, hold' ?Vg		<i>lewäti</i> 'to pull out'
32 (39)	<i>pok-</i> 'to knock out'	Vg	<i>pox-</i> 'to knock out'
33 (41)	<i>paťý-</i> 'to take'	Vg	<i>patti</i> 'to take'
34 (42)	<i>wyjé-</i> 'burrow, hole'	Os	<i>uj</i> 'underground hole'
35 (43)	<i>ʔuk-</i> 'to enter, door'	Vg	<i>āx-t</i> 'opening', "door", cf. p. 222
36 (47)	<i>kala-</i> 'to dance, kick'	?Vg	<i>kwāli</i> 'to get up, jump'
37 (48)	<i>ʔi-</i> 'this'	Os	<i>i-</i> 'this'
38 (50)	<i>wel-</i> 'to take, hunt, fish'	Os	<i>wel-</i> 'to take, hunt, fish'
39 (51)	<i>wyški</i> 'heart'	(PFU	<i>*üskä</i> 'breast, bosom, heart')
40 (52)	<i>puť-</i> 'intestines'	Vg	<i>puti</i> 'intestines'
41 (56)	<i>posa</i> 'down, feather'	Vg	<i>pōnsi</i> 'tail feather'
42 (57)	<i>lil-e</i> 'up, high'	Vg	<i>l'ul'i-</i> 'high'
43 (62)	<i>ʔoj-is-a-</i> 'four'		
	<i>ʔo-ja</i> 'double, twin'	Vg	<i>woj-</i> 'similar, equal'
44 (63)	<i>kawý-l</i> 'night (morning)' ?Vg		<i>kwāli</i> 'morning'
45 (65)	<i>čam-</i> 'dead'	Vg	<i>šam-</i> 'dead'
46 (67)	<i>ti-</i> 'thing'(?)	Vg	<i>ti</i> 'this'
47 (68)	<i>tel-</i> 'understand'	Vg	<i>šēli</i> 'understand'
48 (71)	<i>ná-k-</i> 'end point'	Vg	<i>nak</i> 'end point'
49 (73)	<i>kač-y</i> 'to say'	Vg	<i>kās</i> 'to call on'
50 (74)	<i>hijka-</i> 'to shout (bear)'	Os	<i>*xijy-</i> 'to shout (bear)'
51 (77)	<i>ʔeča</i> 'out, next, also'	Vg	<i>os</i> 'also, further'
52 (78)	<i>suk</i> 'small (oak)'	Os	<i>sox</i> 'deminutive suffix'
53 (79)	<i>či-p-</i> 'to stick into the ground, a stick'	Vg	<i>šāp</i> (<i>šep</i>) 'to stick into the ground, a stick'
54 (80)	<i>ʔoj</i> 'to make, fix'	Vg	<i>oj</i> 'matter, affair'
55 (85)	<i>tuja-</i> 'to throw'	Vg	<i>tuj</i> 'to throw'
56 (86)	<i>kyj-</i> "to overtake" ('cut short')	?Vg	<i>koci</i> "to overtake"
57 (92)	<i>senék-</i> 'line'	?Vg	<i>sēnex</i> 'spawn'
58 (4)	<i>-ko</i> 'person (plural suffix)'	Vg	<i>xu-</i> 'man, person'
59 (11)	<i>-lat-a</i> 'to beat, peck'	Vg	<i>l'atyi</i> 'to bang, knock'
60 (27)	<i>-maťi</i> 'something'	Vg	<i>mat</i> 'something'

61 (51)	- <i>kal-</i> 'something'	Vg	<i>xar</i> 'something'
62 (78)	- <i>su</i> 'wood, stick'	Vg	<i>suw</i> 'stick'
62 (82)	- <i>wi</i> 'at the time'	Vg	<i>ui-</i> 'at the time'

B Suffix morphs

64 (14)	- <i>?</i> , (<i>ø</i>) 'subjective case'	*- <i>ø</i> 'subjective case'
65 (2)	- <i>j</i> 'objective case' (also used as lative)	*- <i>j</i> 'lative case suffix'
66 (3)	- <i>y</i> 'possessive case'	*- <i>n</i> possessive case
67 (82)	- <i>n</i> 'locative case' (cf. 8)	*- <i>n</i> locative case I.
68 (12)	- <i>t</i> 'locative case'	*- <i>t</i> locative case II.
[(1)	- <i>k</i> 'plural suffix'	- <i>k</i> Hu 'plural suffix'] cf. 4, 58
69 (7)	- <i>š</i> 'he, she, it'	*- <i>s</i> 'he, she, it'
70 (47)	- <i>p</i> 'they'	*- <i>p</i> + pl. 'they' cf. 88, 89
71 (29)	- <i>ŋky</i> 'to be'	*- <i>ŋk</i> 'infinitive suffix'
72 (88)	- <i>ša</i> (- <i>š-e</i>) 'past tense'	*- <i>s</i> 'past tense'
73 (1)	- <i>any</i> 'distant past'	Vg <i>añ mōl</i> 'once upon a time'
74 (79)	- <i>j-i</i> 'andative (future)'	Os <i>jə-</i> 'to become'
75 (72)	- <i>n</i> 'potential mode'	*- <i>n</i> 'potential mode'
76 (10)	- <i>ta</i> "impact" suffix	*- <i>t</i> 'momentaneous suffix'
77 (18)	- <i>puṭu</i> 'continuative'	Vg <i>puru-</i> 'back (and forth)'
78 (29)	- <i>ye</i> 'to grow into'	*- <i>n</i> 'to grow into'
79 (2)	- <i>pa</i> 'upon, up to'	Os <i>pa</i> 'to, at, upon' cf. 11
80 (33)	- <i>ny</i> , - <i>nu</i> 'indirective suffix'	Vg - <i>nu-</i> 'indirective suffix'
81 (24)	- <i>lu</i> 'verbal suffix'	*- <i>l</i> 'verbal suffix'
82 (80)	- <i>šu</i> 'verbal suffix'	Os - <i>ś</i> 'frequentative' (FUE 656) <i>ú-sz-ik</i>
83 (14)	- <i>ja</i> 'verbal suffix'	- <i>j</i> 'verbal suffix'
84 (28)	- <i>m</i> 'place; locative suffix'	- <i>ma</i> 'place'

C Additional morphs treated

85 (4)	- <i>ja-</i> , - <i>jak</i> 'people'	Os - <i>jax</i> , - <i>jak</i> 'people'
86 (51)	<i>hon</i> 'heart, etc.'	Os <i>xon</i> 'belly, breast'
87 (11)	- <i>naka</i> *(wood) 'pecker'	Vg <i>nāx-</i> 'to peck' (as a wood pecker)

88 (2)	-pe ~ -pa 'agentive suffix'	*-p 'agentive' cf. 70, 89
89 (2)	-pa '(five at a) time'	Os -pa '(three) times' cf. 70, 88
90 (43)	-ja (Fr: ya) 'instrumental agentive'	*-j 'agentive suffix'
91 (31)	-s 'noun suffix'	*-s 'noun suffix'
92 (68)	toki-l 'to coil up'	Vg sōxit 'to coil up'
93 (68)	toše-we 'rabbit'	Vg šoswe 'rabbit'

D No apparent cognates

- 1 (51) -šy 'instrumental case'
- 2 (10) -na 'habituaive passive suffix'
- 3 (43) -nu, (?) -nuku, -k-u, -ky 'causative'
- 4 (29) -wa 'negative, destructive suffix' (but see 12.b)
- 5 (16) -mša- 'static resultative'
- 6 (13) -č '2d plural imperative'
- 7 (3) -ti 'old diminutive'
- 8 (7) -k-u 'continuative'
- 9 (20) -na 'causative suffix'
- 10 (35) -tu 'intransitive suffix'
- 11 (39) -y (?) 'intransitive suffix', epenthetic vowel
- 12 (67) -n-y noun suffix
- 13 (84) ša emphatic element

Text Analysis

- 1 wy²-anyk 'they went out'
wy²-any-k
- a. wy- 'to go'; Miss wy- 'to go', wi-nHuk-u- 'to take', tr.: "to cause to go"; Mins wi- 'take it', wi-nuk-u 'take along' ('go' and 'take' are connected by Broadbent (1964:285). Note Maidu wi! 1. (92 entries) 'to perform action with the hands'; 2. (12 entries) 'general motion involving the whole body'. cf. English "take off: to go")
 - VgN (MK 725a) wi- 'to take, to bring, to reach'; OsN wi 'to take'; (KT 268b).
- b. any (Fr. 89) 'distant past' "The distant past is the one most used in the west-central subdialect in recounting long past personal experiences

and semi-historical events. In myths, it is about equally used with the historical present.”

- VgN (MK 40a) *ań* ‘now’; *ań-mōl* ‘once upon a time (e.g. in heroic times)’; *mōl* (MK 312a) ‘once’.
 - c. *-k* ‘they’ 3d person plural marker.
 - For discussion and cognate see Grammar: the **-k* plural.
-

2. *hoj^əe paj* ‘early in the morning’

hoj-^əe-pa-j

- a. *hoj-^ə* ‘early, ahead, next’; *hoj^əepa-* ‘morning’; *hoj-a-* ‘to begin’. This is a very productive morph in Miwokan. Note also Miss *ha-ja-* ‘bright, daylight; to dawn’.
 - VgN (MK 116) *xuj*, T *khøj* ‘dawn’; LM *khuj-khwōltän* ‘early morning’, (*khwōl* ‘morning’); Hu *haj-nal* ‘dawn, morning’; Fi *koi* ‘the first stage of dawn’, PFU (or PUr ?) **koje* FUE 246. FUV.
 - b. *-pa-* ‘after, following’. Discussed by Freeland (197). She is connecting it to *-p-a-* (153) ‘at a time’, suffixed to numerals and quantitative items; e. g. *maško-p-a* ‘five at a time’. Note also (Fr. 107, 13) *-pa-* ‘upon, up to’
 - OsE (Gulya 71, 88) *-pa-*, *-pä-* ‘times’ on numerals, *kolām-pa* ‘three times’; (KT 653) *-pa*, *pä* ‘where to’, *nuy-pa* ‘up to’ (*nuy* ‘up’).
 - c. *-j* objective suffix, (Fr. 21); used also as lative (Fr. 24) cf. 6 *lemē-j* ‘into the hills’; *ne-j* ‘to here’.
 - PUr **-j* lative case suffix; see: Grammar, Declension 10.
-

3. *šók-et-ikoy* ‘all’

šók-e-t-i-ko-ŋ

- a. *šók-e-* ‘all’; *súk-e-* ‘all’, *súk-e-č* ‘each time’; *šók-e-t-i* ‘all’; Miss (*š > h-*) *hok-e-t-i-* (Fr. 2) ‘all’; Mins *sok-e* ‘things, everything (‘clothes’)’ *sok-e-t-i* (diminutive) ‘all, everything, the whole, every’; Mics *maš-šók-a* ‘five’ “the whole hand” (cf. Md *ma ~ mas* ‘hand’).
- VgN (MK 553b) *säxä* ‘all’; LM *šákha*; P *šokh* ‘all, whole, every kind’
- b. *-ti-* ‘old diminutive’
- c. *-ko-* ‘plural’
- *-t-i-ko-* ‘plural or collective diminutive’.
- For the Finno-Ugrian cognate See: Grammar, the **-k* plural
- d. *-ŋ* ‘possessive case suffix’. Here used as the subject of the sentence: “The man runs” = “Of the man, his running”. (Fr. 20)
- PMi **-n*
- PFU **-n* possessive case suffix, see: Grammar, Declension 2.

4. *miw-y-ko-ŋ* 'the people'

miw-y-ko-ŋ

- a. *miw-y* 'person, Indian, human being'; Miss *miwty-j-a* 'Indians' (*j-a* 'people' ²*yhmy-j-a* "Bear moiety" = "the Bear People". {²*yhmy-* 'bear'}; related to Mins *-jak* animate numeral suffix (when enumerating people sometimes animals and ghosts, but not plants or things.)
- b. *miw-y* is a reduced form from *miw-y-ko*. The suffixed form originally referred to a single person cf. Mim ²*aj-ko* 'child' (Os *aj-ko* 'id'.)

- Os (KT 505a) *məyi-kò* 'inhabitant of a place' (*məyi-* 'land', *-ko* 'person' {cf. German *Landsmann*). Note the parallel compound *məyi-jax* inhabitants *-jax* 'people' related to the above Miwok examples *-j-a*, *-jak* 'people'. Ostyak: originally *As-jax* "The people of As (The Ob River)". **miw* 'earth' related to Costanoan Mutsun *mu-n* 'earth'.

VgN (MK 288a) *mā*; LM *mō*; P *mō* 'earth, land, place, region, world, part, field'; P *mō-khu-m* 'fellow county man'.

OsN (Pápay – Beke 42) *mū*, *mūw*, *mi* 'earth' *mu-xo* 'people'. Note the selfdesignation of the Selkup Samoyeds *sōle-kup* 'earth man' (*ku-p* 'to "ko"'). PUr **mayō* (FUV 33). Note also the name of a Selkup (Samoyed) tribe *maš-qula* "earth people" according to Prokofev meaning 'cave dwellers'. It is more appropriately refers to the semi-subterranean dwellings in use also among the Voguls, Ostyaks (and Californians).

VgLM (MK 289a) *mō-kwäl* 'earth house' (excavated house) *kwäl* 'house' (California: Wintu *kewel* 'house'); see: 26b, 57b.

- c. *-ŋ* possessive case suffix; see: 3d.

5. *wy²anyk* 'they went out'; see: 1.

6. *lemè-j* 'into the hills'

lemè-j

- a. *lemé-* 'mountain, hill' (*lem-ŋi* 'to hunt' "to go the hills"); Mins *lim-e-* 'woods, brush, branch' *lim-ej* 'through the woods'; Mib *límme* 'to be brushy, lots of trees, stump' = Mil *límme* 'chamise brush (forming dense thickets)', (also: 'eyebrow') Mim *limme* 'the woods'; *lime-kule* 'black or brown bear'; *lime-miča* 'wild man'.
- VgN (MK 260a) *limés* ~ *lamiš* 'mud, sediment, driftwood carried on the surface of the river, ragged, in shreds' (clothing, fur); OsKa (KT 483b) *lamás* 'id'. (a fishing place.) In Siberia the rivers flow to the North carrying a great amount of driftwood from the southern forests.

b. *-j* 'objective case suffix'. For its oblique use expressing 'direction to' see: (Fr. 24).

- *-j* For discussion see: Grammar, Declension 10.
-

7. *loluk·uš* 'when he had collected a lot'

lolu·k·u·š

lolú·k·u 'to be crowded together'; *lolé·ʔa-* 'in a bunch; a crowd, a group'; *lol·uč·u* 'to stand in a group'; Miss *lol·e* 'group, herd, flock school of fish, stand of trees'; *lo·l-* 'bunch together, go around in a group'. Mins *lol·uk·u-* 'long tailed rat, woodrat' also called 'pack rat' *Neotoma fuscipes* [They "...spend countless hours working on their houses — the familiar stick-pile lodges often seen under the chaparral or among the branches of trees". ... "They are also called 'trade' or 'pack' rats. They may collect apparently useless objects, such as jar lids, cigarette wrappers and old newspaper, which they carry to their houses". ... They are more attractive looking and lack the aggressive disposition of the Old World rats." (William D. and Elizabeth Berry 1959:20)] Because of their "collecting" habit the Miwok called them the "collector-s". Mip *lol·ok*, *lo·lok* 'id.'; Mib *lól-*, *lol·lipo* (cf. *mol·lupa mol* 'to cover'); *lol·wa·me* 'naked, not covered'; from Proto Miwok (?) (*-wa-* negative suffix).

- VgN (MK 263a) *loli* 'to patch, to cover a hole'. The semantic development must have been: 'to make a patchwork, to piece together, to add a piece, to collect'. Note Hungarian *fol* 'patch' and (dial.) 'group, pack, bundle'.
- b. *k·u ? -k·y- ~ k·o-* (Fr. 108) 'continuative on varying stems'
- c. *-š* 'he' 3d person singular suffix. See: Grammar, Pronoun.
-

8. *net·oʔ* 'in one place', ('right here')

ne·t·oʔ

- a. *ne* 'this (here)' *ne·k·o* 'these people'; Miss *neH*; Mins *ne·ne·k·o* 'these people', but note the singular (example): *ne·ko* 'this person'; Mip *ne·-*, *ne·-*; Mib *níi, ni*; Mil *né-, ni-*; (Mim) PMi **ne*. Related to PMi **no* 'that'.
- Vg (FUE 471) *-na, -nä* 'locative case suffix', *oš·nà* 'to the town' 'to, toward'; Hu *-ni, -nyi*. Ultimately related to PUr **nä-* 'this'. Detailed discussion in FUE 467, 470–472. FUV 38. See: Grammar, The Declension of Nouns 4, Locative I.
- b. *-t·oʔ, -t, -to-, -t·oʔ* 'definitive locative case'. See: Grammar, The Declension of Nouns 5, Locative II.
-

9. *šyle-j* 'fledgelings' (objective case).

šyle-j

šylé-t 'to fly; *šý-le-ty* 'bird'; Miss *hyHl-ŋHe-* 'to fly from the nest, of young birds' *hyle-t-* 'to fly, to jump with both feet, to be in the air'; *hylet-et-* 'to flop about, of fish' ('to strike, of a snake') ["airplane"]; Mins *syle-t-y* 'to fly, to soar, as a buzzard' ('to spread the wings, to flap wings') ["helicopter"].

- VgT (MK 572a) *šul'ä-p ~ šul'äp* 'wing', *šul'äpi nuwant* 'to flap the wing', *ärken-šul'äp* 'kite, hawk, buzzard' (MK 389a). *khql-šul'äp* 'pectoral fins': "fish-wings" ('bat', "wings" of the windmill). Note the referring in Mi and in Vg to fish and modern devices such as 'helicopter' and 'windmill'. On the strength of Miss 'to jump with both feet', perhaps we can connect VgN (MK 571b) *sulinti*, LM *šulenti* 'to jump, to hop, to gallop, to be air born, to travel fast (by a sled)'. VgK (MTr 468) *noŋwé sul'eti* 'jumps up' (*noŋwé* 'up').
- b. *-j* objective case suffix; see: 2 c.

10. *maʔtana-* 'he shot'

maʔ-ta-na-

- a. *maʔ-ta-* 'to shoot and hit, to throw and hit'; Mins *maʔ-ta* 'to hit with a missile; to hit, strike (rays of sun); to hit (deer) with an arrow'. Miss *maʔa-t-* 'to fall apart, to fork (intr.); *maʔa-t-met-* 'to fall in two'; *maʔta-la-* 'forked, fork of a tree'; Mip *maʔta* 'forked trail or stick'. The meaning seems to be to hit an object (tree, animal) with an arrow and to split it. Note also several Miwok morphs **mat-* 'to hit, to slap, to crack' etc. (Mib *méta* 'to hit, to spank, to whip') Miss *maty-m* 'to go through a crack', *ma-ta* 'crack'. Perhaps it is related to
- VgN (MK 291b) *māyi* 'to stick in, to pierce, (like fish on a spit), to push or stick into the hole or crack'. OsI (Patkanov 81) *moxta, muxta* 'through, (to pierce) through; OsN *moxtĭ* through (KT 515a); *moxtə* 'through'.
- b. *-ta-* (Fr. 166) verbalizer 'at, upon'; Cf. Mins *-ta* vs. iterative stem formative frequently with verbs of impact (*CVC-ta*).
- Uralic **-t* "momentaneous" suffix (Collinder 1960:278). Os *kōś-* 'to whistle', *kūz-id* 'to give a whistle'.
- c. *-na-* (Fr. 61) 'habituaive passive tense' (Fr. 76).

11. *palát-at-aj* 'a wood pecker' (objective case)

pa-lát-a-t-a-j

- a. *pa* 'wood, tree' (occurs only as a bound morph). PMi **-pa* Mics *tat-pa* 'leather tree'; Mins *jolili-pa* 'madrone' ("red tree"); Mim *čolep-pa*

'douglas fir'; Mip *co-ʔo-pa* 'willow'; Miss *ʃin-pa* 'deer brush'; Mip *ʔoča-pa* 'water oak'. Related to Maidu *pa* 'thicket, bushes, brush'; *pa-wàksi* 'brush crane'; *pa-* 'to stand as a tree'; Nisenan *pa-dit* 'chaparall' (*-dit* < *dy-* 'bush, brush'); *pa-naka* 'thick brush'; *pa-naka* 'woodpecker'; Mil *pa-náak* 'woodpecker'. (For the Ob-Ugrian cognate of *-naak* see below). Mim *pa-nak* 'id'; Mip *palat-ata* 'woodpecker, yellow hammer'; *paltiʔna* (< **pa-latiʔna*) 'yellow hammer, woodpecker'.

- VgN (MK 400a) *-pä*, P *-pé*, *-p*; T *-pâ* 'tree' (occurs only as a bound morph) N *ul'-pä* 'stone-pine', *Pinus cembra* (its nut is an important food item); T *sal't-pâ* 'linden'; (MK 559b) K *soâm-p* 'willow'; Hu *fa* 'tree, wood'; Fi *puu* 'tree, wood'. PUr **puwe*, FUE 171; FUV **pu* (53). This is one of the most widely distributed morphs in the Uralic languages.
- b. *-lat-a-t-a-* reduplicated stem; Mib *lat* 'to beat, to slap'; Kostromitonov (Powell 1877:557) *ladep* 'to hew, to beat'.
- VgN (MK 284a) *l'atyi* 'to crack, to bang, to knock, to crack' (stone-pine nuts {Zirbelnüsse}) *nâxèr l'ätne opi nâj* 'nutcracker' (the bird: "nut cracker aunt great lady"). (Note: VgN {MK 494b} *râti* 'to hit, to bang, to knock, to drum'; and CoMu (Mason 1916:450) *raʃs-a* 'to crackle'. Mim *pa-nak*'s 'wood pecker' second member of the compound can be compared to VgN (323b) *nâxwi* 'to peck, to pick, to knock, to hew (with the beak, as a woodpecker); break open an egg as a chick hatching'. (Note the English term *wood-pecker* and *nut-hatch*'; OsI (Patkanov 164) *nog-em* 'to peck, and knock with the beak'.
- c. *-t-a* reduplication (*-CV*)
- d. *-j* objective case suffix; see: 2c.

12. *lé-ka-t* 'on a white oak'

lé-ka-t

- a. *le-ka-* *Quercus garriana* "white oak". Miss *le-ka-* 'white or scrub oak'; Mins *le-ka* 'stick, tree, particularly a young tree still in the process of growing), *lek-aj* 'stick (billhook) for pulling down', *leket-waji* 'slugs' ("little stick things that crawl around at night leaving a foamy track" (sic.)), *lek-ekjesy* intr. verb. continuative, 'to stick out, to protrude'; *le-ka* 'pole, digging stick', *le-ka-t-i* (diminutive) 'sapling'. Mins *lik-a-* 'spit for roasting'; Mip *lik-a* 'sharp spit'; Miss *lik-otwi-* 'Yosemite skink' ('slender, slick and sharp tailed lizard'); *lyk-yt-* 'penis' (For semantics cf. Mics *tol-o-k-o* 'slick lizard' *tol-o-lo* 'penis').
- VgN (MK 282b) *l'epk*, *l'ipk*; LM *l'ix* 'wooden nail, peg, wedge' (283a);

šal' l'ixxä 'sharp spit, nail' (*š-* 'sharp stick, wooden spit'); '(axe) wedge'; *l'iyk ~ l'ix* denasalization takes place in Vogul and in Miwokan. Further meanings: 'to nail, to stick in, to push in cork, stopper' etc.; *lēyk-wi* 'dull' (knife or axe). Note: *-wi* negative suffix to PMi **-wa* (?) OsS (KT 481a) *leŋk* 'a wooden arrow for squirrel without (iron) arrowhead'; Kr *lǎnk* 'penis'; OsE (PM 65, 63) *l'uŋk* 'wedge', *lix* 'id'; *put-lix* 'a wooden hook for hanging up the kettle (*put*); OsN *luŋk* 'peg nail, wedge'.

b. *-t* 'definitive locative'; see: 8 b.

13. *kot-o-č* "You all go on!"

kot-o-č

- a. *kot-o-* 'to go ahead'; *kot-o* 'distant, far the other side', *kot-o-t* 'long ago'. Thus *kot-o* "temporal and spatial distance' and 'to distance oneself. Miss *kot-to-* root *kot-* and *to-* 'directional suffix' (Broadbent 115, extensive examples p. 246b); Mins *kot-o-t* 'long ago' etc. (allative case); Mip 'id.'; PMie **kot-* 'distance (spatial, temporal)'.
- VgN (MK 243a) *kwot'-əl*, *kot'-l'* 'the middle'; Os **kot* 'distance, between', Hu *köz* 'distance (spatial and temporal)'. Extensive derivatives. PFU **kitə* or **kütə*, FUE 379; FUV 91.
- b. *-č* imperative second person plural; *wý·ke-č!* 'Make a fire!'

14. *kósjan-a?* 'I will throw (stones) at it'

kos-ja-n-a-?

- a. *kos-* occurs with the following suffixes: *kós-la* 'to notice'; *kós-lu* (Berman 124) 'to glimpse'; *kos-e* (Gifford 1916:149), 'to throw at'. He connects it with *kosumu* 'salmon'. A water moiety male personal name *Kosumi* 'Going fishing with a spear for salmon'. Mics *kos-ú-m* 'to fish', *kós-um-i* 'crane', "habitually fishes"; *ko-s-omu* 'salmon'; Miss *ko-s* 'to throw underhand', *kosum* (Curtis 238b) 'salmon'. In some Miwokan languages **kosumu* means 'fish' and 'meat' (Powell 1877: 544:2; 542:4)
- VgN (MK 197a) *kasè-li* P *kāse-li* 'to glimpse, to notice, to catch a sight of, to guess at, hit or chance upon, to find out'. (Note Hungarian *ki-talál* 'to guess at' vs. *el-talál* 'to hit a target'.) OsS (KT 448b) *kašat-* 'to notice, to see, to have a glimpse'.

The semantic equation between Mics *kos-la* 'to notice' and *kos-ja* 'to throw ... at' or "aim at" and the various meanings of Ob-Ugrian *kas-* 'to notice, to guess at' is supported by the etymology of English *aim* 'to direct (a weapon, remark, or blow)' at someone or something' < *aim* < Middle English *aimen* 'to guess, aim', from Old French *aesmer* 'to

guess at', Latin *ad-aestimare* 'to estimate'. As to the connection between fish, aim and target see von Sadvoszky (1970:38, 43, 46). (On page 38 'dim' = 'aim').

- b. *-ja-* (Fr. 166) verbalizer, in verbs of striking or hitting with an instrument.
- For the Uralic cognate see: Collinder 1960:275. "In Ob-Ugric, this formant (*-j) seems to have a terminative (ingressive or perfective) function".
- c. *-na-* (Fr. 61, 76) 'habituaive passive tense'
- d. *-ʔ* 'I' subjective case, see: Grammar, The Declension of Nouns, Nominative.

15. *ha-naʔ* 'for a while'

- a. *ha-naʔ* 'for a while' (Fr. 169), Mins *ha-naʔ* adv. 'keeps on, a while', *han-aʔ!* imperative, 'stop!', Mip *hana-na* trans. 'to have, to hold, (to hold on to)', *hanak-ociʔ!* 'Hold it!'; Mil *hanáaj* 'Wait a minute!' ('Hold it'.) Note also: Mics *há-na* 'a pair of gambling bones "man and woman" an unmarked one and a marked one' (Barrett and Gifford 1933: 266), Miss *hon-a* "to copulate" (Broadbent 133).
- VgN (MK 75b) *xani* 'to touch, to hang on, to get stuck, to get glued on'; (German *haften*); to cling to, hold on, to detain, to attach oneself (like a woman to a man, to form a pair, to couple'. More extensive meanings in KLE (116–117). Os (KT 316a) *xan-* similar meanings as of Vogul *xan*. Also, an important morph for Ostyak technology: e.g. *xonta* 'composite (glued together) bow' (317b).

16. *tywkimšaš* 'when... stayed there, stuck'

tywki-mša-š

- a. *tyw-ki* 'to shoot'; *tyw-ki* 'to prick, to stick something into'; *tyk-y* 'to shoot (game)'; *tuk-nu* 'to sew'; *tu-k* 'to drill, bore a hole'; Miss *tyk-* 'to shoot'; *ty-k-* 'to thread a needle, to sew; to lace up (shoe)', *tykys-meō* 'pock mark', *tuk-nŸ* 'to sew'; *tukun-a-* 'stitches'; Mins *ty-ky-* 'to pierce the ear'; *tyka* 'hole in nose or ear, ear-ornament, earning', *tyk-ja* 'to bore a hole'; *tyk-wa* 'to pierce, make a hole'; *tok-wa* 'to put a hole through'. Mip *tu-ke* 'hole (in a tree, wall etc.); tunnel?, den, cave (where one can go overnight when it rains), a trap made by placing grass over a hole'; *tu-keʔsy hane-pu* 'sweathouse hole'; *tyka-* 'hole in ear, earring' ? < Mins. (Further morphs in Western Miwok with *tik-* 'to peck, peck out, to dig', etc.); Mil *túkah* 'trap', *pokkon-tukah* 'spider web': "spider trap"; Mins *ty-kema* 'web, spider web'; Miss *ty-ke-na*

- 'spider web'; Mib *túwe* 'to shoot'; *túw(w)ée-ti* 'straight (road, stick)', *tókka* 'window'; Mim *tóka* 'smokehole, window'.
- VgN (MK 612) *tayi*, LM, K *täyi* 'to stuff in, stick in, to pick (toothpick), to stick into a hole; stick in moss into the hole or corner of the wall'. Os (KT 978, 979, 986) V *toyal-*, Ni *tēwət-* 'to stick in, stuff in, cover holes, make watertight with tow, oakum and moss'; Hu *túz* 'to stick in, to pierce, to needle, to pierce (as an arrow)'; 'to quilt'; *tú* 'needle'; Dialect. *tő* 'needle', archaic *tökít* 'to shoot'; *tövis* 'thorn'. Also 'to make a hole, pierce through', etc. PFU **tekə-*, FUE 649.
 - b. *-mša-*, *-mši-* (Fr. 130) 'static resultative'
 - c. *-š* 'it'; see: 7 c.

17. *pájpu-ŋ* 'arrow' (possessive)

- paj-pu-ŋ*
- a. *páj-pu* 'arrow' compound of *paj* and *pu*; *paj-* occurs also in *paj-wa* 'deer brush, Buck Brush'. The four feet long digging sticks (*süpe*) sometimes are made of *pajwa* 'Buck Brush, *Ceanothus cuneatus* (Barrett and Gifford 1993:197). "The arrow... used for ordinary hunting purposes, consisted of a simple wooden shaft (*pajpū*, C), with the arrowhead (*kǐče*, C) attached directly to it with sinew lashings." (Barrett and Gifford 1933:217). Miss (Yosemite) *paj-uk* 'arrow'; Mins *pajwa* 'brushwood, a hill (cha-parall) plant about four or five feet tall with small, white, bad-smelling flowers. The Indians used it for kindling. Merriam: "smoke brush"; *lu-paj-y* 'hill, mountain, knoll'; Mip *paj-tu* 'to mount, (a horse) to ride, to climb'; *paju-p-u* 'to hunt'; Mim *páj-iš* 'mountain, island, hill'; Mil *páwih* 'hill, mountain'; Mib *pájih*, *pajiš* 'hill', *támal pajiš* 'Tamalpais' the name of the prominent mountain across the Golden Gate in San Francisco. Kostromitonov (Powell 1877:555a) *paj* 'mountains'.
 - OsN *paj* 'hill, mountain, island' (KT 654b)
 - b. *-pu* 'wood, brush, tree'. The *pa* form was discussed in 11a. The *-pu* variety occurs in Mins *meje-pu* 'log'; Mip *taj-pu*, *toj-pu* 'log' (Mics *huju-pe* 'log').
 - Vg *-pä*, *-pə*, *-p* 'tree'; see: 11a.
 - c. *-ŋ* possessive case suffix; see: 3d.

18. *kós-ajpuṭ-ù* 'he kept on throwing (stones) at it'

- kos-aj-puṭ-ù*
- a. *kos-ja* see: 14b.
 - b. *-puṭ-u-* (Fr. 108) continuative (on 3d stem of a simple verb); Miss *-puṭ-*

continuative (Br. 84) 'to keep...'; *liw-a²-put* 'to keep on talking'; *puṭ-uh-puṭ* 'to keep on leaking out' (*puṭ-h* 'to leak, bulge out of a split container'); Mins *puṭ-u* 'back and forth', Miss *putul-ul* for *puṭu-l-ul* 'to turn back and forth sideways'. Moieties: (Gifford 1916:155) Proper name of a man belonging to the Land Moiety: *pute-pu* "Chicken hawk (*suyu*) walking back and forth on a limb." Miwok *-ṭ- can represent original *-r-. The -r- phoneme is present only in Costanoan and Wintuan. Mutsun (Mason 451) *sar-pa* 'to disappear from view to patch', Mins *sat-py* 'to disappear; to close up hole (in ear); to break (clouds)', *sat-pa* 'it disappeared'; Mutsun (441) *ar-ki-ni* 'to take the road'; Miss *aṭ-i-h* (intr.) 'to move away'. Numerous loanwords from Spanish show -ṭ- reflexes of medial -r-: Spa *oro* = Mins ʔo-ṭo 'gold'; Spa *harina* = Mins *haṭina* 'flour'. Perhaps we can compare it with

- VgN (MK 459a) *pōri*, L *pora*, T *puru* 'back'; LM *ilä-pärä* 'back and forth' ("forth and back"); *ilä-pärä liltém* 'I breath heavily', Os (KT 737) *per-* 'back, behind, backwards, left side'; Hu *far* 'behind, buttock', *farok* 'tail, penis'; *farkas* 'wolf', *far-ol* 'to go backwards, to go to and fro, to swing (as a vehicle)'. PU or (?PUr) **purə* FUE 182, FUV II. 107.

19. ʔyš-a· 'after a while' ('finally') (Fr. 169)

- a. ʔyšä· 'at last, later on'; Miss ʔyh-a· 'later, after a while'; Mins ʔys-a·-ji (future) 'yet'; ʔys-a-t-i² 'later'; ʔys-a²-ki-ja² (adv.) 'now and then'.
- VgN (MK 707) *uś*, LM *uś* (Kálmán 318), *uś ~ uśś* 'now, then, only then', K *ūs-ta* 'later, then', N (708) *tajëx us* 'only later' (*tajëx* 'later').

20. ʔynyn-ana· 'made it fall' (made it come {down})

ʔyny-n-a-na·

- a. ʔyn-y- 'to come'; ʔynʔy 'way, journey'; Miss ʔyn· 'to come'; Mins ʔy-ny 'to come, to come in, to approach, to come up (to the surface)'. Irregular verb. Mip ʔən-ə- 'to come'; Mil ʔoni; Mib ʔooni; Mim ʔooni; PMi *ʔyn· 'to come'.
- VgN (MK 154a) *jem-*, LM *in-*, P *in-* 'to come, to become, to begin, to happen'.
- b. -na (Fr. 107) causative suffix (on 2d stems) 'made it'.
- c. na· 'habituaive passive'; see: 10c.

21. máʔtana. 'he hit'; see: 10.

22. *pájpú·j* 'the arrow' (objective case)

paj·pu·j

a. *paj·pu* see: 17a.

b. *-j* objective case; see: 2c.

23. *wo²la·š* 'as he was going home'

wo²la·š

a. *wo²·* < **woš* 'home'; Mics *wo²·lu* (Fr. 94) 'to go home'; Mip *wo²·lu* 'to return, to go back, to come back'. Regular correspondence **-š-* > *-h-* > *-ʔ-* VgP (MK 465b) *pášm* 'to smoke'; PMie **pa²m-* 'to smoke tobacco'; VgLM (MK 416a) *paš* 'a split, a break'; PMie **pa²* 'to split, to break open, to divide into two parts'; Mip *po²·oh* ~ *po²·o²* 'pet, toy' VgP (MK 485b) *pyšýš* 'doll'. [Note a similar phoneme sequence with the same sound law: Mics *wo²·a-* 'to bark'; Miss *woh·a-* 'to bark, of a dog'; OsI (Pa 462) *wot'* 'to cry, to complain, to howl'.] Mi *wo²·* = **woš* can be compared to:

- VgLM (MK 705) *uoš*; P *uš* ~ *wuš*; T *ōš* ~ *wōš* 'fort, town, fence'; (cf. German *Zaun* = town as an etymological equation). Productive morph. Numerous place names T *tōpēl-ōs* 'Tobolsk'; K *jām-ūs* 'Demjansk'; Os (KT 259a) *woš* 'town'; *woš* 'Tobolsk', Berezovo, Tr (260a) *woč·ko* 'gone to the town of Surgut' (*-ko* 'man, person'); Ka *woš·xo* 'who came back from the town'; Ts *wos·paj* 'a hill with the remnants of an old town' (*paj* 'hill') PUr **woča* FUV 44.
 - b. *-la* ~ *lu* (also in *kos·la* 'to notice'); Mins *-lu-* (142) stem formative of *wop·lu* 'to go around'; see: Collinder 1960:276; **-l* in Ugrian it has a continuative function.
 - c. *-š* 'he'; see: 7c.
-

24. *hač·ič·y* 'there stands'

hač· + *ič·y* (for *-ič·y* see: 25)

hač- 'to stand to stop walking'; Miss *ha·c* 'to stop, to stand'; *hač·i·c·meH* 'ground squirrel "habitual stander", (death-tabu substitute)'; Mins *ha·cy-* 'to stand (a person) somewhere'; *hač·i·t·y* 'to stand up (person or horse)'; Mip *hacy* 'to go' (i.e. 'to get up and go'); Mil *hácah* 'to be standing (said of an animal or an object)'; *háccahni* (impers. agent); 'stall' (for animals). English: 'to stall' = 'standstill'.

- VgK (MK 86b) *khasēp*, T *khāsēñ urā·n* 'fold, pen (for animals)'; (Hu *állás* < *áll-* 'to stand'; Rus *stajka*).
-

25. ʔič·y ~ ʔyč·y ~ ʔyč·o

Mics (p. 21) 'static of bodily position, on 2nd or an abbreviated stem'; ʔuč·u- 'to stay to live', ʔu·ču 'house, home, dwelling'; Miss ʔuc·u- 'to live, to dwell'; ʔu·caH·y·hY 'uterus', "its staying place"; ʔu·cuH- 'house'; ʔucu·j- 'to build a house'; Mins ʔucu- 'to stop, to stand, to be situated, to stay, to live, there is, to live on'; ʔu·cani 'afterbirth'; ʔu·cu 'space'. Mip ʔu·cu 'to be situated, to stay, to be in or on something'; ʔu·si 'future of ʔu·cu- (?)'. See: ʔy·c 92b.

A variant of the *woš 'town, settlement' which morph is treated above 23a.

- VgN (MK 705a) ūs, LM ūš ~ uoš, P uš ~ wuš, T oš ~ woš 'fort, town, fence'. Note the following additional glosses: LM uš·kän 'place'; L uš·pat 'domesticated "house" duck', ūšeji 'to build a "town"'. (Note: Miss ʔucu·j 'to build a house'); usäsi 'to make a fence' (706) usem 'weir', ūsi 'to fish with weir'. Numerous examples in FUV 44. PUR *woča.

26. múk·um 'in the trail'

muk·u·m

- a. *muk·u-* 'trail'; Miss *muk·u-* 'id.', *muku·j* 'to make a road' Mins *muk·u-* 'id.'; *muke·j·y* 'to go'; Mip *myke·j·y* 'to go'; *muk ~ mu·k* 'trail, road'; Mil *múk* 'trail, road'; Mib *múku* 'id.'; Mim *múku*; PMi **muk·u* 'trail'.
- VgN (MK 318a) *mūyēl-* 'around, to go around, to go on a winding road'; Os (KT 511) *mayət* 'a circle, rounding, a winding trail or road', 'the winding of a river, environment'; *mōyəl-* 'to go around, to wander'.
PUg **mukə-*
- b. *-m, -m·y-, -m·yʔ* indefinite locative case suffix. Miss *-m-* 'id.'; Mins *-m, -m·y-, -mu-* 'id.'; Mip 'id.'; PMA **-ma* 'place where'. In numerous place names. See: 4b.

27. ʔyšy·maṭiʔ 'a bear'

ʔyšy·maṭi-ʔ

- a. ʔyšy. Mics ʔyš·y- 'bad'; ʔyšý·š- 'to dislike, to not to like'; ʔyš·y·ty- 'bad, a bad one, rascal'. (Also: *h·yšý·maṭi* 'bear'); Miss ʔyh·ki 'to be bad'; ʔyht- 'to speak against someone'; ʔyhyt·y·c- 'to look angry; ʔyhy·maṭi- 'bear; Bear moiety'; ʔyhmy·j·a- 'Bear moiety, "the Bears"'; ʔyhy·k- 'to go bad, sad; to ruin; vexed irked, sore'; ʔyh·yty- 'bad'; ʔystyt·e- 'to taste bad'; ʔyswi- 'bad'; ʔysy·t·i (diminutive) 'spirit'; ʔysyk- 'to ruin';

ʔysʔy-j- 'to turn out badly'; Mins ʔysy-ta 'bad, no-good, ugly, awful'; ʔysy-p-a adj. 'dumb, defective, deformed dwarf: a person, animal, a tree'; ʔysy-t-i (augmentative) 'monster, anything spooky and bad (imaginary)'; ʔysy-ma-ti 'bear; Grizzly Bear'. (Further: 'ugly, homely, monster, stingy, to spoil fruit or meat'.) Mip ʔysy-ja 'a sore, cut, boil, disease, sick person, (to be sick with fever)'; ʔysy-jak 'sick people'. (Note the -jak suffix meaning 'people' like in *As-jak* 'the Ob people'); ʔysy-mati- 'bear, Grizzly Bear'. Plains Miwok and Southern Sierra Miwok seem to have retained best the original meaning.

- VgN (MK 136b) *is* ~ *īs*, *is-xor* 'shadow, shadow spirit, ghost' (the shadow-spirit of the deceased hovers around the home for forty days); the restless shadow-spirit of a person. A man has five, a woman has four spirits. OS (KT 87) *is* 'ghost, spirit; something immaterial in humans, in plants: "bud"; the blood of bear'; Ob *is-xor* 'a "doll" representing a deceased adult' (*xor* 'image'). Hu *isz*, *isz*, *iz* (dialect.) 'gangrene, blight, cancer, a gum disease; one of the "Bad spirits" affecting the human soul'; *iz-el* 'to wish bad to somebody'. PFU **ise* or *ice*; FUE 329.
- b. -*mati*- 'something' occurs in Mins -*ma-ti*: *mice--mati* 'bird' and ʔysy-*mati* 'bear'. Productive suffix in Wintu. (Pitkin 1985:348) -*met tes-holo-met* 'spirit of a dead person'; *yir-met* 'mountain lizard' (cf. Vg *jur* 'lizard'); *pali-met* 'wildcat, lynx, bobcat (?)'.
- VgN (MK 304a) *mat* ~ *mät* 'something, some kind'; (304b) *matër mätr* 'some kind'; *mätr uj* "some kind of an animal" (for *uj* see: 28a). Os (KT 559b) *möttä* 'something unknown, "when you see it you can call it by its name"; a spirit which settles in the house and causes an illness; something'; 'The Bear' (Steinitz, OA IV. 1980:339).
- c. -ʔ 'subjective case'; see: 14d.

28. ʔúj-umuʔ 'a black bear'
ʔuj-u-mu-ʔ

- a. ʔuj-u- Not listed in Freeland – Broadbent in the dictionary section. Recorded by C. Hart Merriam (1904 Sched. 72:2) Mins *ujemu* 'black bear'; Sched. 73:2 Mip *ujum* 'id.'; Sched. 76:2 Chuckchansi Yokuts *ujum* (?) *oo-e-um*; Dumna Yokuts *ujum* 'id'. It is also recorded by Curtis (1924:221) for Hill Patwin *újum* 'black bear'.
- VgN (MK 688) *uj* 'animal, bear, beaver, elk, reindeer, bird animal'. An important word in the Ob-Ugrian hunting culture.
- b. -*mu-* (Fr 152) 'nominalizer, denotes physical condition'. Note also: *hój-a-muʔ* 'old, ancient early', and *hój-a-mu-k* 'the early people, old timers (*hój-a-* 'to begin', *hój-a-* 'old, ancient'; see: 2a.)

- Proto Uralic *-m ‘a denominative noun stem determinative’ Vg *hajim* ‘(a) mole’ (= *hoj*); Os *körem* (a) ‘step, pace’ (*kör* ‘foot’); Collinder 1960: 260.

c. -ʔ ‘subjective case’; see: 14d.

29. *šyj-eywanʔky* ‘does not see him’

šyj-ey-wa-ŋky

a. *šyj-ŋe* ‘to see’; *šy-j-yč-y* ‘to look to watch’; *šyjýč-pe-* ‘spy’. Miss *hyj-* ‘to see, to look’; *hyjey-peH-* ‘lookout’; *hyjey-a-po-* ‘mirror’; *hyj-i-e-ŋHe-* ‘to appear, look like, to be seen’.

- OsN (Pápai – Beke 65) *sijala* ‘to see, to look’; *šij* ‘visibility’ cf. VgN (MK 571b) *suli* ~ *sulyi* ‘to look at’ and (605a) *šulyi* ~ *šuli* ‘to become apparent’; *šul’l’oáli* ‘to glance’; *sulpi* ‘to appear; to look out’.

b. *-ŋe-* ‘to become, to grow into’; (cf. Broadbent 1964:82) Uralic *-n ‘to become, to grow into’; Finnish *vahhene-* ‘to grow old (*vanha* ‘old’)’ Collinder 1960:273.

c. *-wa-* (Fr. 71) ‘negative tense suffix’.

šyj-ey-wa-me-k ‘they never see us now’. Related to Miss *ʔew-aH* ‘without’; *ʔewa-nY* ‘to not do’ (‘to not find, moribund, widow’ and various other negative words.) Mins *wa-* ‘negative suffix’ *ʔos-aʔ-woʔ* ‘unmarried’, “without a wife”.

d. *-ŋky-* (Fr. 108, 136) ‘to be’ on noun stems and nominal verb forms.

- Uralic *-ŋk ‘infinitive’; see: Grammar, Infinitive.

30. *ʔyšý-matiʔ* ‘bear’ see: 27.

31. *nomót-uču* ‘it has its head down’ or “to stand with lowered head”

nomót-uču

a. *nomót-* ‘to bow the head’; Miss *nom-ot-* ‘to bow one’s head’; *nom-et-* ‘to slump down, of a person’; Mins *nomu-tuhŋe-* (passive, inchoative) ‘to pass out, to have spells’; *nom-i-puksu* ‘to eat by oneself’; *nom-ipoʔ!* ‘Eat by yourself! (a slur implying selfishness)’. Mim *nomas* ‘thing that scares a person in the night’. (The original meaning is ‘sense, reason, understanding’; ‘soul’, ‘thinking’ and ‘to be sunk deep in thoughts’). The root *nom-*, *nam-* ‘to understand’ occurs in Costanoan Mutsun (Mason 1916:449; Okrand 1976:88). For nearer cognate see below in OsE *nammäs* ‘one of the souls of humans’. For the *-s* suffix in Mim and Ostyak see Collinder 1960:271.

- VgN (MK 339a) *nomi*, LM *nami* ‘to remember’; T *nomélmati* ‘to think, to meditate, to grieve, to be sad’ (340b) (to become insane, with bowed head I am sunk in my thoughts).

Os (KT 581b) *num-* 'to remember'; *naməs* 'understanding, sense, mind, thinking, memory' etc.; OsN *nōmes* 'id.'; 'to think, to believe, to meditate'. Karjalainen FFC 41:37 footnote 1. Surgut Ostyak *nammäs* (Russian *um*) 'reason, understanding', "When a human being dies, his or her body goes and rots but the *nammäs* starts wandering on the same road as it did during the lifetime..." (Note above Mim *nomas*!)

b. *-uč-u* see: 25.

32. *ma-ŋa-š* 'as he passes'

ma-ŋ-a-š

a. *ma-ŋ-* (Fr. 152) 'to pass (meeting somebody); *maŋ-e-* (Fr. 50) 'to overcome'; *maŋi-e-* (Fr. 130) 'to outdistance, to run a race'; Miss *ma-ŋ-* 'to pass by'; *maŋ-e-j* 'too late'; Mins *ma-ŋy* 'to pass by, to pass (a person), to brush past'; *ma-ŋa-* 'It's gone by'.

- Problematic Uralic cognate: PUr **mene* 'to go' (FUE 428); Vogul *mini* 'to go'; Os *mən*; Hu *men-* is related to Mics *men-* 'to go on, to continue'; Miss 'to run (of a road), goes; go on'; Mins *meno-ku* 'to go through, to keep on; go on'. This PMie **may* could have been developed from the above word or it is a different morph. Requires further investigation.

b. *-š* 'he'; see: 7c.

33. *liwá-ny* 'he (the man) speaks to it'

liwá-ny

a. *liw-a-* 'to speak'; *liwá-n-* (Fr. 165) 'to converse'; *liwá-* (Fr. 195) 'language, word'; Miss *liw-a-* 'to talk, to tell something'; *liwat-peH-* 'speechmaker at funeral, interpreter'; *liw²a²-nY* 'to chat with people here and there'; Mins *liwa* 'to talk, to say, to speak (especially Miwok Indian); to make a characteristic sound word, language, story, news, question, voice'. *liw-ani²ke²!* 'Don't talk!'; *miw²a² liwa* (Northern Sierra Miwok) 'Indian language'; *liwa-pe* 'speaker'; *liwa-ny* 'to tell someone' (Further: 'to quarrel, to gossip; interpreter'); Mil *lɫlaw* (< **li-law*) 'to say, to tell'; *lilawne* 'to tell someone'; *lɫllawne* (iterative benefactive) 'to tell stories'.

- Vg (MK 254b) *lāwi*, LM *lawi* 'to tell, to speak, to answer, to order, to call, to promise, to chat, to converse'. Productive morph with other variations of the root given on p. 255a, with meanings: 'word, language, news, message'. On p. 253b, LM *loätti* 'to speak *mańsi* (Vogul)'. Note above the reference to the language of the Miwok. Regular regressive assimilation to the following palatal elements.

b. *-ny, -nu* 'indirective suffix' (Fr. 115) 'to do... to, at, for someone';
kojów-nu- 'to tell news to someone'.

- VgN (MK 347a) *nū-pél* 'towards, to, at'; *āyi nū-pél* 'for, towards a girl'; Hu *ná-l, né-l* 'at, (dial.) to'. The *-l* suffix in both languages is 'ablative'. P Ugrian **na-* FUE 461.
-

34. *tysá·n* 'all for nothing, in vain'

ťysá·n (Fr. 169) 'to do in vain'; *ťyšán* 'in vain'; *ťyšá·n-* 'to fail to do'.
?Miss *tyha·n* 'to try'; (and not to succeed? Berman 128); *tyhan* 'really (?)', truthfully (?)'.

- VgLL (MK 685b) *tüssin* 'in vain'; *tüssin amélti* 'he speaks in vain'.
-

35. *mo²·utwayky* 'it does not answer'

mo²·-ut-wa-ŋky

- a. *mo²·, mo²·-tu* 'to answer'; *mo²·-a* 'to meet and receive someone'; *mo²·-ki* 'to challenge someone'. (Note German: *Entgegnung* 'answer'; *entgegen gehen* 'to meet someone; challenge: to meet a challenge'); Miss *mo²·-ta* 'to meet (trans.); to bump into'; *mo²·-i-j-* 'to face toward someone' ('to meet face to face'); Mins *mo²·-a* 'to meet a person'; *mo²·a·k·u* (trans. causative) 'to bring people together, to introduce' (Also: 'to hold a meeting'); Mip *mo²·ca* 'to meet'; *mo²·acnuku* 'to present a person'; *mo²·tu* 'to answer'.
 - VgN (MK 317) *mōt, P, K mot* 'other, the other, the second (stranger)'; *mōt... mōt* 'the one... and the other'; Hu *más* 'other, another; a likeness, a copy, his own kind; (dial.) past; answer' (German *Antwort, Entgegnung*). Vogul *-t* is a pronominal suffix; Hungarian *-s* is an adjectival suffix. Fi *mun* 'another'. FUE 424; FUV 100.
 - b. *-tu* 'intransitive suffix' (Fr. 167). cf. *-tu·* 'reventive (Fr. 61, 73)
 - c. *-wa-* 'negative suffix'; see: 29c.
 - d. *-ŋky-* see: 29d.
-

36. *ʔyšý·maŋiʔ* 'the bear'; see: 27.

37. *má·ŋaš* 'as he passes'; see: 32.

38. *ló·tu·* 'seizes him'

lo·tu·

lo·t 'to catch, to seize'; *lo·wa-* 'to grasp in the hand'; *lo·tu·-k·u* 'to hold';
lowó·t 'to hold on knee'. Miss *lo·t-* 'to catch, to grasp, to grab'.

?VgN (MK 257) *lēwāti ~ lēuti ~ leuti* 'to pull out quickly (like an arrow from a quiver), pull off goose skin, birch bark'; OsN (Pápai – Beke 32) *lāuitta-* 'to pull out'; OsE Surgut *lewim-* 'to grab suddenly'; (KT 470a) Kr *lawəptə-* pull out (Also: 'take out fish from net').

39. *pokí.šy* 'makes him faint with fear'

pokí.š-y

- a. *pokí.š-* 'to make someone faint'; *pók-tu* 'to come to life; to gain consciousness'; Mins *poksi* 'to knock somebody out'; *poki-s-y* 'to knock someone out (KO)'; 'to talk back rudely'.
- VgN (MK 446a) *pōxi* 'to hit with the hand, to strike; LM *jel-pōkhi* 'to knock somebody out, (KO)'; (446b) LM *pōxât* 'to wrestle'.
- b. *-y* 'intransitive suffix' (?); (Fr. 107).
-

40. *ló-tu²pa-k* 'as it seizes him'

lo-tu²-pa-k

- a. *ló-tu²-* 'to seize'; see: 38a.
- b. *-pa-* 'directional suffix'; see: 2b.
- c. *-k* (?)
-

41. *paťy-ty* 'it takes him'

paťy-t-y

- a. *paťy-t-* 'to take' (Fr. 94); *paťy-k-y* 'to keep, to take along'; *pať-y-²*, *pá-t-²* 'to bring'; Miss *paťyH-* 'to carry in one's arm'; *paťy-ksY-* 'to possess'; *paťy-t-* 'to take, to accept, to carry'; Mins *pať-y* 'handgame'; (Mics *pať-y* 'gambling bones'); *pať-y²sy hinwoj* 'handgame bones'.
- VgN (MK 422a, 424b) (*pati*) *patti* 'to let to have it, to take, to give it into the hand, take it into the hand'; *pattāln!* 'take it!' A very productive morph in Vogul. It has numerous cognotes in the Miwokan languages.
- b. *-t-* (Fr. 164)
-y see: 39b.
-

42. *wyjé-to-š* 'to its hole'

wyjé-to-š

- a. *wyjé-* (Fr. 23) 'burrow'; *wýj-e-* 'to dig a burrow'; Miss *wuje-* 'a hole'; *wuje-t-²ucaH* 'ground squirrel: "hole dweller"'; Mics (Curtis 1924:237a) *wýyè* 'nostril'. (Note that in Vogul the nostril of the Bear is called: "the hole of the chipmunk"). Mip *wy-ji-* 'dirt' (? 'to throw up dirt').

- OsE (KT 7a) *uj* ‘place under something’; *mey-uj* ‘place underground’; *mey-uj-kat* ‘underground house in olden days’; *mey-uj-lok* ‘underground passage (in olden days)’; *čoyt-uj* ‘a place under the snow’; *čänč-uj* ‘the hollow part behind the knee’; *kat-uj* ‘cellar’.
- b. *-t-o* ‘to’ ‘definite locative suffix’; see: 8b.
- c. *-š* ‘its’; see: 7c.

43. *ʔuknu* ‘brings him’, “makes him to enter”

ʔuk-nu

- a. *ʔuk-* Mics *ʔú-k-* ‘to enter’; *ʔukú-ja* ‘door’; Mics *ʔu-k-* ‘to enter’; *ʔuk-pa-* ‘to go in to someone’; *ʔuk-ʔuk-nY-* ‘to go in and out’; Mins *ʔu-ku* ‘to enter, to set (sun)’; *ʔuku-ja-* ‘door’; *kataʔ-asiʔ ʔukuj-aʔ* ‘the door is closed’ (*kat-a-* ‘to close’). Mip *ʔeku-ja ~ ʔuku-ja* ‘door’. For *-ja* suffix see: Grammar, Noun suffix **-j*. Mil *ʔúkan* ‘to enter, to go in, to pierce, to go, to set (sun)’; ‘enter (Spring or Fall)’; Mib *ʔukan* ‘to enter, to set (sun); to begin’; Mim *ʔukan* ‘to come’; *hin-ukan* ‘sunset, to start (snowing, season)’. PMi **ʔu-k-* ‘to enter’; CoMu (Mason 1916:442) *ak-u* ‘to enter’.
- VgN (MK 24a) *āxt* ‘an opening or a passage way’ “door” in the fenced construction of a fishweir (*ārpi*) where the fish can enter and pass through and where the fishtraps are placed. Note that the modern Hungarian word for ‘wall’ *fal* originally meant fence of a fishweir in Ostyak, Lapp and Finnish (FUV 106 **paδs*; FUE 178). The opening through this *fal* would indicate entrance and door. Note Miss *kata-* ‘door, gate’; *kat-a* ‘to shut, to lock the door or gate’; *ka-t* ‘to dam up’; *ka-ta* ‘dam’; *ka-ta-ny-* ‘to make a dam’. Moieties: Name of a Water moiety male: *Katuje* “Damming water in pool” (Gifford 1916:149).
For alternate interpretation see p. 222.
- b. *-nu* ‘short form (?) of causative *-n-u-k-u* (cf. *-k-u*, *-n-u-k-u*, *-na-causative*)’.

44. *wyjé-toš* ‘to its hole’; see: 42.

45. *ʔyšy-matiʔ* ‘the bear (subject)’; see: 27.

46. *šok-et-ik* ‘all of them’; see: 3.

47. *kalánpakyp* 'are dancing for thim'

kalá-ŋ-pa-ky-p

- a. *kala-*; *kal-ŋa* 'a dance'; *kalé-* 'dancer'; *kalé²-a* 'dance'; *ka-l-* 'to kick with the heel, to stamp'; Miss *ka-l-* 'to kick with the heel'; *kal-ja* 'to kick all over'; *kala-ŋ-* 'to dance'; Mins **kal-* 'to kick, to dance, to tramp, to stamp'; *kalyt-a* 'dancing place'; Mib *kaawul* 'to dance'; Mim *kawul ~ kawal, ka-u-l* 'to dance; dance'.
- ?VgN (128a–130b) *kwāli* 'to get up, to stand up, to come and go'; *kwalē-pāli* 'to jump out, to attack' ('to wake up, to wander, to wade,' etc.). Numerous examples. OsO (KT 465a) *kil-* 'to get up, to go on shore' ('Get up, wake up, rise up, lift up', etc.). Hu *kel-* 'to get up, to rise, sun go up, (plant), to originate'; *kelet* 'East'; 'to wade, to ford'; *jár-kel* 'to wander, travel', *táncra kel* 'rise up for a dance'.
- b. *-ŋ-* 'a verbalizer' (Fr. 164) "probably a weak form of *-ŋe*, the medio-passive suffix"; see: 29 and 85.
- c. *-pa-k-y* (Fr. 108) 'indirective'; for *-k-y* see Fr, 128; Miss *-pa* (533) 'directional suffix'; see: 2b.
- d. *-p* (Fr. 40) *-p, -p-u* 'they'. Series I declarative.
 - Proto Uralic **-p*. In Finnish, the present participle has the ending *-pa ~ -pä* (preserved after a few monosyllabic stems, else: *-va ~ -vä*). This suffix is historically identical with the ending *-pi*, plural *-va-t ~ -vä-t*, of the third person of the present tense (*-t* is the plural ending). The suffix *-pi* is sometimes preserved in modern Finnish. Otherwise it is *-vi* and **-w* and through assimilation *tule-vi* 'he comes' > *tulen* > *tulec*; *oHa-* 'to take'; **otta-va* > *otta-a* 'he takes'; *otta-va-t* 'they take'; PUR **-pa-t*. This **-p* may be identical with the denominative **-p* suffix. (Collinder 1960:270).

48. *ʔis-aky-j* 'for him'

ʔi-s-a-ky-j (?) Fr. 17.

- a. *ʔi-* 'this, previously mentioned, the one in question'; *ʔi-šy* 'this'; *ʔi-tàn* 'at that time'; *ʔi-t-o²* 'there at that place mentioned'; Mins *ʔi-* 'that' demonstrative stem; *ʔi-s-ak* 'he, she, it'; Mins *-ʔi-* nominalizer 'one; "person"'; *hyŋ-a-ʔi* 'happy person, the happy one'; *ʔi-s-ak-y* 'he, she, it, the same, someone else'; *ʔi-kah* 'that; he, she, it'; Mip *ʔi-* 'that, that one, he, she, it'; *ʔi-ke- ~ ʔe-ke* 'that'; PMi **ʔi-* 'that'.
- Os (KT 51, 101) *i-* 'this'; *i-n* 'now'. (Numerous examples.) K *i-n* 'the, he'; Note OsI (Pa 441) *i* 'one', *i-pis* 'once'; Hu *e, ez* 'this, the'; *i-tt* 'here'; *i-de* 'here-to'; *i-gy* 'like this'; *i-lyen* 'such like this'; PUR **e* (FUE 167, FUV 9) cf. *ë-gy* 'one' (FUE 14).

- b. *-s-a-* (?)
- c. *< -ky-* (?)
- d. *-j* objective case suffix; see: 2c.

49. *šok-it-ij* 'every thing' (objective case)

šokki-t-i-j for *šokke-t-i-j*

- a. *sok-e* 'all'; see: 3a.
- b. *-ti-* old diminutive; see: 3b.
- c. *-j* objective case; see: 2c.

50. *we-ly* 'take out of him'

we-ly irregular verb (Fr. 103)

we-l- ~ *wel-* 'to get, to take' ('to kill'). A significant morph for hunting, fishing and gathering societies on both continents. *wel-šy-* 'to seek'; *wely-t-* 'to please'; *mi-wely-takmu*. "you got me" = "you pleased me" = 'Thank you'. (Fr. 111) *wel-e-pašny* 'to obtain a plentiful supply of food, to have good hunting, to make a big catch of fish'; *wel-e-pat-a* 'He has had good hunting'. (Other idiomatic expressions: 'to take over' = "to help", to feel be "killed" = "to feel tired"; 'to guess' (Mics 67). Miss *we-l-* 'to fetch'; *wel-h-* 'to look for'; *wel-e-k-* 'to take someone in'; *wel-* 'to get'; *wel-a* 'snare for quails' (Barrett and Gifford 1933:183). Mins *we-ly* 'to get; to take; to gather; to reach out for; to pick fruit; to save someone; to get (understand) a language; to "get" a pain'; *welsy* 'to hunt for'; Mip *we-ly* 'to bark at (as a dog)' ("getting it"); to bark, to howl (said of coyote); *wi-li* < **we-li* 'to take away' (see Mil cognate); *welik* ~ *wilik* 'to get, to hold, to catch, to pick up, to pick out' (other glosses: 'to hold a flea, catch a ball, to catch lots of fish'. Mib *welik* 'to get, to take, to grab, to fetch ('catch a dog, fish'). PMi **wel-*

- Proto Ugrian **welə*; Proto Finno Ugrian **weδə* (FUE 513; FUV 105). Collinder reconstructs it **wel'ə* (1960: 413a s.v. Hu *öl*). The initial **w-* is lost in Vogul and Hungarian. VgLM (MK 33a) *äli*, N *ali* 'to kill, to bring down game, to catch fish; to hunt to fish, to hit, to beat, to hurt'. (Other entries: 'trap; hunting; fishing implement; weapon, to fight; good catch, hunter and fisherman'); Os (KT 275a) *wel-* 'to kill, to catch, (game, fish)'. (Other entries: 'trap, catch, hunter, fisherman' etc.) OsSy *wel-pəs* 'fishing and hunting implement'; *wel-pəs-γū* 'hunter': Note: OsS (Patkanov 454) *ux wedem* 'to catch lice on head (*ūx*)'. The same root morph is used in Central Sierra Miwok mythology for searching for lice on the head of the Bear (Berman 1982:92:5 and 95:5). Hu *öl* 'to kill, to slaughter, to cause pain'.

51. *wyškiš-y-š* 'his heart' (instrumental as object)

wyški-š-y-š

- a. *wyški-* 'heart'; Miss *wyhki*; Mins *wyski* 'sensible, smart, wise, heart'; ('to come to; unconscious'; etc.) Mip *wəski* 'heart, center'; Note Proto Yokutsan **ušuk* 'heart' (Golla 1964:62); Yo Tachi *učuk* 'breast'. Yokutsan dialect survey has **ušuk* and **hoy-hoy* 'heart' (Kroeber 1963:191). [The *hoy* ~ *hon* morph for 'heart' is very productive in California Penutian and has an Ugrian: Os *xon* 'belly, breast'; Hungarian (dial.) *éh, ih, joh, juh* < **ju-xun* 'the inside, belly, stomach, heart, sense, liver, loin'; **xun* FUE 142.] Miwokan *wyški* 'heart' can be compared to
- PFU **üskä* 'bosom'; (FUV 127); Fi *yskä* 'breast, cough'; Kr *üskä* 'bosom'.
- b. *-šy* 'instrumental case suffix' (Fr. 17, 24)
- c. *-š* 'his'; see: 7c.

52. *pútkalyš-yš* 'his guts' (instrumental as object)

pút-kaly-š-y-š

- a. *pút-* 'gut'; *po-ṭi* 'navel'; *puṭ-kaly* 'gut'; *po-tol* 'rectum'; Mins *puṭ-kal-y* 'guts'; *puṭ-ul* 'guts, intestines, umbilical cord'; *putku* 'to gut'; Mil *pút-* 'to open belly'; *púut-* 'to open several bellies'; *pútuk* 'to cut open several animals'.
- VgN (MK 487a) *puti* 'the large intestine of an animal'
- b. *-kaly-* "something" (?); Miss *poš-kali* 'lung'; Mins *poto-kel-y* 'gray hair'; *-y-*, *-i-* 'stem formative'.
- VgN (MK 80b) *xar* 'something'; *x* < **k-* which remained *-k-* because it was protected by the first member of the compound. Similar retention occurred in Mi *-ko* 'man, person', Vg *xu-*, Ostyak *-xo-*.
- c. *-š-y-* 'instrumental case used as object' (Fr. 17, 24)
- d. *-š* 'his'; see: 7c.

53. *ʔyšy-maṭiʔ* 'the bear (subjective case)'; see: 27.

54. *ʔis-akyj* 'him'; see: 48.

55. *wi-kyp* 'they fill him', "they put in him"

wi-k-y-p

- a. *wi-k* 'to put' **wi-ku* 'to make take' (?), Mins *wi-* 'to take'; *wi-ku-* (causative) 'to take it...'; *wi-ky* 'to put, to put down, to lay down, to set

(traps)'; *wi-ky-puksu* (reflexive) 'to put on some clothing'; *wi-k* 'to put, to leave'. Perhaps an abbreviated form of the causative of *wi* 'to take', see: 1a.

- b. -y- 'epenthetic vowel' (Fr. 95).
c. -p 'they'; see: 47d.
-

56. *pó-sesas* 'down (feather)'

po-sesa-s

Not listed in Freeland and Broadbent for Mics.

- a. Miss *posa-* 'down (feathers)'; Mins *po-sesa* 'down (feathers)'. A regular denasalized form.
- VgN (MK 453b) *pōnsi* 'the tail of a bird'; P *ponš-pun* 'tail feather'; *pun* (MK 476b) 'fine hair, fine feather, down'. At some point *pun* and *pōnsi* became interchangeable both meanings: 'feather' and 'down'.
- b. -s 'instrumental case suffix' (Fr. 17).
-

57. *lil-em-y?* 'up'

lil-e-m-y? (Fr. 171)

- a. *lil-e-* 'up, high'; *lil-e-kan* 'upward, higher, less deeply, not deeply'; *lil-e-ŋ-e* 'to move up higher'; *lile-t-y-t* 'upward'; Miss *li-leH-* ~ *lile* 'up, high'; Mins *li-le*, *lil-e* 'high, up, heaven, sky above'; *lile²cy* 'God: "someone above"' ('upper, to lift, to raise, top, surface, roof'); Mil *lilu* 'to fly'; *lulúuti* 'to fly', *lúile*, *liili* 'on top of, up, upstairs, high'; *lúile kani* 'to move up, rise'; *lúilewali* 'sky, heaven', "high world"; *lúilewali kóca* 'God', "Heaven Person"; Mim *lile* 'sky, up'; *kěnni-lúilek* 'eleven: "one over ten" in counting'; etc.' *lilü* 'to fly'; Mib *lúile* 'up, top'; PMi **li-le-* 'up'; *lillu* 'to be flying'; *liluuti* 'to fly to fly away'.
- VgN (MK 286) *l'ül'i* 'to stand up'; *l'ül'iy* 'high'; *l'ül'it* 'high, deep'; *l'ül'miti* 'to raise up, to lift up' (286b) (high as the flight of an eagle or of a duck). The vowel change -u- > -i- could have been caused by the environment of two palatalized consonants l' .. -l' in Vogul.
- b. -m-y? 'indefinite locative case', see: 26b, 4b.
-

58. *wik-ekoy* 'after they have filled him up'

wik-e-ko-ŋ

- a. *wik-e-* see: 55a.
b. -ko 'they'; see: 1c.
c. -ŋ 'possessive case'; see: 3d.
-

59. *kalá·ŋ·p*

kala·ŋ·y·p

a. *kala* see: 47a.

b. *-ŋ* see: 47b.

c. *-y* 'epenthetic vowel'; see: Fr. 95.

d. *-p* 'they; see: 47d.

60. *ʔis·akyj* 'him'; see: 48.

61. *kaláŋpaky·p* see: 47.

62. *ʔó·is·aj* 'four' (objective case)

ʔoj·is·a·j or *ʔoj·i·s·a·j* (for *-s·a-* see: 48b)

a. *ʔoj·is·a-* 'four'; Miss *ʔojis·a* 'id.'; Mins *ʔoj·is·a* 'four'; *ʔo·ja* 'double (fruit); twin'. These two Mins morphs: *ʔoji* 'four' and *ʔo·ja* 'double, twins' seem to be connected. (In Lake Miwok we have *ʔoṭṭa* 'two' and *oṭ·oṭṭa* 'four "two two's"' (and even *ʔoṭṭ^haja* 'eight "two four's"'). Miss *ʔoṭi-* 'two'; *ʔoṭiH·kene·pa* 'double, twins'. Further cognates: Mim *oja*, *ojako* 'twins'; Mip *ʔo·ja*, *ʔaj·a* 'double, (fruit), a twin'; *ʔo·jok·o*, *ʔoj·ako* 'two'; *ʔoj·ohko tiskiʔsy* 'forked (double) horn' ('two Indians, trees, Tuesday, twelve, couple'); *ʔojsek·o* 'four'; "four pointer" (horn); (Thursday).

- VgN (MK 730a) *woj* 'thing, condition, quality'; *wojpä* 'similar, equal, the same kind'; ("these two people are equally strong"); 'equal, similar to me'.

b. *-j* 'objective case suffix'; see: 2c.

63. *kawý·lyj* 'night(s)' (objective case)

kawy·ly·j

a. *kawý·l(y)-* 'night'; *kawýl·ne-* 'to become night'; *kawly·pa·-j* 'early in the morning'; Miss *kawyHl-* 'night'; *kawly·paH-* 'morning'; Mins *kawy·l·y-* 'dark, night'; *kawlypa-*, *ka·lypa* 'morning, early, tomorrow'. Note: "*kawlypa* means 'tomorrow' and *ka·lypa* means 'this morning' but actual usage mixes functions". *kuciʔ kawlypaʔ* 'Good morning'; Mip *kawyl* 'night, dark'; Mil *káwul* night ('moon, midnight, Bear Man, Night Man'); Mim *kawul* 'id.'; Mib *kawul* 'night'; *kawúl mu* (ablative case) 'early, "from the night" (morning star)'. Significant cognate in Wintu: (Pitkin 1985:189) *kawal* 'dawn', *se-kawal* 'breaking day light'; (384) *nom-kawal* 'day break'.

- VgN (228a) *kwāli* 'to rise, to get up, to come, to grow, flow or run into (river)'; *khâtêl kwalne* 'dawn, sunrise, morning; ({229a} Good morning), East; to rise, to get up, to jump up, jump out, to attack'. Further cognates under 47a. The semantic changes require further investigation.
 - b. *-j* 'objective case suffix'; see: 2c.
-

64. *kalaypakyp* see: 47.

65. *čamyša?* 'corpse' (subjective case), "dead person"

čamyša-?

- a. Mics *čamyša-* (Berman 1982:123) 'dead person'; *čam-šy-* 'to die'; *čamyš-na-* 'to have a death in the household'; Miss *cam-h-* 'to die; to be invisible (of the moon)'; *camy-h-aH-* 'dead, corpse'; Mins *camsy* 'to die'; *camys-y* 'corpse, dead person'; *camy-sa* 'death'; Mip *ceme-n-y-* 'to die'; *cem²en* 'dead, corpse, a dead (tree)'; Mil *caam-* 'to die away, fade away (a flower), to wear out'; *ʔélaj caam* 'still birth: "child dead"'; PMi **čam-* 'to die'.
 - VgN (587a) *šam-* ~ *šama-* "dead". Prefix equivalent to German *tot-* 'dead', e.g. *tot-schlagen*), English 'to death' 'shoot to death'; 'work him to death'. Numerous Vogul examples. (Regular Vg *ś-* Mi *č-* correspondence.)
 - b. *-ʔ* 'subjective case suffix'; see: 14d.
-

66. *ʔučú.* 'he stays'

a. *ʔuču* see: 25.

Here the verb *ʔuč-u-* 'to stay, to live' is used independently.

67. *tin-yj* 'anything' (objective case)

ti-n-y-j

- a. *ti-n-y-* 'something, what?' (indefinite pronominal stem); *tin-y-t-* 'a monster, a supernatural being: "a great something"'; Miss *tin-y* 'something, what? (what kind?)'; (*tine?* 'almost'); Mins *tin-y* 'what, something, anything, something else, someone, it (indefinite), nothing'; ?Mip *-ti* 'noun and objective suffix'. *sak-i-ti* lizard; *niki²-ti* 'dull'.
 - VgN (MK 643a) *ti* 'this; than; so, such', etc.
 - b. *-n-y* seems to be a derivative suffix. It requires further investigation.
 - c. *-j* 'objective case suffix'; see: 2c.
-

68. *tel·yč·y²wayky* 'he does not hear'; 'he does not listen to'
tel·yč·y²wa-ŋky

- a. *tel·yc·y* 'to listen'; *telé·j-* 'to hear'; Miss *tele·j-* 'to understand a language'. With vowel alteration Mins *tolo·j-u* 'to hear, to understand (a language)' (Note: *to·kos-u* **tolkos-u* 'ear').
- VgLM (MK 540b) *šēli* 'to understand a language', like Vogul (541a); 'to can, to know how'. For *šēli* (**sēli*) vs. *tel* (*s = t*) see several cognates: e.g. VgN (554b) *sōyit ~ soyti* 'to coil up' vs. Miss *toki·l* 'to coil up'; **toš·ewe* 'rabbit' vs. (MK 566b) *šošwe* (N **s-*) 'rabbit'.
- b. *-yč·y* see: 25.
- c. *-²wa* see: negative tense (Fr. 61).
- d. *-ŋky·* see: 29d.
-

69. *o·j·isaj* 'four (objective)' see: 62.

70. *kawý·lyj* 'nights (objective)' see: 63.

71. *na·ky²pa·k* 'when they have reached'
na·k·y²pa·k

- a. *ná·k-* 'to reach a given point'; *ná·k-t-* 'as far as, thus far'; *nák·pa* 'to catch up with, to follow; to overtake'; *nakè·j* 'as far as, thus far'; *naké·t·i-* 'the horizon: "the great end"'; *naké-* 'edge' (of knife?); 'end'; Miss *nake-* 'until'; *na·k-* 'to reach a time, or place, to get to a certain point'; Mins *nake* 'end, edge'; *nak·e* 'in the end, end, one'; *nak·emta* 'little finger, little toe'; *na·ke* 'edge (of the mountain)'; *na·ky²* 'to be on the way, to reach, to be up to a point'; Mip *nak·e-*, *nake* 'end, edge, corner, along, edge (of a creek)'; Mil *naka(h)* 'end, so much, so far, extent'; *kówuy nákah* 'one half'; Mib *nákih* 'near, edge'; Mim *nakis* 'by, near'; PMi **na·k*.
- VgN (MK 324b) *nak* 'segment, joint articulation, link, layer, fold, step, end, cause, sin, misfortune, segment in the bone structure of the body; finger joints, wrist, spinal column; segment from one node or joint of a stalk to another; division, slot, room'. OsNi (KT 566b) *nak* 'the extend of the time of a storm'. Further cognates and discussion von Sadowszky (1985:14).
- b. *-y²* 'epenthetic vowel' (?)
- c. *-pa* 'upon, up to'; see: 2b.
- d. *-k* 'they'; see: 2c.
-

72. *wó^ole-ni-š* 'let him go home'
wo^ole--ni-š

- a. *wo^ole* 'to go home'; see: 23.
- b. *-ni-š* (Fr. 40) 'let him' series I. volitional. Freeland (38 footnote 47) writes: "The element *-niš* in the third person singular and plural of the volitional, is also probably modal rather than pronominal in origin; possibly related to *-n-i-*, the suffix of the potential mode".
- Uralic **-ne* potential-conditional suffix; see: Grammar.
-

73. *kač-y-p* 'they say'
kač-y-p

- a. *kač-y-* 'to say, to do, to say to someone, to do to someone'. Text: Mics p. 67. 'to sing'. Miss *kac* 'to say' ('to talk, to be that way'); *ka-cy--to-^o* 'may be so'; Mins *ka-cy* 'what they say'; *kac-y-* 'to be, to do, to say, to claim'; *ka-cy-me* 'loud (singing), loud (loud voice)', Mip *kacy-* 'to say'.
- VgN (MK 199a) *kās-* 'to mention often, to call on; summon the God, to swear an oath'; *kāstul* 'song for summon, to promise, to designate for a sacrifice'. OsN *kās-* 'to call on';
- b. *-p* 'they'; see: 47d.
-

74. *híjkap* 'shout'
híjka-p

- a. *híjka-* 'to shout, to cry out'
- OsN (Steinitz 1942:73) *xijij* < **xijy-* 'to shout, to call, to growl (as a bear)'.
- b. *-p* 'they'; see: 47d.
-

75. *šok-et-ik* 'all'; see: 3.

76. *ʔyšy-maṭi-k* 'the bears'; see: 27, 1c.

77. *ʔečām* 'outside'
ʔeča-m

- a. *ʔeča-* 'outside', *ʔečā-m* 'outside'; Miss *ʔeca-t-* 'to a company; (to go with)'; *ʔeca-* 'next, second, behind, outside', *ʔec-a* 'behind', *ʔecam-i-* 'hind legs' (palatalization); Mins *ʔeca^o* 'more, again, too, also; (next)'; Mip *ʔeca-* 'south, west, southwest'; *ʔecak* 'the Plains Miwok'.
- VgN (MK 700a) *ūńś* 'the hind part (of man and animals)'; T *unči* 'id.'

(palatalization). Hu *ágyék* 'loin, abdomen' (semantic shift); PU **ańćs* FUE 75.

b. *-m* 'indefinite locative case' (Fr. 171); see: 26b.

78. *súksuj* 'live oak twig' (objective case)

suk-su-j

- a. **suk* 'young, small'; Mip *sukuʔti* 'bush (generic); new shoots on a tree'; Mib *şukku* 'to be new; to be young'; *şukku ʔalwah* 'young tree'; (young person, man, baby); Mil *şúkun* 'to be new, to be fresh' (like: water, year); *şúuk* 'young mush oak'.
- Os (KT 831b) *sox* 'deminutive suffix'; (on household utensils) cf. OsI (Patkanov 312) *ček* 'diminutive suffix'.
- b. **su* 'twig, wood, stick'; Mins *su-s-u* 'cottonwood'; *sy-s-y* 'wood, fire wood'; Mics *şy-ş-y* 'wood, fire wood'; *su-n-u* 'to bring wood, to get wood'; Miss *su-n* 'to get firewood'; *hy-h-y* 'wood'; *hy-h-y-tki* 'stick' "sticks used in the hand game as counters".
- VgN (MK 581b) *sū ~ suw* 'stick, pole, skipole, pole for driving animals walking stick'; ('spear; handle of an axe'); *ńol-suw* 'spear'; *käj-suw* 'harpoon';
- c. *-j* 'objective case suffix'; see: 2c.
-

79. *či-pyj-ıŋky-p*

či-p-y-j-i-ŋky-p

- a. *či-p-* 'to stick in (as a stick in the ground)'; Miss *ci-p-* 'to plant a tree, to put up a fence post'; *cip-ja* 'to stick things in the ground upright'; *cip-u-c-* 'to protrude, as: teeth'; Mins *cipy* 'to stick into something'; *cip-yc-y-* 'to stick out, to protrude'; ? (*ci-pin-y* 'elbow, funnybone'; Mip *ci-pin* 'elbow'; Mil *şip-* 'elbow'). Basket design of "A series of parallel, vertical or nearly vertical, lines" (figure 31 in Barrett and Gifford 1933:242–243) // // // or (not illustrated) parallel vertical lines: | | | | |. It is called (in Mics) *čipúčy* 'standing erect'. This design suggest a design of fence a (see Miss) which is so apparent in the Vogul cognate.
- VgN (MK 529a) *sap*; LM *šäp* a forked stick or pole; used in the construction of a house. "The two vertical forked poles driven into the ground. The stringers (*kol-sir*) are put accross them. They support the house made out of birchbark." (KLE 324). It is used also in a tent, a trap, and the forked stick on which the horizontal stick is put for hanging a kettle (see Figure 8). LM *šäp-* 'to stick a pole (stick) into the ground'; *säten-šäp* 'a fencepole'; *oärp-šäp* 'the series of forked poles on which a board leading to the fishweir, is put'.
- b. *-y-* 'epenthetic vowel'

- c. *-ji* 'andative suffix' '(they) are going to'. It is similar in form and meaning to the future suffix (*-ji*), (Fr. 69, 73).
- Os *jə* 'to become'; German *werden*; Vg *jiw* 'to come'; Hu *jő* 'id.'; *jövő* 'future'. Cf. FUE 340.
- d. *-ŋky* see: 29d.
- e. *-p* 'they'; see: 47d.

80. *ʔojšuʔpa·k* 'as they do it'

ʔoj-šuʔ-pa-k

- a. *ʔoj-* 'to make, to fix'. (Note *ʔej-šy* 'to fix, to make', with vowel harmony).
- VgN (378b) *oj* 'matter, affair, business luck' < Os. Os (KT 6a) *aj* 'luck, success (by undertakings); 'lucky, successful'. OsN *oj* 'luck'.
- b. *-šu ~ šy* 'verbal suffix'
- c. *-pa* 'up, to'; see: 2b.
- d. *-k* 'they'; see: 1c.

81. *woʔlu* 'he is going home'; see: 24.

82. *ʔiw-in* 'now'

ʔi-w-i-n

- a. *ʔi-* 'this' Mics *ʔiw-in* should be segmented as *ʔi-w-i-n*, as in Miss *ʔi-w-i-n* 'now' (*ʔi-* 'that'); *ʔi-w-i-c-Y* 'soon' ('new, fresh, young'); Mics *wi* (?) (Fr. 172 in Mins *wi-t* with locative case); *-n* 'adverbial formative suffix'; Miss *w-i* (?); *-n* 'temporal case'. (For explanation see
- Vogul cognate!) *-ʔi* 'this'; see: 48.
- b. **-wi-* 'at the time'; Mics, Miss *-wi-*, Mins (Fr. 172 footnote *wi-wirt* locative suffix); *wenmeʔ* adv. 'now, today, pretty soon'; **we-n-meʔ*.
- VgLM (MK 688a) *uil*; K *wuil* *-l* locative suffix; 'during, for a while, (from where; suddenly)'; N *ujt*; K *uit*, *wi + t* 'during' (*-t* locative suffix).
- c. **-n* 'locative suffix' (Fr. 172). See: The Declension of Nouns, 4. Locative I. **-na ~ *-nä*.

83. *káč·y·p* 'they say'; see: 73.

84. *hijkašak·o·ŋ* 'shouting'

hijka-ša-k·o·ŋ

- a. *hijka-* 'to shout'; see: 74a.

- b. -ša- 'emphatic element'
- c. -k-o- 'they'; see: 3c.
- d. -ŋ- possessive case, see: 3d.

85. *tuja-ŋy²paḵ* 'jumps and runs', "pounces"

tuja'-ŋ-y²-pa-k-

- a. *tuja'-ŋ* 'to jump'; Miss *tuja-ŋ* 'to jump'; (Fr. 165 *tyja-ŋ*) Mins *tuja-ŋ-y* 'to jump, to jump over, to fly (squirrel)'; *tujaŋpa* 'to strike (a snake); to pounce'; 'to be crouching (ready to spring)'; *tuj-aŋ-put-u* (iterative) 'to jump back and forth'. Mib *tujje* 'to stamp while crouching'; Mutsun (Mason 1916:458) *tuju-rure* 'to tremble (hand, belly)'.
 - VgN (MK 674b) *tuji* 'to push, to shove, to strike, to shake, to tremble, to throw out, to push out'.
- b. -ŋ- (Fr. 164) "probably a weak form of -ŋe-, the mediopassive suffix". (Fr. 134) "These verbs are extremely numerous". The (-ŋe) forms intransitive verbs from transitive verb forms. The -ŋ- suffix occurs also with *kalá-ŋ* (see: 47) and several other intransitive verbs. Thus the transitive form is apparent in Vogul *tuji-* 'to push, to strike throw out' and the intransitive in Miwokan *tuja-ŋ* 'to push, throw oneself out i.e. "to pounce, to jump"'.
 - VgN (MK 217b) *koji, kwoji*; LM *kwäji* 'to track, to follow, to pursue, to chase'. Hu *követ*, dial. *küet* 'to follow, to pursue; obsolete: to reach, to attain; to do, to make' ('to ask, to demand'). The semantic equation is apparent in Mins where *kuj-* means 'to reach as far as and beyond', i.e. 'to surpass'. Like English *overtake*, has two meanings: 1. 'to catch up with'; 2. 'to surpass'. (German: *einholen* and *überholen*.) Thus
- c. *y²* 'epenthetic elements'
- d. -pa- 'at, upon'; see: 2b.
- e. -k- (?)

86. *kýjwa* 'he bites in two', "he cuts in two"

kyj-wa-

- a. *kyj-*, Mics *kyj-wa* 'to cut in two, to sever, (to cut off)'; *kyj-* 'to cut in two'; Miss *kujt* 'to surpass'; Mins *kuj-tu* (intransitive and transitive) 'to surpass, to be taller; to get ahead of someone, to be left over, too many' ('to go beyond, there are more sticks than he counted'); *tolo-kosu² kujta*. "There are three left over or three too many". For possible cognota see below.
 - VgN (MK 217b) *koji, kwoji*; LM *kwäji* 'to track, to follow, to pursue, to chase'. Hu *követ*, dial. *küet* 'to follow, to pursue; obsolete: to reach, to attain; to do, to make' ('to ask, to demand'). The semantic equation is apparent in Mins where *kuj-* means 'to reach as far as and beyond', i.e. 'to surpass'. Like English *overtake*, has two meanings: 1. 'to catch up with'; 2. 'to surpass'. (German: *einholen* and *überholen*.) Thus

Mics *kyj-* could be connected with this (*kuj-*) morph. The *kyj-wa* word then could be explained by: 'to cut off, so as not to reach so far, which is expressed by the 'to sever' gloss. FUE (378)*

- b. *-wa-* 'destructive stem formative (CVC-). Occurs with verbs of splitting, tearing and breaking. Related to (*-wa-*) adjectival, verbal and nominal suffix: *ʔos-aʔ-wa* 'unmarried': "without a wife".

87. *súksuj* 'the live oak twig'; see: 78.

88. *wy·šap* '(they) have started out (to go)'

wy·-ša-p 'have started out'

- a. *wy·* 'to go'; see: 1a.
b. *-ša-* (Fr. 61) related to *-š-e* past tense suffix (?) see: Grammar.
• PUr **-š* 'past tense suffix'; see: Grammar.
c. *-p* 'they'; see: 47d.

89. *ʔyšy·matik* 'the bears'; see: 27, 1c.

90. *káljjanik* 'dancing as they go'; see: 47, 1b, 1c.

91. *woʔúlnukup* 'they bring him home', i.e. "they make him go home"

woʔul-nuku-p

- a. *woʔul* 'go home'; see: 24.
b. *nuku* 'causative suffix', *-n-uk-u-* (Fr. 107) on 2nd stems.
c. *-p* 'they'; see: 47d.

92. *senék·y·č* 'all of them in a line'

senék·y·č

- a. *senék·-* 'a line'; *senék·yč·y* 'to stand in a line'. Perhaps can be compared to:
- VgLM (MK 541b) *sēnex* 'spawn'; LL *khul-sēnex* 'fishroe'; LM *šaurp-sēnex* 'frog-spawn; the Vg word refers to eggs and the offsprings occurring in great numbers; brood and the orderly arrangement of the deposited eggs and of the young after hatching (von Sadowszky 1970:91).
- b. *-y·č*, *senék·yč·y* 'to stand in a line' (Fr. 84) instead of *senék·yč·y·ʔpak*. "In certain complex verbs, present subordinate clauses referring to the main subject are not formed by a suffix at all, but simply by a dropping

of the final vowel of the stem. This is true of all verb forms formed by the suffix *-yč·y-* (the continuative of bodily position...)" (Fr. 84)

According to Freeland (124) "This *(-yč·y)* is a very important suffix and forms some of the most used verbs in the language, many of which are the same in all the Sierra dialects." see: 25.

Addendum

Under 43a we listed the Miwokan (and Costanoan) cognates of Mics **ʔu·k-* 'to enter'; *ʔukú·ja* 'door'.

We compared these with Vg *āxt* 'opening or a passage way "door" in the fenced construction of a fishweir'.

If we assume, however, that Plains Miwok *ʔeku·j-a* (with an *ʔe-* vowel) is the original form and all other *ʔuku* forms are results of regressive assimilation, then we can compare *ʔeku-* with Vg (MK 142b) *jäkw* 'gate of the beartrap and elktrap'. See Figures 15 and 17 in the introductory essay.

Palaeolinguistics of the Central California Indian Ceremonial Houses*

APPENDICES

Among the Californians, the sweathouse was a social institution. It was used for physical education. It was the place where boys were initiated into the secret society; and it was the place for performing the dances of the great ritual cycle. In its interior, bathed in its darkness, the dancers went into a trance and called upon the spirits.

The purpose of this paper is to investigate the origin of the California Indian sweathouses.

It is well established that the Indians came from Asia and we know that successive waves of immigrants, especially to the Pacific Northwest, brought with them cultural traits which developed in later periods in Eurasia. Now that the comparative linguistic evidence also clearly speaks for a close genetic relationship between the California Indian languages and the Old-World languages, it is fitting that we investigate the palaeolinguistic evidence for this important sociocultural phenomenon.

During the course of this short paper, we will make reference only to a few cultural elements associated with the sweathouse. Since a relatively complete study would include several hundred "words", we must be satisfied with the treatment of only a few. Only the basic words connected with the sweathouse and relating are treated. We have to omit the treatment of words referring to building materials and building methods, as well as the words designating the parts of the structure, the inside furnishings, the all important allocation of places and the titles associated with them, and the extensive ritual content associated with the house. We also omit the great number of place names which indicate the wide distribution and locations of sweathouses.

For understanding the origin of the Californian sweathouse we have to go to Asia, specifically to Northwest Siberia.

According to the testimony of Chernov (1976:6) and Hladikoff (1964:43) the archeological evidence in Siberia indicates that the ancient

* This study was first published in *The First Lewis and Clark*, 1805, edited by Alan Manning, Pierre Martin, Kim McClen, Columbia: Boreham Press, Inc. 1974.

Paleolinguistics of the Central California Indian Ceremonial Houses*

Among the California Indians the sweathouse was a social institution. It was used for physical, mental, and spiritual purification. It was the clubhouse for men, where ancient lore was transmitted; it was the place where boys were initiated into the secret society; and it was the place for performing the dances of the great ritual cycle. In its intense heat, or in its darkness, the shaman went into a trance and called upon the spirits.

The purpose of this paper is to investigate the origin of the California Indian sweathouses.

It is well established that the Indians came from Asia and we know that successive waves of immigrants, (especially to the Pacific Northwest), brought with them cultural traits which developed in later periods in Eurasia. Now that the comparative linguistic evidence also clearly speaks for a close genetic relationship between the California Penutian languages and the Ob-Ugrian languages, it is fitting that we investigate the paleolinguistic evidence for this important sociocultural phenomenon.

During the course of this short paper we will make reference only to a few cultural elements associated with the sweathouse. Since a relatively complete study would include several hundred "words", we must be satisfied with the treatment of only a few. Only the basic words connected with the sweathouse and sweating are treated. We have to omit the treatment of words referring to building materials and building methods, as well as the words designating the parts of the structure, the inside furnishings, the all important allocation of places and the titles associated with them, and the extensive ritual context associated with the house. We also omit the great number of place names which indicate the wide distribution and locations of sweathouses.

For understanding the origin of the Californian sweathouse we have to go to Asia; specifically to Northwest Siberia.

According to the testimony of Chernetsov (1974:60) and Okladnikov (1964:43) the archeological evidence in Siberia indicates that the ancient

* This study was first published in *The Tenth Lacus Forum* 1983, edited by Alan Manning, Pierre Martin, Kim McCalla. Columbia: Hornbeam Press, Inc. 1984.

Ob-Ugrians — namely the Voguls and the Ostyaks — lived in semisubterranean houses. Some of these “dugouts” (or pits) date as far back as 2000 B.C. The Voguls and the Ostyaks still lived in such semisubterranean houses in the 19th century.

The entrance was through the smokehole located in the middle of the roof. Ancient legends still speak of the smokehole as the entrance and the lexical entries in Karjalainen and Toivonen (1948:309) clearly confirm such a practice among the Ostyaks.

The Central California Indians — the speakers of the Wintuan, Maiduan, Yokutsan, Miwokan and the Costanoan languages — lived in similar semisubterranean houses (McKern 1923). Their descendents still occupy the Central Valleys from Mt. Shasta to Bakersfield and from the San Francisco Bay to the crest of the Sierra Nevada. Archeologists have identified numerous sites in this area indicating the widespread use of these houses by the ancestors of the present Indians.

The semisubterranean sweathouses were primarily used for sweating by direct exposure to a fire. (These sweathouses should be distinguished from the smaller “water-vapor sweathouses”.) They were essentially identical in their structure to the living quarters. Both were dug to a depth which placed ground level at shoulder height.

The Asiatic origin of the semisubterranean structures are generally recognized and we can trace their prototypes to the Bering Strait and beyond. According to Driver (1975:132), “The direct fire sweathouses of California are surprisingly similar” to the direct fire sweathouses of Alaska. He further states that, “like the dwellings ... all of these men’s houses seem to have stemmed from a common ancestral house of round ground plan in northern Asia.” (Driver 1975:132) The Chukchi, occupying the Siberian side of the Bering Strait, lived in such semisubterranean dwellings up to the last century (Antropova and Kuznetsova 1964:816).

The paleolinguistic evidence indicates that the sweathouses used by the Ob-Ugrians and the California Indians are not only nearly identical in construction, the words referring to them and to their parts, are also very similar. This again reinforces other findings which clearly indicate a close cross-continental link between these two cultures and languages.

The closeness of the linguistic relationship between California Penutian and Ob-Ugrian allows us to treat the cognate sets of both linguistic groups similarly in relation to Proto Finno-Ugrian and Proto Uralic. In other words, the rules which apply to the Ob-Ugrian languages generally apply to the California Penutian languages as well. This principle is demonstrated by von Sadvosky (1981 and 1983). In this paper we will cite illustrative examples for some of these rules.

The Vogul kwel 'house' and the Wintuan kewel 'house'

These words and their derivatives are the most common designations for 'house' and 'sweathouse' in Vogul and in Wintuan. They are also used in their respective cultures for the "menstrual house", which is a smaller structure reserved for the woman during her menses and during child-birth. The menstrual house also serves as a house for purification by steam. In Wintuan Nomlaki and Wintuan Patwin the words *kewel*, *kel*, often designate a settlement, most likely a place where a big ceremonial house, or a sweathouse, was the center of cultural life.

The comparative sets are as follows:

VOGUL

kwel 'house'

kwal 'sweathouse' (Schlözer 1771:311, items 106, 107)

kel 'house'

kol 'house'

kol, *mañ-* 'menstrual house'
"little house"

WINTU

WiWt *qewel* 'house'

WiPa *kewél* 'house'

WiNo *kel* 'house'

el-kel 'sweathouse'

WiPa *kula* 'house'

WiPa *qula* 'menstrual house'

The Wintuan tut 'roundhouse, sweathouse'

The second most important word connected with the sweathouse among the Wintuans is the word *tut*. It designates the big semisubterranean ceremonial house of Central California. While this house was also used for sweating, sometimes a somewhat smaller house of the same type was specifically constructed to serve as a sweathouse. The *tut* was the exclusive property of the chief, the place where he "called the dances." When the chief died he was buried in the *tut*, after which it was burned down. The fact that the *tut* was an excavated pit and the fact that it was used as a gravesite for the chief, justifies the comparison to the Ostyak form *tot* 'ditch, hole, grave, to bury, etc.' As we will see below, the Maiduan word for 'sweathouse' namely *kum* went through a similar semantic development.

The comparative sets are as follows:

OSTYAK

- S *lot* 'pit, hole, grave'
 N *lot* 'pit, hole'
 -*lot*, *ol-* 'bed, sleeping place'
 S *lot-* 'to dig, to bury'
lot 'to bury in an ashpit in order to bake bread'
 "in der Aschengrube backen (Brot)"
 KT 493-494.

WINTU

- lut* ~ *lu-t* 'semisubterranean big dancehouse, sweathouse, earthlodge (room for fifty people)'

MAIDUAN

- lyt* 'to bake by burying in the ashes'

A similar semantic development (i.e. "to bake in an earth oven") occurred also in the case of Maiduan *k'um*, as discussed below.

The correspondence of the Ostyak *l-* (or *l-*) to the Wintu *l-* is regular, as is shown in the following examples:

OSTYAK

- S *lutatta-* 'to swing back and forth, (also of foot); to wag the tail (dog)'
 N *lutij-* 'to sink in the mud, as a reindeer or horse'

WINTU

- lutu-ta* 'to wobble, to shake like jelly'
lutu-tit 'that which wobbles; a legendary creature, which wobbled when walking'
lu-tel 'to be stuck'

Exact correspondences with initial barred *l-* occur also in other California Penutian languages. For example:

OSTYAK

- S *lant-* 'to get blisters' from rubbing' "durch Reiben Blasen bekommen"
 KT 485.

LAKE MIWOK

- lanti* 'to blister from rubbing'

The Maiduan *kum* 'roundhouse, dancehouse, sweathouse'

In its essentials, the Maiduan *kum* is identical to the Wintuan *tut*. The major settlements in the Maiduan territory all had a *kum*. Since it was an excavated place with an earth covered superstructure, its original site is relatively easy for an archeologist to identify. In addition, numerous place names among the Maidu and Konkow (Riddell 1978) and among the Nisenan (Littlejohn 1928; Wilson and Towne 1978) include the word *kum*. The name for this structure is related to various Ob-Ugrian words, and it has extensive cognates reaching back to Proto Uralic times. The semantic development which is so clear within Maiduan ('hole > pit > house') is similar to that which we saw in the case of *tut*.

It should be noted in this context, that most of the Ugrian languages, with the exception of Eastern Ostyak, changed the Proto Finno-Ugrian initial **k-* before a velar vowel *a o u* to a velar fricative **x-* (Lakó 1968:48). In many cases a similar sound law operated in the California Penutian languages; but the word *kum* was not affected by it. It is more than probable that the glottal *k-* in Maiduan is somehow connected with this historical process.

The comparative sets appear as follows:

PUr **kuma(-)* 'hollow produced
by bending over and covering'

OSTYAK

S	<i>xom</i> 'hole, hollow part of a spear, axehole'	Md	<i>kùm</i> 'hole'
Vg	<i>kum</i> 'hollow part of a spear, to make a hole' (Note <i>k-</i> ! Loanword?)	Md	<i>kùm-hý</i> 'sweathouse' 'hole house'
OsS	<i>xom-ël</i> 'cavity, hollow'		<i>kùm-pýnno</i> 'hole, cavity in the ground'
VgS	<i>xom-ël</i> 'grave' <i>xom</i> 'to cover etc'		? <i>óm-kùmí</i> 'cave' "rock house" <i>kùmú</i> 'dancehouse'
Hu	<i>homorú</i> 'hollow, concave' <i>hom-</i> 'to cover, bury'	Ni	<i>kùm</i> 'roundhouse, hump, gopher mound'

FUE 296; KT 302.

It is significant that the southern neighbors of the Nisenan — namely the Plain Miwok and the Northern Sierra Miwok — call the "earth oven" *kume*. We saw a similar semantic development in the case of *tut* and Maidu *lýt* above.

The Yokutsan *moš 'sweathouse'

The word *mos 'sweathouse' occurs in eighteen of the twenty one Yokutsan dialects (or languages). This is one of the most homogeneous forms in Yokutsan. Newman recorded *mōš* for Yawelmani, spoken south of Bakersfield. Golla (1964:65) reconstructed *moš. The Ob-Ugrian cognate is from Northern Ostyak

The comparative set is as follows:

OsN *mos* 'sweat'

PYo *moš 'sweathouse'

The Western Miwok *lamma 'sweathouse'

This word seems to be related to the Yokutsan — Chukchansi and Yawdanchi — words for sweating, and ultimately to the Finno-Ugrian words indicating the 'heat of the house' etc.

The comparative sets appear as follows:

Hu **lám-g* > *láng* 'flame, to be heated emotionally, to glow'

Zr *lom-* 'to burn'

Vty *lum-it* 'warm, lukewarm'

PMiw **lamma* 'sweathouse'

Mim *lamma* 'sweathouse'

Mib *lamma* 'sweathouse'

YoChu *loḿ-uk* 'to sweat'

YoChu *luḿ-kun-üt* 'to sweat'

YoYd *dum-kun* 'sweat'

Borrowed into Ob-Ugrian:

OsN *tüm* 'heat of the oven and the "chuval"'

VgN *lum* 'embers, glowing coal'

FUE 386.

YoYd *dum-uk* 'to sweat'

YoYl *tuḿ-uk* 'warm, lukewarm'

Nisenan ʔota 'to sweat' and the Ugrian reflexes of Maiduan medial -t-

In the light of the above sets we are justified in connecting Nisenan ʔota 'to sweat' to Lake Miwok ʔéet- 'to be hot (said of person)' and ʔéetaw 'to be hot (said of an object or the weather)', For the vocalism compare Nisenan ʔoto 'to get up; morning' (Maidu ʔotó 'to arise, to get up') and Bodega Miwok ʔéttu 'to climb' along with Central Sierra Miwok ʔétú-t- 'to come

out (of the sun)', *ʔet·ú* 'sunlight'. The Nisenan and the Lake Miwok words have Ugrian cognates.

Since these forms, and generally the sound law operating in the reflexes of medial *-t-*, illustrate so well the position of the California Penutian languages and their relationship to Ob-Ugrian we found it useful to go into the historical relationship of this phoneme in greater detail.

Proto Uralic, Proto Finno-Ugrian medial **-t-* remained **-t-* in the Ob-Ugrian languages, but it changed into *-z-* in Hungarian. The list below indicates the reflexes of several words with Finno-Ugrian medial **-t-* together with their reflexes in Hungarian, Ob-Ugrian and Maiduan.

The comparative sets appear as follows:

HUNGARIAN	OB-UGRIAN	MAIDUAN
<i>iz-zad</i> 'to sweat' <i>iz-zó</i> 'glowing'	OsS <i>ət-</i> 'to heat'	Ni <i>ʔota</i> 'to sweat' <i>weni ʔota-tai</i> 'medicine steam- ing, sweatbath' (Beals 1933:390) Mil <i>ʔéet-</i> 'to be hot'
FUE 334.		
<i>izé</i> 'thing, thingamajig'	Vg <i>ut</i> 'thing' OsS <i>at</i> 'thing' OsN <i>ata</i> 'to fix' OsK <i>otti</i> 'to fix, to raise'	Ni <i>ʔotta</i> 'to cinch up a baby in basket' Mu <i>otto</i> 'to fix, to mend'
FUE 333.		
<i>íz</i> 'segment, part, member'	OsS <i>jət</i> 'segment, member, com- partment'	Md <i>jot-ót</i> 'to se- parate, divide, compartment- talize'
FUE 332.		
<i>híz-</i> 'to get fat'	Vg <i>xut-</i> 'to get fat'	Ni <i>hyt</i> 'fat' Md <i>hýt</i> 'fat'
<i>híz-ó</i> 'fat pig' = FUE 287.	= <i>*xūt-pe</i> 'fat'	<i>hýt-pe</i> 'fat' (adj.)
<i>húz</i> 'to pull, drag'	Vg <i>xot</i> 'to tear'	Ni <i>hoto</i> 'to drag' <i>hut-tuj</i> 'to change, to move to another place'

Cf. German *ziehen* 'to pull' and *umziehen* 'to change habitat'.

FUE 312.

HUNGARIAN	OB-UGRIAN	MAIDUAN
<i>fűz-fa</i> 'willow' <i>fa</i> 'tree'	Vg <i>-pə</i> 'tree'	(?)Ni <i>pot-o</i> 'willow' (?)Md <i>pá</i> 'bush, tree' <i>pā</i> 'willow' Ni <i>pata-ta</i> 'willow'
FUE 226, 227; 171.		
<i>fáz-</i> 'to be cold'	Os <i>put</i> 'to freeze to get cold'	Ni <i>pyt</i> 'cold' Ko <i>put-te</i> 'cold'
FUE 185.		
<i>faz-ék</i> 'pot'	OsN <i>put</i> 'pot, kettle'	Md <i>patá</i> 'basket' (of birchbark or loose-woven)
FUE 184.		

In Northern Eurasia pots originally were made of birchbark and cooking was done by 'stone boiling', up to the last century. The same method is used by the California Indians. The Maidu cognate preserves the original meaning.

The Maiduan "Sweat Dance" in relation to the Ugrian shamanistic trance and ecstasy

Dixon (1905:321) writes that among the Maidu, "During the winter season, the Sweat dance (*kúmlaidu*) is held from time to time. No woman may be in the dancehouse, although they may look down through the smoke-hole. The men wear only a small grass apron, and, gathering at night, dance in two sections, one on one side of the fire, and the other on the other. *One man is the singer, and stands by the main post, which he strikes with a clapper rattle.* The two parties of dancers, each try to outdo the other in their endurance, and the dancing consists mainly jumping up and down without moving from the spot. When all is over, all rush out and jump into the river." (Emphasis added.) Beals (1933:403) reports a similar competitive sweat dance among the Nisenan.

There are several elements in the Dixon description which point toward a ritual act; not to an ordinary social dance. The most important element is, that the singer strikes the main post with his rattle. We know that the most sacred item among the Maidu ritual objects, was one of the posts of the *kum*. If there were two posts in one line, the ritually significant post was the one behind the fire, opposite to the entrance. Dixon (1905:169) states, that the "...nem *südoko* or *kúkinim südoko* ('great

post' or 'spirit post'); ...that behind the fireplace, was the more important of the two and was regarded as really sacred. Near it the chief dancer stood, *on it the shaman and spirits pounded with their rattles and down it into the house the spirits themselves occasionally came.*" (Emphasis added.)

The center pole in the Ostyak house was also sacred. We are told by Munkácsi (1906:93) that according to Belavskij, in every Ostyak dwelling there is a very sacred pole, opposite to the entrance, with the fire in the center. The top of this pole reaches above the roof and symbolizes the master of the house. It is often decorated with a highly stylized human face, like the post around the sacred areas in the forest. It is assumed that the idols of the Ostyaks evolved from this pole. This pole is located, like the California sacred pole, in the sacred "clean" part of the house. As in the California roundhouse, women were generally not allowed to enter this portion of the house. Among the Ostyaks the entire family displayed great care for this pole. A female over eight years of age did not dare to pass between this pole and the fire. Lehtisalo (1956:446) writes, that the Yurak Samoyeds also consider the vertical poles of the tent (*šimsi*) to be sacred, and that they are considered to be the exclusive property of the shaman.

As we saw above, the Ostyak sacred pole represents the master of the house. Similarly, among the Wintuan Nomlaki (as told by Jones to Goldschmidt), the center pole represents a human being — most likely the chief — earthly and supernatural. This gives an additional significance to the terms: Wintuan *sektu* 'chief' and Lake Miwok *hójpu* 'chief' in reference to the center pole. The ritual performed during the setting of the center pole of the dance house cannot be more explicit: "The important men have meanwhile gone to the location of the center pole and *have dressed it as a dancing man with a feather headdress*. It is then carried to the house pit by six or eight men on a 'stretcher' made of grapevine, accompanied by two singers, who sing a 'march.' They do not set the pole down till they get to the hole, where they set it upright in a special way and tamp it into place." (Goldschmidt 1951:423 — emphasis added.)

The linguistic aspects of the Maiduan "Sweat Dance" points to very important elements in Ugrian shamanism. As we saw, the dance is called *kúm-laj-du*. The word *kum* means 'ceremonial house' or 'sweathouse' and we treated it above. The word *láj* means 'warm, hot' in Maidu. It is clearly related to Vogul *rěj* 'heat, trance, ecstasy' (*tōram rěj* = 'god's heat'), and Hungarian *rej-, rév-* 'shamanistic trance'. There is probably no other word which received greater attention by the students of ancient Ugrian religion. Pais (1975) reviewed the vast amount of material while treating this important word. It is clear that its full treatment eventually will require an extensive study. Let us introduce here some of its cross-continental implications.

The Maidu word *laj* is the regular correspondence of the Vogul and Hungarian forms. Maidu does not have an *r* phoneme. Words with initial *r* borrowed with an *l*- by the Maiduans. For example, English 'room' becomes *lúmi*; Spanish *reales* becomes *lĵan*. The Nisenan borrowed 'rail-road' as *le-lot*, and Spanish *reata, riata* 'rope' as a *lija-ta*.

It should be pointed out that the *-j* in Hungarian *rej-* is secondary, reflecting **rey*. It is significant, however, that Maidu always reflects the Vogul alternate form *-j*, as in *rĕj*.

The same sound law is operating between Vogul, Wintu and Patwin as it appears in the examples quoted below.

The comparative sets appear as follows:

VOGUL

rĕy ~ rĕj 'warm; hot'
mey- ~ mej- 'to give'
pey- ~ pĕj- 'to bathe'
jey ~ jej 'elder brother'
ley- ~ lej- ~ lij- 'to throw'

MAIDU

Md *láj* 'warm, hot'
 Md *mėj* 'to give'
 Md *pije* 'to bathe'
 Ni *ʔeji* 'elder brother'
 Ko *loj-* 'to throw'

Wintu *ley- ~ liy-* 'to throw'
 WiPa *ley-* 'to throw'

The Ugrian cognates of Maidu *láj* 'warm, hot' are extensive. The outline of the cognate sets appears as follows:

UGRIAN

Vg *rĕy ~ rĕj* 'warm, hot, shamanistic trance'
 Os *ruu* 'heat of the house, trance' (intoxicated)
 Hu *rej-t *rey-t* 'secret, to hide, magic, to perform magic, to faint'
rĕv- 'trance'
rek- 'summer heat'
reg-e 'tale, saga'
reg-ős 'singer of good wishes' (Originally 'magician')
rĕg 'long time ago'
reg-gel 'morning'

MAIDU

láj 'warm (of weather)'
pi-láj 'hot (of weather)'
láj-mĕn 'summer'
kúm-laj 'to hibernate'
kúm-láj 'to dance around the fire in the dancehouse'

KONKOW

laji 'warm, hot'
laj-da 'morning'
laj-dám-lyly 'morning star'

FUE 526-528.

Vogul *rěj* and Maidu *láj* primarily refer to the heat of the house. Pais (1975) collected the testimony of early travelers and ethnographers who stressed the fact that the excessive heat in the closed house (produced on purpose) was to facilitate the ecstasy of the shaman. He concluded (and this is eminently corroborated by the California evidence), that the ecstasy of the shaman among the Ob-Ugrians was produced by several means. The use of *Amanita muscaria* (the fly agaric mushroom), was the principal method. Another, perhaps even more ancient method, was the exposure of the shaman to excessive heat. The Nisenan Sweat Dance (Beals 1933:387) is competitive sweating. Two competing parties fan the fire in turn and each tries to outdo the other. Shamanistic contests were also done in similar ways. According to the testimony of the informants, fainting (cf. Hungarian *rej-t-* 'to faint') was common during such competitions. The symptoms, e.g., excessive nose bleeding, are similar to those produced by other means. In this context, we should mention that herbs producing thick, perhaps narcotic steam and smoke (to which the early reports allude), cannot be excluded. The discussion of this specific feature (i.e. steam) in Ob-Ugrian and California Indian cultures is connected mostly with purification rituals, such as those performed after childbirth, before a hunt, after being contaminated by unclean objects or persons, and after funerals. It is possible that the Sierra Miwok word for sweating and sweathouse (*čap-*) is connected with the Vogul word *sap-jiw*, the incense used during the purification ritual by the Vogul woman.

One more aspect of the Maidu Sweat Dance *kùm-láj* requires a comment. It is explicitly stated by Dixon, that the dance is held in the winter. We should point out the word for winter: *kùm-mèni* 'sweathouse, dancehouse season'. Also *kùm-laj* means 'to hibernate' i.e. to keep warm in the dancehouse. The dance seems to be held in the anticipation of *láj-mèn* 'summer, warm season'. The Nisenan spring festival of heating up the sweathouse seems to symbolize the warming up of the nature.

It has been pointed out by several students of ancient Hungarian mythology, that the Hungarian custom of the *regősök* 'singing magicians' going from house to house with good wishes on the second day of Christmas (or generally around the middle of the winter) is connected with an ancient pagan ritual associated with winter solstice and yearning for the warmth of the spring. Their well known refrain: *Hej, regő rejtem ...* contains the two roots: their magic name (*reg-*), their magic activity (*rej-*) and the cognates of Maidu *láj*.

Linguistic Evidence for the Siberian Origin of the Central California Indian Shamanism*

The study is an attempt to incorporate the California Penutian linguistic inventory associated with shamanism into the shamanistic inventory of the Uralic peoples of Eurasia. While the argumentation is based on linguistic evidence, the cultural connection is a natural consequence.

Language and culture, including material culture, form an essential union. By projecting "Wörter und Sachen" studies into prehistoric times and establishing the various avenues of semantic development by rigorous documentation, the comparative historical linguist acquires an invaluable and effective tool for discovery (von Sadvoszky 1973).

Indo-Europeanists make use of wide-ranging semantic changes in their reconstructions. In this comparative study the semantic equations are simple. This is another indication of the closeness of the two language groups.

Some linguists, usually non-comparativists, use the phrase "long range" in reference to such comparative studies. If this phrase is taken in its original sense and it refers to "long geographical range", the usage is appropriate. Indeed, and allow me to use a simple truism, we have indisputable evidence that California is far-ranging from West Siberia. But until now we had no comparative studies between the two areas; consequently, any statement as to "long range" in the temporal sense was purely aprioristic and speculative.

On the other hand, if we can demonstrate that two language groups are closely related and the data argue for a relatively recent time of separation (and migration), the use of the phrase "long range" in a temporal sense is inappropriate.

This article presents comparative evidence for similarities occurring, indeed, on a long geographical range, but, because of the closeness of the similarities, the linguistic rules operate on a relatively "short temporal range". (The relationship between Turkish and Yakut in Eurasia is a good example to illustrate such a dichotomy.)

* First published in *Shamanism: Past and Present*, edited by Mihály Hoppál and Otto von Sadvoszky, Istor Books 1, Budapest: Akadémiai Kiadó — Los Angeles/Fullerton: International Society for Trans-Oceanic Research, 1989.

The material treated in this article consists of about ten items, which is a representative sample selected from about sixty comparative sets, all associated with shamanism. Some others were treated by me earlier (von Sadowszky 1984c).

The great amount of these comparative data indicates a relationship between California Penutian and Uralic. Further, the statistical analysis of these data indicates a close similarity between Penutian and the Ugrian branch of the Uralic family. This means that the sound laws, the essential prerequisite of any comparative work, which govern the relationship of the Ugrian languages versus Uralic, governs also, to a large extent, the California Penutian languages (von Sadowszky 1976, 1978, 1981, 1983, 1984a, 1984b, 1984c, 1985a, 1985b). Penutian can be incorporated into the Uralic family, like once Tocharian was incorporated into Indo-European.

Shamanism as an integral part of the socio-religious system on both sides of the globe does not need any further elaboration. For the most recent comparative treatment see the outstanding work of Corradi-Musi (1988).

This study deals with the Uralic languages and peoples, who occupy the vast, shattered triangle between Lapland, Hungary, and the Bering Sea (if we take the Yukagirs into consideration). But the data lead us specifically to the Ob-Ugrians, the Voguls, and the Ostyaks along the Ob River, and the Hungarians. For more complete information consult Hajdú (1975).

The California Indians included in this study occupy the Pacific Coast, north and south of San Francisco, and the inland valleys between the Coastal Range and the Sierra Nevada, along the Sacramento and San Joaquin Rivers and their tributaries. They are commonly referred to as Penutians and they are divided as follows: the WINTUANS: Wintu, Nomlaki, Hill Patwin, River Patwin; the MAIDUANS: Maidu, Konkow, Nisenan; YOKUTSANS: Northern Valley Yokuts, Southern Valley Yokuts, Foothill Yokuts; the MIWOKANS: Western — Bodega Miwok, Marin Miwok, Lake Miwok; Eastern — Saclan, Plains Miwok, Northern Sierra Miwok, Central Sierra Miwok, Southern Sierra Miwok; the COSTANOANS: Mutsun, Rumsen, Chochenyo, and the various languages spoken at the missions in San Francisco, Santa Clara, Santa Cruz, etc.

While the descendants of these Indians still occupy these territories, their cultures, but especially their languages, are close to extinction. For complete information consult Heizer, ed. (1979) and Kroeber (1923).

As to the references, I employ the following system. I give full references for linguistic items quoted in grammars, ethnographies, and in word lists. For the Eastern Miwok ethnographies, however, we have Ford (1982). For Mutsun the number in parentheses indicates the page in

Mason (1916). For Wintu, the number in parentheses indicates the page in Pitkin (1985). No page number is given for the works of Callaghan, Freeland, Broadbent, Shipley, Uldall, and other dictionaries.

On the Uralic side, in order to facilitate further research, page numbers are given after the customary abbreviations, for the monograph:

FFC Folklore Fellows Communications, Karjalainen (1921, 1922, 1927)

for the dictionaries:

KLE Kannisto, Liimola, Eiras (1982)

KT Karjalainen – Toivonen (1948)

MK Munkácsi – Kálmán (1986),

and for the comparative works:

FUE Lakó, ed. (1967–1978)

FUV Collinder (1955)

TESz Benkő, ed. (1967–1976)

UEW Rédei, ed. (1986–1988).

Good and Evil: *jom

The California Indian shaman was not only the principal religious functionary, but also a philosopher, poet, artist, musician, intellectual; scientist, doctor, and psychotherapist (Bean 1976).

We are told by Dixon (1905:267) that they were the most important individuals among the Maidu. In a society without a definite system of government they were, in fact, the leaders of the community. Their words carried great weight, and as a class they were regarded with much awe, and as a rule they were obeyed more than the chief.

Most of the shaman-doctors were the “cure or kill” types, who could produce good and bad results. They could protect the individual or the group from all sorts of ailments and from all kinds of enemies (Bean 1976).

Since the Penutian word *jom* is probably the most significant word in California, let us consider in detail its occurrence.

In Maidu, the shaman proper is called *yómi*, and his main duties are the cure and causing of disease (Dixon 1905:271).

Their social position is demonstrated by the fact that the leaders of the Secret Society were powerful shamans who had in their possession charms known as *yómepa* or *yómpa* which could cause death to a person if they were touched on the bare skin with these objects (Dixon 1905:272).

These *yómpa* are made of roots, feathers, and beads. The shaman points the *yómpa* at someone and sings, and that person becomes sick. Another, a more powerful shaman, has to extract the poison by sucking.

"In doing this, the shaman puts some charm into his mouth to aid him. This is often a piece of rock-crystal to which a feather is attached. Such charms are known as *yónkö*" (Dixon 1905:280). The word, *yónkö*, is an assimilated form of **yóm-kö*.

In the modern dictionaries we have Maidu *jompa* 'sorcery', 'witchcraft', Nisenan *jom* 'shaman'. For a more complete list see Beals (1933:390). In River Patwin the word for shaman is *yom*, but in Hill Patwin it is *mali-yom-ta*. The first part *malu* = 'to treat for sickness' can be compared to Finno-Ugrian **mäls* 'to feel, to touch' (UEW 267; KT 558; MK 295). See the healing method by pressing in Du Bois (1935:104-105) and in Freeland and Broadbent (1960:63). The word *yom* plays an important role in the most sacred ceremonies of the Patwin: *Hesi*. The young initiates and the spirit enactors are called *yom-pu* (Kroeber 1932:330-333; 343).

In Southern Sierra Miwok *jom* > *jymo-* came to mean 'to suck for a disease object'. We saw above that Maidu *yóm-pa* is associated with 'poison'. This appears as *yom-ba* 'poisoner' in Hill Patwin (Kroeber 1932:293). In Chukchansi Yokuts we have *yem-pa* 'poison' and in Southern Miwok *jen-pa* 'poison' which became *jen-wa* (**jem-pa*) in Central Sierra Miwok. These last items appear to be borrowed from Yokutsan.

The Wintu *yom* (757) refers to 'magic, supernatural, evil, witchcraft, spell and incantation'.

The Western Miwok cognates denote more abstract and general concepts. The Bodega word *jomu* means 'to like, to love'. The same word, *jomu* in Lake Miwok refers to pleasant feeling, meaning 'to laugh', and its derivatives lead us to recognize the original meaning of the Penutian cognates. They refer to "excellent, noble, beautiful, pretty, fine, good (eating)." For example, Christ is called *jomúnnaka kócca* 'noble, excellent person'.

We encounter on the Eurasian side with the same meaning in Proto Ugrian **jom3* or **jam3* (FUE 339). In Vogul (MK 170) we have *jomas* 'good, right, beautiful, lucky; to make good, to repair, to heal' and more explicitly, *jámés khum* 'doctor', i.e., shaman. These and the subsequent Ugrian cognates highlight the meaning development also in the California Indian languages.

The Ostyak cognate *jám* (KT 167) means 'good, beautiful, healthy; to heal, to caress, to pet, to live in peace; the right side' and 'the best'.

The Hungarian cognates follow the same pattern. The words *jó*, *gyó-*, *jav-* mean 'good, to heal, to repair, the right side', etc. In Hungarian folklore *jós* is 'the prophet who foretells the future' and the *javas* is 'the folkhealer', originally the 'shaman'.

From the above data, it seems to be apparent that Proto Penutian **jom* 'good, to make good, to heal, (to poison)' has the same semantic development as Proto Ugrian **jom3*. It should be emphasized that on the

Eurasian side *jom₃ is only an Ugrian word. It does not occur in any other Uralic language. But as we saw above it has a wide distribution in the California languages. This and some of the following examples highlights the statements made earlier about the "Ugrian" features in the California Penutian languages. Naturally, such words are significant when we attempt to determine the time of arrival of the Indians in California.

Singing in Trance

The California shaman established contact with his spirits by singing, dancing, and playing musical instruments. The Patwin shaman at the sacred places received from the spirits a song, a whistle, and a cocoon rattle (Kroeber 1932:292). When Chiplichu became a sucking shaman *kojabi* (*koja-pe*) "he danced and sang in his home every night, and he was in the habit of talking with the spirits" (Gifford 1955:301). The word *koja-pe* originally meant 'singer' and later acquired the meaning 'sucking shaman'.

In Bodega Miwok we have *koja* 'to sing'. It also refers "to sing like a bird". It is related to *kój-wa* 'to fool around, to flirt' (Callaghan 1970:39). From this it is apparent that the word originally referred to the mating calls of birds.

The Lake Miwok derivative *kojánni* means 'music' or any musical instrument and *kójni* 'to be happy'. The phrase *ʔutél kójni-wili* means 'magic song', which was sung while fasting in order to gain power and invincibility (*ʔutél* 'sorcerer'). In Northern Sierra Miwok *koja-pe-nuk* means a 'doctor'. The transition is understandable from the Central and Southern Sierra *koj-pa* 'to suck for a disease object'. The initial **k* in all these forms presupposes a front vowel in the first syllable, otherwise the **k* would have changed to an *h* the same way as it did in some of the Ugrian and Samoyed languages. Keeping this rule in mind we can understand the Uralic and Finno-Ugrian cognate forms (von Sadovszky 1985).

Miwokan *koj-* is compared to Proto Finno-Ugrian **keje* (UEW 143; FUV 79). Its reflexes mean in Vogul *kaj* (MK 187), 'to sing a magic song, to drum' as a grouse during mating season; in Ostyak *koj* (KT 384) 'to perform magic with a song', 'to mate' (of grouse). In Lapp we find a similar meaning which we encountered in Bodega Miwok, namely 'to mate, to pair' (of birds), 'to have a flirtation with', and 'show undue affection for someone'. The Hungarian cognate *kéj* means 'lust and sexual pleasure'.

The Finno-Ugrian semantic development is similar to the Miwokan development. In both language groups we have a semantic change 'to

sing, sing magic songs, to produce by magic, to heal, shaman'. In Ostyak (Hunfalvy 1875) *kujta* is glossed as 'performer of magic, to heal'; *kujta-ho* 'shaman' and Steinitz (1976:36) has *kej-taxo* 'shaman'.

It is significant that the magic drum of the shaman in Ob-Ugrian is the derivative of this root: *koj-p* (FFC 63:259), literally, 'the singer'. As we saw above in Lake Miwok, all musical instruments are called *kojá-nni*. The Finno-Ugrian **keje* refers to the singing of the shaman and mating song of the Eurasian grouse: capercaillie (*Tetrao urogallus*) and the black grouse (*Lyrurus tetrrix*).

On the American continent we have even a greater variety of grouse, among them the ruffed grouse (*Bonasa umbellus*) whose habitat extends from Alaska to California and to the Eastern Seaboard (Udvardy 1977:635). These birds' behavior is similar to the behavior of the possessed shaman during the shamanistic trance.

During the mating season in the spring, the cock of the American ruffed grouse, for example, poses rather stiffly erect, displaying his tail feathers, the wings dropped, rapidly beating his wings to and fro to produce the "drumming" sound. This "drumming" is a hollow-toned, low-pitched accelerating series of beats (Udvardy 1977:635, illus. 252, 253, 260). He ends his performance with a peculiar whistling sound. The bird has a favorite log from which it drums repeatedly in the spring and in the summer.

This "drumming" is referred to in Hungarian by the word *dürög*, a derivative of the word *dörög* 'to thunder' (TESz, s.v.). The Wintu have the same semantic world-view when they refer to the "drumming" by *thum* 'to coo' (of a grouse) and 'to thunder' (642), but also *thom* 'to beat a drum' (639), all clearly of onomatopoetic origin.

The dance in which the cock attacks his male competitor is produced with utter frenzy. During this dance and fight, the grouse is in a trance as if supernaturally possessed. While generally very timid, he is completely overtaken by love, becomes utterly oblivious to his surroundings, as if deaf (cf. Hungarian *süket fajd* 'deaf grouse') and blind to such extent that he does not see the approaching hunter, and does not even hear the discharge of a shotgun. This possession by supernatural powers impressed the Vogul hunter when he tattooed the image of a possessed and drumming grouse on the back of his hand. For tattoos on the back of the hand among the California Indians see Barrett and Gifford (1933:224), Dixon (1905:167), and von Sadvoszky (1985). The stylized design of a grouse is a favorite among the Vogul (Kannisto 1933:171, fig. 20). The figure graphically illustrates the grouse "displaying" the tail feathers and wings. The wings are dropped for drumming and the head is erect for challenging his opponent.

Calling the Spirits

In Vogul *kaj-saw* (MK 568) means 'prayer, hymn, a call to the spirits'. It is compounded from the word *kaj* (discussed in the previous section) and *saw* 'word, song' and which, in its various compounds is an important word of the Ugrian shamanistic vocabulary (FFC 63:301, 302). Consequently, it is fitting to discuss it immediately following the *kaj* words which we encountered in Miwokan.

Let us consider the cognates of this important word in California. In Mutsun, *sawe* means 'to sing' (Mason 1916:451), *sawe-n* 'song' (406), *suwe-ne* 'song' (437). It was perhaps borrowed by the Marin Miwok, where we have *suwe* 'love song'. In Central Sierra we have *sa-w* 'to shout, to cry out'. In Southern Sierra Miwok *sa-w* 'to say "hey"'; in Chukchansi Yokuts *sawe?* 'to shout'; Yawdanchi *čaw* 'to shout' (Kroeber 1907:252); in Chowchilla (Newman 1944:219) *cawa* 'to shout'. In Wintu (69) *ča-w* means 'to sing, song, to hum'; *łahi ča-w* 'curing song, doctor song', and also in Wintu with vowel alternation *če-w* 'to preach, to give a speech, to orate, to harangue'. Note also in Hill Patwin (Whistler 1981:72) *sawar-ho* 'to be rattling'.

The Wintu word *ča-w* is used also to refer to the shaman's song. The Wintu shaman spent a considerable amount of time learning songs. He was required to be a good singer and knew a number of songs associated with various spirits. He or she had no strict property rights to these songs, but they were recognized as owned by a particular shaman and "after a doctor's death his song might be taken over by the person who inherited his regalia and perhaps his spirits. Lay persons and shamans not in trance considered it bad luck to sing these songs" (Du Bois 1935: 89). The Proto Ugrian form is **saw₃* (FUE 591). In Vogul (MK 568) we have several compounds with *saw* as the second member, e.g., *eriy-saw* 'prayer'; *kaj-saw* 'prayer'; *poj_k-saw* 'prayer'; *tān-saw* 'music, melody'. The Ostyak (KT 827) *paykél-saw* means 'fly agaric song, magic mushroom song', which the shaman sings. The Hungarian cognates are extensive. The forms *szó* – *szól* – *szava* (*szaval*) mean 'word, speech, to speak, call, sing (also of birds), to scold'.

It is important to note that **saw₃* is only reconstructed for the Ugrian languages. It is generally assumed (FUE 591–592) that it is an ancient borrowing from Turkic (Turkish *sab* 'word'; Ujgur *saw* 'word, speech, message'). It is significant that the Proto Ugrians borrowed the Turkish word with an *s* only after they completed the **š- > s* change, i.e., with a general *s-*. An important feature for dating the migration of the California Penutians.

Spirits, Whistles, and Birds

Spirits or ghosts manifest themselves by a whistling or a whizzing sound. Nels Charles, the Wintu shaman, says, "When you go into a trance — when spirits come to a doctor — the doctor and the people hear a whizzing noise" (Du Bois 1935:97).

At the shaman's initiation ceremony of the Wintu, "The arrival of a spirit was announced by a whistling sound above the smokehole of the earthlodge" (Du Bois 1935:89).

Gifford (1955:291) describes a sacred ceremony among the Central Sierra Miwok, which is called *Sule Tumum Laksü* "Spirit or Ghost Emerging from the Drum".

The originator of this dance learned it while watching the ghost of a shaman dance upon a log drum in a ceremonial house four days after the death of the shaman. The dancer *lakusbe* 'emerger' is a real spirit. He carries a double bird-bone whistle and he hides in the trench under the log drum. Before he emerges he whistles softly four times. After he emerges he jumps on the drum and starts whistling again. He disappears through an underground secret tunnel and reappears at the front door. The singers sing, "That's what the ghost danced — He dances the same as the ghost of the old shaman used to dance." It should be noted that in this ceremony there is more whistling than dancing.

The linguistic evidence supports a close relationship between spirits or ghosts and whistles. The Central Sierra Miwok word for spirits, ghosts, or devil is *šú-le-sko*; and the "whistle" is *šulép-a*. In Plains and Northern Miwok the bone-whistles are called *küyáke* (Barrett and Gifford 1933:249). In Southern Sierra *kujak* means 'to whistle with the mouth', and *kujak-a* mountain quail 'whistler' (sic). This last item is glossed also as "grouse" in Plains Miwok.

These are significant shamanistic concepts for understanding the deep level relationship between nature and shamanism. We saw in an earlier segment that the grouse is associated with shamanism. It is apparent that the mountain quail, but especially the grouse, is connected also with the spirits. This argument, further, is useful to identify the Finno-Ugrian cognate of the word *šule* for 'spirit' and 'whistle'.

Vogul (MK 571) has a gloss which fits into this semantic sphere. *šulä* 'hazलगrouse' (*Tetrastes bonasia*) (FUV 111); and the phrase *šulä kisi* 'the hazलगrouse whistles or cheeps' brings us back to the previously treated ritual association with the grouse. Furthermore, we have a perfect Vogul semantic equation quoted by Munkácsi (MK 216) *šulä kisi* 'the hazलगrouse cheeps' (German: *piept*). We are told by the early writer Witsen (1692 /1785:637) that the Ostyaks "cheep (piepen) for quite a while

instead of praying, “*in plaets van bidden, piepen zy zoo wat*”. Furthermore, the Vogul word *kisèp* has the following equation:

<i>kisèp</i>	‘whistle’	(<i>pieper</i>)
<i>kisèp</i>	‘hazel-grouse’	

We encountered the same equation, based on the observation of a hunter, on both sides of the globe. The Vogul *šula – šulä*, however, fills in the missing part of one California equation.

Mi <i>šule-</i> ‘spirit’	In both cultures spirits ‘whistle’.	
Mi <i>šule-</i> ‘whistle’	Vg <i>kisèp</i> ‘whistle’	Mi <i>kuja-k-</i> ‘whistle’
Vg <i>šule</i> ‘grouse’	Vg <i>kisèp</i> ‘grouse’	Mi <i>kuja-k-</i> ‘grouse’

To complete the picture even more fully, the California “bird whistles”, which the spirit enactor blows is made from the wingbone of a bird. Similarly, we are told by Munkácsi (MK 215) that “from the wingbone of the hazel-grouse, whistles are made” by the Voguls. The Zyrien cognate of Vogul *šula* ‘grouse’ is *šöla*. We are told by Fokos-Fuchs (1959:945) that the hazel-grouse was originally very large and a creature of the devil; later it became God’s creature.

The Magic Songs of Old

In 1877 Powers recorded with considerable accuracy the sacred songs of the Maiduan Konkow, and he remarks (309) that “a number of the words either belong to an occult priestly language or are so antiquated that the modern Indians, in the absence of most of their old men and prophets, are unable to agree absolutely upon their meaning”. Further, he compares the “modern” and the “archaic” forms occurring in these songs, the meaning of which the Indians were agreed upon (Powers 1877:309).

For modern *sólin* ‘to sing’, he quotes archaic *oiyih* and *melu*. The *oiyih* form is related to Vogul *oiji* (MK 381) ‘to call, to shout, to sound (like birds); raven, rooster, sparrow, and other animals’. Kannisto (KLE 13) has *nok oijy* ‘to call up, to offer a sacrifice’ (*nok* ‘up’).

The *melu* form for 'to sing' is clearly related to Central Sierra Miwok *mulu-pu* 'a shaman's song' (Gifford 1955:302; Ford 1982:175). The regular form is *mýl·i* 'song'.

The magic nature of the song appears as a shamanistic song in Central Sierra, in the passage: "This song is what I use to beat the Southerners" (Freeland and Broadbent 1960:61-62). The gambling song in Hill Patwin is called *kosī mūlī* (Barrett 1919:483). Otherwise, the general Patwin word for 'to sing' is *mu·hi*, and *mu·hi·ma* is the 'song', with an unusual but still regular *h*.

It is possible that this medial variation is due to the Finno-Ugrian alternate forms. Rédei (UEW 288) reconstructs for Proto Finno-Ugrian **mus₃* or **muš₃* on the grounds of Cheremis *muže* 'to perform magic'; and Ostyak (KT 555) *mul ~ mut* 'to pray, to call (on God), to curse', etc. (> Vogul *mul*; MK 319, 'prayer, magic'). Steinitz (1976:110) connects *mul ~ mut* to the *mul* 'the sacred part of the Ob-Ugrian dwelling opposite to the entrance where the sacred images are kept'. The Vogul form is *mul* (MK 319).

Opposite to the entrance is the sacred place, also, in the ceremonial house of the California Indians. This is where the ceremonial log drum is located and where most of the sacred songs are sung.

Karjalainen (FFC 63:253) has an Ostyak form *mūl-tè·ko* 'shaman'. We saw above *koj-ta·ko* 'shaman' a similar formation.

The Heart of the Matter

One of the most important functions of the shaman is to retrieve the lost soul of the sick. The California Indians generally equate the soul with "heart". According to Kroeber (1923:439), "What we call the soul, the Maidu named heart. 'His heart is gone away' means that a person is dead. In a swoon or in a dream a person's heart leaves his body." The Wintu shaman "restores the soul by placing his hand over the patient's heart, where souls are believed to reside" (Du Bois 1935:105).

The word for heart and soul in Maidu is *hon* (cf. Curtis 1924:230). The word **hon* is one of the most productive words in Maidu. Uldall has 36 entries for Nisenan, which is still not the complete list. In Maidu *hon* means 'heart, breast, chest, soul, breath; to breathe, to speak; language, word; to feel; to be in a mood; to think; to be alive', etc. The original meaning must have been 'breast, chest, heart, inside'. In Yokutsan also, it is well represented. For Rumsen, Pinart (1952:100) recorded *xon* 'liver'. For the semantic shift, note the other Costanoan forms: *sire* 'liver, heart, stomach'. In Wintuan it is weakly represented.

In Miwokan we have a few *hon* forms, but generally we have a regular vowel change to **hen* which word is equally productive. Generally its meaning is similar to Maiduan **hon* and we could repeat the long list of meanings here. In Marin Miwok *hen* refers to "spirit-like wind, to faint; to recover"; all important shamanistic terms. The concrete physical meaning appears in Plains Miwok, where we have *hena* 'belly'.

The Finno-Ugrian cognate is quite remarkable for its similarity of form and for its similar semantic development. We compare Proto Finno-Ugrian **kun₃* (UEW 208; FUV 93; FUE 142) 'belly'. Besides the Zyrien form, we have Ostyak (KT 308) *kon* and *xon* 'belly, the front part of humans and animals'. Note the similarity of the form to the archaic Costanoan *xon* 'liver'. Further semantic developments occur in Hungarian where we have archaic **xun* and **hun* in various compounds meaning 'heart, sense, liver, loin, the inside, belly, stomach'.

During my travel in Siberia I often tested the closeness of the California Penutian languages and the Ob-Ugrian languages. In my conversation with Ostyaks and Voguls I uttered closely related California Indian words which they recognized immediately as their own. Among these words was *xon* and *kon* which the Western Ostyaks and the Eastern Ostyaks (respectively) immediately recognized by pointing at their stomach.

This and several other forms with initial *x* and *h* in California Penutian indicate a typically Ugrian (and neighboring Yurak Samoyed) features. This sound law, as it is so well illustrated by **hon* and its reflexes in California, is again an important feature for dating the California migration. In chapter "The Time of Arrival of the Cal-Ugrians in California in the Light of the Ugrian Sound Change **k > x > h*", I listed numerous examples with this sound law.

The Sacred Place of Retreat

Among the Wintu and the Nomlaki, the sacred places are called *sa-wal*. The root is *saw*, *-al* is a formative suffix. In Wintu *sa-wal* is a mountain spring, a holy lake on the mountain, which has ritual significance and where the Indians used to swim to obtain luck. Du Bois (1935:79) says that the *sa-wal*'s "were spots of unusual configuration to which were attributed in dwelling spirits" and (80) that "the shamans naturally visited the sacred places most frequently, since they were the persons most interested in supernatural rapport. *Sawel* were used by them in the acquisition of the *genii loci* type of spirit". Du Bois (1935:80) describes a shaman's ritual visit to the *sawel*.

Among the Nomlaki, according to Goldschmidt (1951:352-353), "The *sawal* were hallowed places, usually inhabited by a spirit. These springs had powers for good and evil, and were of great importance, particularly to the shaman." Further, we are told that "*Sawal* is a bad spring (i.e., has magical potency), good springs are called cali-mém (drinking water: *čali* 'good'; *mēm* 'water')."

It should be noted here that the Nomlaki and Wintu word *čali* has a close correspondence to Vogul, and it is used in similar context. Vogul *šāli* 'fine, clear, clean, pure, fresh, good, healthy' (MK 586), equated with Wintu, (36-39) *cal* ~ *cali* ~ *cała* 'good healthy, beautiful, young'.

We have Vogul *šali-wiüt* 'clear water' (MK 586b), and in Wintu *cali-mem* 'good water' (38), and further, *cała-mem* 'clear, clean water' (39).

These watery places were associated with groves and bushes in the arid areas. Hence the Miwok equivalents Central Sierra *čawél-yša* 'dry brush, bushes'; and Southern Sierra *caw-e-na* 'bush'; and Plains Miwok *caw-es* 'berry bush, brush'.

The Voguls invoked the spirits and performed their sacrifices with the help of the shaman in the forest groves, mountain glades and on the edges of watery meadows. They called these places *saw*. Kálmán (1976:297) translates the Soswa *saw* as *Hain, Au, Wäldchen* 'watery meadow, forest glade'. The compound *jiw-saw* is 'brush', and 'bush'; *ur-saw* is 'a mountain grove'; and *nār-saw* the 'wooded area around the moor of the tundra'. Kannisto gives the meaning (KLE 229) as a flat, watery place among a rocky area in the Ural Mountains.

A Charm against Evil

Already Powers (1877:424) noted that "Higher up in the mountains they [the Nisean] find a root looking somewhat like cork, a piece of which they sometimes wear suspended to their clothing as a charm... Indians of other tribes in the state invest different species of *Angelica* with talismanic attributes." *Angelica* was among many tribes the most important ceremonial item. According to Kroeber (1932:318) during the great *wai-saltu* ceremony the River Patwin dancers rubbed their bodies heavily with *angelica* root and twice a day they burn *angelica* root, not in the fireplace (in the center of the ceremonial house), but at a spot in a particular *wole* 'a seating place in the ceremonial house'. One informant states that "*Angelica* root, *dum*, is not only chewed, but thrown on the fire during every dance. This is a powerful root. Rubbed on the feet, it prevents rattlesnake bites; and burned at night, it keeps one from dreaming of the dead" (Kroeber 1932:320).

Angelica is an important "medicine" employed by the shaman. Among the Wintu after the shaman sucked the "pain" from a sick person, he puts it in a bundle of grass, pine needles, or leaves. It is the safest "to bury the bundle with angelica or sunflower roots, which are obstructive of poison" (Du Bois 1935:104). It was considered to be careless to spit out the "pain" without burying it in a hole with angelica root (Du Bois 1935:109-110).

The root was important in the treatment of all sacred regalia, including dance regalia. Dance regalia having been completed, it was "poisoned" by the shaman. The "poisoning" presumably consisted in sprinkling certain pulverized or masticated roots over the objects as is done by the Central Miwok. Such "poisoned" dance regalia were not kept in the dwelling house, but in the hills, being in the custody of a shaman (Gifford 1927:248). Du Bois (1935:117) describes a similar practice among the Wintu.

Among the Maidu, when a person wants to be a shaman he goes up to the mountain alone, and, among other things, he lights several fires on which he puts wild angelica. This is how the spirits recognize his fires (Dixon 1905:279).

The Maidu also believed that angelica rubbed on the legs will keep the rattlesnakes away. "If one chews the root, and spits toward the rattlesnake, or blows toward it, it will be blinded" (Dixon 1905:266).

The Miwok *pácca*, with its various meanings, expresses the concepts treated in the previous paragraphs. In Lake Miwok, it means "angelica root" used by the singers as medicine to avoid getting hoarse; good-luck charm, including the sapsucker (a subfamily of the woodpecker); a ladybug; and in Bodega and Marin Miwok, the same word means "poison" and "to poison" in performing the shamanistic function described above.

The Uralic cognate of *pácca* is PUr **pučke* (UEW 397; FUV 52); Finnish *putki* 'tube, cane, reed, hollow stem of plant'; *karhun putki* *Angelica silvestris* 'karhu' bear. Lapp *bâc'kě* *Angelica archangelica*; Cheremis *puč* 'angelica'; Moksa Mordvin *počka* 'angelica'.

For a fuller set of cognates consult UEW 397. During the excursions outside of Syktyvkar (Komi SSR), I often noticed the impressive tall umbelliferous plant with white umbrella. My Finnish companions called it *karhun putki* 'bear's cane', or 'bear's pipe', because, as they said, the bear is fond of it. It was *Angelica silvestris*. It plays an important role in Vogul mythology, where the she-bear eats it, becomes pregnant, and gives birth to the ancestors of the *por* moiety.

Another California word for angelica also has a close cognate in Asia. The Patwin call angelica *hūtili*. The Lake Miwok who borrowed (?) the name for the plant, ate the roots and the stalks, and also used it as a medicine. Because of its similar ceremonial function, *hūtili* came to mean

tobacco in Central Sierra Miwok (*hú-tija*). (Note that the Southern Sierra Miwok word for tobacco is *tawa-ko*.)

This word has a cognate in Yurak Samoyed. Lehtisalo (1956:206) quotes *xut'ij* or *xūt'ī* for *Angelica silvestris*, which the Samoyeds eat in the spring when it is still soft and good tasting.

Yurak Samoyed forms are the only ones which I found until now, but the Patwin *hūtili* — Yurak *xūtī* equation is so close, and the referent is so specific, that we have to consider the two forms as cognates,

Finally, we should note that angelica received its name from the medieval belief that the root has magic and shamanistic qualities. Especially *Angelica archangelica*, the angelic archangel, is a powerful guardian angel to protect one from evil spirits. A remarkable cultural feature which ties European beliefs to California, after having crossed the entire Eurasian continent.

Shamanistic Families

Among the Patwin on the lower Sacramento River, shamanism was built into the well organized social structure. Here every significant "trade" was inherited along the patrilineal mode of reckoning kinship. These groups were called functional families by McKern (1922). The family was called *sere*. According to Kroeber (1932:329, note 144): "*Sere* denotes kindred, a lineage, or almost any associated group." In the ceremonial house, for example, the occupants of the orderly distribution of seating places (*wole*) was occupied by the *wole sere* 'floor people' of designated location (Kroeber 1932:334).

The shamans belonged to the *mal-yomta sere*. For the comparative treatment of *mal* and *yomta*, see p. 240.

Shamanism was always the function of a shamanistic family. A man, through paternal descent, inherited certain charms and family secrets connected with the practice of shamanism. This alone, however, did not make him a shaman. He must first serve a long apprenticeship under a paternal instructor, himself a shaman, who used his supernatural powers to influence the spirits to communicate with the novice and become subject to the latter's incantations (McKern 1922:250). Each shamanistic *sere* had its own methods and secret medicines for the treatment of any given disease, and periodically they held secret meetings.

If a shaman had no paternal relative who showed ability or interest to become a shaman, a young man not belonging to the *sere*, who showed mental capabilities, was adopted into the shamanistic family and was considered to be a regular member of the *mal-yomta sere* (McKern 1922:253).

In Wintuan the word *sere* has a cognate in River and Hill Patwin *seri-ta* 'boy', appropriately named in a system of paternal descent; and *seri-ba* means 'youth, male initiate' (Kroeber 1925:390).

The Uralic cognate of the word *sere* is reconstructed for Proto Uralic as **šer3* (UEW 475). The general meanings imply 'order, custom, lineage, family, clan, community', which fits the meaning outlined by McKern and Kroeber for the Patwin *sere*.

Among the Ostyak, the cognate *sir* denotes an important part of the social structure. Steinitz (1938/1980:93) often heard the question among the Ostyaks "from which *sir* (clan or family) are you?" As *sere* among the Patwin, Ostyak *sir* also meant people: *jorn-sir* 'the Yurak Samoyed people', or *tuykas sir* 'the Tungus people'.

It should be noted that the Hungarian cognate *szer* is a productive root (TESz s.v.), and denotes a great variety of concepts including family, clan, community; instrument; to produce, to love, etc.

We have a close similarity of the social structure between the Ob-Ugrians and some of the Central California Indian tribes (Miwokan, Yokutsan, and Costanoan), namely, the division of the society into two totemistic patrilineal exogamous moieties.

In Vogul and Ostyak we have the *mos* and the *por* moieties, with the white rabbit and bear as their totemistic ancestors. Among the Eastern Miwok we have the coyote and the bear moieties, with remaining traits of totemistic beliefs.

The above comparative ethnographic and linguistic data seem to suggest that shamanism within a well organized social order was already well developed when the Asiatic migrators entered California.

The Shaman and the End of the World

On April 18, 1906, 12 minutes after five o'clock in the morning, the earth shook under San Francisco. Buildings danced, chimneys collapsed, and church bells clanged wildly, as if announcing the death of a mighty city, raised proudly at the edge of the Golden Gate. The quake lasted a little more than a minute, but it was fearsome enough (8.3 on the Richter Scale) to destroy most of the city. Disaster followed calamity and fire broke out. A writer in the *Overland Monthly* described the conflagration: "It followed the ground, it scaled the heights, it burned through the steel and rock, and licked up wood as though it were straw" (Walker 1982:63).

The earthquake was felt strongly on the north of the city in Cortina Valley, and was interpreted by the Patwin Indians living on the hills, as a sign of great displeasure of their God, *Katit*, with the world and its people.

A few days after the earthquake, the great shaman, Salvador, suddenly went into a trance, and on his awakening announced that he had journeyed to *bole wīlak*, 'ghost world', and that *Katit* had directed him to announce to his village that on a certain day, which was Saturday, May 5, all must assemble for a *Hesi*, and to invite the Indians of the adjacent parts of the Sacramento Valley (Barrett 1919:441), including the Pomo and Wintu from the surrounding valleys.

Accordingly, the *Hesi*, the most sacred ceremony of the Patwins was held in the village of Let, in Cortina Valley, Colusa County, in the western foothill region of the great Sacramento Valley, from May 5 to May 8, 1906. S.A. Barrett from the University of California, Berkeley, attended and recorded the salient features of the ceremony.

The earthquake was felt so strongly by the Cortina Valley Indians, that during the ceremony it was the main topic of conversation. Almost all saw the immense column of smoke rising toward the sky. Some could even discern at night the huge flames consuming the city.

In the mind of the Patwin Indians, the world was near an end. All that they felt and saw was the part of the final cataclysm, fitting so well into their religious philosophy.

The Patwin believe that the world (*wīlak*) had been created in four phases and stretched out four times, in order to accommodate all the people. In case the earth becomes overpopulated, a fifth expansion will be necessary, but that will bring down the mountains and destroy this world, this *wīlak*.

Any speaker of Hungarian is struck by the similarity of this word, *wīlak*, to Hungarian, *világ*, 'world'; the 'end of the world' in Hungarian is *világ vége*; and 'spirit world' = *szellem világ*. The first and natural reaction is that it must be a fortuitous coincidence. On closer inspection, however, the genetic relationship between the two words becomes quite apparent. The UEW (554-555) presents two possible reconstructions **walk₃* or **wal'ɜ* for Hungarian *világ*, which means 'light, world, season, blooming'; and related to *villám* 'lightning', and perhaps to *virúl* 'to bloom' and *virág* 'flower', since we have a *világ* form (in dialects) for 'flower'.

All these words have close cognates in Patwin and Miwokan and other Penutian languages, which clearly indicates a genetic relationship between Hungarian *világ* and Patwin *wīlak*.

HUNGARIAN

<i>világ</i>	'world'
<i>világít</i>	'shine'
<i>villám</i>	'lightning'
<i>virúl</i>	'bloom'
<i>virág</i> or <i>világ</i>	'flower'

MIWOK

<i>wīlak</i> (Patwin)
<i>wile-p-</i>
<i>wile-p</i>
<i>wile-t-y</i>
<i>wile-</i>

In other Penutian languages we have Maiduan **wilaka* 'lightning, rainbow' (Curtis 1924:234); Wintu (676) *walu·q* 'lightning'; Yokutsan **walam* 'lightning'; Costanoan Santa Cruz *wilep*; Santa Clara and San Francisco *wilka* 'lightning'.

The earthquake itself around San Francisco was referred to by a word which has a Vogul cognate. The Marin Miwok just on the north side of the Golden Gate called the earthquake *wēa-nowīt*, clearly recorded as such by Broadbent (Callaghan and Bond n.d.:105). The first member *wēa* is 'earth' and *nowīt* 'to move, to shake, to swing.' Popov (Hunfalvy 1872:111), in his Vogul-Bible translation, rendered the passage Matt. 24:7 "and there shall be ... earthquakes" with the phrase *ma ŋowne* (*ma* 'earth', and *ŋowi* 'to move, to shake') (MK 372).

This passage: "For nation shall rise against nation, and kingdom against kingdom and there shall be famines, and pestilences, and earthquakes in diverse places" (Matt. 24:7) is often quoted for things to come at the end of the world. It is only natural that the Patwin, confronted with the shocking proof of their belief, gather and listen with awe to Salvador, their shaman, delivering his final speech at the *Hesi*.

"The Chinese [of California] know that the world (*wilak*) is coming to an end, and the white people will realize this after a while ... The world is crowded with people. That is the reason for my search. I am going away in search of the future world. I know I shall find it somewhere above ... and when I do find it, the world will come to an end. That's what I, the shaman, said" (Barrett 1919:467).

COMPARATIVE WORD INDEX

The word index includes all linguistic items quoted in this study. References to the entries are given in the text. Only a few extra items are added. For these entries references are provided in this index:

The order of the entries generally follows the ten numbered (1-10) segments of the text. Sometimes the words are rearranged in order to facilitate a better comparative overview.

1. Proto Ugrian **jom*₃ or **jam*₃ (FUE 339) 'good, to make good, to heal'
 - VgN *jomas* (MK 170b) 'good, right, beautiful, to make good, to heal'
 - VgN *jämès khum* 'doctor, shaman'
 - khum* 'man, person'
 - OsE *jəm* (KT 167a) 'good, beautiful, healthy, to heal'

Hu *jó* 'good'; *gyó-* 'to heal'; *jav-* 'to become good'
javas 'folkhealer'; *jós* 'prophet'

Proto Penutian **jom* 'good, to heal, shaman'

Mil *jomu-* 'good, pleasant feeling, beautiful, to laugh'
jomúnnaka kócca 'noble, excellent person, Christ'
kócca 'person'

Mib *jómu* 'to like, to love'

Wi *yom* (756) 'magic, supernatural, witchcraft, spell, evil'

MaNi *jom* 'shaman'

Miss *jom-*, *jymo-* 'to suck for a disease object'

Pah *mali-yom-ta* 'shaman'

malu 'to treat for sickness'

rel. to Proto Finno-Ugrian **mäl*₃ (UEW 267) 'to feel, to touch'

yom-pu 'young initiates and spirit enactors'

MaMd *yōmi* 'shaman'

yome-pa yom-pa 'shaman's charm'

yon-kö < **yom-kö* 'rock chrystal charm of shaman'

jom-pa 'sorcery, witchcraft'

YoChu *yem-pa* 'poison'

Miss *jen-pa* < **jem-pa* 'poison'

Mics *jén-wa* < **jem-pa* 'poison'

2. Proto Finno-Ugrian **keje* (FUE 347) 'to mate, to sing and dance during mating season'

VgN *kaj* (MK 187b) 'to sing a magic song, to drum (of a grouse)'

OsE *koj* (KT 384a) 'to perform magic with a song, to mate (a grouse)'

Hu *kéj* 'lust, sexual pleasure'

?Lp *gikkâ* 'to mate, to pair (of birds), to flirt with'

OsN *kujta* 'performer of magic; to heal'

OsN *kej-ta xo* 'shaman' (*xo* 'man, person')

OsE *koj-p* 'drum, the singer'

Proto Penutian **kojV-* 'to sing, to heal'

Mib *kója* 'to sing'

kój-wa 'to fool around, to flirt'

Mil *kója* 'to sing'; *kojánni* 'music, musical instrument'

kójni- 'to be happy'; *ʔutél kójni-wili* 'magic song'

ʔutél 'sorcerer'

Mins	<i>koja-pe-nuk</i> 'doctor'
Miss	<i>koj-pa</i> 'to suck for a disease object'
Pa	<i>koja-pe</i> 'sucking shaman'

Miscellaneous items:

Hu	<i>dürög</i> 'to drum like a grouse during mating'
	<i>dörög</i> 'to thunder'
Wi	<i>thum</i> (642) 'to coo (to drum?) like a grouse; to thunder'
	<i>thom</i> 'to beat the drum'

3. Proto Ugrian **saw*₃ (FUE 591) 'word, voice, prayer, song'

VgN	<i>saw</i> 'word, song'
	<i>kaj-saw</i> 'prayer'; <i>eriy-saw</i> 'prayer'; <i>poj-k-saw</i> 'prayer'
	<i>tän-saw</i> 'melody'
Os	<i>say</i> ~ <i>saw</i> (KT 827a) 'song, melody'
	<i>paykél-saw</i> 'magic song of shaman after eating mushroom', "fly agaric song"
Hu	<i>szó</i> 'word, speech'; <i>szól</i> 'to speak, to call, to sing (also of birds)';
	<i>szava-l</i> 'to recite'

Altaic forms:

Ujgur	<i>saw</i> 'word, speech, message'
Tur	<i>sab</i> 'word'

Proto Penutian **saw*V- 'to sing, to shout; song'

CoMu	<i>sawe</i> 'to sing'
	<i>sawe-n</i> 'song'; <i>suwe-ne</i> 'song'
Mim	<i>suwe</i> 'love song'
Mics	<i>sa-w</i> 'to shout, to cry out'
Miss	<i>sa-w</i> 'to say "hey"'
YoChu	<i>sawe?</i> 'to shout'
YoYd	<i>čaw</i> 'to shout'
YoCho	<i>cawa</i> 'to shout'
Wi	<i>ča-w</i> (69) 'to sing, song, to hum'
	<i>tahi ča-w</i> 'curing song, doctor song'
	<i>tahi</i> 'doctor, shaman'
Wi	<i>če-w</i> (76) 'to preach, to orate, to harangue'
Pah	<i>sawar-ho</i> 'to be rattling'

4. Proto Finno-Ugrian **šal*₃ (? vocalism) (FUV 111) 'hazel grouse'

VgW	<i>šulä</i> (MK 571b) 'hazel grouse'
-----	--------------------------------------

VgW	<i>šulä kisi</i> 'the grouse whistles' <i>kisép</i> 'whistle' + 'hazel grouse'
Zr	<i>šöla</i> 'hazel grouse'

Proto Eastern Miwok *šule- 'whistle, spirit, ghost'

Mics	<i>šu-le-ško</i> 'spirit, ghost, devil' <i>šulé-p-a</i> 'whistle' <i>Sule Tumum Laksü</i> 'Spirit or Ghost Emerging from the Drum ceremony'
Mics	<i>tym-a</i> 'drum'; <i>lakus-be</i> 'emerger'; <i>lák-šy</i> 'to appear, to approach' related to Vg (MK 247) <i>lakwi</i> 'to arrive, to jump up'
Miss	<i>kuj-a-k</i> 'to whistle'
Mip	<i>kuj-a-k-a</i> 'mountain quail', 'the whistler', 'grouse'
?MaKo	<i>sólin</i> 'to sing'

5. Proto Finno-Ugrian **muš*₃ or **muš*₃ (UEW 287) 'prayer, magic, to pray, to perform magic'

Ch	<i>muže</i> 'to perform magic'
Os	<i>mul - mut</i> 'to pray, to call on god' <i>mül-te-ko</i> 'shaman'
VgN	<i>mul</i> (< Ostyak) (MK 319a) 'prayer, magic'
OsN	<i>mul</i> (KT 55b) 'sacred part of the dwelling house located opposite to the entrance'
VgN	<i>muli</i> (MK 319a) 'sacred part of the dwelling house located opposite to the entrance'

Proto Penutian **mylV* (? vocalism) 'to sing, magic song'

Mics	<i>mý-li</i> 'song'; <i>mýl-i</i> 'to sing' <i>mulu-pu</i> 'a shaman's song'
Pah	<i>kosī mūlī</i> 'magic gambling song'; <i>kosī</i> 'gambling'
Pa	<i>mu-hi-ma</i> 'song'
MaKo	<i>melu</i> 'to sing' (archaic)

Miscellaneous items:

VgN	<i>oiji</i> (MK 381a) 'to call, to shout, to sound (like birds)' <i>nok-ojy</i> 'to call up, to offer sacrifice'; <i>nok</i> 'up'
MaKo	<i>óiyih</i> 'to sing' (archaic)
Mics	<i>ʔój-a-</i> 'to name, to call by name'; <i>ʔoja-se-</i> 'name'

6. Proto Finno-Ugrian **kune* (UEW 208) 'belly'

Os	<i>kon - xon</i> (KT 308a) 'belly, the front part of humans and animals'
----	--

Hu **xun* – **hun* ‘heart, sense, liver, the inside, belly, stomach’

Proto Penutian **xon* – **hon* ‘breast, heart, to breathe, soul’

Proto Miwok **hen* ‘to breathe’

MaMd *hon* ‘heart, breast, soul, to speak, language, to feel, alive’

CoRu *xon* ‘liver’ (cf. Hungarian **xun* ‘heart, liver, etc.’ and Co **sire* ‘heart, liver, stomach’)

Mip *hena* ‘belly’

Mim *hen* ‘spirit-like wind, to faint, to recover’

7. From a possible Proto Ugrian form **saw*₃ (?) we can derive the following form:

VgN *saw* (MK 538a) ‘watery meadow, forest glade, sacred grove’
jiw-saw ‘brush, bush’; *jiw* ‘wood, tree’
ur-saw ‘mountain grove’; *ur* ‘mountain’
nār-saw ‘wooded area around the moor of the tundra, a flat watery place among the rocky area in the Ural Mountain’

Proto Penutian **sawV*- ‘mountain spring, bush, brush’

Wi *sa-w-al* (526) ‘sacred place, a mountain spring, a holy lake in the mountain’

WiNo *sawal* ‘hallowed places inhabited by the spirits’

Mics *čawél-yša* ‘dry brush, bushes’

Miss *caw-e-na* ‘bush’

Mip *caw-e-s* ‘berry bush, brush’

Miscellaneous items:

VgN *šāli* (MK 586b) ‘fine, good, clean, pure’
šāli-wüt ‘clear water’; *wüt* ‘water’

WiNo *čali* ‘good’

čali-mēm ‘drinking water’; *mem* ‘water’, ‘good water’

Wi *cal* – *cali* (36) ‘good, healthy, beautiful, young’
calał (39) ‘to be clear (of water)’

8. Proto Uralic **pučke* (UEW 397) ‘cane, reed, angelica plant’

Fi *putki* (FUV 52) ‘tube, cane reed, hollow stem of a plant’
karhun putki ‘*Angelica silvestris*’; *karhu* ‘bear’

Ch *puč* angelica plant

LpS *báč’kě* ‘*Angelica archangelica*’

MdvM *počka* angelica plant

Proto Western Miwok **pác·a* 'angelica plant, 'medicine, poison'

- Mil *pácca* 'angelica root, singer's medicine to prevent hoarseness'; 'good luck charm (like sapsucker, ladybug)'
Mib *pácca* 'poison; to poison'
Mim *pacca* 'poison; to poison'

Miscellaneous items:

- Yurak Samoyed *xut'ij - xūt'i* 'Angelica silvestris'
Pa *hūtili* 'angelica'
Mil *huutuli* 'wild celery, angelica (used as medicine)'
Mics *hú-tija* 'tobacco'
Miss *tawa·ko* (< Spanish) 'tobacco'
Wi *dum* 'angelica root'
Pah *wole* 'assigned seating place in the ceremonial house'
Mics *wole* 'the place in the back of the ceremonial house, where the sacred log-drum is located' (Krober 1923:447, fig. 39.A.)
OsN *wol* 'place' > Vg *wol* 'place'

9. Proto Uralic **šer3* (FUE 584) 'row, social order, clan'

- VgN *sir* (MK 549b) 'mode, custom, tradition, gens, phratry'
OsN *sir* (KT 868b) 'mode, custom, law, origin, generation, phratry'
Hu *šzer* 'instrument, mode, order, community, segment, gens';
šzer- 'to generate, originate, organize'
OsN *jorn-sir* 'the Yurak Samoyed people'
tupkas-sir 'the Tungus people'

Proto Wintuan **sere* 'kindred, lineage, people'

- Pah *sere* 'kindred, lineage, an associated group, family tradition'
wole sere 'floor people, who are assigned to a special place in the ceremonial house'
mal-yomta sere 'shaman's clan'
Par *seri-ta* 'boy'
seri-ba 'youth, male initiate'

10. Proto Finno-Ugrian (?) **walk3* (UEW 554) 'white, light, lightning, to shine' from which

- Fi *valkea* 'white, light, lightning'
Hu *világ* (see below) or

Proto Finno-Ugrian (?) **wal'3* (UEW 555) 'white, light, lightning, shine'

- Fi *valea* 'light color'

VgN	<i>vol'yi</i> (MK 732b) 'to shine'
Hu	<i>világ</i> 'light, world, season, blooming', (dial.) 'flower'
	<i>világ-ít</i> 'to shine'
	<i>villám</i> 'lightning'
	<i>virúl</i> 'to bloom'
	<i>virág</i> 'flower' (dial.), <i>világ</i> 'flower'
	<i>szellem világ</i> 'spirit world'
	<i>világ vége</i> 'the end of the world'

Proto Penutian **walka* or **wilka* 'lightning, world, shine, bloom, flower'

Wi	<i>walu-q</i> (676) 'lightning'
MaKo	<i>-winaka</i> 'lightning', <i>ʔok-wilaka</i> 'rainbow'
Pah	<i>wilak</i> 'world, earth, valley'
	<i>bole wilak</i> 'ghost world'
CoSCI	<i>wilka</i> 'lightning'
CoSF	<i>wilka</i> 'lightning'
CoSCr	<i>wilep</i> 'lightning'
Yo	<i>*walam</i> 'lightning'
Mip	<i>wil-ep</i> 'lightning'
	<i>wile-p-y-</i> 'to shine'
	<i>wile-</i> 'flower'
	<i>wile-t-y-</i> 'to bloom'

Miscellaneous items:

VgN	<i>mā nowne</i> (MK 372a) 'earthquake' (<i>mā</i> 'earth')
	<i>nowi</i> 'to move, to shake, to swing, to rock'
Mim	<i>wēa-nowit</i> 'earthquake' (<i>wēa</i> 'earth')
MaMd	<i>nywyn</i> 'to swing, to rock'

The Time of Arrival of the Cal-Ugrians in California

(in the Light of the Ugrian Sound Change

**k- > x- > h-*)

The history of language is a chain of phonemic innovations. Linguists can approximate the time when certain phonemic processes began and were completed. Thus we can establish the relative chronology of linguistic events and by this, date the movement of prehistoric peoples. We can identify certain phonemic innovations, which were brought to California from Eurasia by the early Californians.

In the Ugrian languages, with the exception of VgW, VgS and OsE occurred a phonemic change, whereas PFU **k- > x-* before velar (back) vowels. Hungarian later developed **x-* into an *h-*. In some words, such as *hím* 'male', *hegy* 'mountain', *héj* (*haj!*) 'peel, skin' etc. the original vowel was a back vowel. PFU **k-* remained *k-* in every Ugrian language before a palatal (front) vowel.

The California Penutian languages, namely Wintuan, Maiduan, Yokutsan, Miwokan and Costanoan also participated in this phonemic change. These Indian languages are spoken in Center California along the Sacramento and San Joaquin rivers and their tributaries descending from the Sierra Nevada and the Coast Range, and occupying also the coast of the Pacific Ocean along the Bodega, San Francisco and Monterey bays. For further information and detailed list of abbreviations consult R. F. Heizer (ed.), *Handbook of the North American Indians*, vol. 8, *California*, Washington: Smithsonian Institution, 1978).

The term "Cal-Ugrian" refers to such phonemic similarity together with other characteristically Ugrian linguistic and cultural features. The **k- > x-* change occurs in Wintuan and in Costanoan. The most widely distributed change, however, is the **k- > h-* change in Miwokan. In Maiduan we encounter greater variations. We even have such pairs as Konkow *kemi* 'charcoal' Maidu *hèmi* 'coal, embers'. Yokutsan also presents a complex picture. All these variations seem to indicate various dates of separation and departure from their original homeland in Eurasia, and also various outside influences during their journey and various dates for their arrival in California. The complex picture of the archeology of California seems to support these linguistic findings. The following data, only for the sake of brevity, list mainly the Vogul and the Miwok reflexes. The items 1-50 present the cognates with *k-* unchanged in

Ugrian and Cal-Ugrian. The items 51–152 present the cognates with *k- > x- > h-* changes. As to the original velar quality of the vowel, the Ob-Ugrian and the Hungarian cognates were taken also into consideration. This is a well established diagnostic device. All the unidentified glosses in parentheses are Hungarian, e.g. (*követ*). They are all the cognates listed in Lakó, Rédei, Sal, eds, *A magyar szókészlet finnugor elemei* (Budapest, 1967–1978). No other Hungarian words were utilized in this chapter.

Most of the Vogul entries are from B. Munkácsi and B. Kálmán, *Wogulisches Wörterbuch* (Budapest, 1986).

The cognates listed under 51–67 are of special importance. The various words for ‘man’, ‘woman’, ‘human being’ (Os *ko, xo*; Vg *xuj, xum* (*hím*); Os *né*; Vg *nē* (*nő, -né*), and the *ember < *em-pe-er* type compounds in Hungarian and other Ugrian (*nē-ku* ‘woman-man’ = ‘human being’) languages have extensive representations in Cal-Ugrian (*ne-ko* ‘human being’, ‘person’, ‘Indian’). These words gave us an opportunity to present a fuller list of the self designation of the Ugrians (*mańsi, magyar, asjax*) and the Samoyed (*kāsa*) peoples, and their Cal-Ugrian equivalents.

The words for ‘twenty’ and ‘man’ are equated in Ugrian (Lakó-Rédei-Sal: s.v. *húsz*) and also in the California Wintuan, Maiduan and even Miwokan. Wintu, Maidu and Miwok all mean ‘man’ and ‘twenty’.

The word *mańsi* ‘Vogul, Ob-Ugrian’ has an exact cognate in Bodega, Marin (and Lake) Miwok, the languages spoken north of San Francisco. The Miwok words *mičča, mučča, mučču* (in various orthographies *č* is written as *c*) mean ‘person, Indian’ and they are regular correspondences to *mańsi, mońs* and *mānš* and Hungarian *magyar, megyer*. For the *-ńs-* to *-čč-* correspondence cf. 132, 137.

Vogul has a near homonym: *mansi-n, mānšē-m* ‘grouse, *Tetrao urogallus*’. Its Cal-Ugrian equivalent, in Central Sierra Miwok, is *mučča-maaši* ‘sierra grouse’. The first part of the compound is identical with the word for ‘person, Indian’. It is possible that the second part of the compound is an archaic denasalised form.

Furthermore, Miwok has a palatal and a labial variant *mičča* and *mučča*. Similarly the cognate Hungarian forms have also a palatal and a labial variant: *megy-er* and *magy-ar*; (*-er* is the same as the last element in *emb-er* ‘man’). According to several investigators (Lakó-Rédei-Sal 417) the palatal variety (*megyer*) is perhaps apparent in the names of the tribes *mišer* and *meščer* left behind in the East, and the *možar* type tribal names could reflect the velar (*magyar*) variety. Because of space limitation, the following is an abbreviated list of the cognate items.

1	VgN	<i>kōji</i> 'to follow tracks' (<i>kōvet</i>)	Mib	? <i>kōjja</i> 'to follow tracks' (cf. 40)
2	VgN	<i>kaji</i> 'to sing (shaman)' (<i>kěj</i>)	Mib	<i>kōj-</i> 'to sing (shamanistic)'
3	VgT	<i>kāj</i> 'harpoon'	Mil	<i>kėja</i> 'wooden cane'
4	VgN	<i>kaw</i> 'millstone, rock' (<i>kō</i>)	Miss	<i>kaw-a-ci-</i> 'pestle of pebble'
5	VgK	<i>kwäl</i> 'house' (Fi <i>kylä</i>)	WiNo	<i>kewel</i> 'house, village'
6	VgN	<i>kwāliy</i> 'to string rope' <i>kwaliy</i> 'speech'	WiPa	<i>kali</i> 'to string'; Mim <i>kol-kali</i> 'garters'
			WiWt	<i>qol-</i> 'language, mouth'
7	VgN	<i>kwāli</i> 'to rise' (<i>kel</i>)	WiWt	<i>kawal</i> 'dawn, daybreak', <i>kel-</i> 'long'
8	VgN	<i>kwess</i> 'birchbark basket'	Miss	<i>kiwe-sa</i> 'bucket, pot'
9	VgN	<i>kwāši</i> 'to glow, burn'	Miss	<i>kiwis-</i> 'to boil (with stone in basket)'
10	VgN	<i>kasu</i> 'cabak-fish' (<i>keszeg</i>) (Fi <i>keso</i>); Os <i>kose</i> 'smallfish'	Miss	<i>ko-su-m</i> 'salmon, fish; to fish'
			Mim	<i>kasi</i> 'salmon'; Mil <i>kaac</i> 'fish'
11	VgN	<i>käs</i> 'quill of feather'	Mics	<i>kíč-kičy</i> 'pinfeather' (reduplication)
12	VgP	<i>kos-iy</i> 'bony'	Miss	<i>kyc-yc-</i> 'bone'
13	VgN	<i>kis</i> 'hoop, ring, bow, rain- bow'; (<i>kégy, kegyelet</i>)	Mics	<i>kyča</i> 'bow', Mim <i>kača</i> 'rainbow'
			WiWt	<i>kis-il</i> 'to roll'
14	VgK	<i>kāsi</i> 'knife' (<i>kés</i>)	Mics	<i>ku-či</i> 'knife'; Mics <i>kicé-</i> 'arrowpoint'
15	VgN	<i>kasi</i> 'to string together'	Mib	<i>kásše</i> 'to string beads'; <i>kácc-en</i>
16	VgP	<i>käsä-</i> 'quick'	WiWt	<i>kése</i> 'quick' (Stone, PL 533a)
	VgN	<i>kāsi</i> 'to race' (<i>küzd</i>)		
17	Hu	<i>kész</i> 'ready'; (Lp <i>kissjat</i>)	CoMu	<i>keči-</i> 'ready'; Mil <i>ketu-</i> 'finish'
18	OsE	<i>kōs-</i> 'to tear, break' (<i>köszvény</i>)	Mib	<i>kéšša-, kōš-, kócca</i> 'to break'
19	Vg	<i>kes</i> 'to whet' (<i>köszörül</i>)	Mil	<i>kíš-</i> 'to rub'
20	Hu	<i>kísál</i> 'to fight', (dial.)	Miss	<i>kacu-t-</i> 'to rip out seams'
	Es	<i>kiskuma</i> 'to tear, bite (dog)'	Mics	<i>kasý-t-</i> 'to bite (dogs, snakes)'
21	Vg	<i>kes</i> 'rush, sedge'	Mib	<i>kíšsi</i> 'fiber grass, sword grass'
22	VgN	<i>kinsi, kis</i> OsE <i>kəňč</i> 'to catch'	WiWt	<i>kec</i> 'to catch'
23	Zr	<i>kol-</i> 'must, necessary' (<i>kell</i>)	WiWt	<i>kel</i> 'may, might, must'
	Lp	<i>gál'gát</i> 'hearsay evidential'	WiWt	<i>ke-</i> (<i>kele</i>) 'hearsay evidential'
24	VgN	<i>kēli</i> 'clear water'	WiWt	<i>kili</i> 'clean, clear water'

25	Vg	<i>kēli</i> 'to shine'	Mics	<i>kelél-i</i> 'white', <i>ke-la</i> 'snow'
	OsE	<i>kēli</i> 'there is light'	Mil	<i>kélip</i> 'lightning'; CoMu <i>kile</i> 'shine'
26	Fi	<i>kiili</i> 'blowfly, gadfly'	WiWt	<i>kili-t</i> 'fly'; <i>xili-t</i> 'blowfly'
	Os	<i>kül</i> 'larva of blowfly'	MaNi	<i>kül</i> 'nit, egg of louse' (Kroeber)
27	OsI	<i>kila</i> 'penis' (Zr <i>köl</i>)	WiWt	<i>kuli</i> 'penis'
28	OsN	<i>kulat</i> 'thick'; OsI <i>kut</i>	Mib	<i>kútt</i> , <i>kúttulu</i> <? * <i>kult</i> - 'thick'
29	Hu	<i>küjeszt</i> 'to cook' (dial.) (<i>köved</i>)	Mib	<i>kili</i> 'to be cooked, done'
	Ch	<i>küja-m</i> 'cooked, done, ripe'	Mim	<i>kili</i> 'ripe'
30	VgN	<i>konlowl</i> 'elbow' (<i>könyök</i>)	CoSCR	<i>kululis</i> < * <i>kunlul-is</i> 'elbow'
31	Hu	<i>ki?</i> 'who?'	WiWt	<i>-ke</i> , <i>he-ke</i> 'who?' <i>he-ke-m</i> 'whom?'
	?VgL	<i>kwät</i> 'which?'		<i>-ket</i> , <i>he-ket</i> 'who? anyone, any'
32	VgN	<i>kas</i> 'nephew, younger brother'	Miss	<i>koco</i> 'nephew', <i>kocje-puH</i> 'stepson'
33	VgN	<i>kas-m</i> 'yellow'	CoSCI	<i>kaš-ris</i> 'yellow' (Mengarini, PL 545:6)
			MaMd	<i>kočes</i> 'yellow' (Brown, PL 595:5)
34	Vg	<i>kēńś</i> 'inner boot, socks?'	CoRu	<i>xons</i> 'shoes, moccasins'; ? palatal variety * <i>kens</i>
	(?Hu)	<i>kengy-el</i> 'stirrup')		
35	VgK	<i>kōnsi</i> 'to freeze (water)'	Mib	<i>kúcci</i> 'to be freezing, cold'
36	VgL	<i>kēr</i> 'to chew cud, ruminates, to bring up' (<i>kérödzik</i>)	WiWt	<i>kir-</i> 'to chew on'
37	VgL	<i>kēr</i> 'to twist, weave, tangle' (<i>kür</i> , <i>kür</i> , <i>kér</i> , <i>kör</i>) 'harness'	WiWt	<i>ker-</i> , <i>kerek</i> 'spider'
38	VgK	<i>ker-</i> 'to get twisted, go around' (<i>kerül</i>); Fi <i>kiero</i> 'twisted, cross-eyed'	CoMu	<i>kero</i> 'twisted (as a tree)'
			Mil	<i>kéluh</i> 'to be cross-eyed'
39	VgN	<i>kēr</i> 'bark' (<i>kéreg</i>)	Mil	<i>keťa</i> 'to chip bark off the tree'
			WiP	<i>ker-ta?</i> <i>kheri</i> 'to peel'
40	VgN	<i>kur</i> 'foot'; OsN <i>kor</i> 'foot tracks'	PCo	* <i>koro</i> 'foot, leg (ankle, sole etc.)'
			Mil	<i>kolo</i> 'foot tracks'
41	VgN	<i>kēri</i> 'to dive, sink'	Miss	<i>kel-p</i> 'to sink'
42	Zr	<i>keńir-t</i> , Vty <i>keńlr</i> 'ground seed made into a food'; (<i>kenyér</i>) 'bread'	WiNo	<i>kanit</i> 'bread made out of a very coarse acorn meal' (Goldschmidt 1951:416)
43	VgL	<i>kēn</i> 'in, into'	WiWt	<i>ke-n</i> 'in, down in'; cf. 44
44	VgK	<i>kan</i> , <i>kän</i> 'place, floor, ground, earth, etc.'	WiWt	<i>ken-ti</i> (loc.) 'down, below under basement etc.'
45	VgN	<i>kēti</i> 'to send'; <i>lätij kēti</i> 'to send a message'	Miss	<i>kut-we-</i> 'to send'; <i>kuteHw-</i> 'messenger'
46	VgT	<i>köt</i> 'to tie'; LM <i>käti</i>	CoMu	<i>kut-</i> 'to tie, to bind'; <i>kučs-keťs-i</i>

		(<i>köt, kötény</i> 'apron')			'very well tied'; <i>kíti-rox</i> 'skirt', cf. Ru <i>rok-š</i> 'tule-rush (for skirts)'
47	VgL	<i>kit</i> 'two'; Os <i>kital</i> 'both' (<i>két, kettő</i>)	CoMu	<i>kuř-</i> 'to double'; MaMd <i>kyto</i> 'pair of' e.g. <i>kédé-kyto</i> 'pair of br. in laws'	
48	VgN	<i>kiut, kiwt</i> 'to rub, sharpen, whet knife; coire'; cf. VgT <i>kütel</i> 'to sharpen, whet on whetstone'	Miss	<i>kyte?</i> - 'to sharpen', <i>kyt-e</i> - 'sharp- edged, tooth'; Mib <i>kut</i> 'tooth fangs'; <i>kuttak wakkalaj</i> 'rattle- snake'; PMi * <i>kyt-</i> - 'sharp, teeth'	
49	VgN	<i>kat</i> 'hand, front paw', OsN <i>ket</i> (<i>kéz</i>)	WiNo	<i>khete</i> 'arm', WiWt <i>qede</i> 'hand, arm'	
	VgN	<i>kat-xüt-mil</i> 'to bend of elbow'; <i>kat-pis, ket-pis</i> 'elbow'	WiWt Miss	<i>qed</i> 'arm(s), hand(s), bear's paw' <i>kat-myl</i> 'armpit' <i>kit-pil, kiti-pel</i> 'elbow'	
	VgT	<i>kat-khontep</i> 'shoulder- blade'; <i>khontep</i> 'shovel at the end of skipole'	MaNi Mim WiPa	<i>kípís</i> * <i>kit-pis</i> 'elbow' <i>kuppís</i> * <i>kut-pis</i> 'elbow' <i>kat-caya</i> 'shoulderblade', <i>caya</i> = WiWt <i>cayas</i> 'board'	
50	OsN	<i>kot, kut</i> 'distance, in space and time', VgSo <i>kot</i> - 'middle'	Miss	<i>kot-</i> 'distant (or not distant) in space and time'; <i>koto-wak</i> 'across (of the ceremonial house)'	
	Hu	<i>köz</i> 'distance, in space and time', <i>közel</i> 'near (to near)' <i>közel-múltban</i> 'in near past' <i>közben</i> 'while' <i>köz-ség</i> 'community, village'	WiWt Miss Miss	<i>kata</i> 'lots of spaces' <i>kot...</i> not long ago <i>kot-to</i> 'a while ago' <i>kote-</i> 'a gathering, a Big Time, ceremonial feast (at community centers, where the ceremonial house is located)'	
	OsN	<i>kot</i> 'crowd, multitude' (KT451a) = Fi <i>joukko</i>			

51	OsN	<i>xo</i> 'man, human', E <i>ko</i>	Mip	<i>mü-ko</i> 'person, "Miwok" (Barrett 1908:302))	
	OsN	<i>mu-xo, mi-ko</i> 'people'	CoMu	<i>mu-ke-ne</i> < * <i>mu-ko-ne</i> 'man'	
52	OsN	<i>muw, mi</i> 'earth, land'	CoMu	<i>mu-n</i> 'earth', MaMd <i>-ma</i> 'place'	
53	Vg	<i>mā-xu-m</i> 'people'	CoMu	<i>ma-ku, ma-ko</i> 'husband'	
54	Vg	<i>nāj, nōj</i> 'woman, lady'	MaMd	<i>ko-noj</i> 'man and woman'	
55	OsN	<i>ney-xu, ney-xuj</i> 'human'	MaKo	<i>ku-ne</i> 'man' (Dana PL 599:9)	
56	Vg	<i>nē</i> 'woman, female' (<i>nő, -né</i>)	MaMd	<i>né</i> 'mother, hen' WiWt <i>-neh</i> 'female'	
57	Vg	<i>xuj, xoj</i> 'man, male'	MaNi	<i>huje-</i> 'twenty' (<i>majdyk</i> 'twenty')	

58	Vg	<i>xum</i> 'man, human' (<i>hím</i>)	CoMu	<i>humaia</i> 'countrymen'
			Miss	<i>hum-ele</i> 'old men'
59	VgN	<i>xos, xūs</i> 'twenty' (<i>húsz</i>) cf. 60 Semantics!	MaNi	<i>majdyk</i> 'man, twenty' (also in Wi, Mi) Semantics!
60	Sa	<i>kāsa, xāsa, kuza</i> 'man, human being, Samoyed'	Mil	<i>xōca-xō</i> 'person' (Barrett 1908: 386)
		<i>kóoca</i> 'Indian, person'		
	Os	<i>ko</i> = pl. in <i>mu-ko</i> 'people'		<i>kóoca-ko</i> 'people, members of group'
61	OsN	<i>aj, āj</i> 'little', > Vg <i>aj</i> <i>aj-xo</i> 'boy' (<i>i-</i> in <i>ifjú</i>) <i>aj-nē</i> 'girl'	Mib	<i>ʔaj, ʔáaj</i> 'child, little' <i>ʔáaj-ko</i> 'children'
62	OsN	<i>nē-xo</i> 'person'	Mib	* <i>neko</i> 'person' (Kostromitonov PL 553a) <i>ulli-neko</i> 'An Indian' cf. 63
		<i>woš-nē-xo</i> 'town-person'		
63	Vg	<i>mańsí, mońś, mǎńś</i> 'Vogul Ob-Ugrian, Vogul and Ostyak'; <i>mańsíyis</i> 'in Vogul (language)'	Mib	<i>micca</i> 'person' <i>jütte micca</i> 'Night Man' <i>micca-nna</i> '(Indian) speech'
	Os	<i>mōś</i> OsI <i>mōńt</i> 'name of an Os phratry' (<i>megy-er</i> , <i>magy-ar</i>) <i>mōś-xu</i> , <i>mōś-nē</i> ' <i>mōś</i> man', ' <i>mōś</i> woman'	Mim	<i>mučča-ko</i> 'people'; <i>mičča-ko</i> 'person'
			Mib	<i>ʔulla micca</i> 'Indians, Bodega Miwok Indian language'
64	VgN	<i>ul'-pa</i> 'cedar-tree ("nut" tree)', staple food of Ob-Ugrians		<i>ʔulla</i> 'nuts ("Nut People")'
65	Vg	<i>-pa</i> 'tree' (<i>fa</i>)	Mi	* <i>-pa</i> 'tree'; MaMd <i>pa</i> 'bush, tree'
66	Os	<i>mōś-jox</i> 'the <i>mōś</i> people' <i>mōś xum nē kōl tāyēl</i> 'the house full of <i>mōś</i> people' = Pleiades. (Chernetsov); Steinitz: OA II.928–929.	Mil	<i>múccu-juk</i> a certain constella- tion consisting of seven stars (most likely the Pleiades. Cf. German <i>Siebengestirn</i> "seven stars" = Pleiades)
67	Os	<i>jox, jax</i> 'people' <i>as-jax</i> 'the Ob people, Ostyak'	Miss	<i>-ajaHk</i> plural agentive; <i>ʔol-</i> <i>dig roots</i> , <i>ʔolu-ʔajaHk</i> "root diggers"; Original in <i>-ja</i> plural

68	VgN	<i>xuj</i> 'dawn' (<i>haj-nal</i>)	Mics	<i>hój-</i> 'morning'; Mib <i>huje</i> 'sunrise'
69	VgN	<i>xuj-t-</i> 'to drive' (<i>haj-t</i>)	Mib	<i>haj-</i> 'to drive'
70	Vty	<i>kuj-</i> 'to throw' (<i>haj-ít</i>)	Mics	<i>haj-</i> 'to throw'

71	VgN	<i>xuj-p</i> 'more' (count. = "+")	Mics	<i>he:ji</i> 'more (count. = "+")'
72	OsN	<i>xaj-</i> 'to leave, wait' (<i>hagy</i>)	Miss	<i>haj-tu</i> 'left'; Mics <i>haja</i> 'to wait'
73	OsS	<i>xaja</i> 'stepfather'	Mics	<i>háj'i</i> 'stepfather'
74	VgN	<i>xāji</i> 'to reach, touch, arrive'	Miss	<i>haj-e-</i> 'to reach, touch'; Mics <i>ho:ja</i>
75	VgN	<i>xoj</i> 'to lie, rest'	Mib	<i>hójj-</i> 'to rest'
76	OsS	<i>xojem</i> 'moon to vane'	Miss	<i>hej-em</i> 'half moon'
77	VgN	<i>-xoji-lt</i> 'according to manner'	MaMd	<i>-huje</i> 'according to same manner'
78	OsE	<i>koj-</i> 'to want, to wish'	Miss	<i>hejaH-</i> 'to want'; MaMd <i>kaj</i> 'to want'
79	Vg	<i>xǎj</i> 'hair' (<i>haj</i>)	MaNi	<i>ʔoj, kuj</i> 'hair' (Kroeber)
80	MdvM	<i>kujme</i> 'big bucket' (<i>hajó</i>)	Miss	<i>ho:ja</i> 'bucket'; MaMd <i>kojo</i> 'big basket'
81	VgK	<i>-kam-</i> 'shell, skin' (<i>hám-lik</i>)	CoMu	<i>xomo</i> 'to skin'; MaMd <i>kam</i> 'loose hair'
82	Vt	<i>kim</i> 'fresh snow' (<i>hó</i>)	MaMd	<i>kó</i> 'snow', MaNi <i>ko-</i> 'frost < ?*kom
83	Vg	<i>xow-s</i> 'gray, (wilt)'	Miss	<i>how-</i> 'withered'; MaMd <i>kow</i> 'to gray'
84	VgK	<i>khqwmí</i> 'to think'	Mics	<i>howó-š</i> 'to think'
85	VgN	<i>xijw-li</i> 'to float' (? <i>hólyag</i>)	Miss	<i>hywa-t</i> 'to run, flow; swift'
86	VgN	<i>xül</i> 'fish' (<i>hal</i>)	Mil	<i>húul</i> 'trout'; MaNi <i>hol</i> 'fish'
87	VgN	<i>xól-i</i> 'to die' (<i>hal, hol-</i>)	Mics	<i>húl-wu</i> 'to die'; WiWt <i>holo</i> 'dead'
	VgN	<i>xola</i> 'corpse'	Miss	<i>hu-leh</i> 'corpse'
	VgL	<i>khölä</i> 'devil'	Miss	<i>huleʔ</i> 'devil'
88	VgL	<i>-kholwé</i> 'to wither, dry' cf. 87	Mics	<i>húl-w</i> 'dry, thirst'; Mib <i>helwa</i> 'dry'
89	VgN	<i>xili</i> 'to dig, poke'	Miss	<i>hyl-</i> 'to poke, pierce, spear, thorn'
			Mil	<i>hél-lam</i> 'digging stick'
90	VgN	<i>xüli</i> 'to spend night' (<i>hál</i>)	Miss	<i>hu-l-</i> 'to take shelter'
91	VgN	<i>xoli</i> 'to fall short, run out'	Miss	<i>hul-</i> 'to fall short, run out'
92	VgN	<i>xul'</i> 'cloth, caftan'	Mib	<i>húli</i> 'blanket'; MaMd <i>hul</i> 'cover (cloth)'
93	VgN	<i>xal</i> 'to cut, hole' (<i>hal-ok</i>) <i>halk, holyk</i> 'to fell trees'	PMi	* <i>hollu</i> 'to hole', PWi * <i>hol-</i> 'to hole'
			Miss	<i>holk-</i> 'to fell a tree'
94	VgN	<i>xóli</i> 'to hear, feel'	?Mib	<i>ʔálu</i> 'to hear, feel'; Miss <i>ʔal-</i> 'to hear'
95	Zr	<i>kur-</i> 'to bite' (<i>harap</i>)	WiWt	<i>xar</i> 'to bite'

96 VgL	<i>khor-</i> 'angry' (<i>harag</i>)	WiWt	<i>xur</i> 'grudge, jealous'
97 VgN	<i>xār</i> 'male' (<i>here</i>)	WiWt	<i>xeri-t</i> 'young male'
98 VgN	<i>xor-</i> 'to bark (as dog)'	WiWt	<i>xor</i> 'to growl (as dog)'
99 OsN	<i>xar</i> 'place'	WiWt	<i>xer-el</i> 'place or settlement'
100 VgN	<i>xur</i> 'edge, rim, side'	WiWt	<i>-kor, kul, kīd</i> 'edge, rim, side'
101 VgN	<i>xur</i> 'to shave' (<i>horul, hurul</i>)	WiWt	<i>kōr ~ kūr</i> 'to shave, scrape'
102 VgL	<i>khorri</i> 'to break wind'	Mib	<i>hōll-</i> 'to break wind'
		WiWt	<i>xeri-s-met</i> 'to stink bug' * <i>xer-</i>
		WiWt	<i>xed-, *xer-</i> 'to skunk', "to break wind"
103 VgN	<i>xāmel</i> 'grave' <i>xāmel mā</i> 'cemetery, hell'	Miss	<i>hame-j</i> 'grave'; <i>ham-e-</i> 'bury' <i>ham-e²-a-</i> 'cemetery'
104 VgN	<i>xomi</i> 'to lean over' (<i>homorú, hom-lok</i> 'forehead')	Miss	<i>hem-el-</i> 'to lean over'
		CoMu	<i>xumut</i> 'skull'
105 VgN	<i>xom-</i> 'to buzz'; <i>xom-lax</i> 'to bug'	Miss	<i>hym-a-</i> 'to buzz'; Mics * <i>hom-</i> <i>mokošu</i> 'to fly'
106 Ch	<i>mükš</i> 'bee' (<i>méh</i>)	Miss	<i>cuj-mukse</i> 'bee'; <i>cuj-</i> 'nectar' (Gifford 1916:157)
PFU	* <i>mekše</i> = Sanskrit <i>mákṣV-</i> 'fly, bee'		* <i>moksV</i> 'insect, fly, bee'
107 VgN	<i>xomli</i> 'humps, Tundra' (<i>hant</i>)	Miss	<i>humli-la-</i> 'small humps'
108 VgN	<i>xūn</i> 'to throw' (<i>hány</i> 'throw up')	Miss	<i>ho-ne</i> 'to throw up'
109 VgN	<i>xon</i> < OsN <i>xon</i> 'belly' (* <i>hun</i>)	PPe	* <i>xon</i> 'belly, stomach, heart, soul'
110 VgN	<i>xən-</i> 'side' (arch. <i>hany</i>)	Mim	<i>hin-</i> 'side'; WiWt <i>xun</i> 'near'
111 VgN	<i>xijñ</i> 'disease'	Mil	<i>huna</i> 'disease, pain'
112 VgN	<i>xani</i> 'to hold, cling'	WiWt	<i>ṣan</i> 'to grab, cling'
113 VgN	<i>xāṅ-ra</i> 'knee bend'	Mics	<i>hóṅ-oju</i> 'knee'
114 VgN	<i>xosa</i> 'long, long time' (<i>hosszú</i>)	MaNi	<i>he-se</i> 'for a long time'
115 VgT	<i>khäs</i> 'to slip, slide (sled)'	MaMd	<i>has</i> 'to slip, slide (modern ski, skate)'
116 OsS	<i>xuš-(ta)</i> 'to tie up'	Miss	<i>hušta</i> 'to cinch up, tie up'
117 VgN	<i>xasi</i> 'to cover, spread'	Miss	<i>hesa</i> 'pad, blanket'; MaMd <i>hesu</i>
118 OsN	<i>xoče</i> 'hot, steaming'	Miss	<i>huc-e-j</i> 'steam'
119 VgN	<i>xosi-t</i> 'to help' cf. 120	Mib	<i>hūs-, húc-</i> 'to help'

120 VgT	<i>khosi</i> 'to run'	Mib	<i>hí- híc-</i> 'to run'
121 VgN	<i>xas-li</i> 'angry'	CoMu	<i>xas</i> 'anger'
122 VgN	<i>xās</i> 'hook'	Mil	<i>hoca</i> 'gig ("hook") for fishing'
123 VgP	<i>koš</i> 'spear' (KLE)	Miss	<i>hoca</i> 'spear'
124 VgN	<i>xoš</i> 'pine needles' (KLE)	Mics	<i>hó-še</i> 'pine needles'

Denasalized forms

125 OsN	<i>xanti</i> 'man, husband' (<i>had</i>)	?WiWt	<i>hadi</i> 'husband!' (exclamation only)
126 VgN	<i>xuńš</i> 'hard (wood)'	Mib	<i>hacc-</i> 'hard wood', <i>haş-</i> 'stiff, hard'
127 VgS	<i>końš</i> , OsN <i>xos</i> 'star' (<i>húgy</i>)	Mics	<i>hós-o-</i> 'star'; CoSL <i>ʔoşšé</i>
128 VgL	<i>khuńš</i> , OsN <i>xos</i> 'urine' (<i>húgy</i>)	MaMd	<i>hās</i> 'urinate', Mib <i>ʔocoh</i> , <i>ʔocco</i> (< ?PMi * <i>hocco</i>)
129 VgK	<i>xońš-</i> 'ant'; Zr <i>kožul</i> (<i>hangya</i>)	WiPa	<i>ho-so-l-</i> 'fly', <i>hutu-l</i> 'ant'
130 VgN	<i>xuntél'</i> 'beaver, mole' (<i>hód</i>) Also Turkic * <i>qumdə</i> , * <i>qundə</i> 'id.'	CoMu	<i>ʔoto-</i>
131 VgN	<i>xansa</i> 'pattern, script'	WiWt	<i>xutuł</i> 'mountain beaver', <i>Aplodontia</i>
132 VgN	<i>xānxej</i> 'reedgrass'	WiNo	<i>kotúl</i> 'beaver'; Mip <i>hen-it</i> 'beaver'
133 VgN	<i>xump</i> , <i>xup</i> 'wave' (<i>hab</i>)	Mim	<i>hočča</i> 'tattoo, script'; 'to write'
Zr	<i>gybal-</i> 'to swim in groups so as to ruffle the water'	Miss	<i>hoho-loj</i> 'reedgrass'
SaS	<i>komb</i> 'to swim upriver' (Selkup)	WiWt	<i>xop ~ xup</i> 'stripe, ripple (water)' <i>xopo-ra</i> 'to make ruffles on water while spawning salmon swimming upriver' (<i>x-</i> Schlichter)
Hu	<i>hábor-og</i> , <i>-ú</i> 'to agitate; war'		<i>hu-p</i> 'war, war dance'

134 VgN	<i>xāp</i> 'boat, dugout from log'	MaNi	<i>hápa</i> 'log raft' (Kroeber 1929:287a)
135 VgN	<i>xūp</i> 'spoon, to scoop out'	Miss	<i>hapo-</i> 'to scoop up food with fingers'
136 VgN	<i>xūp-</i> 'to cover'	Miss	<i>hupi-</i> 'to cover the head'; Mi * <i>hup-</i> 'to cover with ashes, bake, earth oven'
137 VgN	<i>xopi</i> 'round, curved, skull'	Miss	<i>hopo-</i> 'round'; Mil <i>hóp-</i> 'to roll'

138	OsS	<i>xop-</i> 'rill, fold'; OsE <i>kaw-</i> 'manyplies, 3d stomach of deer', <i>Omasum</i>	WiWt	<i>xap-</i> '2d stomach of deer', <i>Reticulum</i> ; an edible mushroom similar to <i>Reticulum</i>
139	VgN	<i>xat-</i> 'to tear' (<i>húz</i> 'pull, drag')	Miss	<i>hat-</i> 'to break, tear'; MaNi <i>hoto</i> 'to drag'
140	VgN	<i>xut-</i> 'to get fat' (<i>híz-ik</i>)	MaMd	<i>hýt</i> 'to fat'
141	VgP	<i>ket-er</i> 'freezing cold'	Miss	<i>het-</i> 'to cool off'
142	VgN	<i>xâut</i> 'pine', OsS <i>xut</i> 'pine'	Mib	<i>hút-us</i> 'pine'
143	VgN	<i>xax-</i> 'bitter (gall, vodka)'	MaMd	<i>hâk</i> 'bitter (gall, whiskey)' (CoMu, CoRu)
144	OsN	<i>xox-</i> 'to loosen'	Miss	<i>hok-</i> 'to loosen'
145	OsN	<i>xax-</i> 'skinny from hunger'	Miss	<i>hak-</i> 'hunger'; CoMu <i>ʔak</i> 'id., thirst'
146	VgN	<i>xoxli</i> 'to run, trot' < Os 'id., trot as reindeer, horse' (<i>halad</i>) Os metathesis <i>*kulke</i>	WiWt	<i>hokel-</i> 'to hop, buck, jump, bounce, leap, trot as deer, horse' Example of Ob-Ugrian metathesis!

For some time it was assumed, that we could trace the **k- > x-* change back to the Proto Ugrian period. However, since the most archaic dialects, Southern Vogul and Eastern Ostyak, do not show this change, it must be assumed that it developed during the independent life of the other dialects (Hajdú 1966:97). The Hungarian change **x- > h-* occurred much later. This phonological change, however, must have been widespread, and the process must have begun during the early period of the dialectal divisions. It is estimated that the Proto Ugrian period ended around 500 B.C. But languages change by a slow process, and it is difficult to establish the exact beginning of an innovation. Consequently, we can make only hypothetical statement about the time of arrival. The accuracy of the date depends largely on the accuracy of the dates of the Ugrian phonological changes. At any rate, the **k- > x-* change and its relatively late development, seems to follow the general pattern, indicating the closeness of the Cal-Ugrian languages. It cannot be too much more than 500 B.C., the end of the Ugrian period.

It should be emphasized that this time estimate for the arrival of the Cal-Ugrians is only hypothetical. But accuracy, at the present, is not of primary importance. Time estimates do not effect the validity of the comparative linguistic data. The uncertainties surrounding the time of the break-up of the Indo-European and the Uralic unity and the whereabouts of their *Urheimats* do not make the comparative linguistic facts less certain. Similarly the several thousand cognates (both grammatical and lexical) speak, irrespective of "dates", of a close relationship between the Ugrian and the Cal-Ugrian languages. It will be the task of future investigators, to present us with a more accurate date.

Comparative Data Base for the Introduction

The Data Base contains the linguistic items and their reconstructions treated and numbered 1–32 in the Introduction. Nearly all are taken from Rédei's *Uralisches Etymologisches Wörterbuch*. I follow the following procedure: after the reconstruction I give the Finnish cognate, a Hungarian and an Ob-Ugrian cognate if available. After the '—' sign I list some Miwokan, Costanoan and other Penutian cognates, necessary for the understanding of the Miwokan compared sets. I do not list all the Miwokan or other cognates. The numbers on the left serve for identifying the items in the Introduction.

- 1 PFU or ?Pur **koje* (UEW 167) 'dawn, sun'. Fi *koi* 'dawn, daybreak'; Hu *haj-nal* 'dawn'; VgN (MK 112b) *xō-tal* 'sun, day' (-*tal* is a suffix). — Mics *hoj-²epa* 'morning'; Mil *hūi* (*hij*; *ü* = *ij* cf. Broadbent 1964:19) 'sun, day'; Mib *hūi* 'id.'; *hūje* 'to be out (sun)'; *hūin huje* 'sunrise'; PMi **hi* 'sun, day'; CoSL *hý-is* 'fire' (Mason 1916:471b); CoMu (453) *xii* 'to go for fire', *xii-si* 'to light fire'. For the semantic equation 'fire ~ sun' cf. **päjwä* (UEW 360) 'fire'; Fi *päivä* 'day, sun', and VgN (MK 324a) *nāj* 'fire, sun'.
- 2 Pur **kajz* (UEW 854) 'hair'. Vg *xoj* 'hair'; Hu *haj* 'hair'. — Mics (*hij*-) *hūi-soku* 'body hair, fur'; Miss *hii-sok* 'hair, fur', *hii-k* 'to cut hair'. [For the -*sok* element compare PFU **šuka* (UEW 488) 'bark, fur, skin', Os *sox* 'fur', Vg *sow*. — CoRu *čox-* 'skull'.] Note some "not palatalized" variations with *k*- Mip *tut-kuj* 'topknot, crown of head'; MaNi (Kroeber 1929:282a) *kuj* 'hair'; *oi?* < **hoj* 'hair'.
- 3 Pur **kajwa* (UEW 169) 'birch'. Fi *koivu* 'birch'; VgN *xāl'* 'birch'. — MaMd *hibi* 'birch'; Mip *hiw-y* 'white willow'.
- 4 PFU **wajz* (*wojz*) (UEW 553) 'wild'. OsO *waj* 'animal'; Vg *waj-əx* 'any living creature (but man)'; Vg (MK 688b) *ūj*, *wuj* 'wild animal, bear, elk, etc.'. — Numerous cognates in Penutian, especially in compounds [e.g. Vg *uj-ris* 'little animal' = CoMu (428) *ris-ui* 'young coyote']; Mins -*waji* 'animate suffix'; WiWt *wi-ma* (702) 'grizzly bear'. Pitkin correctly relates it to *wi* (695) 'person, Indian, man, boy, husband, chief'; *wi-ta* (699) 'man, husband, male'. Numerous derivatives including *wi-n* and *wi-n-tu* 'Wintu'.

- 5 PFU *šus'a (UEW 488) 'rime, frost, hoar-frost'. VgN *sol'* 'hoar-frost, frozen dew (in the morning)'. — Mib *šil-*, *šil-um* 'to be cold (person or weather)' ('cold morning'); Mim *sil-um* 'cold', *wala-silúm-ka* 'winter'.
- 6 VgN *l'ul'i* from a possible PU **l'al'ə* 'to stand, to get up', *l'ul'i-ŋ* 'high'; *l'ul'i-t* 'high, deep'. — Mics *lile-*, *lil-e-* 'up, high, upward, deep, top', *li-e-m-aty* (< **lije*) 'the top', *lelí-s* 'to dawn', *lélsi* 'dawn' (third stage); Miss *lile-h-* 'to raise' (Note Popov's Bible translation Mt 5:45 'to raise the sun': *l'ul'-*), *li-leH-to-* 'above; heaven'; Mib *pajín líile* 'hilltop'; Mil *líile-wali* 'sky, heaven', *líile-wali kóoca* 'God, "Heaven Person"'; Mim in counting *-lile-k* 'over', 11, 12, etc. one over ten, two over ten, etc. One of the most productive roots in Miwokan. PMi **lí-le*.
- 7 VgN (MK 75b) *xal'i* (from a possible PU **kol'ə*) 'fast, quick (rapid flow of the river)'. — Mics *hilá-ŋ* 'to walk fast', *hi-ly-ky* 'gust of wind'; Mins *hili-ny* 'to go fast, hard, to do something with extreme force, to breathe hard, to blow hard (wind)', *hil-a-* 'to trot (horse)'; Mics *hi-li-ča* 'mountain lion, puma', "the quick one"; MaMd *hýli-lisno* 'to speed up, to step it up faster'; MaNi *hili-t* 'panther'.
- 8 PUR **muške-* (*moške-*) (UEW 289) 'to wash'. Es *möske-* 'to wash'; Hu *mos-* 'to wash'. — Mins *mis-a* 'to rub, to rub against, to massage'; Mip *mis-a* (*misja*) 'to scrape, to whittle, to rub against'; CoMu (448) *musuk-te* 'to rub, to pulverize in the hands'.
- 9 PFU **kaća* (UEW 110) 'end, point'. Fi *kasa* 'something protruding, corner'; ?Hu *hëgy* 'point, mountain'; Yukagir *kič*, *kičil* 'end'. The Hu vowel is palatalized under the influence of *-č-*. — Mics (Barrett 1908:364, 366) *hīsū-m* 'mountain, east', *hīšy-m* 'in the east', *hišó-t* 'to pertain to the east'; Miss *hi-hy-* 'east, towards the High Sierras and Great Basin', *hih-to-ja* 'easterners, mountain people, Yosemite people'; Mins *hi-sy-* 'east', *hi-sy-to-k* 'Paiutes, Maidu' "Easterners". The original back vowel remained in PYo **xosi-m* 'north' (Golla 1964:64).
- 10 PUR **kuña-* (UEW 208) 'to squint, to close the eyes'. ?Fi *kyyny* 'having the eyes half closed'; Hu *huny* 'to close the eye (also partially)'; VgN *xoñi* 'to squint, to wink, to close the eyes'. Note *xin-yi* 'to spy, to approach (bear)'. — MaNi *hin* 'to look', *hin-mak* 'to aim', *hini-pypyj* 'to be dizzy, half drunk', *hi-n* 'eye'; MaMd *hîn* ~ *hini* 'eye, any tiny seed', *hîn-wo* 'ahead'; CoMu (432) *xin* 'eye'; PCo **xin* 'eye'; Mil *hîn-nah* 'to watch for game, watcher, towards whom the hunters drive the game'.
- 11 PU **mańćə* (UEW 866) 'man, human being'. Vg *mańši* 'a Vogul'; VgLM *mãns* 'the common name of the Voguls and Ostyaks'. Early 18th century: *mansch-ku-m* 'Vogul, Ostyak' (*ku-m* 'human, man', *-m* is a suffix) (Pelim *mańši ku-m*); *megyer* 'an old Hungarian tribe'. From *magyer* is *magyar* by progressive assimilation and *megyer* by regres-

sive assimilation. [For the *-ar* element of the compound see PFU **irkä* (*ürkä*) (UEW 84) 'man, son, boy'. Possibly from Altaic **ēr* 'man, husband'. Also appears in Hu *em-b-er* 'human being' and *férj* 'husband' (< *fi-érk*) PFU **irkä* (*ürkä*) can be compared to CoMu (437) *urxe-s-mak* 'bride and groom' (*mak* plural suffix).] — The *mańćs* element appears in Miwokan as Mib *micca* 'person'. With the *-ku* compound (*mańś-ku*) appears in Mim *miča* (< **micca*) *-ko* 'person, Indian', *mucca-ko* 'people'. Note CoMu *mirte-mak*, *mitte-mak* (manuscript reading for *miče-mak*) 'adult men, elderly men'.

- 12 PU **mańćs* 'man' is connected by Rédei to PU **mańćs* (UEW 867) 'fairy tale, to recount tales'. Os *mańt'*, *maś* 'saga'; Hu *mese* 'fairy tale', *mesé-l* 'to recount tales'. — Mib *micca-anna* 'speech, talk', *maccaw* 'to speak, to talk; speech, language'; Mim *mačoa*, *mačaw*, *mačo* 'to speak; talk'; CoMu (448) *monsie* (*monśe*) 'to relate, to recount' (*cuentos* 'tales'), *monse* 'to advise'.
- 13 PUr **mäńćs* ~ *mäćs* (UEW 268) 'tail (of reindeer, birds, etc.)'. ?VgN *mańśi-k* 'tail of a reindeer'. — Mib *miici-n*, *mici-n* 'to sup'; Mil *mic-* 'to sup' (to take liquid into the mouth by sips); CoMu (448) *mut-ie* (for *muče*) 'to eat pinole'; MaNi (Kroeber 1929:286b) *maśu* 'spoon'. It seems to refer to the Native Californian practice to dip the tail of a deer or squirrel into the liquid food and suck it. Note MaNi *bi-bi* 'to suck off from a brush' (Uldall–Shipley 1966:103: "On a certain day they all ate and drank [manzanita] cider with *si-wi* flour. The children sucked from a brush, from a brush made out of gray squirrel's tail." Footnote 110: "The squirrel tail was fastened on a stick with string and pitch.") Powers (1877:234) describes a similar practice among the Wintu. The dry floury manzanita berries were beaten into a mass, then "The flour thus obtained is cooked in a basket or a little sand-pool with hot stones, and yields a panada which is sweet and nourishing, or a thinner porridge which is eaten with the shaggy knob of a deer's tail." Cold cider was "also imbibed with the deer's tail. It is the acme of hospitality in the host to swab this utensil in the liquid, put it into his mouth, and then hand it to his guest."
- 14 PFU **menčs* ~ *mečs* (UEW 271) 'grouse'. ?Fi *metos*, **meto* 'grouse', *Tetrao urogallus*; VgN *mansi-n*, VgLM *mäńśə-m* 'grouse'. — Mics *muc-a-ma-ši* 'grouse'; Miss *muc-a-maHh-* 'id.'; Mins *muc-u-ma-sy* 'blue grouse', *Dendragapus* (Udvardy 1977:689: "Calling birds are often extremely difficult to find.") [The *muc-a* element of the compound seems to be related to Miss *muc-a-* 'to be ashamed' ('shy?') for which see following entry: Vg *muńśi* 'distress, embarrassment', referring to the behavior of the bird during mating.] The *-ma-ši* element is further compared to Mins *mic-e-maři* 'bird' (*-maři* animate suffix), *mic-e-ma*

- 'wild meat' refers to the important food source of Native Californians: grouse, geese, ducks, etc.).
- 15 VgN (MK 320b) *muńsí* ~ *mońsí* 'to be distressed, to be embarrassed'. — Miss *muc-a-* ~ *mus-a-* 'to be ashamed'.
- 16 VgN (MK 298a) *mansi*, VgLM *mńńši* 'dull, chipped, jagged, serrated'. — Miss *muc-kat-i* 'sharp pointed', *muč-kul* 'arrow'; (Barrett and Gifford 1933:244) *muči-limma kičéya* 'sharp arrow head'. Basket design 58; (*limma* < ?Mil *lúuma* 'back, shell'); Mip *mut-wa* (?*muł-wa*) 'to chip, to break off small pieces of a long thing, to even something'; CoMu (448) *mit-ci* (*mičči*) 'to sharpen', *mičui* 'to temper' (-*u-* oppositional infix), **minči* 'to sharpen (an arrow)', *minčuí* 'to blunt (an arrow)'. In paleolithic technology a stone or bone instrument is made sharp by chipping, in the modern technology, a metal instrument is made dull by being chipped. ??Mib *mucci* 'bone'; Mim *mučči-š* 'id.'.
- 17 PFU **wąńć3* (UEW 565) 'knife; to cut'. Fi *veitsi* 'knife', *veistä-* 'to carve' OsV *wąńt'-* 'to cut up, to split' (KT 231); Hu *vés-* 'to cut, to chisel, to engrave'. — Mip *wic-a* 'to scratch', *wec-a* 'to scrape'; Mins *wyc-a* 'to scrape', *wacu-* 'id.'; Miss *wył-a-* 'to scrape with short strokes', *wyła?-a-* 'deer bone scraper', *wyła-k-* 'to scrape with long strokes; to flesh a hide'; Mics *oča-ti* (< **woča-ti*) (Barrett and Gifford 1933:214) 'scrapers', "... of split deer leg bone were used to work down a bow"; Mil *wóca-* 'to scratch, to scrape', *wócca* 'to scrape something clean, to shave, to whittle, to plane'; Mib *wócca* 'to plane, to shave wood'; PMiw **wóc-a-* and PMi **wył-a* 'to scratch, to scrape'. The semantic changes imply the change in technology from stone and bone tools to metal tools.
- 18 PUr **ąye* (UEW 11) 'opening, cavity'. OsS *oy* 'mouth, opening'; Hu *aj*, *áj* 'notch, valley', *ajak* 'lips'. — Miss *ʔowo* ~ *ʔawo* 'mouth, Yosemite Valley'.
- 19 PFU **ąń3-* (UEW 26) 'fire; to burn'. OsVy *jąń-ləl* 'to roast'; Hu *ég* 'to burn'. — Mics *ʔyw-y* 'to eat'. The semantic equation can be justified by such forms as VgN (MK 636b) *tēy*, *tāj* 'to eat; to burn (as fire)'. The common denomination seems to be 'to consume'. (Cf. Miwokan *jul-* 'fire' ~ *jyl-* 'to blaze (fire)' ~ *jyl-* 'to bite' ~ *jol-* 'to eat'.
- 20 PFU **ąya* (UEW 544) 'stream; to flow'. Fi *vuo* 'stream'. VgN *ow*, T *ū* ~ *wū* 'stream; to flow'; — Mil *wuwe*, *wuuwe*, *wuwwē* 'creek'; CoSol *owan* 'canoe' probably from YoN *owo-n* 'canoe'.
- 21 PFU **ąya-* (UEW 11; FUV 72) 'to open, unfold, widen'. Fi *avaa-* 'to open, to spread out, to widen', *avara* 'wide, vast, extensive, spacious (break, gap)'; Vg *ąńwxw* 'to loosen, to open (clothing), to take off, to

- take off the hide of a bear'; Hu *old*, early: *ód* 'to open, untie'. — Miss *ʔaw-e* 'unabstracted, all clear, plain'; Mil *ʔawwe* 'daybreak, morning, tomorrow', *ʔáwweh* 'to dawn'; Mics *ʔáw-si* 'dawn (first light)', *ʔáw-e-n-y* 'to become daylight'; Mim *awe-hi-ti* 'Morning Star' (*hi-ti* 'star' "little sun").
- 22 PU **puŋ3-* (UEW 880) 'to catch, to grab'. VgN *puw-*, *pow-* 'to catch'; Hu *fog* 'to catch, to grasp', *-fogó* 'trap'. — MaNi *po-* 'to trap birds' < **pow*, *po-ky* 'snare (made of hair) used only for birds'; YoYl *bo-wo-n* (< **po-wo-n*) 'to trap'.
- 23 PFU **peye(-rä)* (UEW 372) 'circle, ring; to roll, to turn'. ?Fi *pyörä* 'wheel, circle, ring', *pyöreä* 'round'; VgN (MK 469b) *powari* 'round, ball-like; to roll, to turn'. — Mil *pówwolo*, *powwulo* etc. 'to be round, (around)', *polóolo* 'ball, dry oak ball, baseball (the game); a dance called Ball Dance'; Mib *póolo* (< **pówwolo*) 'to be round, spherical; ball'; Mim *powili-li* 'oak balls', *polo* 'fresh oak gall; hockey (played by both men and women)'. Velarization of the vowels occurred in Ugrian and in Miwokan under the influence of *-w-*. PMi **pó-lo* 'round, ball'.
- 24 PFU **šiye-re* (UEW 500) 'mouse'. VgLM *täŋkär* 'mouse'; Fi *hiiri* 'mouse'; Hu *egér* 'mouse'. — Mins *ʔol-i-ly* (? < *ʔowli-ly* < *ʔowe-ly*). Regular velarization of the vowel occurred before the *-w-* reflex in Mins. Similar phonemic equations in the following entry: PFU **šepä*. Note: Altaic **šiye-re* 'mouse, rat'; Tunguz *singerē-kēn*. The direction of borrowing is not clear.
- 25 PFU **šepä* (UEW 499) 'good, healthy, yes'. (Rédei queries some of the cognates.) Fi *hyvä* 'good'; Lapp *šuvva* 'good' from early Fi **šüvä*; ?Hu *igen* 'yes, very'. — Mib *towi-h* 'good, well, right', *tówih ʔiiti* 'that's right, O.K.' Regular velarization of the vowel occurred before the *-w-* reflex in Mib.
- 26 PU **ʔaŋ3* < **saŋ3* or **šaŋ3* (UEW 843) 'branch, twig'. Vg *taw*, *tow* (MK 669b) 'branch, forked banch of tree (pole, road, river, antler)'; Hu *ág* 'branch, forked branch of tree, road, river, antler'. — WiPah *tow* 'the forked poles in the house supporting the rafters'; Mil *taw-lik* 'arm, wing'; Mib *táalik* 'arm, wing, branch?'; Mim *taū-li*, *ta-lik* 'arm', *alawa-n-talik* 'limb, branch of a tree', *taw-ak* 'shoulder blade'; Mins *taw-as-y* 'shoulder (cut of meat)'; Mics *táw-ašy* 'shoulder blade, scapula', *ʔawís-a* 'arrow nock'. (The forked notch in the end of an arrow. Among the Ob-Ugrians often a forked twig is attached to form the arrow nock.)
- 27 PFU **šuje* (UEW 503) 'soul (of the dead), ghost'. ?Fi (dial.) *huu* 'ghost, spook, specter'; Vg *tow*, *towi* 'shadow, phantom, the shadow-soul of human beings' (FFC 41:48; 44:213). — WiWt *towa* 'soul', *Nom les towa*

- (DuBois 1935:72, 73; Powers 1877:240–241) ‘West-shadow-soul’, the supreme deity of the Wintu. Pitkin (1985:385) quotes a different form: *nom-les-t^hawal* ‘a specific great spirit’ (only a shaman uses this word, ‘grieving shadow in the west, west-shadow mourns’ — *nom* ‘west’, *les* ‘shade, shadow, ghost, spirit’, *t^haw* ‘scar; grieve, mourn, sad’).
- 28 PFU **oŋta* (FUV 105) ‘spear’. Fi *ota* ‘prickle, spine, spear’; Vg (MK 399a) *owtə* ‘spear, a pole with an iron point for killing bears’. — MaNi (Kroeber 1929:187a) *á-ʔta-n* ‘a spear with obsidian head’.
- 29 PUR **šilm₃* (UEW 479) ‘eye’. Fi *silmä* ‘eye’; Hu *szēm* ‘eye, seed’; VgN *sam*, P *šäm* ‘eye, face, grain, seed, berry, small piece, etc.’. — Mics *súm-tu* (PL 550a) ‘eyes’, *súm-oču* ‘beard’ (*súm-* ‘face’; Mib *ʔútu* ‘whiskers, beard’); Miss *hóm-ěču-no* (< **šom-*) (PL 539:8); Mins *syṭ-y* ‘eye’; Mib *šúttu* ‘forehead’; PMi **šynt-* ‘eye’ < **šym-t*; Miss *sym-p* ‘to close the eyes’; Mip *sem-puk-aj* ‘eyebrow’; CoRu (Pinart 1952:9) *sim-ppur* ‘eyebrows, eyelashes’; WiPah *sa* ‘eye’; YoYl *sa-saʔ* ‘eye’, *ʔilkin-sasaʔ* ‘spring’ (“water’s eye”). Similar expression in OsV (KT 506a) *mey-sem* ‘fresh water spring on the bank of a river’, “earth eye”. YoYa *ša-ša* ‘acorn bread’; Mip *sa-sa* ‘live oak acorns, live oak tree’, **sam-sam* > **sa-sam* > *sa-sa*.
- 30 PUR **pil'm₃* (UEW 381) ‘dark, to become dark’. Fi *pimeä* ‘dark, darkness’; Yr *päew-*, *päem-* ‘dark’. — MaNi *po-* ~ *po-ho* ‘night’, (Kroeber 1926:286b) *pó-hom* ‘night’, *po-m-bok* ‘moon, month’; MaKo (Curtis 1924:233, 234) *déi-pom-póko* ‘moon’, “night sun”, *déi-po* ‘darkness’; MaMd *póm pòkó* ‘moon’, “night luminary” (*-m* is a suffix); MaNi *po-kečyk* ‘star’, *po-kylys* ‘dark of night’; MaMd *pó* ‘night’; PMa **pó-ho* (Ultan 1964:266); Mib *pu-l(l)úuluk* ‘moon, month’; Mim *pū-lūlūk* ‘moon’; MaKo (Curtis 1924:234) *lyly* ‘star’; MaMd *lyly* ‘star’; WiWt (315) *lyyu-q* ‘star; porcupine, porcupine quills’. A common Penutian semantic association.
- 31 PU **pim₃* (UEW 879) ‘grass’. Os (KT 701a) *pum*, *pom* ‘grass, hay (meadow, valley, turf, lawn, etc.)’; Vg (MK 475a) *pum*, *pom* ‘grass, hay (meadow, island, reed, green)’. In numerous plant names: ‘-weed, -wort, etc., year’; Hu *fű*, *füve-* ‘grass, -wort, year as to the age of animals’. Under the influence of **p-* and **m-* the Ob-Ugrian languages velarized the **-i-* to *-u-* and *-o-*. The same velarized forms appear in the Penutian languages. — Mins *po-ca* (< **pom-ca*) ‘hay, straw, grass, weeds, lawn’; Mics *po-ča* ‘brush, bushes’; MaMd *pó-* ‘grass, hay’, *pó-pó* ‘grass’; MaNi *pó-pó* ‘dry grass, straw’, *pot-to* (< *pom-to*) ‘tall grass’. Originally **pow* < **pom*, cf. MaMd *jow* ~ *jom* ‘shaman’, *siw* ~ *sim* ‘black’; PWi **pom*, **pum* ‘field, valley, land, place, ground, floor, seat, earth, time, weather’. In the Wintuan houses the

floor was covered with dry grass. A similar practice existed among the Ob-Ugrians. OsE (Gulya 1966:185a) *lal-pam* 'seat, an armfull of grass in a boat'; VgN *ol'at-pum* 'bed-hay'.

- 32 PFU **puna* (UEW 402) 'hair'. Fi *puna* 'redness; blood'; Es *puna-ne* 'red animal, fox; blood'; VgN (MK 476b) *pun* 'body hair, feather', *pun-pä* 'hair colored'; Hu *fan, fon* 'pubic hair'; Old Hu 'thicket, dense forest'. — MaNi *bun?* 'pubic hair', *bu-tuj* (< **bun-tuj*) 'feather, hair (humans or animals exclusive the head and pubic hair)', *bu-k* (< **bun-k*) 'tail'; MaMd *bu ~ butú* 'hair, fur' (pubic hair, head hair); (PL 589:8) *sim-pum* 'beard' (*sim* 'mouth').

References

- Ahlqvist, August (1891). *Wogulisches Wörterbuch*. Mémoires de la Société Finno-Ougrienne, II. Helsinki: Druckerei der Finnischen Literaturgesellschaft.
- Anghiera, von, Peter Martyr (1972-1973, Spanish original 1530). *Acht Dekaden über die neue Welt*. Übersetzt, eingeführt und mit Anmerkungen versehen von Hans Klingelhöfer. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Antropova, V.V. and V.G. Kuznetsova (1964). "The Chukchi." (Based on G.I. Melnikov.) In: Levin and Potapov, 799-835.
- Arroyo de la Cuesta, Felipe (1815). *Alphabetus rivulus obeundus exprimationum causa horum indorum Mutsun Missionis Sanct. Joann. Baptistae. A vocabulary and phrase book of the Mutsun language of Alta California*. Shea's Library of American Linguistics, 8. New York: Cramoisy Press, 1862.
- . (1916). In: Mason, Alden J. "The Mutsun Dialect of Costanoan Based on the Vocabulary of the Cuesto." *University of California Publications in American Archaeology and Ethnology* 11:372-399. Berkeley.
- Bárczi, Géza, Loránd Benkő, and Jolán Berrár (1967). *A magyar nyelv története*. Budapest: Tankönyvkiadó.
- Barrett, S.A. (1908). "The Geography and Dialects of the Miwok Indians." *University of California Publications in American Archaeology and Ethnology* 6, 2. Berkeley.
- . (1919). "The Wintun Hesi Ceremony." *University of California Publications in American Archaeology and Ethnology* 14:437-488. Berkeley.
- and E.W. Gifford (1933). "Miwok Material Culture." *Bulletin of the Milwaukee Public Museum* 2:117-277. Milwaukee.
- Beals, Ralph L. (1933). "Ethnology of the Nisenan." *University of California Publications in American Archaeology and Ethnology* 31, 6:335-414. Berkeley.
- Bean, Lowell L. (1976). "California Indian Shamanism and Folk Curing." In: Hand, W., ed. *American Folk Medicine: A Symposium*. Berkeley and Los Angeles.
- Beke, Ödön (1907-1908). "Északi-osztják szójegyzék. Nordostjakisches Wörterverzeichnis." [Based on the fieldwork of József Pápay.] *Keleti Szemle* 8-9. Budapest.
- Benkő, Loránd, ed. (1967-1976). *A magyar nyelv történeti-etimológiai szótára*. Budapest: Akadémiai Kiadó.
- Berman, Howard, ed. (1982). *Freeland's Central Sierra Miwok Myths. Survey Reports, Report, 3. Survey of California and Other Indian Languages*, edited by Alice Schlichter, Wallace L. Chafe, and Leanne Hinton. Berkeley.
- Berry, William D. and Elisabeth Berry (1959). *Mammals of the San Francisco Bay Region*. Illustrated by William D. Berry. Berkeley and Los Angeles: University of California Press.

- Bloch, Bernard and Georg L. Trager (1942). *Outline of Linguistic Analysis*. Baltimore: Linguistic Society of America.
- Bowen, Ezra, ed. (1972). *The High Sierra. The American Wilderness*. New York: Time-Life Books.
- Bright, William, ed. (1964). *Studies in California Linguistics*. University of California Publications in Linguistics, 34. Berkeley and Los Angeles: University of California Press.
- Broadbent, Sylvia M. (1964). *The Southern Sierra Miwok Language*. University of California Publications in Linguistics, 38. Berkeley and Los Angeles: University of California Press.
- Buck, Carl Darling (1933). *Comparative Grammar of Greek and Latin*. Chicago: University of Chicago Press.
- Callaghan, Catherine A. (1965). *Lake Miwok Dictionary*. University of California Publications in Linguistics, 39. Berkeley and Los Angeles: University of California Press.
- (1970). *Bodega Miwok Dictionary*. University of California Publications in Linguistics, 60. Berkeley and Los Angeles: University of California Press.
- (1973). "Proto Miwok Phonology." *General Linguistics* 12:1–31.
- (1974). "Increase in Morphological Complexity." In: *Proceedings of the Eleventh International Congress of Linguists, Bologna – Florence 1972*. Ed. Luigi Heilman. Bologna: Mulino.
- (1984). *Plains Miwok Dictionary*. University of California Publications in Linguistics, 105. Berkeley and Los Angeles: University of California Press.
- (1987). *Northern Sierra Miwok Dictionary*. University of California Publications in Linguistics, 110. Berkeley and Los Angeles: University of California Press.
- and Zinny S. Bond. *Marin Miwok Dictionary*. Ohio State University. (Ms)
- Canby, Thomas Y. (1979). "Search for the First Americans." *National Geographic* 156, 3. Washington.
- Chernetsov, V.N. and Moszynska (1974). *Prehistory of Western Siberia*. Montreal and London.
- Chesnut, V.K. (1902). "Plants Used by the Indians of Mendocino County, California." *Contributions from the U.S. National Herbarium*, VII. Washington, D.C., Repr. 1974.
- Collinder, Björn (1955). *Fenno-Ugric Vocabulary. An Etymological Dictionary of the Uralic Languages*. Uppsala: Almqvist & Wiksells.
- (1957). *Survey of the Uralic Languages. Grammatical Sketches and Commented Texts with English Translations*. Uppsala: Almqvist & Wiksells.
- (1960). *Comparative Grammar of the Uralic Languages*. Uppsala: Almqvist & Wiksells.
- (1965). *An Introduction to the Uralic Languages*. Berkeley and Los Angeles: University of California Press.
- Corradi Musi, Carla (1986). *Gli Ugrofinni in California: la linguistica comparata risolve un problema della preistoria (Malacoda 2.5)* Parma: La Nazionale.
- (1988). *Sciamanesimo e flora sacra degli ugrofinni in una prospettiva indouralica ed amerindia del Nord*. Roma.
- Curtis, E.W. (1907–1930). *The North American Indian*. Vol. 14 (1924). Kato, Wailaki, Yuki, Pomo, Wintun, Maidu, Miwok, Yokuts. Norwood.

- Dana, James Dwight (1877). "Talatui." In: Powell's List, p. 552. [Originally published in *Transactions of the American Ethnological Society* 2:123.] Washington: Government Printing Office.
- Décsey, Gyula (1965). *Einführung in die finnisch-ugrische Sprachwissenschaft*. Wiesbaden: Harrassowitz.
- Di, Zhu (1989). "Linguistic Proof of the American Indians Coming from Asia." *Journal of Social Science Studies* 9. Beijing.
- Dixon, Roland B. (1905). "The Northern Maidu." *Bulletin of the American Museum of Natural History* 17, 3:119-346. New York.
- . (1911). "Maidu." In Franz Boas, ed., *Handbook of American Indian Languages*. Bureau of American Ethnology Bulletin, 40, Washington, Vol. 2, 679-734.
- Driver, Harold E. (1975). *Indians of North America*. Chicago and London.
- DuBois, Cora (1935). "Wintu Ethnography." *University of California Publications in American Archaeology and Ethnology* 36, 1, IV:1-148. Berkeley.
- Duflot de Mofras, Eugène (1884). *Exploration du territoire de l'Oregon, des Californies et de la mer Vermeille, exécutée pendant les années 1840, 1841, et 1842*. 2 vols. Paris: A. Bertrand.
- Ebbesmeyer, C.C. and W.J. Ingraham (1992). "Shoe Spill in the North Pacific." *Eos Trans AGU* 73, 361.
- Elsasser, Albert B. (1978). "Development of Regional Prehistoric Cultures." In: Heizer (ed.).
- Erdmann, J.F. (1826). *Beiträge zur Kenntniss des Innern von Russland*. Leipzig, II, 2.
- Faye, Paul-Louis (1923). "Notes of the Southern Maidu." *University of California Publications in American Archeology and Ethnology* 20, 4:35-53. Berkeley.
- Fladmark, Knut R. (1970). "Alternate Migration Corridors for Early Man in North America." *American Antiquity* 44:55-69.
- . (1986) "Getting One's Berings." *Natural History* 11.
- Fokos-Fuchs, D.R. (1959). *Syrjänisches Wörterbuch*. 3 vols. Budapest: Akadémiai Kiadó.
- Ford, Adrienne (1982). *A Dictionary of Eastern Miwok from Nineteenth and Early Twentieth Century Sources*. Master's Thesis. California State University, Fullerton.
- Freeland, Lucy S. (1951). *Language of the Sierra Miwok*. Indiana University Publications in Anthropology and Linguistics, Memoir 6 of the International Journal of American Linguistics. Baltimore: Waverly Press.
- and Sylvia M. Broadbent (1960). *Central Sierra Miwok Dictionary with Texts*. University of California Publications in Linguistics, 23. Berkeley and Los Angeles: University of California Press.
- Gifford, Edward Winslow (1916). "Miwok Moieties." *University of California Publications in American Archeology and Ethnology* 12, 4. Berkeley.
- . (1917). "Miwok Myths." *University of California Publications in American Archeology and Ethnology* 12, 8:283-338. Berkeley.
- . (1927). "Southern Maidu Religious Ceremonies." *American Anthropologist* 29, 3:214-257.
- . (1955). "Central Miwok Ceremonies." *University of California Anthropological Records* 14, 4:261-318. Berkeley.

- Goldschmidt, Walter (1951). "Nomlaki Ethnography." *University of California Publications in American Archeology and Ethnology* 42, 4:303–443. Berkeley.
- Golla, Victor K. (1964). "Comparative Yokuts Phonology." In: Bright, ed., 54–66.
- Gulya, János (1966). *Eastern Ostyak Chrestomathy*. Uralic and Altaic Series, 51. Bloomington and The Hague: Mouton.
- Hajdú, Péter (1966). *Bevezetés az uráli nyelvtudományba. A magyar nyelv finnugor alapjai*. Budapest: Tankönyvkiadó.
- (1975). *Finno-Ugrian Languages and Peoples*. Transl. and adapted by G.F. Cushing. London: Andre Deutsch.
- Heizer, Robert F., ed. (1952). "California Indian Linguistic Records: The Mission Indian Vocabularies of Alphonse Pinart." *University of California Anthropological Records* 15, 1. Berkeley and Los Angeles.
- (1955). "California Indian Linguistic Records: The Mission Indian Vocabularies of H.W. Henshaw." *University of California Anthropological Records* 15, 2. Berkeley and Los Angeles.
- ed. (1978). *California* (Vol. 8 of the *Handbook of North American Indians*). Washington: Smithsonian Institution.
- Henshaw, Henry W. (1955). In: Heizer, ed.
- Hodge, Frederick Webb, ed. (1907). *Handbook of the American Indians North of Mexico*. Bureau of American Ethnologie, Bulletin, 30. Washington.
- Hoppál, Mihály and Otto von Sadovszky, eds. (1989). *Shamanism Past and Present*. 2 vols. ISTOR Books, 1–2. Budapest: Ethnographic Institute – Los Angeles/Fullerton: International Society for Trans-Oceanic Research.
- and Keith D. Howard, eds. (1993). *Shamans and Cultures*. ISTOR Books, 5. Budapest: Akadémiai Kiadó – Los Angeles: International Society for Trans-Oceanic Research.
- Hunfalvy, Pál (1872). "A kondai vogul nyelv, a Popov G. fordításának nyomán." *Nyelvtudományi Közlemények* 9:1–194, szótár: 1–215. Budapest.
- (1875). "Az éjszaki osztják nyelv Vologodszki fordításainak és orosz-osztják szótárának alapján, tekintettel mind Castrén déli osztják grammatikájára, mind a Reguly hozta szójegyzékekre s eredeti osztják énekekre." *Nyelvtudományi Közlemények* 11. Budapest.
- Jennings, Jesse D., ed. (1983). *Ancient North Americans*. San Francisco: W.H. Freeman and Company.
- Johnson, Adam (1877). "Tuolumne." In: *Schoolcraft*, Part IV:408. (Reprinted in Powell, 1877:538–548.)
- Kálmán, Béla (1965). *Vogul Chrestomathy*. Uralic and Altaic Series, 46. Bloomington and The Hague: Mouton.
- (1976). *Wogulische Texte mit einem Glossar*. Budapest: Akadémiai Kiadó.
- (1989). *A nevek világa*. Átdolgozott kiadás. Debrecen: Csokonai Kiadó.
- Kannisto, Artturi (1933). "Über die Tatuierung bei den Ob-ugrischen Völker." *Memoires de la Société Finno-Ougrienne* 67:159–183. Helsinki.
- , Matti Liimola, and Vuokko Eiras (1982). *Wogulische Volksdichtung*. Vol. 7, *Wörterverzeichnis zu den Bänden 1–6*. Mémoires de la Société Finno-Ougrienne, 180. Helsinki.
- Karjalainen, K.F. (1921–1927). *Die Religion der Jugra-Völker*. FFC 40 (1921), 44 (1920) and 63 (1927). Porvoo.

- and Y.H. Toivonen (1948). *Ostjakisches Wörterbuch*. Lexica Societatis Fenno-Ugricae, X. Helsinki.
- Kostromitonov, P. (1839). "Olamentke." In: K.E. von Baer and Gr. von Helmersen, *Beiträge zur Kenntniss des Russischen Reiches und der angränzenden Länder Asiens*. Vol. 1, 233–254. St. Petersburg. (Reprinted in Powell, 1877:553–559.)
- Krell, Dorothy, ed. (1979). *The California Missions. A Pictorial History*. A Sunset Pictorial. Menlo Park: Lane Publishing Co.
- Kroeber, Alfred L. (1907). "The Yokuts Language of South Central California." *University of California Publications in American Archaeology and Ethnology* 2:165–377. Berkeley.
- . (1910). "The Chumash and Costanoan Language." *University of California Publications in American Archaeology and Ethnology* 9:259–263. Berkeley.
- . (1911). "The Languages of the Coast of California North of San Francisco." *University of California Publications in American Archeology and Ethnology* 9, 3. Berkeley.
- . (1925). *Handbook of the Indians of California*. Bureau of American Ethnology, Bulletin, 78. (Reprinted by the California Book Company, 1953. Berkeley.)
- . (1929). "The Valley Nisenan." *University of California Publications in American Archaeology and Ethnology* 24:253–290. Berkeley.
- . (1932). "The Patwin and Their Neighbors." *University of California Publications in American Archaeology and Ethnology* 29. Berkeley.
- . (1959). "Northern Yokuts." *Anthropological Linguistics* 1, 8:1–19. Archives of Languages of the World. Indiana University, Bloomington.
- . (1963). "Yokuts Dialect Survey." *University of California Anthropological Records* 11, 3. Berkeley and Los Angeles.
- Kroeber, Theodora (1961). *Ishi in Two Worlds. A Biography of the Last Wild Indian in North America*. Berkeley, Los Angeles and London: University of California Press.
- Lakó, György (1968). *Proto Finno-Ugric Sources of the Hungarian Phonetic Stock*. Budapest: Akadémiai Kiadó.
- , Károly Rédei, and Éva Sal, eds. (1967–1978). *A magyar szókészlet finnugor elemei*. Budapest: Akadémiai Kiadó.
- Lehtisalo, T. (1956). *Juraksamojedisches Wörterbuch*. Lexica Societatis Fenno-Ugricae, XII. Helsinki.
- Levin, M.G. and L.P. Potapov, eds. (1964). *The Peoples of Siberia*. Chicago and London.
- Littlejohn, Hugh W. (1928). *Nisenan Geography*. (Manuscript in Bancroft Library, University of California, Berkeley.)
- McKern, W.C. (1922). "Functional Families of the Patwin." *University of California Publications in American Archaeology and Ethnology* 13, 7:235–258. Berkeley.
- . (1923). "Patwin Houses." *University of California Publications in American Archaeology and Ethnology* 10:159–171. Berkeley.
- Manning, A., P. Martin, and K. McCalla, eds. (1983). *Proceedings of the Tenth Lacus Forum*. Columbia: Hornbeam Press.
- Marino, Carlo (1988). "Breve nota sulla teoria 'Ugro-californiana' del Sadovszky." *Il Polo, Rivista Trimestrale dell'Instituto Geografico Polare "Silvio Zavatti"* 1. Fermo.

- Mason, J. Alden (1916). "The Mutsun Dialect of Costanoan Based on the Vocabulary of de la Cuesta." *University of California Publications in American Archeology and Ethnology* 11:372-399. Berkeley.
- Matsumoto, Hideo (1984). "Studies on the Marker Gene, Gm st, Characteristic of Mongoloid Populations." *Bulletin of the Osaka Medical School*, Suppl. 14, 77-89. Osaka.
- Mengarini, Gregory S.J. (1877). "Santa Clara." In: Powell, 539-549.
- Merriam, C. Hart (1955). *Studies of California Indians*. Berkeley and Los Angeles: University of California Press.
- . (1979). *Indian Names for Plants and Animals among Californian and Other Western North American Tribes*. Assembled and annotated by Robert F. Heizer. Socorro: Ballena Press.
- Munkácsi, Bernát (1896). "Déli osztják szójegyzék." [Southern Ostyak Vocabulary. But in reality it is an Eastern Ostyak Vocabulary, based on the fieldwork of Károly Pápai.] *Nyelvtudományi Közlemények*, 26:9-66. Budapest.
- . (1906). "Götzenbilder und Götzengeister im Volksglauben der Wogulen." *Keleti Szemle* 7. Budapest.
- and Béla Kálmán (1986). *Wogulisches Wörterbuch*. Budapest: Akadémiai Kiadó.
- Newman, Stanley S. (1944). *Yokuts Language of California*. Viking Fund Publications in Anthropology, 2. New York.
- Okladnikov, A.P. (1964). "Ancient Population of Siberia and its Culture." In: Levin-Potapov, 13-98.
- Okrand, Marc (1976). *Mutsun Grammar*. Doctoral Dissertation, University of California, Berkeley.
- Pais, Dezső (1975). *A magyar ősvallás nyelvi emlékeiből*. Budapest: Akadémiai Kiadó.
- Patkanov, Szerafim (1900-1901). *Irtisi-Osztják szójegyzék*. *Nyelvtudományi Közlemények*, 30-31. Budapest.
- Pinart, Alphonse (1952). In: Heizer, ed.
- Pitkin, Harvey (1984). *Wintu Grammar*. University of California Publications in Linguistics, 94. Berkeley and Los Angeles: University of California Press.
- . (1985). *Wintu Dictionary*. University of California Publications in Linguistics, 95. Berkeley and Los Angeles: University of California Press.
- Potts, Marie (1977). *The Northern Maidu*. Happy Camp: Naturgraph.
- Powell, J.W., ed. (1877). "Linguistics". Appendix to *Tribes of California* by Stephen Powers. (See Powers, S.)
- Powers, Stephen (1877). *Tribes of California*. Contributions to North American Ethnology, 3. Washington: Government Printing Office. (Reprinted with and Introduction and Notes of Robert F. Heizer [without the Linguistics Appendix of Powell], 1976, Berkeley and Los Angeles: University of California Press.)
- Prokofyeva, E.D., V.N. Chernetsov, and N.F. Prytkova (1956). "The Khants and the Mansi." In: Levin-Potapov, 511-546.
- Prokosch, E. (1939). *A Comparative Germanic Grammar*. Philadelphia: Linguistic Society of America, University of Pennsylvania.
- Rédei, Károly (1965). *Northern Ostyak Chrestomathy*. Uralic and Altaic Series, 47. Bloomington and The Hague: Mouton.
- . (1968). *Die syrjänischen Lehnwörter im Wogulischen*. Budapest: Akadémiai Kiadó.

- ed. (1986–1991). *Uralisches etymologisches Wörterbuch*. 3 vols. (Unter Mitarbeit von Marianne Bakró-Nagy, Sándor Csúcs, István Erdélyi, László Honti, Éva Korenchy, Éva K. Sal and Edit Vértes. Bd. 3: Register zusammengestellt von Attila Dobó and Éva Fancsaly.) Budapest: Akadémiai Kiadó.
- (1990). "Zu den uralisch-jukagirischen Sprachkontakten." Paper presented at the *Congressus Septimus Internationalis Fenno-Ugristarum*, Debrecen. Lecture notes. Wien.
- Riddell, Francis A. (1978). "Maidu and Konkow." In: Heizer, ed., 370–386.
- Sadovszky, Otto J. von (1970). "The Concept of the 'calf of the leg' and 'fish eggs' and the Tattooed Man of Pazyryk 2." In: *Congressus Tertius Internationalis Fenno-Ugristarum*, Pars I. 149–154. Tallin.
- (1973). "The Reconstruction of IE *pisko and the Extension of its Semantic Sphere." *The Journal of Indo-European Studies* 1, 1.
- (1976). "Report on the State of Uralo-Penutian Research." *Ural-Altische Jahrbücher* 48:191–204. Wiesbaden.
- (1978). *Demonstration of a Close Genetic Relationship Between the Wintuan Languages of Northern California and the Ob-Ugrian Languages of North-Western Siberia*, Fullerton and Los Angeles (Ms).
- (1981). "Ob-Ugrian Elements in the Adverbs, Verbal Prefixes and Postpositions of California Wintun", in: *Congressus Quintus Internationalis Fenno-Ugristarum*, 6:237–243. Turku: Suomen Kielen Seura.
- (1983). "Contributions to an Ob-Ugrian–Maiduan Comparative Grammar." Paper read at the First Annual Meeting of the Finno-Ugrian Studies Association of Canada. (Ms) Vancouver.
- (1984a). "The Discovery of California: Breaking the Silence of the Siberia-to-America Migrators." *The Californians* 2, 6. San Francisco.
- (1984b). "The New Genetic Relationship and the Paleolinguistics of the Central California Indian Ceremonial Houses." In: Manning, A., P. Martin, and K. McCalla, eds. *Proceedings of the Tenth Lacus Forum (1983)*. Columbia: Hornbeam Press.
- (1984c). "'Xanti' in California." *Forum Linguisticum* 8, 1. Lake Bluff.
- (1985a). "Siberia's Frozen Mummy and the Genesis of California Indian Culture." *The Californians* 3, 6. San Francisco.
- (1985b). "The Time of Arrival of the Cal-Ugrians in the Light of the Ugrian Sound Change *k- > x- > h-." Paper read at the *Congressus Sextus Internationalis Fenno-Ugristarum*, Syktyvkar.
- (1989). "Linguistic Evidence for the Siberian Origin of the Central California Indian Shamanism." In: Hoppál and von Sadovszky, eds., 165–184.
- (1993). "The Wintu Shaman." In: Hoppál and Howard, eds., 131–135.
- (1995). *Fish, Symbol and Myth, A Historical Semantic Reconstruction*. ISTOR Books 6. Budapest: Akadémiai Kiadó – Los Angeles: International Society for Trans-Oceanic Research.
- and M. Hoppál, eds. (1995). *Vogul Folklore*. Collected by Bernát Munkácsi. ISTOR Books 4. Budapest: Akadémiai Kiadó – Los Angeles: International Society for Trans-Oceanic Research.
- Schlichter, Alice (1981a). "Notes on the Wintu Shamanistic Jargon." In: *Survey Reports. Report 1. Survey of California and Other Indian Languages*. Berkeley.

- (1981b). *Wintu Dictionary. Survey Reports. Report 2. Survey of California and Other Indian Languages*. Berkeley.
- Schlözer, August Ludwig (1771). *Allgemeine Nordische Geschichte*. Halle.
- Shafer, Robert (1961). "Tones in Wintun." *Anthropological Linguistics*, 3, 6:18–30. Archives of Languages of the World. Indiana University, Bloomington.
- Shestalov, Ju., ed. (1993). *Khanti-mansi – Kto my? Khanti-Mansijsk*. Izd. "Sterkh".
- Shipley, William (1963). *Maidu Text and Dictionary*. University of California Publications in Linguistics, 33. Berkeley and Los Angeles.
- (1964). *Maidu Grammar*. University of California Publications in Linguistics, 41. Berkeley.
- Sieg, E. and W. Siegling (1908). *Tocharisch, die Sprache der Indoskythen*. SBAW.
- Siegl, Bernard C. (1994). *The Cal-Ugrian Theory: An Assessment of a New Linguistic Classification*. Master's Thesis. California State University, Fullerton.
- Silva, Arthur M. and William C. Cain (1976). *California Indian Basketry. An Artistic Overview*. Cypress, CA: Cypress College Fine Arts Gallery.
- Steinitz, Wolfgang (1938). "Totemismus bei den Ostjaken in Sibirien." *Ethnos* 125–140. (Repr. 1980 in *Collected Works* cited below.)
- (1942). *Ostjakische Chrestomathie, mit Grammatikalischem Abriss und Wörterverzeichnis*. Stockholm and Uppsala.
- (1975–1980). *Ostjakologische Arbeiten. Collected Works*. Ed. Gert Sauer, Brigitte Schulze, Ewald Lang, and Renate Steinitz. Budapest: Akadémiai Kiadó.
- Stone, Livingstone (1874). "Report of Operations during 1872 at the United States Salmon-hatching Establishment on the M'Cloud River and on the California Salmonidae Generally; with a List of Specimens Collected." In: *U.S. Commission of Fish and Fisheries. Report of the Commissioner for 1872 and 1873*. Pt. 2:168–215. Washington: U.S. Government Printing Office.
- Tauli, Valter (1966). *Structural Tendencies in Uralic Languages*. Uralic and Altaic Series, 17. The Hague: Mouton.
- Taylor, Colin F., ed. (1994). *Native American Myths and Legends*. New York: Smithmarks.
- Turner, Christy G. (1971). "Three-rooted Mandibular First Permanent Molars and the Question of American Indian Origins." *American Journal of Physical Anthropology*, 34:229–241.
- Udvardy, Miklos D.F. (1977). *The Audubon Society Field Guide to North American Birds. Western Region*. New York.
- Uldall, Hans J. and William Shipley (1966). *Nisenan Text and Dictionary*. University of California Publications in Linguistics, 46. Berkeley and Los Angeles.
- Ultan, Russel (1964). "Proto Maidu Phonology." *International Journal of American Linguistics* 30, 4:355–370. Baltimore.
- Vitso, Tiit-Rein (1971). "Preliminary Data on the Relation of California Penutian to Uralic and Other Nostratic Languages." *Soviet Finno-Ugric Studies* 7. Tallin.
- Virtanen, E.A. and Matti Liimola (1958). *Materialien zur Mythologie der Wogulen*. Gesammelt von Artturi Kannisto. Mémoires de la Société Finno-Ougrienne, 113. Helsinki.

Word Index

a-ā, ä-ä Vg 90, 182
a'a, ä'ä OsE 90
āča Sk 112
āca- Sk 112
**āce* PUr 111
ács- Hu 178
ad Hu 94, 131
 adj Hu 94
 ado-tt Hu 93
 ad-ta-m Hu 93
ad-aestimare Lat 199
adeps Lat 167
adeps arboris Lat 141
aesmer Old French 198
ae? Sk 90
ág Hu 275
ágyék Hu 218
aim Eng 198
äimä Fi 31
aimen MEng 198
aj, áj Hu 274
aj Os 170, 219; OsN 266
aj Vg 266
āj OsVy 59
aj, aj, aj Sa 90
ajak Hu 274
aji VgN 170
ajjuk Vg 90
aj-ket OsS 170
 aj-ket-potər OsS 170
aj-ko Os 194
áj-kot MaNi 170
**äjmä* PUr 31
aj-nē OsN 266
aj-ŋe Os 156
aj-ti VgN 170
aj-xo OsN 266
akad Hu 113, 142
ak-u CoMu 209

akw, äkw Vg 96
 akw-hujp-low Vg 97
 akw-šos Vg 98
 akw-tot Vg 96
al OsOb 178
al VgN 178
al- Hu 17, 57
 Al-föld Hu 17
äl Vg 122, 182; VgLM 178; VgT 172
äl VgN 172
**ala* PFU 17, 84, 98
ala Fi 98
ala VgLM 178
ala- Hu 17
al-á Hu 84
alä Vg 180
älä VgLM 178
**ala-j* PFU 84
ala-tt Hu 98
alawa-n-talik Mim 275
al-do Mdv 82
**al3-* PU 177
ali Vg 180; VgN 168, 211
äli Vg 68; VgLM 211; VgN 168
ališla-ŋkwe Vg 95
al-kot Hu 177
áll- Hu 57, 113, 202
 áll-ás Hu 202
alla Fi 17, 82
alla Mi 17
**al-ma-ko* PMi 23
**al-na* Fi 82
aló-l Hu 84
ält VgT 177
ält VgLM 177
am Vg 77
Am-a? Vg 89
ami CoMu 94
amo-tt Hu 82

āmp Vg 88, 131
āmp-əl Vg 84, 88
**amt* Vg 131
**amta* PU 94
an MaNi xiv
an' OsN 182
ań Vg 182; VgN 173, 193
ań-mōl VgN 193
ān Vg xiv
āy- Vg xiii
an- WiNo 38
**aya* PFU xiii, 274
**ańa* PUr 121
**ana* MaNi 170
**ana* PCo 121
ana CoMu 121
ana WiPah 38
ańaka Mdv 121
-anas MaMd xiv
**ańć3* PU 218
**aje* PUr xiii, 274
**āj3* PFU xiii, 274
ān3 Os 170
ān3-sōjən Os 170
ān-gy Hu 121
**ańi* CoMu 121
āni VgN 170
āni-wata VgN 168
anne-smin CoMu 170
anni-smin CoMu 37
annusma MaNi 170
annu-s-ma MaKo 37
**a-no-* (āno) PPe 170
ano-sma Ma 170
an-si CoSCr 121
ańsu- Vg xiv
ańsux VgN 135
ańsux jekw Vg 124
anta Fi 94
**ante-k* Hu 94
aytil Vg 136
anti-ma-t Mip 93
Antwort Ger 207
ājwxw Vg 274
any Mics 192
anya Hu 121
**anyi* CoMu 121
a-o WiNo 90, 182

**apa* PCo 121
**apa* PFU 121
āpa Vg 35, 50
apám-mal Hu 84, 85
āpe VgN 171
apə-l Os 171
apə-t Os 171
app-ul Yo 28
ar- Hu 113
āri Vg 128
ar-ka CoMu 128
ārkèn-šul'āp VgT 196
ar-ki-ni CoMu 201
ārpi VgN 209
As Os 47
asir CoSCr 11
asirim pire CoMu 11
aširma Vg 11
ās-īt Hu 178
As-jak Os 204
As-jax Os 47, 266
**ašō-* PUr 116
asszonyo-k Hu 73
asu- Fi 116
asunto Fi 116
at OsS 231
āt' Vg 90
ata OsN 231
ata-s-pis CoMu 112
āt'i Vg 90
aṭi CoMu 90
aṭ-i-h- Miss 201
aṭs CoMu 90
ātty- Sk 112
atue CoMu 112
aufbewahren Ger 112
auf(ge)halten Ger 148
aulu Mics 178
aum VgN 174
auni- CoSCr 170; CoSF 170
auni-smin CoMu 37, 170
auta VgT 171
avaa- Fi 274
avara Fi 274
āw VgT 172
āw Vg 21
āw Os 21
awa-ja Mi 20

awe-hi-ti Mim 275
awun-in CoRu 170
āx-t Vg 190
āxt VgN 209, 222
āyi VgN 172
aʔ Sk 90
a-ʔta- Ma xiii
á-ʔta-n MaNi 171, 276

bác-kě Lp 249, 257
ba-j MaNi 140
**-bak* MaMd 143
ba-kočo MaMd 152
bakunu Tv 32
**banák* PMa 140
banák MaMd 140
banaka MaNi 140
báno MaMd 143
bát-caw MaMd 162
bat-wāsi MaNi 162
bějʔim kulú MaMd 149
bel-e Hu 83
beléw MaMd 141
be-merken Ger 119
benekem MaMd 143
bet Koi 95
betěj Ma 170
 betěj bokò Ma 170
betéji Ma 170
bewahren Ger 112
bi-bí- MaNi 273
bin MaNi 143
boj MaNi 11
bokin Wi 32
bo-las Wi 184
bole wilak WiPa 252; WiPah 259
bolok MaMd 140
bon MaMd 143
bôno MaMd 143
bos MaNi 27
bos Wi 21, 23
bos'ká Lp 112
**bosó* PMa 140
boso MaNi 25, 140
bosó MaMd 140
botuj MaNi 168
bo-wo-n YoYl 275
bu MaMd 277

bu- Ma xiii
bu-k MaNi 277
bun Ma xiii
**bun-k* MaNi 277
**bun-tuj* MaNi 277
bunʔ MaNi 277
buttěgě Lp 104
butú MaMd 277
bu-tuj MaNi 277
by-lók MaMd 125

ča MaMd 141; MaNi 141
ča- MaNi 141
ča- MaNi 157
 ča-pa MaNi 157
caakala Mil 115
caakala Mil 115
caam- Mil 215
čada-ni-p Sk 94
cage-mba Sk 111
**čah* PMa 141
**čáj* PMa 141
čaj MaNi 141
čaj MaMd 141
čaj jakka MaNi 146
**čak* MaNi 141
cakah Mip 111
cákal Mil 115
čakám MaMd 141
caka mi MaMd 141
cake WiPah 111
čáke Mil 111
čaksi Mics 135
cáku Mil 111
cal Wi 248, 257
**čälä-* PFU 110, 115
cala Wi 248
cal-a-k Miss 116
calat Wi 257
cala-tu Miss 116
cali Wi 248, 257
čali WiNo 257; WiPa 248
 čali-mēm WiNo 257
cal-tu Miss 116
**čam-* PMi 215
čam- Mics 190
čàm piut MaMd 159
čàm simt MaMd 163

- *čämə* PFU 111
čammi MaMd 142
camsy Mins 215
čam-šy Mics 215
camy-h-aH- Miss 215
čamy-ša- Mics 215
camys-y Mins 215
čan WiPa 97
 čan-seh WiPa 97
 čan-sem WiPa 97
 čan-tu-m sileles WiPa 97
**čajə-lə* PU 110
čap- Mis 235
čar- Wi 180
**čarə* PFU 116
časka Mics 135
čaš-pan Os 158
casu- Mins 135
catku Mins 12
čätxä-nt Vg 12
caw Wi 41
čaw YoYd 243, 255
ča-w Wi 68, 243, 255
cawa YoCho 255
čawél-yša Mics 248, 257
caw-e-na Miss 248, 257
caw-es Mip 248, 257
cawi Wi 41
ča-wu-wil Wi 85
caya WiP 265
cayas WiWt 265
ca-ʔ- Mins 135
čeče MaMd 156
cek-cek Mip 116
cek-cek-y- Miss 116
čel- WiWt 115
ceme-n-y- Mip 215
cep-a- Miss 110
čəškə OsS 116
cett Wi 182
cew Wi 38
če-w Wi 243, 255
ce-ʔ- Miss 135
či MdvE 56
čička- Mics 74
cici-p-u Mip 116
cicka Miss 116
čička OsS 32, 116
čička Mics 32, 79, 116
čička-t-i-koʔ Miss 74
čidoq Wi 32
**čijele-* PFU 116
čik MaMd 166
čil- WiWt 115
čilawa Miss 110
čim WiWt 114
čim- Yr 60
čim OsE 111
ci-mel Wi 163
čimi-ra WiWt 114
cini- Miss 110
činnj Zr 110
čiońca- Lp 55
ci-p- Miss 218
 cip-ja Miss 218
či-p- Mics 190, 218
ci-pin Mip 218
ci-pin-y Mins 218
čippan súluk Mil 115
cip-u-c- Miss 218
čipúcy Mics 218
cipy Mins 218
čirik CoSF 32
**cirok* Wi 32
coakke Lp 111
čoanč- Lp 55
 čoančmen Lp 55
čobob MaNi 142
čobót MaMd 142
čogunné Yukagir 111
čój MaMd 170
**co-k-* PMi 116
cok Os 111
čök Zr 111
**čoka* PUr 111
čoka Ch 99
cok-a- Mip 111
čokat Os 111
čok'ká Lp 116
**čokke* PFU 111
**čokkV* PFU 99
co-ko Miss 116
col- Mil 116
co-lak Miss 18, 110
čolep-pa Mim 196
colka Miss 18, 109, 110

- colo-* Mins 18
colo-tu- Mip 18, 110
čop Vty 110
čopót MaMd 142
**čor₃* PFU 18
**čorə* PUr 110
čork- Vg 18
čos MaMd 176
čós-e- Mics 109
čòs-ʔúji MaMd 176
čox- CoRu 271
čox Os 141
čoyt-uj OsE 209
čóʔ- Mil 135
coʔo-pa Mip 135, 197
csep- Hu 110
csepp Hu 110
csigolya Hu 110
csilla-g Hu 94
csillan Hu 94
csónak-kal Hu 84
csöpp Hu 110
csoro-g Hu 18, 110
csún-ik Hu 110
csuro-g Hu 18, 110
čuečče- Lp 55
cuentos Spa 273
cuj- Miss 118, 268
cuj-mukse Miss 118, 268
čuk Zr 116
**čukka* PUr 111
**čukkV* PFU 99
čukú-l-iʔ Mics 84
čú-kum-wamaj MaNi 174
čul' Vg 28
čul-ka Mip 116
cúm-cum Mil 111
cumme-to-k Mi 74
**cu-ne* MaKo 150
cun-h- Miss 115
čuni CoMu 110
cunu- Miss 27
čunu CoMu 110
cunu-s-u- Mip 115
cunu-sum ke-lam Mip 115
čuoňče- Lp 55
čuožžo- Lp 55
čup Vty 142
čup Wi 184
čuq- WiWt 111
čuš OsI 135
ču-s WiWt 115
cuʔ- Miss 135
**čVnə* PUr 110
**čVppə-* PFU 110
čy-k MaNi 174
čy-l- Mics 87
čylyʔ-peʔ Mics 87
cyl-a- Miss 116
**cylla* PMie 116
čyōnne LpK 115
čyōn'ža- LpK 54

-da Wi 82
**dak* PMa 158
**dák* PMa 142
dák MaMd 142
dam-maj MaMd 154
däptə U 60
de MaNi 164
déi-po MaKo 276
déi-pom-póko MaKo 276
dək MaNi 142
déltáj-t Hu 82
dí MaMd 143; MaNi 28, 143
**díh* PMa 143
do Ma 138
dó MaMd 142
do- MaNi 142
dob Hu 88
dob-ál Hu 88
döf Hu 88
döf-öl Hu 88
**dóh* PMa 142
dok- Wi 183; WiWt 104
dónte MaNi 36
dörög Hu 242, 255
doy- Wi 85
doyu-t Wi 85
dum MaNi 143
dum Wi 258; WiPar 248
dum-ca Wi 143
dum-kun YoYd 230
dum-uk YoYd 230
dürög Hu 242, 255
duš Ma 14

dūs MaMd 142
dusi Ma 14
dusi MaMd 12, 142

**e* PUr 78, 210

e Hu 78

eb Hu 131

ebet- Os 175

**éc3-* PUr 174

eda-ja Es 83

ég Hu xiii, 274

egér Hu 275

ë-gy Hu 210

éh Hu 212

einholen Ger 220

eitik Os 11, 173

aj-pä OsE 98

eku Mip 26, 27

**ekw* Vg xiii

ekwe CoMu 90

ël OsN 172

ël- Vg 180

el- Vg 35

ela Mi 89

**elä* PU 90

elä Fi 90

elä-ja Mip 35

elä-vä Fi 87

ele Km 90

ele Yukagir 90

elə OsV 178

elle-kish CoScl 89

elö-tt-em Hu 77

el-talál Hu 198

emb-er Hu 38, 262, 273

emets-pu CoMu 98

empə Vg 28

**em-pe-er* Hu 262

én Hu 71, 91

ének Hu 88

Énekel-tek-e? Hu 89

ēp VgN 172

epe Hu 103, 113

ér Hu 113

er- Hu 113

ëri Vg 128

eriy-saw Vg 243, 255

és Hu 217

es-hu MaNi 173

əsi VgK 111

es-ik Hu 111, 174

espalda Spa 121

est Hu 174

es-t- OsS 111

estə- Os 173

e-szik Hu 164

**ét* Hu 95

et OsN 172

et- Os 172

ət- OsS 231

ēt' Vg 123

etə OsS 178

ətək Os 173

é-tel Hu 164

ət'ax OsV 173

etsi- Fi 94

etsi-nko Fi 94

ëttep- Os 172

ev- Hu 59, 60, 113

ëv- Hu 60

év Hu 59, 60

eves Hu 60

ewi MaNi 172

ëwi OsN 172

ëws OsN 172

exe Co 90

e-z Hu 78

e-z-ek Hu 78

fa Hu 103, 157, 197, 232, 266

facsar- Hu 103

fakad Hu 103

fal Hu 30, 32, 209

fan Hu 277

far Hu 201

farkas Hu 201

farok Hu 201

far-ol Hu 201

fáz- Hu 232

fázik Hu 103, 161

faz-ék Hu 36, 232

fecske Hu 132

fél Hu 141

férj Hu 273

fészek Hu 136

fi Hu 161

- fiú* Hu 159, 161
**fiw* Hu 159
fogo-k Hu 91
fogo-m Hu 91
fog-t(a)-l(a)-k Hu 91
folt Hu 195
folyik Hu 21, 103, 162
folyó Hu 21, 103, 162
fon Hu 120, 158, 277
 fon-al Hu 158
 fon-at Hu 158
 fon-ó Hu 87
fö-nn Hu 82
fű Hu 160, 276
füve- Hu 276
fúl Hu 160
fulánk Hu 160
füst Hu 12
- gál'gát* Lp 263
gielo Lp 109, 125
gikkâ Lp 124, 254
gleich- Ger 147
goarâ-n Lp 127
graben Ger 127
gybal- Zr 269
gylal- Zr 105
gyó- Hu 240
 gyógyít Hu 123
- háaja* Mil 107
hab Hu 269
hábor-og Hu 269
hábor-ú Hu 269
hač- Mics 189, 202
ha-c Miss 202
hácah Mil 202
hacc- Mib 269
haci-t-y Mins 202
ha-ci-^o Mip 94
hacy Mip 202
hadi WiWt 269
hág Hu 131
hagy Hu 267
hagy-máz Hu 118
Hain Ger 248
haj Hu 267, 271
haj- Hu 109
- haj-* Mi 109; Mib 266
haj! Hu 105, 261
ha-j- Mics 107, 266
haja Miss 267
ha-ja- Miss 193
hajá-po- Mics 95
 hajá-po-nyky- Mics 95
haje- Miss 99
haje- Miss 107, 267
háje- Mics 99, 107
 háje-t Mics 99
hajim Vg 205
hajtt Hu 107, 266
haj-nal Hu 99, 105, 193, 266, 271
hajó Hu 267
 hajó-s Hu 83
 hajó-s-t-úl Hu 83
haj-t Hu 266
haj-tu Miss 267
háj?i Mics 267
hak- Miss 270
hâk CoMu 270; CoRu 270
hâk MaMd 143, 270
hal Hu 31, 105, 143, 267
 hala-k Hu 73
halad Os 270
hâl-bâk Ma 31
hal-bâka MaMd 143, 159
halk VgN 267
hal-ok Hu 267
ha-lyk MaMd 153
ham- Miss 152
ham-e- Miss 152, 268
 hame-j Miss 268
 hame-j-aH Miss 152
 ham-e?-a- Miss 268
hâm-lik Hu 267
**ha-na* Mics 189
há-na Mics 199
hanáaj Mil 199
hana-na Mip 199
ha-na^o Mics 199; Mins 199
hangya Hu 269
hant Hu 268
hany Hu 268
hány Hu 121, 268
hap MaMd 144
háp MaMd 171

hápa MaNi 144, 269
hapo- Miss 269
harag Hu 268
harap Hu 267
harina Spa 201
has MaMd 268
häs MaMd 144
häs MaMd 269
haş- Mib 269
**haşy-m* PMie 17
hat Wi 32
hat- Miss 270
hařina Mins 201
hat-u-k Mip 94
hat-van Hu 99
hava- Hu 149
ház Hu 109
 haz-a Hu 84
 háza-im Hu 79
ha²- Miss 133
há²- Mics 132
he Co 90
hegy Hu xi, 17, 105, 261, 272
 hegy-al-ja Hu 17
héj! Hu 105, 261
hejaH- Miss 267
hej-em Miss 267
he-ji Mics 267
he-ji Miss 98
hé-ji Mics 98
**hél-a* PMi 90
hele-kasi Mics 149
hél-lam Mil 267
helwa Mib 267
hem-el- Miss 268
hèmi Ma 261
**hen* PMi 144, 247, 257
hen Mim 247, 257
hena Mip 247, 257
hen-it Mip 107, 269
here Hu 268
hesa Miss 268
he-se MaNi 268
hesu MaMd 268
hét Hu 95
het- Miss 270
hé²- Mics 132
he²é Ma 90

**hi-* PMi 271
hí- Mib 269
hi-bi Ma 37
 hi-bi-m pata Ma 37
hibí MaMd 271
híc- Mib 269
hih-to-ja Miss 272
hi-hy Miss 272
**hii* PMi xi
hii Mib 271; Mil 271
hii-k Miss 271
híin húje Mib 107, 271
hiiri Fi 275
hii-sok Miss 271
hii-soku Mics 271
hišy-m Mics 272
hij Mi xi
**hijby* Ma xi
hijka Mics 190, 217
hij-soku Mics 271
hikka-ja-ti Miss 79
hil-a- Mins 272
hilá-ŋ Mics 272
hilt Mi xi
hi-li-ča Mics 272
hili-ny Mins 272
hili-t MaNi 272
hi-ly-ky Mics 272
hím Hu 105, 150, 261, 265
him-a-da Wi 82
hin MaNi xi, 272
hi-n MaNi 272
hín MaMd 272
hin- Mim 268
hini MaMd 272
hini-pypyj MaNi 272
hin-mak MaNi 272
hín-nak Mil 272
hin-ukan Mim 209
hín-wo MaMd 272
hiš-a-ša Miss 133
hiso-k Miss 79
hišó-t Mics 272
hīsū-m Mics 272
hišy- Mi xi
hi-sy- Mins 272
**hišy-alla* Mi 18
hišy-m Mie 17

hi-sy-to-k Mins 272
hi-ti Mim 275
hiw-y Mip 271
híy-is CoSL 271
híz- Hu 231
 híz-ik Hu 270
híʔ-a Mics 133
 **hlapi* Wi 181
 **hlube* Wi 181
ho OsN 134
hó Hu 11, 149, 267
hó Ma 90
ho- Wi 90
hoca Mil 269; Miss 269
 **hocca* PMi 38
hocca Mib xiv
hočča Mim 269
 **hocco* PMi 269
hód Hu 107, 269
hō-hōʔ YoYl 90
hoho-loj Miss 269
 **hoj* MaNi 271
hoj- Mi 109; Mics xi, 189; Miss 107
hój- Mics 105, 266
ho-ja Mics 267; Miss 267
hój-a- Mics 192, 204
 **ho-jeʔ* PMiw 107
hojeʔ, hoj-eʔ Mics 99, 193
hójj- Mib 107, 267
 hójj-ak Mib 107
hójpu Mil 233
 hojpu tiija Mil 129
hojʔepa, hojʔepa- Mics 105, 193, 271
 hojʔepa-j- Mics 99
hok Sk 116
hok- Miss 270
hokel- WiWt 270
hok-e-t-i- Miss 193
hol MaNi 31, 105, 267
 **hol-* PWi 267
hol- Hu 267
hól-em bin MaNi 143
hol-hol MaNi 143
hol-hol Mil 34
holk- Miss 267
hóll- Mib 268
hólli MaNi 143
 **hollu* PMi 267

holo WiWt 267
holō-meti Mins 31
holol Wi 182
hol-ti, hól-ti MaKo 31, 143
hól-tih MaNi 143
hól-main MaNi 143
hol-wu Mins 32
hólyag Hu 267
hom- Hu 229
 hom-lok Hu 152, 268
hóm-ěču-no Miss 276
 **hom-mokosu* Mics 118, 268
hom-ok-iliw-a Mip 108
homo-kosu Mics 118
homorú Hu 152, 229, 268
ho-moske CoSCL 118
 **hon* PMa 120, 246, 247
 **hon* PPe 257
 **hón* PMa 137, 144
hon Ma 246; MaMd 257
 hon MaNi 144
 hon-di MaNi 144
 hon-na MaNi 144
 hon-nan MaNi 144
hon Miw 191
hon- Wi 182
ho-n Wi 182
hôn MaMd 144
hón-aṭ-ki- Mics 120
hon-da Wi 182
ho-ne- Miss 121, 268
hon-hima- Wi 182
 **hoy-hoy* PYo 212
hón-na MaKo 144
hóy-o- Mics xv
hón-o-ča Mics xv
hoyo-ja- Mics xv
hóy-oju Mics 268
ho-n-pom Wi 182
 **hont-* Mi 109
hóy-u- Mics 88; Miss 88
hoy-ú-j- Mics 88; Miss 88
hóp- Mi 269
hop-jux Os 146
hopo- Miss 269
horul Hu 268
hó-še Mics 269
hós-o- Mics 269

ho-so-l WiPa 269
hosszú Hu 109, 268
höt OsS 105
hoto MaNi 231, 270
**hotol* YoN 182
how- Miss 267
howóš Mics 267
ho²- Mins 132
hu MaNi 173
húc- Mib 268
huc-e-j Miss 268
húgy Hu 269
húje Mib 266
-húje MaMd 267
húje Mib 107, 271
húje- MaNi 265
huj-nè mā VgN 154
huju-pe Mics 200
hul MaMd 267
hul- Mi 109; Miss 267
húl- Mics 105; Miss 105
hül Mil 31
hül WiPa 31
hu-l- Miss 267
hule Mib 105
hu-leh Miss 267
hule² Miss 267
húli Mib 267
hulu MaMd 149
 húlu-pit MaMd 149
hulu-woj Mim 167
hul-w- Mics 105
húl-w Mics 267
húl-w- Miss 105
húl-wu Mics 267
humaia CoMu 266
hum-ele Miss 266
humli-la- Miss 268
**hun* Hu 247, 257, 268
hu-n Hu 82
hun- Mics 167
 hun-uj Mics 167
huna Mil 268
hunam MaNi 153
 hunam-laj MaNi 153
huny Hu 272
hu-p WiWt 269
**hup-* Mi 269

hupa- Mins xv
hup-a- Mins xv
hupi- Miss 269
hur WiPa 31
hurul Hu 268
hús- Mib 268
hušta Miss 268
húsz Hu 96, 109, 266
hú-tija Mics 250, 258
hutili WiPa 39, 249, 250
hut-tuj MaNi 231
hu-tuj Mim 149
hutu-l WiPa 269
hút-us Mib 270
huu Fi 275
huuhu² YoChu 90
húul Mil 267
huul Mil 31, 105
huutuli Mil 258
húz Hu 231, 270
hy MaNi 159
hyHL-ŋHe- Miss 196
hy-h-y Miss 218
 hy-h-y-tki Miss 218
hyj- Miss 205
hyjep-a-po- Miss 205
hyjep-peH Miss 205
hyji-e-ŋHe Miss 205
hyl- Miss 267
hyle-t- Miss 196
 hylet-et- Miss 196
hyli-lisno MaMd 272
hym-a- Miss 268
hyŋ-a-ŋi Mins 210
hy-pyw MaNi 159
h-yšy-mati Mics 203
hyt MaNi 231
hyt MaMd 231
 hyt-pe MaMd 231
hyt MaMd 270
hyvä Fi xii, 275
hywa-t Miss 267
hy²y- Mics 90
hy²-y- Mins 133

i Os 76, 78
i OsI 210
i- Os 190, 210

-i Wi 182
**íce* PFU 178, 204
id-e, i-de Hu 84, 210
ig-en Hu xii, 113, 275
í-gy Hu 210
th Hu 212
tj Hu 83
 tja-s katona Hu 83
 tjá-sz Hu 83
ilä Vg 184
ilä-pärä VgLM 201
i-lyen Hu 210
ily-sa-k Sk 93
im Ch 31
im Zr 31, 32
ime Mot 31
in Os 173
in Vg 189
ín Hu 113, 158
in- VgLM 201; VgP 201
in Vg 182; VgT 173
in, i-n Os 173, 210
in-ti VgT 173
-ipe Yr 31
i-pis OsI 210
**irkä* PFU 273
is MaNi 21
is Os 178, 204; OsS 124
is Vg 189; VgN 135, 204
is- Vg 111
**íše* PFU 178, 204
isem OsS 124
ise-muk Hu 72
isi VgN 21, 173
isi-we CoMu 21, 111
iski Os 11
is-kit MaNi 21
isu-we CoMu 111
is-xor Ob 204
is-xor VgN 204
isz Hu 204
i-szik Hu 170
isz Hu 135, 178, 204
it VgT 173
it' Vg 123
i-t Os 78
itka- CoRu 25
it-t Hu 78, 82, 84, 210

itxa Vg 25
ityk Ma 11
iz Hu 204, 231
iz Zr 124
 izan Zr 124
izé Hu 231
izel Hu 204
iz-zad Hu 231
iz-zó Hu 231

ja MaMd 145
j-a Miss 194
-ja Miw 191
já MaMd 144
jā VgN 144
jä Vg 162
jā VgLM 162
jahwo Mip 124
jajz Os 172
jaj wer WiPa 30
jak OsN 145
-jak Miw 191
-jak Os 191
**ják* PMA 146
jäk MaMd 146
**jaka* PUr 108, 123
jaka MaNi 147
jaka- Fi 123
-jàká MaMd 146
jakak-ak Miss 145
**jaki* Tv 123
jak-ka MaNi 146
jakkáh MaMd 146
jäkuh MaNi 147
jäkw Vg 26, 27, 222
jal Vg 181, 184
jal- Wi 184
jal'- OsVy 55
jal'a Yr 124
jale Tv 124
jal-el Vg 84
jali Yen 27
jäl'li Lp 124
jam OsN 123
**jama3* PU 144
**jamə* PU 123, 240
**jam3* PU 253
jam-eH Miss 127

- jämés khum* Vg 240; VgN 253
jäm-üs VgK 202
jaylaj-ny- Miss 124
janís OsN 170
jant- Os 87
janxi Vg 124
jap MaMd 148
jaš OsN 170
jaš VgLM 134
jäs VgT 134
jäsi Vg 151
jássu Mil 128
jat-a- Miss 123
jav- Hu 240, 254
 javas Hu 123, 240, 254
 javas asszony Hu 145
 javtt Hu 123, 145
 **jaw* PPe 128
jaw MaMd 147; MaNi 147
 jaw-ni MaNi 147
jawa Mins 128
jawe MaNi 147
jawe Mics 26
jaw-e Miss 83
 jawe-ja Miss 79
 jaw-e-s Miss 83
jawät OsE 95
jawí MaMd 147
jáwuk MaNi 147
-jax Os 47, 191, 194, 266
jäx-xäti VgN 145
ja[?] Miss 134
ja[?] Mins 134
jə Os 178, 219
jéb Mil 127
jébbá Mil 127
jebek MaNi 148
jecha- Mil 124, 151, 152
jecca Mil 124
jeéba Mil 148
jeép- Mil 148
je-h- Miss 134
jeji OsTr 172
jekw- Vg xiii, 124
 **jelä* PUr 124
jelo-ze Yukagir 124
jel-pökhi VgLM 208
jəm Os 145, 240; OsE 253
jem- VgN 201
 **jem-pa* Mics 240, 254
jəm-pelək OsS 145
jəm-saj OsS 145
jen-pa Miss 240, 254
jen-wa Mics 240
jén-wa Mics 254
jep- Mil 148; Mins 148
jép Mil 127
jēs VgL 134
jesá MaMd 148
jesi Vg 151
jēsi Vg 124; VgN 172
jesi- Vg 152
 **ješV* PFU 124
jət OsS 231
jēti- Vg 38
jēt-kū Mins 38; Mip 38
jet-n OsNi 123
je-wa Mins 128
jewər Os 27
jewko MaNi 147
jewrə Os 27
je[?] Miss 134
ji Os 178
ji VgT 178
jile-[?] Yr 93
 **jim* PMA 145
jim- MaMd 145; MaNi 145
jihk Os 166
jihk Vg 12
jiñt'- OsVy 55
jir Wi xiv, 28
 **jis* PMiw 128
jis aj-ket OsS 170
jit VgLM 173
jit Zr 123
jit' Vg 123
jity- Vty 123
jiw VgN 146, 178, 219, 257
jiwko MaNi 147
jiw-saw VgN 161, 248, 257
jiw-saw VgP 161
jiw-wāj VgN 166
jó Hu 123, 145, 240, 254
jó MaMd 144
-jó Hu 145
jə VgK 144

jö Ma 162
jõ Hu 178, 219
jo- MaNi 145
jobb Hu 145
joh Hu 212
johe Yn 123
join Eng 134
jøj OsVy 60
jo-j- Miss 128
jök- OsS 124
joka- Mi 108
joka-m Mim 123
**joke* PUr 145
joke Mim 123
jo-ke Mins xiv
jókko Mil 127
jokol MaMd 145
 jokol-kö MaMd 145
joko-ti MaMd 145
joko-tobi MaNi 147
jok-ta OsN 145
jol Vg 181
jol- Mi 274
jolili-pa Mins 196
joli törém ObU 20
jo-lók MaMd 125, 153
(jol-)-wayl- Vg 99
**jom* PMa 145, 239
**jom* PPe 240, 254
jom MaMd 276; MaNi 123, 145, 240, 254
jom- Miss 254
jôm MaMd 123, 145, 160
**jomə* PU 123, 240
**jomə* PU 145, 241, 253
jomə-s Vg 123, 144
 joməs khum Vg 123, 144
 joməs-päl VgN 144
jomim kylé MaMd 145
jom-my-se MaNi 145
jompa Ma 240
jom-pa MaMd 145
jom-ta WiPah 123
jóm-ta Mil 123
jomu Mib 240, 254; Mil 240, 254
jómu Mil 123
jomún-naka Mil 123
 jomúnnaka kócca Mil 240, 254
jö-n Hu 178
**jõyз* PU (or PFU) 178
jo-nó MaMd 144
jo-no MaNi 145
jo Vg 128
jorn-sir Os 251; OsN 258
jós Hu 123, 145, 240, 254
jøs VgK 134
jos- Miss 27
jos- Vg 27; VgN 168
josá MaMd 148
josá-no MaMd 148
jos-wata VgN 168
jot OsV 173
jot VgN 173
jót-mu- Mics 123
**jotok* PMiw 127
jot-ót MaMd 231
joukko Fi 265
jövõ Hu 219
jow MaMd 123, 145, 160, 276
jow-e Miss 145
jowok Miss xiv
jow-t Vg 26
jowt-kwäli-y VgT 152
jox Os 144, 146, 266
joxo CoMu 123
joyən Os 144
jo²- Mil 134
jo²-weda MaNi 162
ju- OsS 146
jú MaMd 146
 ju-to MaMd 146
ju- MaNi 146
juh Hu 212
**júh* PMa 146
juj Vg 181
júkbo MaMd 124, 145
**juke-* PFU 170
jul- Mi 274
**jül-* Mics 28
jül- Ch 124
jul-a Mip 124; Miss 124
ju-n Vg 82
jungo Lat 134
junni Vg 27
juppa Mib 148
jur Vg 204

jūr Vg xiv, 28
jur-xul Yr 167
jut Ch 123
jut Yr 95
jut-a- Miss 123
jute Miss 124
jute- Yr 123
júte Mib 123
jutta OsS 146
**jutta-* PUr 123
jútte Mib 123
jútte mícca Mib 124, 266
ju-tu Miss 123
jutu-ja-ti Miss 124
**jütV* PUr 123
ju-w Miss 128
juwa-l Miss 147
juwa-l-y Mins 147
juwel Mics 27
juwul Mics xiv
juwule Mics 28
jux Os 146
jux-sax-se Os 141
jux-woj Os 141; OsV 167
**ju-xun* Hu 120, 144, 212
**juye(-ü-)* PFU 170
jyk-kyk MaMd 145
jyl- Mi 274
jýl-a Mics 95, 124
jýl-y- Mi 73
jymo- Miss 240, 254
ju-n Miss 147
jyná-š-e- Mics 93
jýŋ-e Mics 124
juynt'- OsVy 55
juynt-əp OsVy 87
juypy- MaMd 148
juypy-hèkiti MaMd 148
juypy-e MaNi 148
juypy-m sòli Miss 148
ju-wy- Mins 147

kaac Mil 263
kaawul Mib 210
**kaáca* PFU xi, 17, 272
kac-a Mip 108
kaça Mi 109; Mim 112, 263
kácca Mib 112; Mil 112

kácc-en Mib 263
kacu-t- Miss 263
kacy- Mip 217
ka-cy Mins 217
ka-cy- Mins 217
ka-cy-me Mins 217
kač-y Miw 190, 217
káč-y-š-y-k Mics 94
ka-cy-to-ʔ Miss 217
kaike-ti Fi 82
kaj Mins 128
kaj MaMd 267
kaj OsE 107
kaj VgN 254
kaj- Vg 109, 124, 241, 243
káj VgT 263
**kaja* PFU 107, 109
kaja-ms MdvE 107; MdvM 107
kajan Mins 128
**kajə* PFU 107, 109
**kajz* PUr xi, 271
kaji VgN 263
kaj-ne xum Vg 42
kajoa Fi 105, 109
kaj-saw Vg 42, 243, 255
káj-suw VgN 218
**kakta* PFU 95
**kaktä* PFU 95
**kakte* PFU 80
**kal-* Mins 210
kal Vty 108
kal- OsE 105
-kal Mics 191
ka-l Miss 210; Miw 210
ká-l- Mics 124
**kala* PUr 31, 105, 109, 143
kala Fi 31, 105, 109
kala- Mics 190, 210
kala-n Fi 91
kala-ŋ- Mics 124; Miss 210
kala-t Fi 79
kalé- Mics 210
**käle* PUr 108, 109, 125
kal-ek Mics 89
kále-n Mib 152
kali Mi 109; Mim 108
kāli, kali Vg 180, 181
kāli, kali WiPa 26, 108, 152, 263

kalim Vg 48
kāli-γ Vg 26
kal-ya Mics 210
kālu VgT 152, 158
ka-lypa Mins 214
kalyt-a Mins 210
kam MaMd 267
-kam- VgK 267
kan Vg 175, 181; VgK 264
kān Vg 181; VgK 264
**kanə-* PFU 121
kāni Mil 76
kānił WiNo 264
**kan-lek* Mics 89
kapa MaNi 146
kapaj VgN 146
ka-pa² MaNi 146
kāpi VgLM 146
ka-puh Mip 107
kār Os 107
kār Vg 88
kar-elli Vg 128
karhu Fi 257
karhun putki Fi 249
kar-k CoRu 128
karka CoMu 128
kār-kej Vg 128
kas- ObU 198
kaš- CoSCL 132
kās VgN 263
kās Vg 190; VgN 149, 217
kās- OsN 217
kaś VgN 264
kasa Fi 17, 272
kāsa Sa 262, 266
kāšā- VgP 263
kašat OsS 198
kāse- VgP 189
kasē-li VgN 198
kāse-li VgP 198
kasi MaNi 149
kasi Mim 263
kasi Vg 109; VgN 263
-kasi MaMd 149
kāsi Fi 107, 109
kāsi VgK 132, 263
kāsi VgN 263
kāsii Vg 112
kāsiy VgN 149
kas-m VgN 264
kāš-m VgLM 132
kaš-ris CoSCL 264
kāšše Mib 263
kas-ta Os 116
kāstul VgN 217
kasu VgN 263
kasý-t- Mics 263
kat VgN 265
kat- Mi 109
kāt Os 88
kāt Vg 115
kāt Vg 107, 109
kat MaNi 108, 151, 158
ka-t Miss 209
kata- OsE 72;
 kata-m OsE 72
 kata-n OsE 72
kata- Miss 209
kat-a Miss 209
ka-ta Miss 209
kata WiWt 265
kat-caya WiPa 265
**käte* PFU 107, 109
kāti VgLM 264
kat-khontep VgT 265
kat-körə OsE 127
kat-l Os 88
kat-mil Miss 107
kat-myl Miss 265
kat-no MaNi 108, 151
kat-pis VgN 265
kāt-pis Vg 107
**kat-pus* PMi 107
kāt-suw Vg 115
kat-uj OsE 209
kat-xül-mil Vg 107
kat-xüt-mil VgN 265
ka-u-l Mim 210
kavi-cs Hu 151
kaw VgN xv, 151, 263
**kaw* Pe xv
**kaw* PMA 151
kaw MaMd 151; MaNi 151
 kaw-jakka-ti MaNi 151
 kaw-lu MaNi 151
 kaw-nan-di MaNi 151

- kaw-* OsE 270
kaw Vg xv
kāw Vg xv
**kawa-či* PMi 151
kaw-a-či Mics 151
kaw-a-ci- Miss 263
kawaj Mib 146
kawal Mim 210
kawal Wi 214; WiWt 263
kaw-an-y Mins 151
kāw-dusì MaMd 142
kāw jāsi Vg 151
kawlypa- Mins 214
kawly-paH Miss 214
kawly-pa-j Mics 214
kawul Mib 214; Mim 210, 214
kawúl mu Mib 214
káwul Mil 214
kawyHL- Miss 214
kawyl Mip 214
kawý-l Mics 190
kawy-l-y- Mins 214
kawy-ly-t Mics 82
käy-vä Fi 87
Kazim Vg 132
**kaʔi* PMim 132
**kaʔo* PMim 132
-ke WiWt 264
ke- WiWt 263
kec WiWt 263
**kečä* PFU 56, 108, 109, 112
kec-a Mi 108; Mip 112
**kečə* PFU 108, 109, 112
kečə OsS 112
keči- CoMu 263
**kedé-* PMa 151
kede MaMd 151
kede- MaNi 151
kedé-kyto MaMd 265
kégy Hu 263
kegye-let Hu 112, 263
kehä Fi 112
kéj Hu 124, 241, 254, 263
kéja Mil 263
**keje* PFU 108, 109, 124, 241, 242, 254
kej-ta xo, kej-taxo OsN 242, 254
kéju Mil 108
kel VgN 263
kel WiNo 227; WiWt 263
kel- Hu 210
kel- Mi 109
kel- Vg 109, 227
kel- WiWt 263
keta- Mi 109
kela Wi 180
kela Mics 11
keta Mil 107, 264
ke-la Mics 265
kelama- Wi 180
kele WiWt 263
-kele Wi 180
kel-e-l Wi 180, 181
kelél-i Mics 265
kelet Hu 210
keli Vg 11
kēli OsE 264; Vg 264; VgN 263
kélip Mil 264
kell Hu 263
kelp Vg 125
kelp majt Vg 125
kel-p Miss 264
kel-tan Wi 181
kéluh Mil 108, 264
kemi MaKo 261
**-ken* Os 80
ken Miss 89
ken Vg 22, 175
ken Wi 180, 181
kēn Vg 180; VgL 264
ke-n WiWt 264
kəŋč OsE 263
kene Os 96
kengy-el Hu 264
keñir Vty 264
keñir-t Zr 264
ken-lek Miss 89
**kenne* PMi 96; PMiw 96
kěnnī-lílek Mim 213
kěňš Vg 264
**kens* CoRu 264
ken-ti Wi 22, 82, 181; WiWt 264
kenyér Hu 264
-ke-paj MaNi 146
ker- Vg 107, 108, 109; VgK 264
ker- WiWt 264

kēr VgL 264; VgN 264
kér Hu 264
**kerä* PFU 108, 109
kerä Fi 108
**kere* PFU 107, 109
kéreg Hu 107, 264
kerek WiWt 264
kerék Hu 108
keri Fi 107, 109
kēri VgN 264
kér-né-m Hu 94
kero CoMu 108, 264
kérödzik Hu 264
ker-ta? WiPa 264
kerül Hu 108, 264
kes Vg 263
kés Hu 25, 112, 263
kése WiWt 263
kesi Vg 25, 27
keso Fi 263
késsa- Mib 263
kész Hu 263
keszeg Hu 263
kæt MaNi 168
kæt OsS 107
ket OsN 265; OsS 108
-ket WiWt 264
kēt₃ OsS 151
ket-er VgP 270
kēti VgN 264
ket-pis Vg 107; VgN 265
kett-ő Hu 80
ketu- Mil 263
kew OsN xv, 151
**kewde* PFU 108, 109
kewel Wi 21, 22, 194; WiNo 85, 263;
 WiPa 22, 85, 227
kewel panti Wi 22
kew-mā VgN xv, 151
kéz Hu 107, 265
keze Ch 109, 112
khas-, khäs VgT 144, 268
khäsēñ urā-n VgT 202
khasēp VgK 202
khâtēl kwalne VgN 215
kheri WiPa 264
khete WiNo 107, 265
khøj VgT 193
khōl VgT 143
khōlä VgL 267
-kholwē VgL 267
kho-m VgK 150
khontep VgT 265
khor- VgL 268
khorri VgL 268
khosi VgT 269
khqumi VgK 267
khuj-khwöltän VgLM 193
khul-sēnex VgLL 221
khul-woj VgN 166
khum VgN 144, 253
khunš VgL 269
khünt Vg 35
khut Vg 35
khwōl VgLM 193
ki? Hu 264
kic Zr 109
kič Yukagir 272
kiccih şaṭi Mib 98
kiče Mi 108, 109; Mics 27, 112; Mins
 112; Mis 25; Miss 112, 132
kiče Mics 200
kicé- Mics 263
kičéya Miss 274
kičil Yukagir 272
kiči-s CoSČl 28
kič-kičy Mics 263
kid WiWt 268
kidde Taig 95
kid₃ OsS 151
kierä Fi 108, 109
kiero Fi 264
kiili Es 108; Fi 108, 109, 264
kiuš- Mil 263
**kije* PUr xiii
kijó Hu xiii
kik Mim 161
kil VgN 151
kila OsI 264
kilah WiWt 125
kile CoMu 11, 264
kile Vg 11
kile Wi 108
kilenc Hu 136
**kili* PFU 108, 109
kili Mim 264

- kili* WiWt 125, 263
kili Mib 264
kili- Mi 109
kili-t WiWt 108, 264
-kiliw-a- Mip 108
kil-kile WiPa 125
kilpum CoRu 125
kim Vty 149, 267
kin- Zr 120
kinna Vg 96
kinsi VgN 263
kipis MaNi 107
kipis MaNi 265
kir- WiWt 264
kis Vg 109, 112; VgN 263
ktsál Hu 263
kisép Vg 245
kisi Vg xiii, 28, 245
kis-il WiWt 263
**kisi-oj* Vg xiii
kiskuma Es 263
ktšši Mib 263
kissjat Lp 263
kis-tilep Vg 112
kit MaNi 109, 157, 173
kit VgL 265
ki-talál Hu 198
**kite* PFU 105
**kitə* PFU 198
kitəl Os 265
kit-hulp-low Vg 97
kiti-pel Miss 107, 265
kiti-rox CoMu 265
kit-pil Miss 107, 265
**kit-pis* Ma 107, 265
kit-šos Vg 98
**kitV* PFU 99
kiut VgN 265
ki-vel Hu 85
kivi Fi xv, 74, 151
 kivi-kko Fi 74
**kiw* Pe xv
kiw Wi xiv, xv
**kiwe* PFU xv, 151
kiwe-sa Miss xv, 263
ktwim-seu MaKo 162
kiwis- Miss 263
kiwi-s-nY- Miss xv
- kiwt* VgN 265
**ko* PMi 150
ko Ma 11
ko OsE 150, 265
kó Hu xv, 151, 263
**ko-* PMa 149
ko- MaNi 149, 267
kó- MaMd 149, 267
koč Os 174
köč Os 112
koča Mi 108, 109; Mim 127
 koča-koli Mim 127
kočà- Mics 72, 78
 kočà-j Mics 84
 kočà-m Mics 81
kocca Mi 108
kócca Mib 263
koce- Mins 116
kočes MaMd 264
koče-puH Miss 264
koco Miss 264
kočo Ma 174
kočo- MaMd 152
koi Fi 99, 105, 109, 193, 271
koivu Fi 271
koj Os 241; OsE 150, 254; OsS 150
koj- Mi 241, 243
koj- OsE 267
koj- Zr 109, 124
koj MaMd 173
kój- Mib 263
köj- Os 124
koja Mi 108, 109; Mib 241; Mil 42
kója Mib 124, 254; Mil 124
kojabi WiPa 241
kojánni Mil 42, 124, 241, 242, 254
koja-pe WiPa 241, 255
koja-pe-nuk Mins 241, 255
**kojčV* PUr 108, 109
**koje* PFU (or PUr) xi, 193, 271
**kojə* PFU 105, 109
**koj(e)-mə* PUr 150
koji Vg 190; VgN 220, 263
kojja Mib 127, 128, 263
koj-koj Mim 128
koj-lok OsOb 150; OsV 153
koj-mo- MaNi xiii
kój-ni Mil 124, 241, 254

koj-ny Zr 107
**kojo* Mib 128
**kojo* MaKo 150; MaNi 57
**kojō* PFU 99
kojo MaMd 267
kojó MaMd 150
kojon-kaw MaKo 150
koj-p ObU 42, 242; OsE 254
koj-pa Miss 124, 241, 255
koj-ta-ko Os 246
**kojV-* PPe 254
**kojwa* PUr xi, 271
kójwa Mib 124, 241, 254
kōkēl'ēx Vg 39
kokel-kokela Wi 39
koko Mil 149
kō-ko MaNi 30
kōkom-nok MaNi 30
kók-o-n Mi 82
koko-ra Wi 39
kol Mim 108
kol Os 31
kol Vg 34, 227
ko-l Os 84
ko-l Vg 21
kol- Zr 263
kōl- OsE 105
kōl- Vg 31
kōl' Zr 264
kola Km 88
**kole* PUr 105, 109
**kol'3* PU xi
**kōle-* PMiw 127
kōlē Mim 117
kōlē-mōlū Mim 117, 127
kole-j Km 88
kolām-pa OsE 98, 193
kole?me Mins 174
kol-kali Mim 103, 152, 263
**kolo* PMiw 127
kólo, kolo Mil 128, 264
kol-sir VgLM 218
komb SaS 269
ko-m-in Wi 82
ko-m-sani Wi 182
kon Vg 180
kon Zr 247
kon- Os 121, 247, 256
konč OsE 174
konkow MaKo 150
konlowl VgN 264
kōnnyū Hu 96
**kono(j)* PMA 150
**kóno(j)* PMA 150
ko-noj MaMd 265
ko-nój-to MaMd 150
koňš VgS 269
kōnsi VgK 264
kont' OsK 159
kontēl Vg 28
**konV* PFU 120
kōnyök Hu 264
koo Mib 127, 128
kóoca Mil 96, 266
kóoca-ko Mil 266
kóolo Mil 128
kopa MaNi 146
kopatí MaNi 146
kor Os xiv, 108, 152; OsKa 153; OsN 264
kor Vg 128
kor- Zr 94
korə-g Zr 94
-kor WiWt 268
kör Hu 264
kör- Os 108, 205
kor WiWt 268
**korə* PFU 127
körə OsE 127
kor-em Vg 128
körem Os 205
kor-λou OsKa 153
**koro* PCo 127, 128, 152, 264
**koro* PPe 153
koro CoMu xiv
kos Os 116
kos VgN 152
ko-s Miss 198
koš VgP 269
kōš- Os 196
kōs- OsE 263
kos- Mics 189, 198
kōš- Mib 263
**kōša* PFU 116
kose Os 263
kos-əŋ Os 116

- kosī* WiPah 256
kosī mūlī WiPah 246, 256
kos-ij VgP 263
kos-ja Mics 198
kos-la Mics 198
kos-oj YoChu xiii
ko-s-omu Mics 198
kosum Miss 198
ko-su-m Miss 263
kos-ú-m Mics 198
kosumu Mics 198
köszörül Hu 263
köszvény Hu 263
**kot* Os 189, 198
**kot-* PMie 198
kot OsN 265
kot- Miss 265
ko-t Os 82
kot'- VgSo 265
köt Hu 264
köt VgT 264
köt Os 99, 105
kötény Hu 265
**kota* PFU 84, 108, 109
kota Fi 109
**kota-j* PFU 84
kote- Miss 265
kot'-l' VgN 198
kot-o Mics 189, 198
kót-o- Mics 99, 105
kot-o-t Mics 198; Mins 198
koto-wak Miss 264
kot-to- Miss 198, 265
kotuľ, kotul WiNo 28, 107, 269
koulu-i-ssa Fi 79
kova Hu 151
köve- Hu xv, 151
köve-cs Hu 151
köved Hu 264
követ Hu 220
how MaMd 267; MaNi 149
köysi Fi 108
köyte Fi 108, 109
kož MdvM 116
köz Hu 99, 105, 198, 265
kožav MdvE 116
közben Hu 265
koze MdvM 116
közel Hu 265
közel-mültban Hu 265
község Hu 265
kožul Zr 269
ku Yukagir 11, 149
kuci Mins 116, 132
ku-či Mics 263
kučt'- Mics 116
kuc-i Mip 132
kúcci Mib 264
kučs-keťs-i CoMu 264
kudo Mdv 85
kudo-n Mdv 85
kudo-n-t' Mdv 85
kuéssa, küéssa Miss xv
küet Hu 220
kuj Fi 99
kuj MaMd 153; MaNi 267, 271
kuj Mi xi
kuj Zr 109
kuj- Vty 266
kuj-lu-lü-mi MaMd 153
**kuja* PFU 107, 109
kuja-k Miss 244, 245, 256
kuja-k-a Mip 256
kuj-ak-a Miss 244
küja-m Ch 264
**küje* PUr xiii
küjeszt Hu 264
kujj Lp 109
kuj-ly Zr 107
kujme MdvM 267
kujt Miss 220
kujta Os 242
kujta-ho Os 242
kuj-tu Mins 220
kul OsE 105; OsN 108
kul VgS 105
kul WiWt 268
kül MaNi 108, 264
kül Os 108, 109, 264
kula WiPa 227
kul-a- Mins 14
kül-a Mics 149
kulat OsN 264
**kulə* PFU 105
**kulə* PUr 109
**kule* PFU 14

- *kule* PPe 14
kule Mib 14
külé Os 108
kuli OsE 149
kuli WiWt 264
**kulke* POs 270
küllem-púbeh MaNi 161
kul-t Os 79
**kult-* Mib 264
**kulu-* Mics 14
kulu- Fi 94, 105, 109
 kulu-nki Fi 94
kulú MaMd 14, 149
kulul-i Mics 149
kululis CoSCr 264
kulúm pòkó MaMd 159
kul-uṭu Mics 149
kul wel- OsE 68
kum Vg 229, 272
**kúm* PMA 152
kùm Ma 229, 233; MaMd 152, 227,
 229; MaNi 152, 229
 kùm-hý MaMd 152, 229
 kùm-laj Ma 234, 235; MaMd 152
 kùm-mèni MaMd 152, 235
 kùmú MaMd 152, 229
**kumz* PUr 11, 152
kúmlaidu Ma 232, 233
kùm-pýnno MaMd 228
**kumtə* PU 107
kun- Zr 121
**kuña* PUr xi, 272
**kuñú* PFU 108, 109
Kunde Ger 170
**kunz* PFU 247
**ku-ne* MaKo 150
ku-ne MaKo 265
kun-l Vg 84
**kunlul-is* CoSC 264
kuntaa Fi 47
**kuntə* PU 68, 107, 109
kuole Fi 105, 109
kuppis Mim 107
kuppis Mim 265
kur Os 127
kur Vg 127, 128; VgN 264
kur- Zr 267
kür Hu 264
kür Hu 264
kur WiWt 268
kuś VgK 132
kut Mib 265
kut OsI 264
kuṭ CoMu 264
**kütə* PFU 105, 198
kuteHw- Miss 264
kütel VgT 265
**kut-pis* PMi 107; Mim 265
kütt- Mib 264
 küttulu Mib 264
kuttak wakkalaj Mib 265
kutu-m MaNi 35
**kütV* PFU 99
kut-we- Miss 264
kutyá-val Hu 84
kuusi Fi 74
 kuusi-kko Fi 74
küyáke Mins 244; Mip 244
kuž Zr 109
kuza Sa 266
küzd Hu 263
küz-id Os 196
küzü Ch 112
**kuʔi* Mip 132
**kVjye* PFU 124
**kVnV* PU 96
kwäji VgLM 220
kwäl Vg 227
kwäl Vg 180; VgK 85, 263; VgLM
 194; VgP 152
kwälè-päli VgN 210
kwali Vg 108, 109
kwäli Vg 190; VgN 210, 215, 263
kwaliy VgN 263
kwäli-γ VgN 152, 263
kwäl-me Vg 81
kwäši VgN 263
kwät VgL 264
kwät'-l Vg 105
kwel Vg 21, 22, 227; VgK 85
 kwel panti-l Vg 22
kwess VgN 263
kwoji VgN 220
kwons VgN 152
kwos VgN 152
kwot'-al VgN 198

kyč Zr 112
kyča Mics 263
kyc-a Mip 112
kyc-yc- Miss 263
kyj-, kyj- Mics 190, 220
 kyj-wa Mics 220
**kyl-a-* PMi 125
kyl-a- Miss 125
kylä Fi 22, 263
kylém py-be MaMd 161
kyly Mi 109
kylym MaNi 149
 kyly-myse MaNi 149
kyly-t- Miss 125
**kyt-* PMi 265
kyt-e- Miss 265
kyte? Miss 265
kyto MaMd 265
kyyny Fi 272

labas ObU 15
labat OsN 95
**läca* PFU 27
**lačkõ-* PFU 125
ladep Mib 197
lahew-tu? Mip 93
lahi Wi 68
 lahi ča-wi Wi 68
tahi Wi 255
 tahi ča-w Wi 243, 255
lahwe- Mip 93
laiyi MaNi 27
laj VgN 153
láj MaMd 234, 235; MaNi 147, 233
la-j MaNi 153
läj VgK 153
läj OsV 59
**laj-añz* Hu 153
laj-da MaKo 234; MaNi 147
laj-däm-lyly MaKo 234
laji MaKo 234
laji-ma MaNi 153
la-j-ke-paj MaNi 146
laj-men MaNi 147
láj-mèn Ma 234, 235
**lak* PPe 32
lak Vg 32, 183
lak-h- Miss 125

laki Vg 153
lakin-ma-t Mip 93
lakni- Mip 93
lák-šy- Mics 125
läktä Ch 125
**läkte-* PFU 125
lákten-helak Mil 97
**lakV-* PUr 125
lakw- Vg 125
lakwi Vg 153
lal'- OsV 55
lalak CoMu 83
**l'al'z* PU xi, 272
lalka-na CoMu 83
lal-pam OsE 277
lam Wi 154
lām VgN 154
lām Vg 125
**lämčä* PFU 125
laməs OsKa 194
**lámg* Hu 230
lamiš VgN 194
**lamma* Miw 230
lamma Mib 230
lamma Mim 230
lām-tēp VgLL 164
Landsmann Ger 194
láng Hu 230
lant- OsS 228
lanti Mil 228
lap Vg 184
lap- Wi 184
l'ap- Vg 103
la-pa Mins 103
**läppe* PFU 103
laq Wi 183
las Vg 27
laš- OsO 55
laš- VgN 134
laš-a Mics 125
laske- Fi 125
lassa Mins 27
lašša Mics 27
lasun CoMu 125
lat Mib 197
lát Hu 95
 lát-ná Hu 94
 láto-k Hu 91, 95

láto-m Hu 72, 91
-lat-a Miw 190
latiy kēti VgN 264
l'atyi Vg 190; VgN 197
laula-k Fi 93
lāutta OsN 208
law-a-ti-ti- Mics 79
lawəpta- Kr 208
lawi Vg 125, 206
lāwi Vg 190, 206
la? Miss 134
lé Hu 125, 154
lē-ány Hu 153
leć Zr 125
leg-elő-ször Hu 88
leg-jobb Hu 88
leg-ottan Hu 88
lej- Vg 234
lej-wo MaMd 153
le-ka Mics 189; Mins 197
le-ka- Miss 197
le-ka- Mics 197
lek-aj Mins 197
le-ka-n Mins 81
le-ka-ti Mins 197
lek-ejeksy Mins 197
leket-waji Mins 197
lelt'-s Mics 272
le-lot MaNi 234
lēsi Mics 272
**.lēme* or **leme* PFU 125, 154
lemè- Mics 189, 194
lem-yi Mics 194
lem? Mil 126
ləy Ch 88
le-n-da Wi 82
**lepə* PFU 88
**.lepək* PFU 88
lepək OsS 198
l'epk Vg 189; VgN 197
ləńk Kr 198
lep Hu 103
lep- Vg 103
lep-a- Mins 103
lepá-š-e-t Mics 93
lēš Vg 125
les Wi 276
lesen Ger 147

leuti VgN 208
lēuti VgN 208
leve Hu 125, 154
leves Hu 125, 154
lewāti Vg 190, 208
lewim- OsSur 208
**lewle* PFU 98
le-wo MaMd 153
ley- Vg 234
ley- Wi 234; WiPa 234
li-e-m-aty Mics 272
liemi Fi 125
lūile Mib 213; Mil 213
lūile kani Mil 213
lūile-wali Mil 272
liili Mil 213
lij- OsO 60
lij- Vg 234
lija-ta MaNi 234
**lije* Mics 272
lik-a Mip 197
lik-a- Mins 197
like Eng 146
lik-i CoMu 125
l'ik-my- Zr 125
likni CoMu 125
lik-otwi- Miss 197
lik-ta Mip 125
lilaw Mil 206
**lt-le* PMi 272
lile Mi xi; Mics 272; Mim 213
lil-e Mics 190, 213, 272; Mins 213
lil-e- Mics 98, 99
**li-le-* PMi 98, 213
li-le Mins 213
li-leH- Miss 213
li-leH-to- Miss 272
lile-h- Miss 98, 272
lilek Mim 98
-lile-k Mim 272
lil-e-kan Mics 213
lil-e-ŋ-e Mics 213
lile-t-y-t Mics 213
lile²cy Mins 213
līllu Mi 213
lilu Mil 213
lilū Mim 213
limə- Mics 189

- lim-e*- Mins 194
lime-kule Mim 194
lime-miča Mim 194
limés VgN 194
limme Mim 194
límme Mib 194; Mil 194
li-n OsN 80
l'iyk VgN 197, 198
lijít'- OsV 55
l'ip- Vty 103
lipi Vg 27
-lipi-sé MaNi 27
lis Os 125
liwa Mil 155; Mins 206
liwá- Mics 125
liwá-- Mics 206
liw-a Mics 190, 206; Miss 125, 206
ltw-a- Mics 87, 125
liwa-ksy- Miss 94
liwá-n- Mics 206
liwa-p-e Mins 206
liwat-peH- Miss 206
liwá-pe? Mics 87
liw-a?-put- Miss 201
lix OsE 198
l'ix VgLM 197, 198
lo VgK 152
loam Vg 125
loám VgLM 154
loátti VgLM 206
loh-a Miss 134
lo-ha Miss 134
lo-hca WiWt 125
ló-ho- Mics 95
ló-ho-yku- Mics 95
loj- MaKo 234
løj OsV 60
loja- Os 153
lok MaMd 125, 153
lok- Os 153
lök Hu 125, 153
lok-a- Mip 126
lökəm Vg 125
łokəy tur OsTr 153
łökim- OsS 125
**łókló* PMi 153
lók-lo Mil 153
lok-lo MaNi 153
lok-ló MaNi 153
loko-lók MaKo 153
lok-oxti Os 150; OsV 153
lokti ke-paj MaNi 146
lok?a-tu- Mip 126
lol VgK 152
lol- Vg 189
lol- Miw 189
lol Vg 153
lól- Mib 195
lo-l- Miss 195
lol-e Miss 195
lolé?a- Mics 195
loli VgN 195
lolo MaNi 152
lo-lo MaNi 152
lol-ok, lo-lok Mip 195
lol-sirx-lu VgK 152
lol-uč-u Mics 195
lolú-k-u Mics 195
lol-uk-u- Mins 195
lol-wa-me Mib 195
lom- Zr 230
loman Mdv 92
lómin bosó Ma 25
l'om-øj Vg 39
loñ-uk YoChu 230
**lönt* Vg xiv
lop-a- Miss 126
lopa-- Mi 104
lopa--a- Miss 126
lop-u- Mics 87
lop-u-ma? Mics 87
lōš VgT 134
lo-s VgN 134
lo-s WiWt 125
lo-sa WiWt 125
loškem Vg 125
łosxij OsN 125
**lōt* Vg xiv
-lot OsN 228; OsS 228
lo-t- Mics 190, 207; Miss 207
łot Os 227; OsN 228; OsS 228
lotu-k-u Mics 207
lot-wa Mics 207
low OsN 124
low Vg 97
lowot Mi xiv

- lowo-t-* Mics 190, 207
lox Os 153
loʔ-oyti OsTr 175
loʔ- Miss 134
loʔ-o- Miss 134
**lu-* PMa 152
lu Vg 124; VgN 152
**lükke* PFU 153
**lükkeV* PFU 125
lükö Hu 125, 153
lüköd Hu 125
lükött Hu 151, 153
lukta Ch 125
lukta- Mics 125
lük-tet Hu 153
lu-l MaNi 153
l'ul' Miss 272
luli Vg 34
-luli YoChu 34
l'ül'i- Vg xi, 190; VgN 98, 213, 272
l'ül'iy VgN 98, 213, 272
l'ül'it VgN 213, 272
l'ül'miti VgN 213
lu-lu MaMd 153
lum VgN 230
lum Wi 154
lúmaa Mis 39
lumaj MaNi 125, 154
lumaj Mis 39
lúmaj Mil 125, 154
lúmi Ma 234
lum-it Vty 230
luñ-kun-üt YoChu 230
luyk OsN 198
l'uyk OsE 198
lup- Mip 126
lūs VgN 134
l'ús-ap Vg 87
lush-mahe Mib 133
lušm VgLM 134
lut- Mim xiv
lut Os xiv, 227
tut Wi 152, 227, 228
tu-t Wi 228
lutatta- OsS 228
tu-tel Wi 228
lutij- OsN 228
lüt-u- Mics 125
tutu-ta Wi 228
tutu-tit Wi 228
lúuma Mil 274
luw Vg 124; VgLM 134; VgN 155
luwat- Mi xiv
**luwō* PUr 124
luwsa-m VgN 134
lúwʔa- Mics 124, 134
luyy-q WiWt 276
lüyət Os 125
lúʔ- Mics 134
lykkää- Fi 125
lykýnno MaMd 153
lyk-yt- Miss 197
lyly MaKo 276
lylý MaMd 276
lyñt' OsV 55
lyt Ma 228, 229
lyt-a- Mip 126

**-ma* PMa 154, 193
ma Ma 23; MaNi 153
ma Vg 253
mā Vg 23, 154; VgN 194
ma- Vg 78
-ma MaMd 265
mä Vg 78
maa Fi 23, 154
máa Mil 75
máa-kko Mil 75, 76
máa-ko, maa-ko Mib 68, 74, 75
maccaw Mib 273
**mäéz* PUr 273
mačo Mim 273
mačoa Mim 273
mac-yly- Mip 118
magy- Hu 38, 47, 118, 133
magy-ar Hu 38, 47, 118, 133, 262, 266, 272
maj MaMd 154
maj Os 154
maj Vg 154
majdyk MaNi 265, 266
majdyk Mi 266
majdyk Wi 266
majen-ko MaKo 150
mak CoMu 68, 74, 80
mak-ke CoMu 80

- ma-ko* CoMu 265
ma-ko Mib 68, 76; Mim 68, 74, 76
mákşa-s Sans 118
mákşikā- Sans 118
mákşv- Sans 268
ma-ku CoMu 265
mal OsI 155
mal WiPa 250
**mälz* PFU 240, 254
mali-yom-ta WiPah 240, 254
malu WiPah 240, 254
mal-yomta sere WiPa 250; WiPah 258
mañ VgN 155
mañ-luw VgN 155
**may* PMie 206
ma-n Vg 76, 78, 99
ma-ŋ Miss 206; Miw 190, 206
mana- Mics 78; Miss 78
manaj MaNi 155
Ma-n-ala Fi 23
mana-li Mics 85
**mañéz* PU xii, 272
**mäñéz* PU xii, 273
**mañéce* PU 118
**manéz* PU xii, 273
mañz Os 155
maŋ-e- Mics 206
maŋ-e-j Miss 206
mañék p̄j' VgN 155
maŋ-am Os 87
maŋi--e- Miw 206
manik Mics 99
mañ-ísi-ké-m VgN 155
mān'ni Lp 87
mañš Vg 118
māñš Vg 266
māns VgLM 272
man-s-am OsN 93
māmšé-m Vg 262
mansi Vg xii, 274
mansi- Vg xii
mañši Vg xii, 38, 118, 133, 206, 262, 266, 272
mānši VgLM 274
mañši-k VgN 273
mañši-ku- Vg xii
mansin Vg 118
mansi-n Vg 34
mañšij OsN 118
mañšijíš Vg 266
man-t Os 85
māñt' Os xii, 118, 273
mān-tal Vg 181
ma-ŋy Mins 206
māre- Vg 129
mas MaMd 193
mās Vg 118
mās Hu 96, 207
mās Os 118, 273
maš Mics 91
maš-em OsN 80
ma-si Mi xii
maško-p-a Miw 193
mas-l- Miss 118
maš-l-am OsN 80
mas-lek Mics 89
mäs-ne VgLM 133
maš-gula Sk 194
maš-šok-a Mics 193
mašu MaNi 273
-ma-šy Mics 118
-mász Hu 118
mät Vg 190; VgN 204
**mat-* PMi 196
mät VgN 204
ma-ŋa Miss 196
maŋaw Mim 273
matèr mätr Vg 204
-maŋi- Miw 190, 204
-ma-ti Mins 204
mätr uj Vg 204
maŋy-m Miss 196
mā-xu-m Vg 265
may VgV 167
may-woj VgV 167
mayət Os 203
māyi Vg 189; VgN 196
**mayō* PUr 194
-máz Hu 118
ma? Miw 189
ma?a-ŋ- Miss 196
**ma?e* Mics 133
ma?ta Mip 196
ma?-ta Mins 196
ma?-ta- Miw 196
ma?ta-la- Miss 196

**mečz* PFU 273
meggy Hu 118
megy-er Hu 118, 262, 266, 272
méh Hu 118
mehi-läinen Fi 118
**mej* PMi 129
mej Vg 154
měj MaMd 154, 234
**mé-j* PMa 154
me-j MaNi 154
 me-j-pe MaNi 154
mej-a OsE 93
meje-pu Mins 200
mej-to MaMd 154
**mek* PFi 73, 74
**me-k* Hu 68
**mekše* PFU 118, 268
mel VgK 155
mäl OsV 155
**melz* PU 155
**mel'ə* PFU 118
mell- Hu 77, 78, 82, 83
melu MaKo 245, 246, 256
mély Hu 155
mēm WiNo 248
men- Mics 206; Miss 206; Miw 190
men- Hu 94, 117, 206
 men-ten Hu 117
mən- Os 117, 206
-men Wi 181
-mən Vg 99
**menčä* PFU 118
**menčz* PFU xii, 273
**meñčə* PU 118
**mene* PUr 117, 206
mene Fi 117
-mèni MaMd 152
meno- CoMu 118
meno-k- Miss 117
menó-k- Mics 118
meno-ku Mins 206
men-ty Mics 118
mese Hu 273
 mesé-l Hu 273
měši VgLM 133
met OsDN 155
méta Mib 196
metos Fi 118, 273

məx Os 154
məyi- Os 194
 məyi-ko Os 189, 194
may-oxtz OsS 175
mey-sem OsV 276
mey-uj OsE 209
 məy-uj-kat OsVy 154, 176
me-ʔ- Miss 133
**mi* PU 90
**mi* PUr 78
mi Hu 78, 90
mi Miss 78, 90
mi Os 23
mí Mil 76
mi- Fi 78
mi- Mics 78
mi- WiPa 85
mic- Mil 273
miča Mim 118, 273
micca Mib xii, 38, 266
mícca Mib 118, 262, 273
mičča Mi 262
mičča-ko Mim xii, 266, 273
mícca-nna Mib 266, 273
mičči Co xii, 274
mic-e-ma Mins 273
mice-mati Mins 204, 273
mici Mi xii
mici-n Mib 273
mičui CoMu 274
miici-n Mib 273
mii tunna-se-n Mics 93
mij Os 154
mij Vg 154
mij-əm Os 87
mik Hu 74
mí-kko Mil 76
mi-ko OsN 265
mi-ko Mip 25
mil VgN 155
mile- WiPa 85
 mile-t WiPa 85
milit VgK 155
min- Vg 117, 190
Mi-n? Hu 78
mina-s Vg 93
**minči* CoMu 274
minčui CoMu 274

- mini* Vg 206
mi-n-i Mi 82
mi-n-i- Mics 83
mi-nne Fi 82
miñ-nē-m VgS 94
miñ-ni VgS 94
min-pa Vg 87
minu-ŋkwe Vg 95
mirte-mak CoMu 273
mis-a Mins 272; Mip 272
misja Mip 272
missa Mi xi
mi-t WiPa 85
mit-ci CoMu 274
mitte-mak CoMu 273
mīū-ko Mip 265
**miw* PMiw 194
miw CoMu 133
miw Os 23
**miw-ko* Mics 18, 189
miw-ko Mip 25
miwok CoMu 133
miwty-ja Miss 79, 194
miw-y-ko Miw 194
miw-y Miw 194
mō VgLM 142, 194; VgP 194
mo MaNi xiii
mō- Vg 190
moanāk Lp 99
moju Mi 129
moke Mins 118
mō-khu-m VgP 194
mokol MaNi 34
mō-tus-jəx VgLM 142
**moksV* PMiss 268
mo-kwāl VgLM 194
**mól-* PMa 155
mol MaNi 155
mol VgN 155
mōl VgN 193
mol- Mil 41
mol-ok Mil 41
molâ- Lp 117
mol'i Vty 118
mol-i- Mics 87, 88
mo-lo MaNi 155
móloi MaNi 155
mo-loj Mip 118
mol-ölt-mēt VgN 155
mol-t Miss 155
molus Mim 118
mōlu sapa Mim 117
**moni* PFU 99
moni Fi 99
mońś Vg 266
mońśi VgN 274
monše CoMu 273
monsie CoMu 273
mont' Vg 118
mōńt' OsI 266
montal Os 118
mos Hu xi, 272
mos OsN 230
mos Vg 251; VgN 133
**moš* PYo 230
mós Vg 47, 48
moš OsN 118
mōš Os 266
mōš-jox, mos-jox Os 118, 266
mōš-nē Os 266
mōš-xu Os 266
moške- PUR 272
mōske- Es 272
mot Vg 96, 97; VgK 207; VgP 207
mōt VgN 207
moťá-m- Mics 97
mó-ťá-me Mics 97
mota-? Yn 93
mot-é-ŋe Vg 97
mót-ŋe- Mics 96
motol Mib 118
mōtta Os 204
mōt wārmel Vg 96
moxta OsI 196
moxtə OsN 196
moxtl OsN 196
mōyəl- Os 203
mōž Ch 118
mo^o- Mics 133; Miw 190, 207
mo^o-a Mics 207; Mins 207
mo^oa-k-u Mins 207
mo^o-ca Mip 207
mo^o-i-j- Miss 207
mo^o-ki Mics 207
mo^o-ta Miss 207
mo^o-tu Mics 133, 207

- *mu, *mū* PFU 96
mū OsN 194
mu Os 23
muc- Mics 118
muča Mim 118
 muča-ko Mim 118
muc-a- Miss 273, 274
 muc.a-maHh- Miss 273
múč-a-ma-ši- Mics 118, 273
mucca Mi xii
mučča Mi 262
mučča-ko Mim 266, 273
mučča-maši Mics 262
mucci Mib 274
mučči-š Mim 274
mučču Mi 262
muccu-juk Mil 118, 266
muccu-māsy Mics 34
muče CoMu 273
**mučə* PFU 118
muci Mi xii
muči-limma kičěya Miss 274
muc-kat-i Miss 274
muč-kul Miss 274
muc-u-ma-sy Mins 273
mu-hi WiPa 246
 mu-hi-ma WiPa 246, 256
**muj* PMi 129
**muk* Hu 68
muk Mip 75
muke-j-y Mins 203
mu-ke-ne CoMu 265
mukol Sk 34
**mu-ko-ne* CoMu 265
mükš Ch 118, 268
-mukse Miss 118
**muk-u* PMi 203
múku Mim 203
muk-u Mics 189, 203; Mins 203;
 Miss 88, 203
muku-j- Miss 88, 203
mul MaNi 155
mul Os 40, 125, 246, 256; OsN 256
mul- Miss 117, 148
mul- Vg 117, 125, 148, 246, 256
mul- MaNi 155
múl Mil 203
múl- Hu 117, 148
- *mulə* PFU 117
múleh Mib 117
 muléh-mi! Mib 117
mul-h-hak Miss 117
muli Vg 125; VgN 256
mul'i Vty 118
muli-i-tok a? Mis 89
mül-tè-ko Os 246, 256
mulu-pu Mics 246, 256
mun Fi 207
mu-n CoMu 194, 265
mún-munim sàwí MaMd 161
muńsi Vg xii, 273, 274
muntəl Os 118
muri Vg 129
mus-a- Miss 274
**mus3* or **muš3* PFU 246, 256
**muške-* PUr xi
musuk-te CoMu 272
mut Os 246, 256
mut-ie CoMu 273
mut-wa, muṭ-wa Mip 274
muw OsN 265
mūw OsN 194
mu-xo OsN 194, 265
muxta OsI 196
müyè- Vg 189
müyèl- VgN 203
muže Ch 246, 256
myj-y Mics 118
myke-j-y Mip 203
myla- Mics 118
mýl-i- Mics 125, 246, 256
 mýl-i-n-l-š Mics 94
**mýlV* PPe 256
mýl'i-pa? Mics 87
myse MaNi 159
my-se MaNi 145
mythos Greek 170
- na* Sk 78, 99
na- Vg 76
na- WiPa 85
**nä* PUr 78, 90, 99, 119, 195
-nä Vg 189
naad Yr 119
náake Mil 121
**náce-* PFU 120

nagyo-bb Hu 89
naj Mics 128
naj- Miss 128
nāj Vg 182, 265; VgN 271
nak OsN 119; OsNi 216
nak Vg 99, 119, 156, 190; VgN 216
nāk MaMd 156
nāk Vg 119
**na·k* PMi 216
na·k Miss 119, 156, 216
ná·k Mics 190, 216
-naka Mics 191
náka- Mil 119
naka(h) Mil 216
nake Mins 216; Mip 216; Miss 216
nake· Mins 156
naké- Mics 216
naké- Mics 99, 119
na·ke Mins 216
nak·e Mins 216; Mip 216
**nāke* PFU 119
**nākə* PU 121
nāke Fi 119
nakè-j- Mics 99, 216
naké-t-i Mics 156, 216
nakl MaMd 156
nákih Mib 119, 216
nakis Mim 216
nák-pa Mics 119, 216
ná·k-t- Mics 216
**nākV* PFU 119
na·ky? Mins 156, 216
nāl Vg 181
nāləm Os 120
nali-man Vg 99
**nālmä* PFU 120
nam CoMu 119, 205
nam- Vg 119
nam- Yr 119
nām Vg 205
naml VgLM 205
nammäs OsE 205; OsSur 206
ɲ-amo Yr 121
**namV-* PUr 119
na-n Vg 76
náy-a Mics 74
naña-k Mi 73
naɲ-at Os 85
ɲ-āni Yr 121
ɲ-āni Yr 121
nāyɣ VgN 156
ná-n·y Mics 119
nán-y-š-y-k Mics 93
nap-este Hu 174
nar Vg 128
nārä-pum VgP 140
nari WiPah 128
nār-saw Vg 248, 257
nas Vg 119; VgN 133
nias VgN 133
nās VgN 133
Nas-a? Vg 89
nāšā VgT 133
nasi-ɲ Vg 119
na-t WiPa 85
näi' Os 120
nāti Mil 119
naŋti-^oolut Mil 119
natt Es 119
**natta* PUr 119
natta Fi 119
nāw- Vg 121
nax Os 156
nax- Vg 191
naxi VgN 156
nax-méli VgN 156
nāx-ta Os 156
nāxwi VgN 197
nāyay Os 156
na^o- Miss 133
ná^o-a Mics 133
ne Hu 90, 119
**ne* PMi 195
ne- Fi 99
ne- Mics 78, 99; Miss 90; Miw 189, 195
ne- VgN 119
ne- MaNi 146, 155
ne- Wi 156
nē Os 262
nē Vg 262, 265; VgN 150, 155
**né* PMa 155
né MaMd 155, 265
né- Mil 195
-né Hu 156, 262, 265
-ɲe- Mics 205
neč-; néč- Zr 120

**neena* PMi 119
negy-ven Hu 99
neh WiWt 265
neH Miss 195
nej Miss 128
ne-j- U 84
neje- MaMd 119
**nekə* PU 121
ne-ke-paj MaNi 146
**neko* Mib 266
ne-ko Os 156
ne-ko Pe 262
ne-ko Mins 195
nē-ku U 262
nelm Vg 120
nem Hu 90, 119
nem Os 90, 119
nem Vg 90
ñem, nem Zr 90, 119
nem- VgN 119
nēm- OsN 119
nemasa OsS 119
nēmi Hu 90
-n-emi Mip 90, 119
nemiy Os 119
nem-it Mip 120
nem-seú MaKo 162
nej Os 156
ney-xu Os 156; OsN 265
**nena* PMi 119
ney-ko OsN 150
nenu-p-u Mip 119
nénu-t Mil 119
nenu-t- Miss 119
nepa-j CoRu 119
nep-it Mip 120
nep-it- Miss 120
ner Vg 128
ness VgN 133
ɣ-esy Yr 116
ñət' Os 120
ne-t- U 84
ñetām Os 87
nē-t-jot VgN 173
ñetmi-j Os 88
nēw- Os 121
nē-xo OsN 266
ne-xum Vg 150
nēy- Vg 121
neyl Vg 119
néz Hu 119
-nHimi- Mip 119
ni- Fi 99
ni- Mil 195
ni- Os 119
-ni Hu 195
niihü Yr 120
nīik Mil 120
ni-je Mip 121
nik OsI 99; OsN 99
nik- WiWt 121
nikama Fi 119
**niike-* PUr 120, 121
niki-ʔti- Mip 121
nikiʔ-ti Mip 215
nīk-li manti OsN 99
nim Mip 90
ñima-l Zr 120
**nime* PUr 119
nimi Fi 119
-nimi Mip 90, 119
**ñiyä* PUr 156
**niotsio* CoMu 120
ñ-īpe Yr 31
-ni-š Mics 75
-niš-ko Mics 75
ɣ-issi Yr 21
nīw- Os 119
nī-xu-mu VgT 150
njâkkâ Lp 120
njalme- Lp 120
**no* PUr 99
no Lp 78
nõ Hu 156, 262, 265
**no-* PMi 195
no- Mics 99
noaha-ti Miss 79
noc- Miss 133
nóca-ja Mim 120
nócca- Mib 120
nocu- Mics 119; Mins 119, 133; Miss 119
nog-em OsI 197
ñoño Yr 120
no-j- Mics 84
no-j- Mics 121

nojja Mib 121
**nók* PMa 156
nok MaKo 156; MaMd 156; MaNi 156,
158, 174
nok Vg 30
nok MaNi 30
noka Mim 121
nokh VgK 156
noko Ma 30
nok-ojy Vg 245, 256
noko-to- Mip 121
nok-wa Mins 156
ńol- Os 121
ńol Os 26
ńól Vg 26
**ńolǎē-(mǎ-)* PUR 121
ńoli Vg 121
ńol-suw VgN 218
nom Wi 20, 181, 276
nom- CoMu 205
nom- Os 119
nom- Vg 190
**noma* PUR 118, 120
ńoma Sk 120
**ńoma-le* PFU 120
nomas Mim 119, 205, 206
nómeh Mib 120; Mil 28
nomǎmati VgT 205
**nom-elti* Wi 181
nomelti Wi 181
**nóme-š* PMiw 118, 120
nomǎs Os 119
nómes OsN 206
nom-et Miss 205
nomi VgN 205
nomi-k WiPa 120
nom-i-puksu Mins 205
nom-kawal Wi 214
nommǎs Os 119
nomó-t- Mics 190, 205
nom-o- Miss 205
Nom-terumen Wi 20
**nom-ti* Wi 180
nomu Tv 28
ńomu Tv 120
nomu-tuhpe- Mins 205
nqpwé VgK 196
y-óóso Yr 116

nop WiWt 125
nop tummis WiWt 125, 154
nöp- Wi 27
nöp-łum-is Wi 27
nöp-nē Wi 27
nöp-niko-l Wi 27
nöp-pō Wi 27
nop Vg 27
**noplom* Vg 27
**nop ne* Vg 27
**nop nuka* OsS 27
**nop pu* Vg 27
ńos VgN 133
nos- Mib 120
nosł Os 157
nos-elti VgN 157
nös-kit MaNi 157
nos-li VgN 157
nošo CoRu 157
nošo- VgT 119
not Wi 181
ńót Os 26; OsS 181
ńót Vg 26
ńót Wi 26
no-t Wi 181
no-t- Mics 84
noťa- Miss 119
**ńoti* Mim 120
noto-pej Mip 119
**ńotšo* CoMu 120
ńowi Vg 253; VgN 259
nowit Mi 14
nowit Mim 253
ńowi-ti Vg 14
nox Os 174; OsS 156
nōx VgN 156
noy-i-l Wi 85
no? Mins 133
no?- Mip 133
nu Lp 78
núja Mil 121
nuk MaMd 156, 174
núk-bus-no MaMd 156
núk-čece MaMd 156
núk-sa MaMd 156
núk-sasǎ MaMd 156
nuk Vg 30
**ńúke-* PUR 121

nukh VgLM 57
**ńukka* PUr 121
nukka Sk 121
nuku-s Mil 119
num Wi 181
num- Os 206
num- Vg 180
numi Vg 181
Num-tes-towa Wi 20
num tōrēm ObU 20
nu-nat Miss 119
nuyke Vg 174
ńunsi VgN 133
nuo Fi 99
nūpəl, nūpəl Vg 97, 207
ńusi VgN 133
ńūw- Vg 121
nux Os 174
nux-pa OsV 158
nuy-pa OsE 193
nu²- Mip 133
nyak Hu 121
nyék Hu 121
nyelv Hu 120
nyes Hu 120
-nyk Mics 99, 120
nyk-a- Mics 99
nyki- Fi 121
ny^m-a- Mics 119
ny^m-as²a² Mics 89
ny^mi-š Mics 119
ny-na-t-poksu- Miss 119
nyo-m Hu 121
**nyoti* Mim 220
nyū- Hu 121
nyū-l Hu 120
nyūv- Hu 121
nywyn MaMd 14, 259
ɣ-yysy Yr 116
ɣarka-mpoi Yr 89
ɣa² Yr 90

oāne VgLM 170
oārp-šāp VgLM 218
oaž'že Lp 110
**oā* PFU 110, 126
**oā-* PUr 112
oā CoSF 122

oča-ti Mics 274
o^{ch}-kala Mins 135
ód Hu 275
od-a Hu 84
odo-tta Fi 112
oh Mins 27
oiyih MaKo 245, 256
oi² MaNi 271
oj OsN 219
oj Vg 39, 190; VgN 219
ōj OsVy 60
oj, oj, oj Sa 90
oja Mim 214
oiji Vg 245
ōk Hu 74
o-konči-p OsE 174
o-ku OsE 174
öl Hu 66, 113, 122, 168, 211
 öl-né-m Hu 94
 öl-tü-nk Hu 68
oläling-kasi MaMd 149
ol'at-pum VgN 277
old Hu 275
olekəɣ moŋt² OsTr 176
oleli MaMd 176
öléliy-kos MaMd 176
Ole-tuj-ma MaMd 25
ōle-x OsK 176
ole²cu-k Mi 73
ol-h-s-e, olhs-e CoMu 68, 122
oli Mins 39
oli moli OsKa 176
ol-mol-t OsTr 176
olt Hu 177
olt Vg 35
ōlti VgN 177
ōltiy VgLM 177
ōlt-mét VgN 155
**ōl-t-muk* Hu 68
-olut Mi 35
om- Os 177
ōmeja MaMd 174
ome-ya MaNi 174
ōn Vg 176
oy Os xiii, 274
**ońca* PFU 110, 126
ōɣda OsI 171
ońeki Os 121

- õni* Vg 176
õni Vg 121
**oyta* PFU xiii, 276
oyta, õyta OsI 171
ontil-low Vg 136
õpèt- Os 175
op-op Vg 28
op-uk- Mil 28; Mins 28
oro Spa 201
os OsN 175
oš Vg 27
os- Vg 96, 190
õs VgN 135
õš VgLM 135; VgT 133, 202
osa Es 110
osa Fi 110
osa-lilek Mim 98
oš-halt ho OsN 134
osi VgK 111
oske MaKo 28
ossa-k Mi 73
ossi Vg 122
osta- Fi 87
 osta-ja Fi 87
os-xol VgN 134
os-γ- Vg 122
õsz Hu 113
osz-lik Hu 111
osz-t Hu 110
osztály-rész Hu 111
ota Fi 276
ote-tka CoMu 83
o-tt Hu 82, 84
ottä- Os 177
otti OsK 231
otto CoMu 231
o-u Wi 182
gum VgT 174
overtake Eng 220
ow Vg xiii, 123, 274
ow Os 21
õw OsS 123
owan CoSol 21, 274
**owon* YoYI 21
owo-n YoN 274
owta VgN 171
owtä Vg xiii, 276
ox Os 174

ox Vg 56
oxtz Os 175
oyal Os 144
oyisa-k tune-ko-nti Mi 74

**-pa* PMi 103, 196, 266; Mins 135
pa Ma 135, 197; MaMd 103, 157, 266; MaNi 164
pa Miw 196
pa Vg 180
pá MaMd 232
pa- Wi 180
-pa Mics 158; Miss 158
-pa OsI 158
-pa Vg 266; VgLM 135
-pa- Miw 189, 192, 193
-pa- OsE 193
-p-a- Miw 193
-pâ Vg 103; VgT 157, 197
-pä VgN 157, 197
-pä- OsE 193
pā MaMd 232
pā Vg 180; VgN 158
pa· MaNi 164
-pa Miss 98
pä Wi 157
-pā Vg 189
pác- Mil 103
**páč-a* PMiw 258
pača Mdv 112
páč-a- Mics 88
 pačá-t- Mics 88
pacca Mim 258
pacca Mi 249; Mib 103, 258; Mil 101, 103, 112, 249, 258
pa-di MaMd 157
pa-dit' MaNi 197
**paðs* PFU 209
päem- Yr 276
päew Yr xiii, 276
pai Mib 15
pai Os 14, 15
pa-i Km 79
päivä Fi 271
**paj-* Miw 189
**-paj* PMa 158
paj MaMd 158; MaNi 175
paj Mib 124

paj Os 14, 124, 140, 189; OsE 34;
 OsN 158, 200
paj- Mics 200
paje Vg 39
pajñ lñile Mib 272
pajis Mib 15; Mim 15, 124
pájiš Mib 124, 200
páj-iš Mim 200
páj-pu Mics 200
paj-tu Mip 200
paj-uk Miss 200
paju-p-u Mip 200
pajwa Mins 200
**pájwä* PFU 271
pakah Mil 162
**pakka-* PFU 103
pakku Fi 103
pák-še- Mib 103
pakte Mip 103
paktur Sk 103
pak-ty- Miss 103
pal Vg 78
päl VgT 141
pāl VgN 141
pa-l Wi 80
**pälä* PUr 141
pálak MaMd 157, 162
pa-lalak MaMd 157
palaq Wi 157
palat-ata Mip 197
palax Os 157
pa-lal Wi 80
palēm Vg 28
pale-r CoSCr 30, 32
pali VgN 157
pali-met Vg 204
pal'k Vg 29
päl'kes VgP 140
**pallaw-wiši* Mics 28
pällēm Vg 28
palo Fi 30, 32
pal-pom Wi 98
pal-t- Vg 78
palti'na Mip 197
**pan-* PMa 158
pan MaMd 158
pan Os 158
pán MaMd 120
pa-náak Mil 197
pa-nak Mim 197
pa-naka MaNi 157, 197
pāncaka MaNi 112
paṅg ObU 49
pānk- VgK 152
paṅkēl-saw Os 243, 255
pāṅk-lo-ēl VgK 152
pāns VgLM 132
pānši VgLL 132
panti Vg 180
pan-ti Wi 180
panx Os 140
pānx VgN 140
pāṅxw VgN 140
pa-pak MaNi 157
parək Os 103
parke Sk 103
paš VgLM 132
pāš Vg 22
pāšēm Vg 12
**paška* PUr 101
pāsm VgLM 132
pāšm VgP 202
pasu-ka Mics 103
pasú-ka Mics 101, 103
**pašum* PPe 12
pat Vg 180; VgP 154
pat Wi 180
pat MaMd 180
**pata* PFU 36, 37
pata Fi 36
pata Ma 37
patá CoSCr 37
patá MaMd 232
pata-ta MaNi 232
pat-mō VgP 154
pat(t)i VgN 208
patti Vg 190
paťý- Mics 190
paťý Mics 208
paťýH- Miss 208
pa-wàksi Ma 197
pax Os 161
pa'aje MaMd 170
**pa'm-* PMie 202
pa'm Pe 12
pá'my- Mics 132

paʹomʹ YoKo 132
**paʹum* PPe 12
paʹ-y- Mics 132
-pe Vg 232
-pè VgP 197
pel- MaMd 160
pēl-, pel- VgN 159, 161
pele- WiPa 85
pele-t WiPa 85
pelək Os 141
pele-n Ch 82
pel-ke Ch 83
pel-u-j Mics 160
pe-n Ma 80
**pepe-rä* PFU xii, xiii, 275
per- Os 201
pes Wi 22
**pesa* PUr 136
pesä Fi 136
pey- Vg 234
**peʹak* Mim 132
phu-rus WiWt 103
pīč-wa- Mics 103, 111
pī-dusi MaMd 142
piept Ger 244
piget- OsI 159
piila Mil 34
pije- MaMd 160, 234
pije-ky MaMd 160
pi-kyls MaNi 149
pil Vg 34
pil- Os 180
pil- VgT 159
pil MaNi 159
pi-laj MaNi 147
pi-láj Ma 234
**pile-* PMi 160
pile-ku Mi 160
pilē-ky Mics 161
pileta Wi 180
pi-lo- MaNi 159
**pilʹm3* PUr xiii, 276
pi-lu MaNi 159
**pim3* PU xiii, 160, 276
pimeä Fi 276
pire CoMu 11
pitʹi VgN 136
**ptw* PMa 159
piw MaNi 159
pi-we MaNi 159
pi-we-nan-myse MaNi 159
piw MaMd 159
**piw3* PU 159
pi-we-di MaNi 159
piwə-l OsK 159
piʹy VgN 161
pīyā-t OsS 159
**pō-* MaMd 160, 276
**pō-* PMa 161
pō MaMd xiii, 140, 160
po Ma xiii
pō MaMd 161, 276
po- Ma xiii
po- MaNi 275
pō- MaNi 161
po- Mi xiii
po-ca Mins 276
po-ča Mics 276
počka MdvM 249, 257
počko MaMd 103
počko Mdv 112
podoj Mib 161
poga Yn 32
pohkea Fi 103
**pō-ho* PMa 276
po-ho Ma xiii, 276
pō-hom MaNi 276
poj Os 11
pōj- Vg 234
poje MaNi 34
pojje Mib 39; Mim 39
**pojka* PFU 161
poj-k-saw Vg 243, 255
pojtən! Vg 117
pojti Vg 117
**pók* PMa 159
pok Sk 32
pok- Miw 190
pōk MaMd 159
pok-api VgN 159
pokat- Vg 103
poke Mim 32
po-kečyk MaNi 276
pokt-š- Mics 208
poki-s-y Mins 208
pókke Mib 28

poko MaMd 159
pok-si Mins 208
pók-tu Miw 208
po-ky MaNi 275
po-kyls MaNi 276
**pol-* PMi 21, 103, 162
**pol-* PPe 162
pol MaMd 160
pól MaMd 160
pol- Os 184
polàs Os 184
pola Mim 103
**pòlɜ* PU 21
pól-əp VgK 160
poli- Os 162
polij- OsN 103
polis Vg 184
**pó-lo* PMi 275
polóolo Mil 275
pol-poleh MaKo 162
pól-pol-pól Vg 162
**pòls* PU 162
**pol-u-j* Mics 160
pol-uk Mip 103
pol-u-ku- Mics 103
pol'xes VgN 140
pom Os 160, 276
pom Vg xiii, 180, 276; VgN 160
-pom Wi 98
po-m Wi 180
**pom* MaMd 276; PWi 276
po-m-bok MaNi 159, 276
**pom-ca* Mins 276
pom-in Wi 180
póm pòkó MaMd 159, 276
pom-to MaNi 276
põn VgT 158
pon Os 143
põn- VgSo 158
po-n- Yo 80
poni VgN 158
ponka Yr 32
pon-łti OsKa 158
põnsi Vg 190, 213
ponš-pun VgP 213
póolo Mib 275
pó-po- MaMd 160, 276; MaNi 160,
 276

por (*po-r*) Vg 48, 49, 98, 249, 251
pora VgL 201
põri VgN 201
pos Os 25, 27; OsKa 140; OsV 140
poš- VgLL 132
posa Mics 190
posa- Miss 213
po-sani Wi 182
posər- Os 103
po-sesa Mins 213
posim Vg 12
**poška* PUr 101, 103
póška Mics 101
poš-kali Miss 212
poškè Vty 132
pot Eng 37
pot Os 161; OsN 103; OsS 103
**põtɜ(-)* PUr or PU 161
potəm sem Os 161
potər Vg 170
po-ti Mics 212
pot-o- MaNi 232
potoj Mim 103, 161
poto-kel-y Mins 212
po-tol Mics 212; Miss 104
pot-to MaNi 276
**pott-us* Rom 37
põu VgT 161
**pow* Ma xiii, 275, 276
pow Vg xiii, 275
powari Vg xii, xiii, 275
powolo Mi xiii, 275
**po-wo-n* YoYl 275
powwolo Mil xii, 275
powwulo Mil 275
pox Os 161
pox Vg 190
põxât VgLM 208
põxi VgN 208
póɟ- Mics 132
po^ɟ-oh Mip 132, 202
po^ɟ-ok Miss 132
po^ɟ-o^ɟ Mip 202
**pu* PUr 103, 197
**pu* Mics 200
pu VgT 161
pu Yr 32
pu Ma xiii

pū Mil 32
pú-beh MaNi 161
puč Ch 249, 257
**puča* PUr 112
**puče-rə*- PFU 103, 111
**pučke* PUr 249, 257
**pučkō* PUr 101, 103, 112
puddo Yr 112
puj Vg 17, 181
pul- OsV 160
-*pul-* MaMd 160
**pul3-* PU 160
pul-ép Os 160
púllu Mib 149; Mil 149
pū-lūlūk Mim 276
púl-lun-jomi Mil 148
pu-l(l)úuluk Mib 276
pulok Mim 103
pul-p VgN 160
púluk Mib 103
pulum MaMd 160
pum Os 160, 276
**pum* PWi 276
pum VgN 160, 276
pum-sáw VgP 161
**pun* PMa 158
pun Os 143
pun VgN xiii, 277
pun- OsS 120, 158
pun- VgT 120, 158
pun MaNi 120, 158
**puna* PFU xiii, 277
**puna-* PUr 120, 158
puna Fi 277
puna-ne Es 277
pun-a-s Mdv 93
**puŋ3-* PU xiii, 275
pun-ete Miss 120
pún-ja MaMd 120, 158
puno- Fi 120
punoa Fi 158
**purə* PU (or PUr) 201
purk Os 103
puru VgT 201
pun- OsKr 140; OsN 98
pun- Vg 156
puserta- Fi 103
pús-i-na Mics 112

pušús VgP 132, 202
put MaNi 11
put Os 232; OsN 232
put Sk 112
put VgN 161
puť- Mics 190
-*puť-* Miss 200
puť- Mics 212
púťa wúwwe Mil 21
puťh Miss 201
put-ép Os 160
púť-e-se- Mics 112
puti Vg 104, 190, 212
pűti Os 104
put-kal Miss 104
puť-kal-y Mins 212
puťki Fi 103, 112, 249, 257
putku Mins 212
put-lix OsE 198
put-te MaKo 232
puť-teh MaKo 161
puttoltama Sk 112
puť-u Mins 201
puť-uh-puť- Miss 201
pútuk Mil 212
put-ul Mip 104
puťu-l-ul- Miss 201
**puťV* PFU 104
puu Fi 103, 157, 197
puulu Mib 149
púut- Mil 212
puuty Sk 103, 112
puw- VgN 275
**puwe* PUr 197
puy Wi 17, 181
puy-sus Wi 17
puy-ti Wi 181
pu? Miss 136
**pVlə* PU 103
**pVrkV* PUr 103
**pVtə* PU 103
pý MaMd 161
 pý-be MaMd 161
 pý-jyty MaNi 161
 pý-tyty MaMd 161
pyl- MaNi 160
pýn MaMd 158
pyörä Fi 275

pyöreä Fi 275
pyt MaMd 158
pyt MaNi 11, 103, 161, 232

qed WiWt 107
gede WiWt 265
gewel Wi 85
qol- WiWt 263
qo(-)l Wi 180
qonos WiWt xiv
quiet Eng 117
quietāre Lat 117
quit Eng 117
qula WiPa 227
**qumdə* Tur 269
**qundə* Tur 269

rače- Os 126
**rácə* PFU 126
ragad Hu 126
rakas Fi 147
**rakka(-)* PUr 147
rākt Vg 127
rami Vg 127
rām'ko Lp 126
rap VgLM 148
rāppāt Lp 126
rapšal- OsKa 148
ra-ras CoMu 128
räs Vg 126
rašanā Sans 126
rāsən Vg 126
räs-ki Vg 128
raśmi- Sans 126
rāsne Vg 126
rāti VgN 197
raṭs-a CoMu 197
Raum Ger 176
rawi Vg 128; VgN 147
rāw'kâ Lp 126
raw-ti VgN 147
rax Vg 69, 127
raxt Vg 127L
rax-ta Os 146
reales Spa 234
reata Spa 234
**rečə* PFU 126
rég Hu 147, 234

reg- Hu 234
reg-ös Hu 147, 234, 235
reggel Hu 147, 234
rej- Hu 233, 234
rēj Vg 234, 235
rēj VgT 147
rejt Hu 147, 234, 235
rek- Hu 234
**rekə* PU 147
**remke-* PFU 126
**reñcə* PFU 126
**reḡə* PU 147
**reḡkə* PFU 147
rep Os 148
rēp Os 148
rēp Vg 127; VgLM 148
repe- Os 148
reped Hu 126, 148
rēpi VgN 148
repiä Fi 126
rep-si VgK 148
repül Hu 148
**repV* PFU 104, 126
rēp-wōje Os 148
**rešV-* PFU 126
rész Hu 126
rév- Hu 233, 234
rēw Os 147
rāwat- Os 147
rewi Os 128
**rey* PHu 234
rēy Vg 234; VgN 147
rēyi VgN 147
**-rey-t* Hu 234
rezeg Hu 126
riata Spa 234
**ričə* PFU 111, 126
riečme Lp 126
rimək Os 126
ripä- VgT 148, 149
ripsa CoMu 126
ripsä- Vg 126
ripu CoMu 126
ri-res CoMu 126
**ris* PCo 126, 128
ris Vg 128
ris- CoMu 111
ris- Vg 126

-ris Vg 128
 rišme Mdv 126
 ristest CoMu 126
 ris-ui CoMu 126, 271
 roc Zr 126
 roči-we CoMu 126
 róká-k Hu 73
 rok-ie CoMu 127
 rokon Hu 147
 rok-š CoRu 265
 roňče- Ch 126
 *roňčV PFU 126
 rongy Hu 126
 roŋkə- Os 126
 *roŋkV PU 126
 ropi Vg 127
 rosi VgN 148
 rot Ch 126
 rötəx Os 126
 rot-had Hu 126
 *rotV PFU 126
 row Os 147
 rōwi VgN 146
 rox VgLM 146
 roxt Vg 127
 rōyi VgLM 146
 ruču CoMu 126
 ruisin CoMu 276
 ruisu CoMu 126
 rüjz Ch 126
 ruk CoMu 126
 ruk-esma CoMu 126
 rum- CoRu 127
 ru-ris CoMu 126
 rut Os 126
 rüt Hu 126
 rüt-ság Hu 126
 rutu CoSol 126
 rüz Ch 126

 *sa- Vg 76
 sa Wi xiii
 sa WiPah 276
 sa Yo xiii
 saanak Mil 34
 saa-ne-n Fi 94
 šáapa Mil 117
 sab Tur 243, 255

saisa-, säisä- Es 55
 saj Os 115, 141
 saj Vg 115; VgN 61, 141; VgSo 60
 šaj Os 141
 sāj, sāj VgP 60; VgT 60
 *säje- PUr 59, 60
 saje Mins 61; Mip 61
 sajəm xul VgN 61
 sajim VgP 61
 šak Sk 116
 sak- Mics 114; Miss 114
 sak- Os 114
 saka- Vg 117
 [ša]-kak-si CoRu 143
 sakál-y Mics 110
 šákha VgLM 193
 saki Vg 117
 sak-i-ti Mip 215
 *šakke PU 114
 *saks₃ PUr 139
 šakta- Ch 115
 *šakV- PU 115
 sāl- Os 116
 sāl- Vg 116
 sala- Mdv 87
 sala-j Mdv 87
 *šala PFU 116
 *šälä PFU 110, 115
 salak-a- Miss 115
 sala-ma Fi 116
 *šal₃ PFU 255
 säle Fi 110, 115
 sāl'ək OsVy 163
 šalge- Ch 57
 šāli Vg 248; VgN 257
 šali-wüt' Vg 248; VgN 257
 *salk PFU 115
 *salkə- PFU 57
 šal' l'ixxä VgLM 198
 sal't-på VgT 197
 šaly- Ch 57
 sāl-yi VgLM 163
 sam Os 114
 sām, sām Vg 114, 276
 šām VgP 276
 sam Vg xiii
 šam Vg 190; VgN 215
 šama VgN 215

- same* Mil 142
sami CoMu 142
sami VgN 142
slámmi MaMd 142
sampelti Vg 114
(šám)-perk Vg 103
**sam-sam* Mip 276
**sa-n* Vg 76
sana Km 34
saya OsI 182
**sayca-* PFU 54, 55, 138, 165
**sayз, *šayз, θayз* PU xiii, 275
sana- OsE 114
sani Wi 182
sani-kele-l Wi 181
sayka OsI 182
sanki OsS 182
šänkš Vg 116
šāplo Vg 110
sap Vg 117; VgN 218
šāp Vg 190; VgLM 218
sapa Mim 117
sap-jiw Vg 235
šāpkh VgT 142
sappa Mim 117
šāppa Mib 117
**šāppä* PFU 103
sappi Fi 103
**säpte* PU 60
**šarə* PFU 116
šāri Os 18
sar-pa CoMu 201
sas- VgN 135
šās Vg 98
šās VgN 135
šaš OsS 151
šaš-keł OsS 151
sasa CoMu 17
sa-sa Mip 276
ša-ša YoYa 276
**sa-sam* Mip 276
sa-sa? YoYl 276
**šāškä* PU 28
šaš-khwāli-γ VgT 152
sas-sāsi MaNi 28
sat Vg 95
sāten-šāp VgLM 218
šāti Mib 98
satil Vg 182
sat-py Mins 201
sāu VgK 162
šāu VgLM 162
šāu-l au-ti VgLM 162
šaurp-sēnex VgLM 221
sauva Fi 115
saw CoMd 161
saw Miss 41
saw Os 255; OsO 162
saw Vg 111, 161; VgN 255, 257;
VgSo 248
saw Ujgur 243, 255
saw- Mics 41
sa-w Miss 243, 255
sa-w- Mics 68, 114, 243, 255
šāw-šaw-šāw VgYk 162
šaw OsN 162
šāw VgLM 162
šāw-jä VgLM 162
sawal WiNo 257
sa-wal WiNo 247, 248
sa-w-al Wi 257
sawa-mpoi Yr 89
sawar-ho WiPah 243, 255
**sawe* PU 68, 114, 243, 257
sawe CoMu 41, 68, 114, 243, 255
sawel Wi 247
sawe-n CoMu 68, 243, 255
sawe? YoChu 243, 255
-sāwt MaMd 161
sāwi MaNi 162
saw-it Vg 111
**šawpa* PFU 115
saw-no MaMd 161
saw-sip MaMd 161
**sawV-* PPe 257
**saw-weda* MaNi 161
saw-wono MaMd 161
šāw-yantāli VgN 162
šāw-γi VgYk 162
sāxä VgN 189, 193
sax-se Os 141
sāx-t- Vg 111
say Os 255
sayəl Os 110, 115
saylä Vg 115
sa? Mins 135

- sa²-weda* MaNi 161
Schale Ger 170
Schlitten Ger 144
schlittern Ger 144
Schlitt-schuh 144
sĕä:jsäšj- Lp 55
sede- Wi 41; Yen 41
sĕim VgT 61
seisa- Es 55
seise- Fi 55
seiso Fi 54, 55, 165
sej Vg 59, 61
sejim VgP 61
**-sek* Fi 73, 74
šək Os 111
se-kawal Wi 214
**sĕks₃* PUr 139
sek-sek Mip 116
sektu Wi 233
**sĕkV* PUr 116
sel- Vg 115
səl- Vg 110
sĕl- Vty 57
**sĕli* Vg 216
seli Vg 116, 117
šĕli Vg 117, 190; VgLM 216
sel-u Miss 115
sem Os 114
sə-m Os 115
sĕmal Vg 117
sĕm-əl VgN 163
sĕmĕl mā VgT 163
sĕmi VgT 163
sem-i-la Miss 114
sĕm-l-uj VgT 163
sĕm-l-uj-tus VgT 163
sem-puk-aj Mip 114, 276
šan- Os 110
**šĕyä* PFU xii, xiii, 275
**šene* PFU 114
sen-e- Miss 114
senĕk- Mics 190, 221
sĕnex Vg 190; VgLM 221
seni Vg 114
sənzä- Ch 55, 56
sənze- Ch 55, 56
šĕp Vg 190
sĕpe MdvE 103
**septm* PIE 95
ser Wi 181
**ser₃* PU 181, 251, 258
sere Wi 181, 250, 251; WiPah 258
seri-ba WiPah 251; WiPar 258
seri-ta WiPah 251; WiPar 258
**ser-ławi* Wi 181
ser-panuł Wi 181
sĕs OsN 134
se-se Mics xiv
ses-luw Vg 124
seu MaKo 162
**sĕw* PMA 162
sew MaKo 162; MaMd 162; MaNi 162
sew Os 38
**sewe* PFU 60, 164
sewe MaNi 28
sĕwim jĕөн Miss 145, 162
sex Vg 116
šĕx Vg 116
**seye* PFU 60, 164
shell Eng 170
si CoRu 143
si Mdv 60
ši MdvM 56
si Mdv 59
**šidä(-me)* PUr 115
side CoSol 115
side Yr 95
siedja Lp 60
sieggjä Lp 59, 60
siejä Lp 59, 60
siejj Lp 60
sielw Yr 125
siena Fi 114
sieni Fi 114
siij Mdv 60
siili Fi 116
sij Os 189
sij Mdv 59
šij OsN 205
sijala OsN 205
**šijele-* PFU 116
sijj, sĕjj Lp 60
sikil- Miss 110
**sikse* PFU 114
sil- Os 110, 115
šil Mi xi

šil- Mib 272
šil- Vty 57
šilī Vty 57
šili, sili Vg 110, 115
sil-i-ty Mics 114
sillu CoScR 115
**šilmä* PUr 114
silmä Fi 114, 276
**silm₃* PUr xiii, 276
šil-um Mib 272
sil-um Mim 272
si-ly- Mip 115
sim MaMd 160, 163, 276
sim Vty 114
si-m Vg 115
šim OsN 111
sima Km 114
**šim-e-* PMiw 118
ši-m-él VgT 163
šiml-č CoSol 114
šim-kuṭi Mil 162
šimme Mib 114; Mics 114
sim-pur CoRu 114
sim-ppur CoRu 276
šinča- Ch 55
šiče- Ch 55
**siṣə* PUr 114
**šije-re* PFU xiii, 275
singerē-kēn Tunguz 275
sin-pur CoMu 114
sinze, šinže- Ch 54
sip, šip, śip Vg 142
šip- Mil 218
šip-lu VgK 152
sippa Fi 110
sir Os 251; OsN 181, 258
sir Vg 181; VgN 258
sirak CoMu 83
**sire* PCo 257
sire Co 246; CoMu 115; CoRu 115;
 CoScR 115
sire Mdv 88
 sire-de- Mdv 88
sirēx Vg 32
siri CoRu 115
sirka-na CoMu 83
sis Zr 60
sis Vty 59, 60

śis VgN 135
sis-a Mics 134
siska, šiška OsS 116
śiska- Mics 113
 siska-no Mics 114
śiški OsN 116
śišmī Vty 60
siw MaMd 160, 163, 276
**siwot* PCo 163
siž- Zr 54, 55, 56
**sker* PIE 123
**(s)mel-* PIE 167
smelt Dan 167
soām-p VgK 197
šoāš VgLM 135
soče-t Wi 28
soh Miss 27
**šoja* PFU 115
sōjəγ Os 114
sojju Os 32
sok Hu 99, 111
sok Sk 116
šok CoScR 31, 32
sok-e Mins 193
 sok-e-ti Mins 193
šok-e- Mics 99, 111, 189, 193
šokh Vg 99, 111; VgP 193
šo-ki Mics 31
**šökk₃-* PU 142
**šökk₃-* PU 142
**soks₃* PUr 138, 139
**sol* PMA 163
sol MaMd 163; MaNi 163
sol' Vg xi, 272
šöla Vg 245
šöla Zr 256
söl'ək OsVy 163
šöle-kup Sk 194
šo(l)ge- Ch 57
-söl't MaMd 163
sólin MaKo 245, 256
šolka- Miss 18, 109, 110
sólöja MaNi 163
sól'idi MaMd 173
som Zr 111
**söme* PFU 114
**somV, *šömV* PFU 118
**šona* PFU 115

**sōne* PUr 158
sone-k Mim 114
sōyan Os 165
šonši VgLM 134
son-sūl VgK 115
**sōome* PFU 114
sōp Vg 117
**šopal* OsTr 142
sop-lo VgK 152
soq Sk 116
šor Ch 116
šori- Os 110
šor-mba Sk 110
soro CoMu 18, 110
soro Fi 18, 110
šqry- Vg 18
**soš* PMiss 27
sos OsN 28
sos- Vg 27, 117
šos- VgN 135
šos Vg 98
šoš OsN 135
sos-e- Miss 109
soši VgN 135
sōsi VgN 134, 176
šoši VgLM 134
sosó MaMd xiv
sos-o Mins 135
sossä VgN 135
sosse Vg 17
soswe Vg 117
šoswe Vg 192; VgN 216
sōt Vg 117
so-to-lo MaNi 152
sow Vg 155, 271
sōw OsS 115
šow VgYk 162
šow Vg 111
šow-amlaj VgYk 162
sōwe- Vg 28
**sowt* PVg 117
sox Os 190, 218, 271
šox Os 111, 141
soxe Vg 111
šoxe Vg 99
šoxi Vg 31
sōxit Vg 192
soxtli- Vg 117

šox-wel Vg 31, 32
šoy- Ch 57
sōyes Os 114
sōyit VgN 216
so^omu Mins 134
**sō^o-pa* Mics 134
so^ose Mins 134
št'a- Mdv 55
stajka Rus 202
**su* PMiw 218
**sū* PPe 163
-su Mics 191
sū VgN 115, 163, 218
šu MaKo 162
šü Ch 59, 60
**šud'a* PFU xi, 272
**šudə* PFU 115
šüj Ch 59, 60
suja Mib 115; Mim 115
sujja Mib 115
sujju Wi 32
**suk* PMiw 218
suk Mics 190
**šuka* PFU 271
súk-e Mics 99, 111; Miw 193
súk-e-č Mics 193
süket fajd Hu 242
**šukkö* PUr 116
šukku Mib 218
šük-r Vg 174
**šükše* PFU 114
šúkun Mil 218
suku^oti Mip 218
**šul* PVg 28
sul Vty 115
sul- Os 110, 115
sul- Zr 113
sül Vg 115, 171
šul- Mib 115; Mil 115
sül Hu 116
šula vg 245
šulä Vg 244; VgW 255
šulä kisi Vg 244; VgW 256
šul'ä VgT 189
sulal-, sula-l- Zr 57
šul'äp, šul'ä-p VgT 196
**šule-* PMie 256
šule- Mi 245

šülä Ch 116
 šulenti VgLM 196
 šulép-a Mics 244, 256
 šu-le-ško Mics 256
 suli VgN 205
 šuli VgN 205
 šúli- Mil 115
 sulinti VgN 196
 sul'k Vg 114
 *šul'ke PFU 114
 šul'l'oáli VgN 205
 sult- Vty 57, 58
 sult- Zr 57
 sultî- Vty 57
 sul-uk Mim 115
 šúl-uk Mil 115, 171
 sulyi, šulyi VgN 205
 -sum CoMu 83
 súm- Mics 276
 sumna CoMu 115
 súm-oču Mics 276
 súm-tu Mics 276
 sumu CoMu 111
 sumua CoMu 115
 sun, šun Vg 115
 sün Hu 116
 su-n- Miss 115
 *šuge- PFU xiii, 275
 sun-h WiPa 182
 süñk OsE 182
 suns Vg 28
 süns Vg xiv
 su-n-u Mics 115, 218
 sunus WiWt xiv
 suoja Fi 115
 šup Vg 184
 šur Ch 116
 šurri Vg 110
 sus OsN 113
 sus Vg 27, 28; VgN 134
 sussu Mip 28
 su-s-u Mins 218
 šúttu Mib 276
 šúuk Mil 218
 šúuli- Mil 115
 šuulo-n CoSol 28
 suure-mpi Fi 89
 suušč CoRu 28
 suva-v- Zr 57
 *šüvä Fi 275
 šuvva Lp 113, 275
 suw Vg 115, 191; VgN 163, 218
 suwe Mim 68, 243, 255
 suwe-ne CoMu 68, 243, 255
 šux Vg 174
 suyém-hómi MaMd 61
 suyuu Wi 32
 *sV-ko Mib 76; Mim 76
 *sy- PMA 163
 sy MaNi 163
 sy- MaMd 163
 sy- MaNi 163
 sydá-me- Fi 115
 šyj- Mics 189
 šyj-ye Mics 205
 šyjýč-pe Mics 205
 šy-j-yč-y Mics 205
 *sýk PMA 163
 syk-e Mip 111
 syksy Fi 114
 sykyn MaNi 176
 sykýn MaMd 176
 syl- Vty 57
 šyle- Mics 189
 šylé-t Mics 196
 syle-t-y Mins 196
 sylki Fi 114
 sym- Mi xiii
 sym-p- Miss 114, 276
 sympy- Mics 114
 *šym-t PMi 276
 syn Vty 114
 šyñ- Sk 110
 synan Zr 114
 *šynt- PMi 276
 syö-pä Fi 87
 sy-pe Miss 163
 syś Zr 59
 sy-s-y Mins 218
 šy-š-y Mics 115, 218
 syt-y Mins 276
 syw MaNi 163
 syys Fi 114
 sy²-yl Miss 134
 szak Hu 114
 szak-ít Hu 114

szál Hu 115
szar Hu 116
szava Hu 243
szava-l Hu 114, 243, 255
szék-es Hu 116
szel- Hu 110, 115
szellem világ Hu 259
szem, szem Hu 114
szem-öldök Hu 114
szem-pilla Hu 114
szén Hu 114
szer Hu 181, 258
-szer Hu 181, 258
szik Hu 116
szí-v Hu 115
szó Hu 88, 114, 243, 255
szó-l Hu 88, 114, 243, 255

ta, tä Vg 28, 181
ta MaNi 165
ta-no MaNi 165
taalik Mib 275
tada MaMd 165
tagay Yr 104
taha- Yr 111
táj VgN 274
táj Fi 28
*täje PFU 143
tajëx VgN 201
taj-im VgLL 164
taj-pu Mip 200
tak- Mil 113
ták- Mil 104
*taka PUr 104
taka Fi 104
taka-nu Yr 104
takah Mil 104
tā-kem VgN 143
tāk-muṭi Mil 104
takti VgN 165
*tal- PMi 58
tal- Mins 58
täl Vg 113
tala- Mil 113
talah Mi 58, 59; Mib 58; Mil 58
talas Mim 58
t'aləy- OsV 163
*tal-i- PMiss 58

tal-i- Mip 58
täl-i- Mics 58
ta-lik Mim 275
tállapo Mib 58
tällepo Mib 58
talni- Miss 58
tāl-ni- Mics 58
tama Sk 112
tamal Mib 15; Mics 15; Mil 15; Mim 15
tamál-in Mi 82
Tamal-ko Mim 15
Tamal-pais Mib 15
Támál pájis Mib 124
Tamál-ko Os 15
Támel-ku-p Sk 15
tamga ObU 48
tan Vg 113
tan- Mip 113
tān Vg 158
tan Wi 181
täpkær VgLM xiii, 275
tān-saw Vg 243, 255
*täntä PU 104, 165
tan-uka Co 158
täp Vg 113
t'apäl OsTr 142
tapə Os 165
tap-ér VgN 165
tapət OsS 95
täpi, täpi VgN 165
tappa- Fi 88
tär Vg 113
tara Wi 180
tärä Vg 180
tär-tōwar- VgN 166
tas Mon 132
tas Vg 113; VgT 132
tas- Mics 113
tat Vg 139
tät VgL 159
tatik Mil 165
tat-jiw VgLM 164
tat-pa Mics' 196; Miss 103
tátta Mib 165
taū-li Mim 275
tava- Hu 166
taw Vg 275

taw- Mi xiii
taw-ak Mim 275
tawa-ko Miss 250, 258
táw-ašy Mics 275
taw-as-y Mins 275
tawik Misac 166
tawis-a Mics 275
taw-lik Mil 275
**täwtə* PU 104, 165
tax- Vg 113
taxara CoMu 104
tä-xəm VgN 143
taxi VgN 142
taxta Os 165
taxtən OsS 104
taxte-p VgN 165
taxti VgN 165
tayi Vg 104, 189; VgN 200
täyi VgK 200; VgLM 200
taz Tat 132
**taʔ-* Mics 132
taʔ- Mip 132
ta-ʔiý YoChu 166
ta-ʔji Miss 104, 166
**te* PUR 75
te MaNi 164
te- Hu 28
te- Os 164
te- Vg 113
té MaMd 164
té Sk 60
te- MaNi 164
tê Sk 60
tebäl Sk 59
tee Sk 59
teé Sk 60
teebyni- Sk 59
t-éela Mil 113
**téh* PMa 164
těj VgN 164
těj OsD 60
taj Os 59
teje- Os 177
**te-k* PUR 75
**-tek* PFi 73, 74
**tekə-* PFU 104, 108, 200
te-ky MaMd 164
te-kyto MaMd 164

te-l MaNi 164
tel- Mics 190, 216
tela Mics 113
tele- Miss 117
teléj- Mics 216
tē-li VgN 164
telu- Miss 117
tel-yc-y Mics 216
tembal Sk 59
teme- Mip 89
 teme-m-yla Mip 89
te-m-manaj MaNi 155
te-n-aj MaNi 155
t'anə-k OsS 114
tep Mins 165; Miss 103, 113
tep Vg 103
tép MaNi 165
tēp VgLL 164
te-p Mins 165; Miss 165
te-pani Miss 165
tepe-lila Mics 165
tepin Wi 180
tép-teti Mil 165
tep-wa Mins 165
terumen Wi 20
teš VgLM 132
té-te MaMd 164
Tete-ma MaMd 25
te-tú Hu 143
**tew* PMi 177
tew MaNi 177
téwe Mil 177
tēwət- OsNi 200
tew-ət Os 85
tewl- Vg 113
tew-tam Os 143
tēy VgN 164, 274
-tey Os 75; OsE 73
teʔ- Km 60
t'aw Wi 276
thom Wi 242, 255
ti MaNi 164
ti Vg 190; VgLL 164
ti- Mics 190
tī VgLL 164
t'ibā Yn 60
tii- Yr 114
tīi Mil 113

tiibej Yr 59
tiija Mil 129
tiim- Yr 59
t'iime Yn 59
t'iimi Tv 59
tiji Vg 177
tik Hu 74
tik- Mics 199
til Mip 58
til MaNi 166
tī-l VgT 164
til-ka MaNi 166
t'ime- Yn 60
t'imi'e- Tv 60
tine? Miss 215
tin-pa Miss 197
tin-y Mins 215; Miss 215
ti-n-y- Mics 215
tipsin Sk 114
tir Vg 129
tirin āykwel Vg 129
**tisu* Mics 133
tit Yakut 139
tiw- Mics 113
ti-xōtal Vg 182
ti-γ Vg 83
ti-ʔit Yo 28
tiʔ-jaH Miss 132
tiʔ-p- Miss 132
ti-ʔu MaNi 166
tjuodtjō- Lp 55
**to* PUr 99, 104
**to-* PMa 164
tq Vg 180
tš Hu 200
-to- Wi 180
to- VgN 164
tó Hu 104, 166
tócsa Hu 166
tō Vg 99, 104, 166
to- MaNi 164
toât VgLM 164
toč-t- Vg 55, 56
tohkol Mip 104
tóhlok Mil 104
toh-lok WiPa 183
tohta-ja Fi 104
toj MaMd 166; MaNi 166
toj Mins 166
toj- Os 166; OsS 166
to-je- MaNi 164
to-je-ju MaNi 164
toj-pu Mip 200
-tok Hu 73
to-k- Miss 117
toke- Miss 117
tokh Vg 104
tōkh VgK 183
to-ķhuš Vg 166
toki-l- Miss 117, 192, 216
tōkt Hu 200
tokkáni Mib 104
to-k-ni Mi 74; Mics 73
**-to-ko* PMi 74, 75
to-ko Mics 99
tok-ol Mip 104
tók-o-lo-la Mics 104
to-ko-ni Mi 75
to-kos-u Mins 216
to-k-su- Mi 74
**tōktV* PFU 104
tok-wa Mins 199
tola- Mil 113
tol-e Mi 18, 20
tol-i-ly Mins 275
tolko-pa Miss 98
**tolkos-u* Mins 216
tolle Mi 18
tolma- Vg 113
toło-j-u Mins 216
tołok WiPaH 104
tol-o-k-o Mics 197
tol-o-lo Mics 197
tol-om-a Mics 113
tołm- Miss 117
to-n Mics 73
tō-nal Vg 84
tōńć- Vg 55
to-no MaNi 164
tońś Vg 54
tońśeγ Vg 56
t'ońt' OsD 55; OsS 55, 165
**tōntz* PU 36
**tonte* PMa 36
tontèy-mul Os 40
to-pa- Miss 117

t'opəl OsTr 142
tōpəl-ōs VgT 202
tor Vg 113
tor- Vg 113
tōrē-m U 20
torok Hu 104
**tos* PMa 54
tos Ma 54; MaNi 54, 57, 165
toś Vg 54
toś- MaNi 165
tos VgN 132
tōś VgLM 132
**toš-ewe* PMiss 216
toše-we Mics 192
toś-ewe- Mics 117
tot- Ger 215
tōt Vg 139
to-t Os 82
t'ot' OsS 55
tot-əm sālīte Vg 87
tot-es Vg 93
toti Mim 104
toṭ-ju- Miss 117
toṭk- Miss 165
to-t-o- Mip 104
tó-t-o Mics 99, 104
tó-t-o-to- Mics 104
tot-s-en Vg 93
tot-s-um Vg 93
toṭuk- Miss 165
tou Os 166
to-va Hu 99, 104
tōvis Hu 200
tow OsK 166
tow Vg xiii, 22, 138, 275
tow WiPa 22
tow WiPah 275
tow- VgN 142
tow- WiWt 113
towa WiWt xiii, 275
**towə* PUr 104, 166
tové-č- Mics 117
**towele-* Mi xiii
towele-ly Mins 275
towi Vg 275
towi- Mi xiii
tów-ih Mib 113, 275
towli-ly Mins 275

towt Vg 104
tow-t Vg 113
tox OsE 104; OsV 166
tox Vg 104, 183
tox- Os 142
tōx Vg 183
tōxt Vg 104
toy Os 142
toyəl- OsV 200
toyər- Os 166
toyət- OsS 142
toyo-j Os 83
to[?] Mins 132
to[?]- Mie 54
tó[?]- Mics 132
to[?]- Mins 165
to[?]-a Mins 132
tu Mim 164
tu Os 164
tu Wi 180
tū Vg 180
tú- Mib 113
tū MaMd 166
tū-čik MaMd 166
tu- MaNi 164
tuakta- Sk 115
Túbaste-n-bâs Wi 23
tuh'-mur CoSCr 104
**tuj-* PPe 166
**túj* PMA 166
tuj- MaMd 166
tuj- Os 166
tuj- Vg 149, 190
tuj- Vty 104
túja- Mics 190
tujá-ŋ Miss 220
tujappa Mins 220
túja-ŋ-y Mins 220
tuji VgN 220
tujje Mib 220
tuj-ma MaMd 154
túj-uk Mics 92
tuju-rure CoMu 220
tuk- Mi 108
túk- Mil 104
tuk- Mics 104
tuke- MaNi 104
tu-ke Mip 199

- tuk-mur* CoMu 104
tuk-nu- Miss 104, 199
tuk-nŸ Miss 199
tüks, tuks Vg 113, 114
tukun-a- Miss 104, 199
**tu-l* PMa 166
tul OsN 27
tul' Vg 113
tul-im Mil 27
tul-t Miss 113
tu-m MaNi 164
tüm OsN 230
tumpča Wi 143
tum-p-si Vg 143
tum-si Vg 143
tuŋ-uk' YoYl 230
tun Mib 164
tune Wi 180
tún-iči- Mics 74
tuykas sir Os 251; OsN 258
tuńś Vg 54, 55, 113, 138
tuńś- VgP 55
tűńś VgLM 132, 165
tuńśej Vg 56
tuńś-pi VgLM 57
tuo Fi 99, 104
tup Os 180
-tuq- WiWt 104
tur OsN 104
tur Vg 104
tura CoRu 18, 20
**tura* PU 104
turə-m Os 20
turra CoScR 18
tur-tunin CoMu 104
tus Vg 54, 56, 138; VgLM 132; VgN 165
tus-jəx, tus-jəx VgN 14, 142
tus-l Vg 132
tüssin Vg 99, 190; VgLL 207
tušt-, tűšt- VgP 55
tut OsS 104, 164
tuť-a- Mins 165
tut-kuj Mip 271
tut-peš Os 164
tut-söŋən naj Os 164
tuttu- Mics 113
tuttukine Mics 139
- tutuk* MaNi 139
tuule-wa Mil 104
t-uw- WiWt 115
túwe Mib 200
túu(w)ée-ti Mib 200
túz Hu 104, 200
tu^o- Mins 132
tú^o Mil 104, 165
tu^oe Mib 164
tu^o-kušini Mil 165
tu^ouk Mil 165
ty Zr 104
ty^o- Mics 132
ty MaMd 164
ty-ti MaMd 164
tyhan Miss 207
tyha-n Miss 207
**tyj* PMie 177
tyj- MaMd 166
tyk Miw 189
tyk- Miss 199
ty-k- Miss 104, 199
tyka Mins 199
tyka- Mip 199
ty-kema Mins 199
ty-ke-na Miss 199
tyk-ja Mins 199
tyk-wa Mins 199
tyk-y Miw 199
ty-ky Mins 199
tykys-međ Miss 199
tyl-a Miss 116
tym-a Mics 256
tyn- Miss 87
tyn-a- Mics 93
tyn-á-š-e-n Mics 93
**tyn-á-š-e-s* Mics 93
**tyn-á-š-e-t* Mics 93
tyn-y-ma^o Mics 87
**tys* PMa 54
tys Ma 54, 57, 138; MaMd 113, 165
tyša(·)n Mics 99
tyšá·n Mics 99; Miw 207
tyšan Miw 190, 207
tyt Chakassian 139
týt Vg 113
tyt-ty MaMd 164
tytyk MaNi 139

- tytyky* Ma 139
týtyky-m Ma 139
tyw Miw 189
tyw-ki Miw 199
týw-ki Miw 199
tyʔ- Mie 54
ty-ʔ- Miss 165
- u* WiPa 85
u-t WiPa 85
ū Vg 21
Uánai-n-bás Wi 23
übel Ger 178
überholen Ger 220
učo Mdv 112
uču-ti Miss 79
Uéki-n-bás Wi 23
ui CoMu 126
ui Vg 191
uil VgLM 219
uit VgK 219; VgN 219
uj Os 167, 176, 190; OsE 209
uj Vg 27, 189; VgN 169, 204
uj- Vg 176
új Vg 271
ujeh MaKo 176
ujemu Mins 204
uji Vg 176
ujj Hu 113
**ujö* PUr 122
uj-riš Vg 271
ujum Mip 204
ujum YoChu 204; YoDumna 204
uj-um Mics 27
újum WiPah 204
uk Vg 96
uku Mip 26, 27
Uku-ma MaMd 25
ul Vg 182
ul' Vg 139, 150
ul'a Vg 12
üləm Vg 88
üli Vg 39
ulla Mib 38, 161
ulla-micca Mib 38, 139
ulli-neko Mib 150, 266
ülme-j Vg 88
ül'-pa Vg 38
- ul'pä* VgN 197
-ultä Vg 181
ulwa Os 177
um Rus 206
um- Os 177
ün Os 176
üna Os 176
**uŋa* PFU xiii, 274
ünči VgT 217
ünə jāk OsN 124
uñi Vg 121
üni-ŋ Vg 176
üñš VgN 217
uoš VgLM 202
upa-l- YoChu 34
up-uk- Mil 28; Mins 28
ur Vg 56; VgN 257
ür VgS 122
Ur-ala Vg 178
urin-ekwa Vg 135
**ürkä* PFU 273
ur-saw Vg 248, 257
urxe-s-mak CoMu 273
us OsI 133, 178
us Vg 182
us- Zr 111
üs Vg 21, 22; VgLM 175; VgN 178, 203
uš Vg 189; VgLM 201; VgN 201
uš VgLM 175, 201; VgP 202
üş Vg 177, 189
use CoSCr 21, 22
üşə-m VgK 177
**üskä* PFU 190, 212
üskä Fi 212
uska Vg 28
üşme-ŋ VgK 177
ušš VgLM 201
üs-ta VgK 201
Ustu-ma MaMd 25
ust-xin CoMu 96
**ušuk* PYo 212
us-xin-ja CoMu 80
ut Vg 231
uŋa-si CoMu 112
uti-xin CoMu 80
uŧš-ŧina CoMu 96
**utta* PUr 122

utu CoMu 112
üüte Sk 123
uuwe LpS 123
uwwe Lp 21
uw- Os 123
uwe LpS 21, 123
**uwV* PFU 123
ux OsS 214
ux-ey Os 174

vad Hu xiv
vahhene- Fi 205
vaj Hu 141, 167
valea Fi 258
valgo Mdv 122
vál-ik Hu 99, 122
valka- Fi 99
valkaa Fi 122
valkea Fi 122, 258
-van Hu 99
vana Os 184
vanha Fi 205
vano-k Mdv 93
vánt-äli VgN 168
väsi VgLM 57
vásik Hu 122
vatsu Fi 111
ved-d Hu 94
veitsi Fi 274
veistä- Fi 274
**veje-k* Hu 94
-ven Hu 99
vér Hu 122
veres Hu 122
veri Fi 122
vés- Hu 274
vie- Fi 94
világ Hu 122, 252, 258, 259
világ vége Hu 252, 259
világít Hu 252, 259
villa Hu 83
villám Hu 122, 252, 259
villá-s Hu 83
villá-s reggeli Hu 83
vini Vty 68
vini Zr 68
virág Hu 94, 252, 259
virúl Hu 94, 252, 259

vi-sz Hu 94
vi(y) Zr 122
vöcsök Hu 122
voi Fi 88, 167
voi-ta Fi 88
völ' Vg 47
völ'-ja Vg 47
vol'yi VgN 259
vuo Fi 21, 123, 274

**waáa* PFU 111
**wačə-* PFU 122
wacu- Mins 274
wais Es 122
wai-saltu WiPar 248
**waj* PFU xi
waj MaNi 141, 166
waj OsO 271
waj- Mi xi
**wajée* PFU 122
waj-da Wi 82
**wajz* PFU 271
waj-əx Vg 271
wak-a- Miss 88
waka-l Miss 88
waká-l- Mics 122
wakali Mim 122
wak-a-li Mip 122
waka-l-m- Miss 122
wakat CoMu 28
wakis CoMu 122
wakkaj MaNi 122
wákkalaj Mib 28, 122
wakše-s CoSCr 27
wala-juta Mim 124
wala-silúm-ka Mim 272
Wäldchen Ger 248
**wal'z* PFU 252, 258
wali- Mics 122
wál-i- Mics 98
**walka* PPe 259
**walka-* PFU 98, 122
**wal'ka* PFU 122
**walkz* PFU 252, 258
wal-ty- Mics 98
walu-q Wi 253
wal'γ Vg 122
wana- Wi 184

wāṅć PFU xii
waṅki Vg 122
waṅkila- OsI 122
wāṅ-n Vg 27
wāṅ-n kālī-γ Vg 27
wāṅ-n sun Vg 27
wāns VgN 133
want VgN 168
wānt' Os xii, 274
wante- OsI 168
waṅx- OsN 122
wāṅx- OsS 28
war Vg 129
war- CoMu 129
wa-rep CoSL 148
was MaMd 177
was OsN 134
was Vg 111
wās Vg 122
wās VgK 134
wasasa MaMd 175
wase VgS 111
wasex OsE 122
wasó MaMd 177
wat Os 168
wat- Mib 168
wata Os 168
wata VgN 168
waťá MaMd 123, 168
wāta Vg 123
Wata-ma MaMd 23
wata-p Vg 123
wa-ta-tan MaNi 168
wate CoMu 136
wáte Mil 123, 168
wat'i VgN 136
**wati-isu* CoMu 136
wát-maj Mil 122
wat-su CoMu 136
wať-wať- Miss 122
waxša-r Os 27
wax-ta woje OsI 122
wax-te OsS 28
wayá-ka-t Mics 82
wayel Os 122
wayili VgN 122
way-ti Wi 82
waʔ- Miss 134
waʔ-e- Mins 133
wea Mi 14
wea nowit Mi 14
wēa-nowit Mim 253, 259
wec-a Mip 274
**weđe-* PFU 168, 211
we-j- Mins 129
we-jo Mins 129
**wel-* PPe 168
**wél-* PMi 122, 211
wel Mics 168; Miss 27
wel Os 27, 168
wəl MaNi 168
wel- MaNi 68, 168
wel- Mics 190, 211
wel- Os 190, 211; OsE 122
wel- Miss 68, 211
wel- Miss 68, 211
wel- MaNi 68, 168
wél- Mib 68
wél- Mics 68, 122
wel-a Mins 168
wél-a Miss 211
wele- Os 67
**welə* PU 211
**wel'ə* PFU 67, 122
wele-k- Miss 211
wele-sy-m Mics 67
wel-h- Miss 68, 211
weli Mins 68, 122
wel-i- Mip 122, 211
welik Mib 211
wélik Mil 68, 211
wel-ket MaNi 168
welki- Mip 122
wel-pes OsE 122
wél-pəs OsSy 211
wél-pəs-γū OsSy 211
welsa Mins 68, 122
wel-s-uj-əm OsE 68
wel-sy Mins 168
wel-šy- Mics 211
welti OsN 68
wel-ly Mins 168, 211; Mip 211
wé-ly-j-i- Mics 95
wé-ly-j-i-ṅky- Mics 95
welý-t- Mics 211
welza Mins 68

wēńś VgN 134
wēpa Ma 28
wer Vg 129
wer WiPa 32
wər Os 122
**were* PFU 122
wēri Vg 30, 32
wər-məl' Vg 118
wəs Vg 177
wēs VgN 134
wəsə-m VgK 177
wəski Mip 212
wəsmə-li VgK 177
wəsmə-ŋ VgK 177
wet Os 168
**weyV* PU 94
wē'ci Mip 134
wē'ɣy- Mins 134
**-wi-* Mics 219; Miss 219; Miw 219
wi Mics 219
wi Vg 189
wi- Mics 192
wi- Mins 192, 212
wi- Mics 189
wi WiWt 271
wic-a Mip 274
wicca Mi xii
wide-ne-m Ch 94
wide-s-em Ch 93
wi-hapaj MaNi 171
wi-ki Mil 12
wiilak Mib 122
wij- Vg 94
wij- Wi xi
wi-k Mics 212; Mins 213
**wike* PFU 94
wiki Mib 12
**wi-ku* PMiw 212
wi-ku- Mins 212
wi-ky Mins 212
-wil Wi 85
wilak WiPa 122, 252; WiPah 259
**wilaka* PMa 253
wilak koča Mim 122
wile Mip 122, 252, 259
wilep CoScR 253, 259
wile-p- Mi 252
wil-ep Mip 122, 259

wile-p-y- Mip 259
wile-t-y Mi 252; Mip 259
wi-li Mip 211
wilik Mil 68, 211
**wilka* PPe 259
wilka CoScI 253
wilka- CoSF 122, 253, 259
wi-ma WiWt 271
wi-mah Wi 169
wi-n MaNi 169
-winaka MaKo 259
wi-nHuk-u- Miss 193
win-na MaNi 169
wi-n-tu Wi 169, 271
wi-pil MaMd 159
wir Vg 122
**wire* PFU 122
wis MaNi 177
wisəs MaNi 177
wis-pil MaNi 159
wi-t Mins 219
wi-ta WiWt 271
**witte* PFU 95
wiyè Mics 208
**woča* PUR 202
**woča-ti* Mics 274
woča CoSF 122
woča Os 122
**wóč-a-* PMiw 274
wóca- Mil 122, 274
wócca Mib 122, 274
wócca- Mil 122, 274
wócca-ku Mil 122
**woce* PMiss 111
woete VgLM 136
woh-a- Miss 202
woj Os 141
wōj VgN 16, 214
woj- Vg 190
**woje* PFU 167
**wojz* PFU 271
wōjz Os 169; OsI 169; OsVy 169
wōje Os 148
wojan kul OsVy 167
woj-jak-ti OsN 145
wój-ko MaNi 167
**wojō* PUr 122
woj-pa Vg 97

wojpä VgN 214
woket WiWt 122
woki Vg 28
wol OsN 22, 258
wol Vg 258
wole Mics 258
wole Wi 22; WiPa 250; WiPah 258;
 WiPar 248
 wole sere WiPa 250; WiPah 258
wōḡḡ-oṭu Mics 27
 **wōḡḡ-oṭu cun-* Mics 27
wop MaNi 28, 175
 wop-paj MaNi 175
**woš* PMiw 189, 202
wos Mins 136
wos OsI 133
wos- Mip 136
woš VgN 134
wōš OsN 133
wōš VgN 133
woš Os 22, 202
woš Vg 21; VgT 203
wōš VgT 133, 189, 202
wos-alliti OsKa 136
woš-nē-xo OsN 266
wos-paj OsTs 202
woš-xo OsKa 202
wot' OsI 202
wotak Vg 28
wotäli OsP 168
wotuj MaNi 168
wowi Vg 123
woyal-joyan Os 47
wo^o Mics 189, 202; Mip 136
wo^o- Mics 133
wo^oco- Miss 134
**wo^oé* Mics 136
wó^o-e- Mics 133
wo^o-lu Mics 202; Mip 202
wo^oo-k Miss 133
wo^ota- Miss 134
wū Vg 21, 274
wuil VgK 219
wuj Vg xi, 271; VgK 169
wuje- Miss 208
 wuje-t-^oucaH Miss 208
wul' Vg 12
wul'-pe-sau VgP 161

**wunt* Vg xiv
wuntu Mi xiv
wunut Mi xiv
wuš VgP 202, 203
wuš Zr 122
wüt VgN 257
**wutta* PUr 122
wúuwe, -wuwe, wúuwe Mil xiii, 21,
 123, 274
**wuwV* PFU 123
wy- Mics 85, 189, 192
wy- Mics 192
wyc-a Mins 274
wyhki Miss 212
wýje- Mics 208
wyjé- Mics 190, 208
wy-ji- Mip 208
wýksy-n-i^o-kan Mics 94
wyl- Mi 12; Mics 168
wy-l- Mics 85
wyl-ki Mi 12
wyl-yt-^oe Mics 12
wyn MaMd 169
 wyn-nyný-j MaMd 169
wyny-ti MaNi 169
wyski Mins 212
wýški-, wyški Mics 190, 212
**wyt-a* PMi 274
wyt-a- Miss 274
wy^ota-k- Miss 274
wy^ota^o-a- Miss 274

xǎj Vg 267
xaj- OsN 267
xaja OsS 267
xal Vg 180; VgN 267
xāl' VgN xi, 271
xal Wi 180
xal Wi 180
xalew Os 181
xal'i Vg xi
xaln Vg 180
xal-qol- Wi 180
xals- Vg 180
**xals-kēl-* Vg 180
xâmel VgN 268
 xâmel mā VgN 268
xan Os 199

- xan* Vg 199
xan Wi 180; WiWt 268
xañena Yr 92
 xañena-dam-s Yr 92
 xañena-dm Yr 92
 xañena-n Yr 92
xani Vg 189, 199; VgN 268
xāy-ra VgN 268
xansa Vg 38
xansä Vg xiv
xansa VgN 269
xānsē Vg 38
xañsi VgN 133
xanti OsN 269
xanx Vg 131
xānxej VgN 269
xap VgN 144
xāp VgN 269
xap- WiWt 270
xapə-t Vg 82
xāp-l Vg 84
xāp-ya VgN 144
xar OsN 268
xar Vg 191; VgN 212
xar WiWt 267
xār VgN 268
xarēs VgN 154
xari-li Vg 12
xar-pa CoMu 14
xar-xare CoMu 14
**xas* Vg 189
xās VgN 133, 269
xas VgN 133
xas CoMu 269
xāsa Sa 266
xasi VgN 268
xas-li VgN 269
xäs-nä VgN 132
xat- VgN 270
xāut VgN 270
xaw Yr 149
xax- Os 143; OsN 270
xax- VgN 270
xāx-relaxti Vg 143
xay- Os 143
xed- WiWt 268
xehē Co 90
xən- VgN 268

**xer-* WiWt 268
xer-el WiWt 268
xeri-s-met WiWt 268
xeri-t WiWt 268
xii CoMu 271
 xii-si CoMu 271
**xijy-* Os 190, 217
xili VgN 267
xili-t WiWt 108, 264
xin CoMu 272
xin VgN 268
xin-yi VgN 272
xis-yi VgN 144
xiw-li VgN 267
xix- Os 143
xiyij OsN 217
xo Os 262; OsN 265
xō- Vg xi
xōca-xō Mil 266
xoče OsN 268
xoj OsOb 150; OsS 107
xoj Vg xi, 109, 265; VgN 267
xōj Vg 107
xojem OsS 267
xoji Vg 99, 107
xōji VgN 267
-xoji-lt VgN 267
xokor- MaNi 39
xol Os 31
xol Vg 109
xōl Vg 105
xola VgN 267
xoli VgN 267
xōli VgN 267
xōl-i VgN 267
xom OsS 229
xom VgS 229
xom- Os 152
 xom-ti Os 152
xom- VgN 268
xom-əl OsS 229
xom-əl VgS 229
xomə-l VgN 152
xomi VgN 152, 268
xom-lax VgN 268
xomli VgN 268
xomo CoMu 267
**xon* PPe 257, 268

xon CoRu 120, 246, 247, 257
xon Os 120, 121, 144, 191, 212, 247,
256; OsN 268
xon Vg 144; VgN 268
xon-äl Vg 182
xoñi VgN xi, 272
xons CoRu 264
xoñš- VgK 269
xonta Os 199
xop OsN 144
xop-jux OsN 144
xop WiWt 269
xop- OsS 270
xopi VgN 269
xopo-ra WiWt 269
xor WiWt 268
xor VgN 268
xōrə OsS 127
xos OsN 269
xos Vg 109; VgN 132, 266
xoš VgN 269
xosa Vg 109; VgN 268
**xosi-* PYo xi
**xosi-m* PYo 272
xosi-t VgN 268
xot Os 109
xot Vg 231
xōtal Vg 182
xōtal-āli Vg 182
xot-oxtə OsS 175
xow-s Vg 267
cox- OsN 270
coxli Os 270
coxli VgN 270
xu- Vg 190
xuj Vg 105, 189, 262, 265; VgN 193,
266; VgT 134
xuji Vg 107
xujp Vg 97
xuj-p Vg 97; VgN 267
xuj-t- VgN 266
xul Vg 31
xul Os 143, 181; OsN 105
xül Vg 31, 34; VgN 105, 143, 267
xul' VgN 267
xu-l Wi 181
xūla- Os 149
xulax oĵka VgN 135

xülə Os 149
xüləm-puš OsN 98
xuləp VgT 143
xüli VgN 267
xülp Vg 181
xul-t Vg 79
xul-tep VgLL 164
xum Vg 42, 262, 266
xu-m VgN 150
xump VgN 269
xumut CoMu 268
**xun* Hu 144, 212, 247, 257
xun WiWt 268
xün VgN 268
xün- Vg 121
xun-təp Vg 121
xundil' OsN 107
xuñš VgN 133, 269
xunt Vg 35
xunte- Vg 109
xunte-jax Os 47
xuntəl Vg 28
xuntəl' VgN 269
xuntil Vg 107
xup VgN 269
xüp VgN 269
xüp- VgN 269
xup WiWt 269
xur VgN 268
xur WiWt 268
xurəm por Vg 98
xūs VgN 266
xüsi VgN 132
xuš-(ta) OsS 268
xut OsS 270
xut' Os 143
xut- Vg 231; VgN 270
xüt'ī Yr 250
xüt'ij Yr 39, 250, 258
**xüt-pe* Vg 231
xutul WiWt 107
xutul' WiWt 269

Yawd-anĉi YoYd 27
Yawel-mani YoYl 27
Yawl-ts YoYl 27
yay Wi 181
yay wer WiPa 30

yéb- WiPa 148
yèbí?, yé-bí? WiPa 127, 148
yel-ti Wi 181
yem-pa YoChu 240, 254
*yeug PIE 134
yir-met Wi 204
yl-ta Fi 82
ym MaNi 30, 32
yoke Eng 134
yom Wi 240; WiPar 240;
WiWt 123
yom-ba WiPah 240
yómepa Ma 239
yome-pa MaMd 254
yómi Ma 239
yómi MaMd 254
*yom-kö MaMd 254
yóm-pa Ma 239, 240
yom-pa MaMd 254
yom-pu WiPa 240; WiPah 254
*yon-kö PMA 240
yón-kö MaMd 240, 254
ypy-ti-li Mics 85
yskä Fi 212
Yugan Os 144
-yugan Os 144
yum WiWt 123

žal Zr 115
Zielbelkiefen Ger 139
Zaun Ger 202

ʔáaj Mib 266; Mil 90
 ʔáaj-ko Mib 266
ʔaj Mib 266
ʔaj- Miss 128
ʔáj MaMd 170
ʔa-j- Mip 128
ʔáj-kakàt MaMd 170
ʔáj kát MaNi 170
ʔáj-kate MaMd 170
ʔaj-ko Mim 194
ʔáj-te MaMd 170
ʔak CoMu 270
ʔal- Miss 267
ʔal-a- Mics 84
ʔa-la- Mics 84, 98
ʔá-la-j Mics 84

ʔál-am-y- Mics 178
 ʔal-am-y-to Mics 178
ʔálu Mib 267
ʔam-y- Mip 94
ʔan- Wi 182
ʔa-n Wi xiv, 37
ʔan-i-s Miss 121
ʔap MaNi 171
ʔáp MaMd 171
ʔapá MaMd 171
ʔap-bònno MaMd 171
ʔap-doj MaMd 171
ʔawa Mi 20
ʔawa-ja Miss 155
ʔawál-wuwe Mil 21
ʔawan MaNi 37, 170
ʔawán- Mics xiv
ʔáwe Mib 123
ʔawe Miss 275
ʔáw-e-n-y Mics 275
ʔawo Miss 274
ʔáw-si Mics 276
ʔawwe Mi xiii; Mil 275
ʔáwweh Mil 275
ʔa?yt Miss 135
ʔe-bak MaNi 159
ʔec-a Miss 217
ʔeca- Mip 217; Miss 217
ʔeča- Mics 190, 217
ʔecak Mip 217
ʔečā-m Mics 217
ʔecam-i- Miss 217
ʔeca-t- Miss 217
ʔeca? Mins 217
ʔe-dusi Ma 12; MaKo 14
ʔéet Mil 230, 231
ʔéetaw Mil 230
*ʔej- PMi 128
ʔej MaNi 172
ʔeji MaNi 172, 234
ʔej-šy Mics 219
ʔe-jý Ma 12
ʔékdám pòkó MaMd 159
ʔèktím pòkó MaMd 159
ʔeku-ja Mip xiii, 209, 222
ʔel- Wi 180, 182
ʔe-l- Wi 180
ʔe-la MaNi 172

- ʔelaj caam* Mil 215
ʔəl-əm MaNi 178
ʔələm-sip MaNi 178
ʔele-w Wi 89
ʔel-tuq-ama WiWt 104
ʔen-ə Mip 201
ʔep- Mics 175
ʔepín MaMd 172
ʔepínim kojo MaMd 172
ʔepo-ku Mins 175
ʔes MaMd 172
ʔəs MaNi 173
ʔés-e Miss 88
 ʔesé-l Miss 88
ʔəs-kət MaNi 172
ʔes-kočo MaMd 152
ʔesle-ja- Miss 79
**ʔe-ta* PMaNi 172
ʔeta MaNi 172
 ʔeta-ti MaNi 172
ʔe-tos-ti Ma 57
ʔéttu Mib 230
ʔeť-ú Mics 231
ʔetú--t- Mics 230
ʔe-tut-a- Miss 95
ʔe-tuta-ŋk- Mins 95
ʔew-aH Miss 205
ʔewa-nH Miss 205
ʔi Mics 190, 210, 219; Mil 75, 76, 78
ʔi- Mins 210
ʔicáʔ Mics 217
ʔidť MaMd 173
ʔi-kko Mil 75, 76
-ʔi-ko Mib 76; Mim 76
ʔí--koʔ Mics 78
ʔile- Wi 184
ʔilkin-sasaʔ YoYl 276
ʔin- MaMd xiv
ʔin-anas MaMd xiv
ʔin- MaMd 173
 ʔin-ki MaMd 173
ʔin-ta MaNi 173
ʔin-ʔán-to MaMd 173
ʔis MaNi 173
 ʔis-kit MaNi 173
ʔi-s-ak Mins 210
 ʔi-s-ak-y Mins 210
ʔi-šy Mics 210
- ʔi-tàn* Mics 210
ʔitá-nti-li- Mics 84
ʔí-t-oʔ Mics 78, 210
ʔittyk MaMd 173
ʔiw-i- Mics 87
ʔi-wi-c-Y Miss 219
ʔiw-in Mics 219
ʔi-w-i-n Mics 219; Miss 219
ʔo- MaMd 174; MaNi 175
 ʔo-no MaMd 174
 ʔo-nuk MaMd 174
 ʔo-nuk-no-ky MaMd 174
 ʔo-paj MaNi 175
 ʔo-s MaMd 174
ʔóč-a- Mics 88; Miss 88
ʔoč-a-pa Mip 103
ʔoca-pa Mip 197
ʔócca Mib 112
ʔocco Mib 269
ʔóccu Mil 112
ʔoc-e- Mip 111, 112
ʔoce- Mip 111, 112; Miss 111
ʔocet-me- Miss 111
ʔóč-ku-me- Mics 111
ʔocoh Mib 269
ʔoc-uk Miss 111
ʔóč-u-ku- Mics 111
**ʔoh* Mins 135
ʔoj MaNi 267
ʔoj Miw 190, 219
ʔo-ja Mics 190; Mins 214; Mip 97, 214;
 214;
ʔoj-a- Mip 97, 214
ʔój-a- Mics 256
 ʔoja-se Mics 256
ʔojako Mim 214
ʔoj-ako Mip 214
ʔója-a-š-y-k Mics 93
ʔojis-a Miss 214
ʔojis-a Mics 190, 214; Mins 214
ʔo-jo-k-o- Mip 97, 214
ʔojsek-o Mip 214
ʔoká- Mics 96
 ʔoká-t-oʔ- Mics 96
ʔokah Miss 96
ʔok-ak MaNi 144
ʔo-kén-ky MaMd 174
ʔokit MaNi 175

- ʔok-wilaka* MaKo 259
ʔole MaNi 176
 ʔole-sykyn MaNi 176
ʔolé MaMd 178
**ʔole-(l)* PMa 176
ʔolél MaMd 176
ʔole-l Wi 180
ʔolelin-kasi MaMd 149
ʔol-pes Wi 180
ʔol-ti Wi 82
ʔolu Mics 178
ʔo-lu Mics 178
ʔolut Mil 177
ʔolu-t Mi 35
ʔolúut Mil 177
ʔomeja MaMd 175
ʔoméjji MaMd 174
ʔóm-kùmt MaMd 229
ʔo-n Wi 37
ʔona Miss 176
ʔona-ʔe Mins 176
ʔoni Mil 201
ʔono- Miss 176
ʔooni Mib 201; Mim 201
ʔoowit Mib 21
**ʔo-p* MaNi 175
ʔopa- Miss 172
ʔopín MaMd 175
 ʔopín-ti MaMd 175
ʔopít MaMd 175
ʔop-lo MaNi 172
ʔošá-j- Mics 88; Miss 88
ʔóš-a-ni-t Mics 92
ʔóš-aʔni-š-y-t Mics 92
ʔos-aʔ-wa Mics 221
ʔos-aʔ-woʔ Mins 205
ʔose MaNi 175
ʔo-sim-no MaMd 163
ʔošaj CoMu 96
ʔoşsa Mib 96
ʔoşše CoSL 269
ʔot- Mil 111
ʔota MaNi 230, 231
ʔoṭi- Mi 80; Miss 214
ʔoṭi-č-i-k Mics 80
ʔoṭi-ko Mi 80
ʔoṭi-meʔ Miss 80
ʔoto MaNi 230

ʔo-ṭo Mins 201
ʔoṭo- CoMu 269
ʔoṭs- Mi 96
**oṭsa* Mi 97
ʔotta Mil 111, 214
ʔotta MaNi 231
ʔoṭṭʰaja Mil 214
ʔow-a- Mip 123
 ʔowa-se- Mip 123
ʔowo Mi xiii, 274
**ʔowon* YoYl 21
**ʔoʔ-* Mins 135
ʔu-caH-ṭ-ḥY- Miss 203
ʔu-cani- Miss 116, 203
ʔucu Mins 203; Miss 116, 203
ʔuc-u- Miss 116, 203
ʔu-cu- Mip 116, 203
ʔuč-u Mics 189, 203
ʔudti-wuwe Mil 123
**ʔúj* PMa 176
ʔúj MaMd 176
ʔuj MaNi 176
 ʔuj-di MaNi 176
 ʔuj-na MaNi 176
ʔuj-u- Mics 189, 204
ʔuj-uk MaMd 176
ʔu-j-um Mics 169
**ʔu-k-* PMi xiii, 209
**ʔu-k-* Mics 209, 222
ʔuk- Mics 190, 209
ʔú-k- Mics 209
ʔukan Mib 209; Mim 209
ʔuk-pa Mics 209
ʔu-ku Mins 209
ʔuku-ja- Mins 209; Mip xiii, 209
ʔukú-ja Mics 209, 222
ʔule-s Wi 182
ʔulit Mi 35
ʔul-ita Mins 177
ʔúlla Mib 266
 ʔúlla mícca Mib 266
ʔullit MaNi 177
ʔulút Mil 177
ʔum MaNi 177
ʔun-a- Wi 182
ʔuno MaNi 176
ʔúnu Mil 121
ʔunúu-ko Mil 121

ʔus Wi 182
 ʔu-s MaNi 177
 ʔu-si Mip 203
 ʔútel Mil 254
 ʔútel kójni-wili Mil 124, 241, 254
 ʔútu Mib 276
 ʔuu(h) Mi 90
 ʔyč-y Mics 189
 ʔy-dík-no MaMd 178
 ʔyh-a- Miss 201
 ʔyh-ki Miss 203
 ʔyhmy- Miss 194
 ʔyhmy-ja- Miss 79, 203
 ʔyht- Miss 203
 ʔyhy-k- Miss 203
 ʔyhy-maṭi- Miss 203
 ʔyhyṭ-y-c- Miss 203
 ʔy-kaj-ʔidi MaMd 173
 ʔyli- Miss 39
 ʔym MaNi 30, 31
 *ʔyn- PMi 201
 ʔyn- Miss 201
 ʔy-nó MaMd 178
 ʔyn-y- Mics 189, 201
 ʔy-ny Mins 201
 ʔy-nyk Mics 99
 ʔynʔy Mics 201
 *ʔys- PMA 178

ʔys- PMi 178;
 ʔýs MaMd 178
 ʔys-kaje MaMd 178
 ʔyšá- Mics 189
 ʔyšâ- Mics 201
 ʔys-a-ji Mins 201
 ʔys-a-t-iʔ Mins 201
 ʔystyt-ē Miss 203
 ʔyswi- Miss 203
 ʔysy- Miss 135
 ʔysy-maṭi Miss 135
 ʔysy-t-i Miss 203
 ʔyšy- Mics 189, 203
 ʔyš-y- Mics 135, 203
 ʔysy-ja Mip 204
 ʔysy-jak Mip 204
 ʔysy-maṭi Mins 204
 ʔysy-p-a Mins 205
 ʔyšy-š Mics 135, 203
 ʔysy-ta Mins 204
 ʔysy-t-i Mins 204
 ʔyš-y-ty- Mics 203
 ʔysʔy-j- Miss 204
 ʔy-té MaMd 178
 ʔywwy Mi xiii
 ʔyw-y Mics 274
 ʔywy-jaʔ Mics 87
 ʔywý-š-e- Mics 93
 ʔyʔj- Miss 135

Subject Index

- acorn xv
- adepts arboris* 167
- Alaska 9
- Altaic 69, 84
- Amanita muscaria* 49, 140, 235
- Anadyr 9, 46, 67
- Angelica archangelica* 39, 248, 249, 250
- ~ *silvestris* 249, 250
- animal worship 49
- āpa* cradle 35
- Arctic region 9, 17, 48
- ~ tundra 9, 45
- arrow-straightener 28
- Aurora Borealis* 12
- awl 30

- ball, playing 39
- baskets 35, 36, Plates xii, xv, xvi
- bear, blood of xvi
- ~ cult xv, 40
- ~ Festival 49-50, 106, Plate iv
- ~, skin of xvi
- ~, tooth of xv, xvi, 106
- ~ trap 24, 25
- bearskin funeral xvi
- belt with bear tooth 106
- Bear Half (moiety) 40
- Bering Sea 46, 238
- ~ Strait 2, 3, 6, 9, 14, 17, 18, 43, 67, 226
- Berjozov 46, 48
- Big Sur 9, 17, 67
- birchbark baskets 36
- ~ belt 106
- bird nets 32-34
- black bear 14
- Bodega Bay 9, 15, 67, 261
- Bonasa umbellus* 242

- bow and arrow 25
- braids 38
- Bridalveil Falls 18
- bridegroom 48
- burden basket 36
- buzz-saw 39

- California *passim*
- California condor xv
- California Missions 11
- Cal-Ugrian concept ix, 1-44, 51, 53, 61, 68, 138, 261-262
- Canada 9
- canoe 21
- Canis latrans* 28
- Cathedral Spires 18
- Celtic 52
- Central Sierra Miwok 67
- ceremonial houses 225-235, 244, 250
- ceremonies 244
- China, Western 52
- chipping arrowheads Plate xi
- Christianity 49
- Chukchi 226
- Chumash 71
- Coast Range 67, 261
- cold 11
- commedia dell'arte* 50
- converging fences 26
- Costanoan 67, 71, 101, 238
- coyote 41
- Coyote Half (moiety) 40
- cradle 35
- cultural filter, Arctic 3

- dances 49, 50, 242, 244, 249
- Demyanka 46, 54
- denasalization x-xiii

- dentition 2
 diacritic marks xvi, xxi
 diachronic range 6
 diatopic range 6
 dogs 17
 drum 42-43
 ~ argument 43
 duck nets 33
- earthquake 14
 Eastern Miwok 54
 El Capital 18
 elk trap 24
 El Portal 18
 ERTOMIS Foundation xx
 EURASIA 1, 2, 6, 9, 14, 37, 44, 46, 225,
 232, 237
- family tree 52
 Finnic, Finland 9, 48, 58, 67, 79, 113
 fire 13
 fishing 17, 29, 47, 67
 ~ implements 26
 fish net 31
 ~ weirs 26
 Fleishman Foundation xix
 flint knife 25
- germ filter, Arctic 3
 German(ic languages) x, 51, 53
 ghosts 244
 glottal stop xvii, xxii
 glottalization xiv
 Golden Gate xx, 18
 gold rush 43
 goose net 34
 grave xv
 Grimm's Law 52
 grizzly bear xv
 grouse 242, 244
 Guanahani 1
- Half Dome 18
 harpoon 31
Hesi 240, 252, 253
 Hettenshaw Valley 71
 Hokans xv
 houses 21
- Hungarian, Hungary 9, 45, 46, 47, 58,
 67, 69, 72, 79, 80, 85, 105, 110, 238
 hunger 25
 hunting 33, 47, 67
- ice fishing Plate v
 Icelandic 52
 Indian Valley 57
 Indo-European 51, 52, 74, 95, 96, 97,
 237
 Indo-Iranian 118
 Inspiration Point 18
 Iranian 52
 Irtysh 14, 45, 46
 Isabella, Queen 6
 Italians, Italic, Italy 2, 52
- jackrabbit xv
- kaj-saw* shaman's song 42
Kalevala 97
kalim 48
 Kama 139
 Kamassian 43
Katit WiPa 251, 252
 Kazym 45, 46, 47
 kentum languages 52
Khanti 9, 45, 47
 Khanti-Mansi region 45
 Khanti-Mansijsk xx, 45
 Klamath 15
 knives 25
 Konda 45, 46, 54, 85
 Konkow 137
- language divisions 5
 Lapland 48, 79, 80, 93, 238
 Latin vowel phonemes xxi
 Losva 45
Lyrurus tetrix 242
- magic 49
 Maiduan *passim*
Mañsi 9
 Marin County 15
 masks, birchbark 40
 migration 3
 Mirror Lake 18, 20

missionization 43
Miwokan *passim*
modernization 43
moieties 39, 48
Mongoloid 2, 46
Monterey Bay 17, 25, 67, 261
Mordvin 92
Motor Samoyeds 31
mountain lion xv
mushroom, fly agaric 49
music 50

Nadym 45, 46
needle 31
Nevada City 25
New English 51
Nisenan 54, 137, 139, 229, 232
Nizyam 54
Nom-kewel 22
North Dome 18
number symbolism 49
Numi-Torem 20, 49

Ob 9, 17, 32, 45, 46, 47, 48, 238
Ob-Bering Strait contact 17
Obdorsk 46
obsidian knife 25
Ob-Ugrian *passim*
ochre xv, xvi
Ohlons 9
Old English 51
Oncorhynchus keta 167
Oregon 67
Ostyak passim

Pacific Coast, Ocean 2, 14, 17, 67,
238, 261
palatalization x, xi
Paleosiberian 46
Paskenta 22
Pechora 139
Pelimka 45
Penutians *passim*
Permian 93
physical anthropology 46
pinenut 38
Pinus cembra 38, 138, 197
porcupine xv

pottery 36, 37
prayer 50
Proto Finno-Ugrian *passim*
protoform xi-xiii, 51, 52, 53
Proto Germanic 52
Proto Miwokan *passim*
protophonemes 70
Proto Uralic *passim*
puma xv
Putah Creek 21

Quercus garriana 197

raccoon xv
rattlesnake xv
Redding 22
regressive assimilation x, xiii
Romance 53
roundhouse 227
Russian 32, 45, 47, 48, 50, 97
russification 46

Sacramento River 9, 23, 30, 32, 67,
250, 252, 261
sacred grove Plate ix
sacrificial ceremonies 48
Salinan 71
salmon 12, 17
~ glue 26
Salym 46
Samoyed 9, 32, 46, 54, 57, 67, 69, 79,
80, 92, 93, 110, 113
~ shelters 19
~, Selkup 9, 45
~, Yenisey 9
~, Yurak 9, 45
San Francisco xx, 9, 15, 67, 226, 238,
261
San Joaquin River 9, 67, 261
San Juan Bautista Mission 11
San Salvador 1
Sanskrit 51, 97
Santa Cruz 11
satem languages 52
sawal 247-248
Sayan Mountains 31
~ Samoyeds 31
sea otter xv

- ~ route 16
- ~ travel 21
- secularization 43
- Sequoia gigantea* xv
- Sequoia sempervirens* xv
- sere 181, 250
- settlements 22-23
- shaman 41, 42, 48, 49, 235, 239, 244
- ~, female 48
- ~'s drum 42, 49
- ~'s initiation ceremony 244
- ~'s paraphernalia 49
- ~'s songs 49
- shamanism 42, 237-259
- Shasta County 17
- shelters 19, 21
- Sherkali 46
- Shoshonean 71
- Siberia ix, xvi, 7, 9, 11, 32, 38, 45, 46, 69, 225, 237
- Sierra Nevada 9, 17, 67, 226, 238, 261
- Sigva 45, 46
- ski 106
- skunk xv
- Slavic 53
- snow goggles 106
- snowshoes 106
- Sosva 45, 46, 48
- sound law 51
- Spanish, Spaniards 1
- stone axe 28
- Suomen-maa* 23
- Surgut 46, 47
- sweathouse 225-235
- sweet water 17

- taboos 38, 49
- taiga 18, 45
- talizmans xv
- Tamalpais, Mt. 15
- tamga* 48
- Tatar 45
- tattoo 242
- Tavda 45, 46
- Tetrao urogallus* 118, 242, 262
- Tetrastes bonasia* 244
- theatrical performances 49

- theoretical searouts 16
- time of arrival 43
- Tobolsk 23
- Tocharian 52, 95
- Tomales Bay 15
- totem 48
- toys 39
- trance 241
- traps 24, 26
- Tremyugan 45, 46
- tribal festival 49
- ~ territories 4
- Trinity County 17
- Tübatulabal 71
- tundra 18
- Turkic 68, 69, 114, 139, 237

- Ugrian *passim*
- Uigur 139
- Upper Losva 46
- Ural 45, 56, 57
- Uralic *passim*
- Ursa maior* 169
- ~ *minor* 169
- Ursus horribilis* 146

- Vakh 45, 46, 47
- Vasyugan 45, 46
- velarization x, xiii
- vertical arctic environment 9
- Vogul *passim*
- Vogulka 47

- whistling 244
- White Hare Half (moiety) 40
- Wintuan *passim*
- wole* 22, 250

- Yakut 237
- Yokutsan 71
- Yosemite 18, 19, 68
- ~ Falls 18, Plate viii
- Yugan 45, 46, 48
- Yukagir 9, 18, 46, 67, 84, 238
- Yukonda 45

- Zyrien 45

Name Index

- Acosta, Padre José de 2, 6
Ahlqvist, August 177, 180, 279
Ana of Konda 48
Anghiera, von, Peter Martyr 1, 279
Antropova, V.V. 226, 279
Anttila, Raimo xvii
Aoki, Haruo xviii
Arroyo de la Cuesta, Felipe xviii, 11,
69, 76, 279
Austerlitz, Robert xviii

Baer, K. E. von 283
Bakró-Nagy, Marianne xviii, 285
Bárczi, Géza 279
Barrett, S.A. xxi, 39, 85, 112, 117,
139, 165, 179, 180, 199, 200, 211,
218, 242, 244, 246, 252, 253, 265,
266, 279
Beals, Ralph L. 27, 30, 36, 137, 139,
143, 152, 153, 154, 157, 163, 170,
171, 172, 174, 178, 232, 235, 239,
240, 279
Bean, Lowell L. 279
Beeler, Madison xviii
Beke, Ödön 25, 194, 205, 208, 279
Benkő, L. 279
Benner, Lena Thomas 44
Berman, Howard 18, 198, 207, 211,
215, 279
Berrár, J. 279
Berry, Elisabeth 195, 279
Berry, William D. 195, 279
Birnbaum, Henrik xvii
Birnbaum, Marianne xvii
Bloch, Bernard xxi, 280
Boas, Franz 281
Bolinger, Dwight xviii
Bond, Z.S. xxii, 253, 280
Bowen, Ezra 280, Plate viii

Boyko, Vladimir I. xix
Bright, William 280
Brine, Peter xvii
Broadbent, Sylvia M. xviii, xxiii, 69,
78, 79, 83, 84, 87, 88, 89, 93, 94,
98, 119, 185, 192, 198, 199, 205,
213, 239, 240, 246, 253, 280, 281
Buck, Carl Darling 51, 52, 280
Burrow 118

Cain, William C. 286, Plates xii, xv,
xvi
Callaghan, Catherine A. ix, xviii, xxii,
58, 69, 70, 80, 97, 239, 251, 253,
280
Canby Thomas Y. xviii, 2, 280
Chafe, Wallace L. 279
Chernetsov, V.N. 17, 225, 266, 280,
284
Chesnut, V.K. 280
Coleman, Renee 44
Collinder, Björn x, xvii, xviii, 53, 54,
55, 57, 59, 67, 69, 70, 74, 79, 80,
81, 82, 85, 86, 87, 88, 89, 90, 93,
94, 102, 109, 110, 114, 119, 120,
131, 149, 196, 199, 205, 210, 211,
280
Columbus 1, 6
Comelias, Padre Juan 11
Corradi Musi, Carla xvii, 238, 280
Csúcs, Sándor 285
Curtis, E.W. 14, 23, 35, 61, 133, 137,
139, 142, 143, 164, 167, 169, 170,
176, 181, 198, 204, 208, 246, 253,
280
Cushing, G.F. 282

Dalton, Nancy xvii
Dalton, Starrett xvii

- Dana, James Dwight 281
 Dauerhauer, Richard xviii
 Décsy, Gyula xviii, 69, 281
 Di, Zhu xvii, 281
 Dixon, Roland B. 25, 67, 125, 137,
 144, 146, 149, 154, 159, 160, 162,
 163, 166, 169, 171, 174, 176, 232,
 239, 240, 242, 249, 281
 Dobó, Attila 285
 Dolgopolsky, Aaron xviii
 Douglas 139
 Driver, Harold E. 226, 281
 DuBois, Cora xv, 125, 240, 243, 244,
 246, 247, 249, 281
 Duflot de Mofras, Eugène 164, 281
 Dundes, Alan xviii

 Ebbesmeyer, C.C. 21, 281
 Eiras, Vuokko ix, xviii, 282
 Elsasser, Albert B. xv, 43, 281
 Erdélyi, István 285
 Erdmann, J.F. 172, 281
 Eulalia 44

 Fancsaly, Éva 285
 Faye, Paul-Louis 137, 281
 Fladmark, Knut R. 21, 281
 Fokos-Fuchs, D.R. 245, 281
 Ford, Adrienne 238, 246, 281
 Foster, Michael K. xviii
 Fox, Bill xvii
 Freeland, Lucy S. xviii, 69, 73, 74, 77,
 78, 80, 81, 82, 83, 84, 86, 87, 88,
 89, 90, 91, 92, 93, 94, 95, 98, 99,
 178, 185, 213, 217, 222, 239, 240,
 246, 281

 Gabbrielli, Luciana xviii
 Gatschet 79, 124
 Gershenson, Danial xvii
 Gifford, Edward Winslow xxi, 39, 112,
 117, 118, 132, 133, 137, 139, 149,
 150, 160, 165, 167, 198, 199, 200,
 201, 209, 211, 218, 241, 242, 244,
 246, 249, 268, 279, 281
 Gimbutas, Marija xviii
 Goldschmidt, Walter 233, 248, 264, 282
 Golla, Victor K. xviii, 212, 282

 Goodgame, Daniel xviii
 Grace, Alma 44
 Greenberg, Joseph xviii
 Grimm, Jacob x
 Guinther, Victoria xvii
 Gulya, János 68, 80, 98, 184, 282
 Gunda, Béla xviii

 Hajdú, Péter xviii, 46, 47, 48, 67, 69,
 70, 73, 74, 76, 77, 79, 80, 81, 82,
 83, 84, 85, 88, 91, 92, 93, 94, 95,
 139, 238, 270, 282
 Hall, Robert L. xviii
 Hamp, Eric P. xviii
 Harris, Janet xvii
 Heizer, Robert F. xviii, 18, 21, 25, 30,
 37, 67, 137, 150, 154, 162, 179, 238,
 261, 281, 282, 284, 285, 287
 Helimsky, E. xviii
 Helmersen, Gr. von 283
 Henshaw, Henry W. 18, 21, 143, 167,
 282
 Hinton, Leanne 279
 Hodge, Frederick Web 282
 Honti, László xviii, 285
 Hoppál, Mihály xix, 282
 Howard, Keith D. 282, 285
 Hunfalvy, Pál 242, 253, 282
 Hymes, Dell xviii

 Ingraham, W.J. 21, 281
 Isabella 6
 Ishi 44, Plates x, xi
 Itkonen, Erkki 70
 Itkonen, Esa xviii
 Ivanov, Vyacheslav V. xviii

 Jakobson, Roman xviii
 Jennings, Jesse D. 2, 282
 Joe, Bill 44
 Johnson, Adam 282
 Johnson, Castro 44
 Jones, Sir W. 52

 Kálmán, Béla ix, xviii, 25, 56, 73, 87,
 95, 96, 97, 123, 148, 152, 162, 166,
 168, 177, 178, 182, 201, 248, 282,
 284

- Kannisto, Artturi ix, xviii, 39, 242,
 245, 248, 269, 282, 287
 Karjalainen, K.F. xviii, 206, 226, 246,
 283, Plate ii
 Kaufmann, Terrence xviii
 Kazár, L. xviii
 Key, Mary Ritchie xviii
 Klingenhöfer, Hans 279
 Knights, The 44
 Korenchy, Éva 285
 Kostromitonov, P. 15, 124, 133, 161,
 197, 266, 283
 Krell, Dorothy 283
 Kroeber, Alfred L. xviii, xxi, 6, 30, 37,
 57, 67, 68, 71, 73, 74, 79, 83, 84,
 89, 91, 93, 108, 137, 139, 143, 144,
 149, 152, 153, 155, 157, 159, 161,
 166, 170, 171, 174, 176, 179, 180,
 181, 182, 212, 238, 240, 241, 243,
 246, 248, 250, 251, 264, 267, 269,
 283
 Kroeber, Theodora 283, Plates x, xi
 Künnap, Ago xviii
 Kutasi-Kovács, Lajos xviii
 Kuznetsova, V.G. 226, 279

 Lakó, Gy. passim
 Lamb, Sidney xvii
 Lang, Ewald 286
 Lehtisalo, T. 70, 233, 283
 Levin, M.G. 36, 283, 284
 Levin, Saul xviii
 Lévi-Strauss, Claude xviii
 Liimola, Matti ix, xviii, 39, 282, 287
 Lipták, P. 46
 Littlejohn, Hugh W. 25, 137, 155, 160,
 283
 Lukyanov, Sergei A. xix

 McCalla, K. 283, 285
 McKern, W.C. 30, 179, 181, 226, 250,
 251, 283
 McKibben, Grace 44
 McRobby, Zita xviii
 Maher, J. Peter xviii
 Makkai, Adam xviii
 Makkai, Valery Becker xviii
 Malkiel, Yakov xviii

 Manning, A. 283, 285
 Marino, Carlo 283
 Marley, Gerald xviii
 Martin, P. 283, 285
 Martinet, André xviii
 Mason, Alden J. xvii, 83, 112, 136,
 205, 209, 220, 239, 243, 279, 284
 Matsumoto, Hideo xvii, 2, 284
 Melnikov, G.I. 279
 Mengarini, Gregory S.J. 264, 284
 Merriam, C. Hart 20, 27, 204, 284
 Morgan, Frank 44
 Moszynska 17, 225, 266
 Mousalimas, Soter A. xviii
 Munkácsi, Bernát ix, xviii, 56, 125,
 233, 244, 245, 284, 285

 Newman, Stanley S. 243, 284

 Okladnikov, A.P. 225, 284
 Okrand, Marc 205, 284

 Pais, Dezső 233, 235, 284
 Pandian, E.T. Jacob xviii
 Pápai, Károly 25, 194, 284
 Pápay, József 205, 208, 279
 Páricsy, Pál xix
 Parks, Rhonda xviii
 Patkanov, Szerafim 133, 135, 141, 142,
 146, 148, 159, 165, 169, 170, 171,
 172, 173, 176, 177, 178, 196, 197,
 211, 218, 284
 Pentikäinen, Juha xviii
 Pete, Henk 44
 Pinart, Alphonse 18, 246, 284
 Pitkin, Harvey xvii, xviii, 69, 80, 81,
 82, 85, 97, 157, 169, 179, 204, 214,
 239, 284
 Plotnikova, Klavdia 43
 Popov 253
 Potapov, L.P. 36, 48, 283, 284
 Potts, Marie 137, 156, 284
 Powell, John W. xviii, 18, 89, 96, 126,
 182, 197, 198, 200, 281, 282, 284
 Powers, Stephen 18, 20, 35, 57, 97,
 125, 137, 143, 146, 147, 150, 153,
 154, 155, 157, 159, 161, 162, 173,
 176, 245, 248, 284

- Prokofyeva, E.D. 141, 163, 171, 284
 Prokosch, E. x, 284
 Prytkova, N.F. 284
- Rédei, K. *passim*
 Reguly, Antal xviii
 Riddell, Francis A. 137, 150, 155, 285
 Rolle, Andrew xviii
 Rombandeeva, E.I. 44
 Ryzhkina, Olga xix
- Sadovszky, O. J. von xvi, 22, 39, 41–43, 69, 99, 138, 199, 216, 218, 221, 226, 237, 238, 241, 242, 282, 285
 Sal, Éva *passim*
 Sam, Mamie 44
 Sauer, Gert 286
 Scheid, Erich Mittelsten xx
 Schlichter, Alice xv, xviii, 23, 69, 82, 108, 115, 121, 179, 180, 182, 279, 285, 286
 Schlözer, August Ludwig 227, 286
 Schmidt, Hanns-Peter xvii
 Schulze, Brigitte 286
 Schweizer, Donald xviii
 Shafer, Robert 179, 181, 182, 286
 Sherrell, Jean xvii
 Sherrell, Michael xvii
 Shestalov, Ju. 286, Plates i, iii–vii, ix
 Shevoroshkin, Vitaly xviii
 Shipley, William xviii, 137, 162, 170, 174, 239, 286
 Sieg, E. 286
 Siegl, Bernard C. 138, 286, 62, 66, Plates xiii, xiv, xvii
 Siegling, W. 286
 Silva, Arthur M. 286, Plates xii, xv, xvi
 Smetanina, Olga V. xix
- Steinitz, Renate 286
 Steinitz, Wolfgang 17, 70, 161, 180, 204, 217, 242, 246, 251, 266, 286
 Stone, Livingstone 286
 Suprun, Vladimir I. xix
 Suttles, Wayne xviii
 Sutton, Imre xviii
- Tauli, Valter 69, 80, 286
 Taylor, Colin F. 137, 286
 Toivonen, Y.H. xviii, 226, 283
 Towne, Arlean H. 137, 287
 Trager, Georg L. xxi, 280
 Turner, Christy G. 2, 286
- Udvardy, Miklos D.F. 242, 286
 Uldall, Hans J. xviii, 137, 152, 172, 239, 246, 286
 Ultan, Russel 23, 137, 155, 158, 286
- Vachrushcheva, M. 44
 Vaziliy, Prince of Obdorsk 48
 Veenker, Wolfgang xviii
 Vértes, Edit xviii, 285
 Viitso, Tiit-Rein xvii, 286
 Virtanen, E.A. 39, 286
 Volpe, Angela della xviii
 Vuorela, Toivo 47, 167, 287
- Walker, Bryce 251, 287
 Wasson, R. Gordon xviii
 Wescott, W. Roger xviii
 Whistler, Kenneth W. 243, 287
 Wikander, Stig xviii
 Williams, T. 185
 Wilson, Norman L. 137, 287
 Winter, Werner xviii
 Witsen, Nicolaes 244, 287

Volumes still available from the series

ISTOR Books

- Volume 4: *Vogul Folklore*
Collected by Bernát Munkácsi
Edited by O. J. von Sadovszky and M. Hoppál
In English, 1995, xxx + 215 pages with illustrations
Hardbound, USD 38.00
- Volume 5: *Shamans and Cultures*
Edited by M. Hoppál, K. Howard, O. J. von Sadovszky and T. Kim
In English, 1993, xi + 302 pages with illustrations
Hardbound, USD 38.00
- Volume 6: *Fish, Symbol and Myth. A Historical Semantic Reconstruction*
by O. J. von Sadovszky
In English, 1995, xiv + 94 pages with illustrations
Hardbound, USD 23.00

In preparation

- Volume 7: *Shamanic Songs and Myths of Tuva*
Edited by Mongush B. Kenin-Lopsan
Selected and edited by M. Hoppál
with the assistance of Christiana Buckbee
In English, 1997, 180 pages with original black and white drawings
Hardbound, USD 42.00
- Volume 8: *Arctic Ecology and Identity*
Edited by S.A. Mousalimas
In English, 1997, vi + 176 pages with illustrations
Hardbound, approx. USD 36.00

Place your order with your bookseller or with Akadémiai Kiadó,
Export Dept., P.O. Box 245, H-1519 Budapest, Hungary



Fish, Symbol and Myth
A Historical Semantic Reconstruction

by Otto J. von Sadvoszky

ISTOR Books vol. 6

The study is a reconstruction of the semantic sphere surrounding the concept of fish in the Eurasian culture area. The argumentation is based on semantic parallels drawn from modern and ancient languages, on archeological data indicating the artistic representation of these parallels and on mythology apparently developed in view of the same semantic associations.

With black and white drawings, name and subject index.

Readership: folklorists, linguists, anthropologists

In English. 1995. xiv + 93 pages. 16 × 24 cm. Hardbound. USD 23.00

ISSN 0865-7416

ISBN 963 05 6949 3

Akadémiai Kiadó, Budapest

International Society for Trans-Oceanic Research, Los Angeles

Place your order with your bookseller or with Akadémiai Kiadó,
Export Dept., P.O. Box 245, H-1519 Budapest, Hungary



Shamanic Songs and Myths of Tuva

Edited by Mongush B. Kenin-Lopsan

Selected and edited by Mihály Hoppál

with the assistance of Christiana Buckbee

ISTOR Books vol. 7

The book is a result of a life-long work done by Mongush B. Kenin-Lopsan, a scholar of folklore, writer and poet. He started to collect shamanic folklore in his native Tuva from the early sixties onwards, and was published numerous articles, books on this rich oral and ritual tradition. Since the territory and the people of Tuva have become quite isolated their shamanism can be considered as a reservoir and mixture of the elements of old Altaic (Turkish) and Mongolian shamanism and lamaism. Besides the narratives on the mythologies and practices of Tuva shamans the most valuable part of this book is a genuine collection of shamanic hymns (*algys*), prayers and songs. This volume is an authentic source-book of Tuva shamanism with dozens of illustrations of ritual objects used by shamans.

Readership: folklorists, historians of religions, scholars of comparative mythology, ethnologists, linguists

In English. 1997. approx. 180 pages with original black and white illustrations.
17 × 25 cm. Hardbound. USD 42.00

ISSN 0865-7416

ISBN 963 05 7401 2

Akadémiai Kiadó, Budapest

International Society for Trans-Oceanic Research, Los Angeles

Place your order with your bookseller or with Akadémiai Kiadó,
Export Dept., P.O. Box 245, H-1519 Budapest, Hungary



Volumes published so far in the series

Bibliotheca Shamanistica

- Volume 1: *Shamanism in Performing Arts*
Edited by T. Kim and M. Hoppál
with the assistance of O. J. von Sadovszky
In English, 1995, x + 291 pages with illustrations
Hardbound, USD 44.00
- Volume 2: *Shamanism in Siberia*
(Selected Reprints)
Edited by V. Diószegi and M. Hoppál
In English, 1966, xx + 189 pages with illustrations
Hardbound, USD 45.00
- Volume 3: *Folk Beliefs and Shamanistic Traditions in Siberia*
(Selected Reprints)
Edited by V. Diószegi and M. Hoppál
In English, 1996, x + 248 pages with illustrations
Hardbound, USD 48.00

In preparation:

- Volume 5: *Selected Papers of Vilmos Diószegi*
Edited by M. Hoppál
In English, 1997, approx. 210 pages with illustrations
Hardbound, USD 48.00



Shamanism from East to West

by Carla Corradi Musi

Bibliotheca Shamanistica vol. 4

The shamanism of the ancient Finno-Ugric and Siberian peoples was an ensemble of religious beliefs closely connected with their ethnic identity.

However, through pre-historic contacts, both direct and indirect, it left traces going back to the distant past even in Western European culture. Since the primordial period, shamanism reached present California along with those ancestors of the North American Indians who were Finno-Ugric in origin.

The echoes transmitted by shamanism over such a wide area constitute an extremely interesting phenomenon not only for the past of pre-Colombian America but also of Eurasia. It is clear that the ancient Uralic and Indoeuropean peoples were more in touch with each other than one would initially have imagined. Certain elements in the traditions, myths, legends and sagas of Western Europe, which recall the magic ritual scenario of shamanism, are the result of a long process of cultural transmission which had already started in the prehistoric era.

Readership: historians of religions, social anthropologists, folklorists

In English. 1997. ix + 113 pages with illustrations.
17 × 25 cm. Hardbound. USD 36.00

ISBN 963 05 7400 4
ISSN 1218-988X

Akadémiai Kiadó, Budapest

Place your order with your bookseller or with Akadémiai Kiadó,
Export Dept., P.O. Box 245, H-1519 Budapest, Hungary



Scientific Journals from Akadémiai Kiadó

Acta Ethnographica Hungarica

A Periodical of the Hungarian Academy of Sciences

Editor-in-Chief: Bertalan Andásfalvy, Member of the Academy

Executive Editor: Gábor Barna, C. Sc.

Aims and scope

This journal publishes contributions describing recent scientific advances in the field of ethnography, folklore and cultural and social anthropology. Emphasis is laid on subjects related to Hungarian ethnography and folklore as well as on works presenting Hungarian folklore in the context of East European and Eurasian cultures.

Founded 1950

Papers in English, French, German and Russian

Publishes book reviews and advertisements. Format: 17 × 25 cm

ISSN 1216-9803

Publication: one volume of four issues yearly

Subscription price per volume: USD 112.00

Acta Linguistica Hungarica

An International Journal of Linguistics

Managing Editor: Ferenc Kiefer, Member of the Academy

Associate Editor: Károly Gerstner

Review Editor: István Kenesei, D.Sc.

Aims and scope

Acta Linguistica presents papers on the subjects of Finno-Ugric, Slavic, Germanic, Oriental and Romance, as well as general linguistics.

Founded 1951

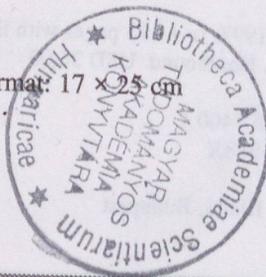
Papers in English, French and German

Publishes book reviews and advertisements. Format: 17 × 25 cm

ISSN 1216-8076

Publication: one volume of four issues yearly

Subscription price per volume: USD 112.00



Place your order with your bookseller or with Akadémiai Kiadó,
Export Dept., P.O. Box 245, H-1519 Budapest, Hungary



7842. —



ISTOR

International Society for Trans-Oceanic Research

Evidence gathered from physical anthropology, archeology, and comparative ethnology clearly indicates that the American Indians are of Asian origin.

Since the discovery of America, now more than 500 years ago, various scholars have been searching for linguistic link between the Native American languages and the languages of Eurasia. In this work the author proposes a comprehensive linguistic relationship between the Central California Indian languages and the Uralic language family.

The volume contains an essay concerning the discovery of California written for a well informed public, a great amount of ethnographic material, an extensive comparative grammar and phonology, several vocabularies and a comparative linguistic analysis of a shamanistic text.

The author introduces a new word 'Cal-Ugrian'. It stands for California Ugrian. It represents a new concept in comparative culture and linguistics. The author trusts that the reader, after carefully having studied the evidence, will agree that the languages of the Native Central Californians are indeed closely related to the Uralic, Finno-Ugrian and specifically to the Ugrian languages spoken in Northwest Siberia.

Address:

ISTOR

1500 Dana Place

Fullerton, California 92631

USA

Fax: (1) 714-680-0697

011.624



O. J. von SADOVSKY



ISTOR

THE DISCOVERY OF CALIFORNIA