

Orthography, Lexicography, and Language Change

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Abstract

The Coeur d'Alene language was first recorded on paper at the turn of the last century by an associate and a student of Franz Boas, both of whom used a fairly accurate phonetic transcription. This transcription was used as the orthography for Gladys Reichard's grammar of the Coeur d'Alene language and subsequent papers. In the 1970's, a new orthography was devised with the goal of employing the English alphabet, sans diacritics, to represent the sounds of the language. A rudimentary dictionary was produced, and the new orthography was officially adopted by the tribe; it is currently being used in the language preservation and revitalization programs undertaken by the tribe. The problem with the old orthography was that it was too narrow phonetically and visually cluttered with diacritics; the problem with the new orthography is that it is both familiar and inaccurate and is thus fostering changes in the pronunciation of the language.

A new and more complete set of dictionaries of Coeur d'Alene is being compiled, and one of the aims of the dictionaries project is to preserve traditional pronunciation while recognizing the tribe's official orthography. The solution chosen is to provide both a phonetically based transcription and a transcription in the tribe's orthography for every dictionary entry.

Introduction

Coeur d'Alene is an Interior Salishan language spoken only by a very few elders on or near the Coeur d'Alene Reservation in northern Idaho. The language is profoundly endangered. One speaker, whose idiolect includes many syntactic and lexical elements from the Spokane language, can relate stories fluently as topics arise in bilingual conversation. A second speaker can present short, practiced narratives and add modestly to bilingual conversation, and is knowledgeable in the structure of the language. A third speaker will initiate conversation in Coeur d'Alene but will revert quickly to English, perhaps due to a lack of proficient listeners. In efforts at elicitation, this third speaker's ability resembles that of other elders, who recall only limited vocabulary sets, often including numbers, words adopted from French, and terms remembered from childhood.

Efforts to revive the language have been strong, including high school and college level courses taught on the reservation. The tribe's own language program,

which has its office located at the tribal headquarters and is open to all comers, conducts social events where learners are encouraged to speak the language.

Due to the dearth of active fluent speakers, the success of all these programs is dependent upon the teachers' and students' abilities to read the language. The Coeur d'Alene language is exceedingly difficult phonetically from the perspective of European language speakers. Coeur d'Alene also has especially interesting phonological features including post-tonic truncation and several types of distant progressive and regressive assimilation. In fact, every researcher since Reichard (1938) who has studied the language has spent much or all of their energies in figuring out the sound system (Sloat, 1966; Johnson, 1975; Doak, 1992). These complications make the development of a useable orthography especially difficult.

The Orthographies

Over the last century, the Coeur d'Alene language has been transcribed using three distinct systems. Each is described here, and their differences are discussed.

Reichard

The first, and oldest, is the system used by James Teit and Gladys Reichard, both of whom were under the guidance of Franz Boas. Their system of fairly close phonetic transcription was used in the original linguistic studies of the language, from 1904 through the late 1920's. While Teit's and Reichard's use of the Boasian system varied slightly from one another's, their understanding of the system was consistent; Reichard was, in Boas' estimate, "able to identify most of the terms" transcribed by Teit and check them with native speakers (Boas and Teit 1930:preface).

Bitar

One of Reichard's native language consultants, Lawrence Nicodemus, learned this system of transcription and used it until the early 1970's. Then, in collaboration with Joseph Bitar of the Southwest Research Associates of Albuquerque, Nicodemus devised the second orthography. The copyright page of Nicodemus 1975a states, "Orthography and Transcription by Joseph Bitar", so we will refer to this as the Bitar system. In the introduction to his two-

volume dictionary, Nicodemus¹ states that he "shall attempt to present [the language] in a more popular, less scientific form for the benefit of the layman who wishes to master the language" (1975b, vol. I: iv). This 'less scientific' form is less accurate phonetically, but has at least two advantages in that it reflects a native speaker's own evaluation of the sounds, symbols and words of the language, and it can be typed. This system has been used by recent researchers (cf. Palmer, Nicodemus and Felsman, 1987; and Brinkman, mss.), and it has been adopted by the tribe as the official orthography of the language (cf. Matheson, mss.).

Linguistic phonetic orthography

The third system of transcription used in recording the Coeur d'Alene language is a variant of the International Phonetic Alphabet. We refer to it here as the linguistic phonetic orthography (LPO). It is the same system of transcription that has been used by most linguists studying Salishan language and which has been adopted by other Salishan tribes in the northwest Interior and on the Coast, including the Colville-Okanagan (Mattina, 1987), Spokane (Carlson and Flett, 1989), Klallam (Montler, ms.), and Lushootseed (Bates, Hess and Hilbert, 1994). It has also been used by Johnson (1975) and Sloat (1966) in their dissertations addressing the phonology of the language. The system is akin to the phonetic system used by Reichard, using a single symbol for each unique sound in the language. Advances in knowledge about the Salishan languages and in Coeur d'Alene phonology in particular allow a simplified transcription augmented by a small set of rules of pronunciation. This is the system that will be used by the Coeur d'Alene Dictionaries Project in conjunction with Bitar's system.

Comparison

The three systems used to transcribe the Coeur d'Alene language are shown in Table 1.² Stress is marked on the vowel in LPO and Reichard; Bitar may mark stress with underlining, but the marking is inconsistent. Reichard recognizes and records the release of a glottal stop by transcribing a raised vowel which is homorganic with the vowel that precedes the glottal stop: a^a. Bitar and the LPO do not transcribe glottal release. Where the glottal stop is inserted by rule (such as with an inchoative infix -ʔ-), Reichard writes the homorganic vowel on the line rather than raised: aʔa. Predictable long vowels are marked with a

¹ Perhaps with Bitar; the authorship of the introduction is not clear.

² The Jesuit priests, who began their missionization of the Coeur d'Alene in the mid 1800s, have devised their own transcription system(s) for recording hymn and scripture translations. These have been of little consequence outside the church, and will be discussed minimally in this paper.

raised dot in LPO (a[˙]), by doubling in Bitar (aa), and by a raised vowel following the lengthened vowel in Reichard (a^a).

LPO	Bitar	Reichard
a	a	a
e	e	ä, ê
i	i	i
o	o	ɔ
u	u	u
ə	[see text]	E, ɪ, ʊ
p	p	p
p̣	p̣	p̣
b	b	b
m	m	m
ṃ	˙m	ṃ
w	w	w
ẉ	˙w	ẉ
t	t	t
ṭ	ṭ	ṭ
d	d	d
n	n	n
ṇ	˙n	ṇ
s	s	s
c	ts	ts
c̣	tṣ	tṣ
š	sh	c
ʃ	j	dj
č	ch	tc
č̣	cḥ	tc̣
y	y	y
ỵ	˙y	ỵ
g ^w	gw, gu	gw, gu
k ^w	kw, k, ku, ko	k ^w , ku
ḳ ^w	ḳ˙w, ḳ˙u, ḳ˙o	ḳ ^w , ḳu, ḳu
x ^w	khw, khu, kho	x ^w , xu
q	q	q
q̣	q̣	q̣
q ^w	qw, qu, qo	q ^w , (q),
q̣ ^w	q̣˙w, q̣˙u, q̣˙o	q̣ ^w , q̣u
x̣	qh	x̣
x̣ ^w	qhw, qhu, qho	x̣ ^w
l	l	l
ḷ	˙l	ḷ
ɬ	ɬ	ɬ
r	r	r
ṛ	˙r	ṛ
ʕ	(,)	R
ʕ̣	˙(, ˙)	Ṛ
ʕ ^w	(w, (u	r ^w
ʕ̣ ^w	˙(w, u˙(ṛ ^w
ʔ	˙	˙
h	h	h

Table 1: Coeur d'Alene Orthographies

Bitar does not indicate reduced vowels or excrescent schwa; a full vowel symbol is used for each vowel sound, or the sound is not transcribed. Nicodemus (1975b, vol. I:iv) states that the right parenthesis represents a "voiceless" pharyngeal, but uses the symbol rarely, and only for a few pharyngeals that occur in syllable codas. (The right parenthesis does not occur marked as labialized in his dictionary.) Labialization on any segment may be indicated by a round vowel preceding the segment only when the segment occurs word-finally (this is shown in the table only for the glottalized labialized pharyngeal).

The Reichard orthography was in use when there were still numerous speakers of the language and, as far as is known, very little native interest in transcribing the language.³ The Bitar orthography has been used by the tribe's language program, the Lakeside High School language class (including a textbook in progress), the North Idaho College courses, and is used sporadically and irregularly by the tribe on street signs and in the tribal newspaper.

Lexicography and Language Change

The old orthographies are contributing to errors in pronunciation by new language learners, and possibly to language change. Language change is not in itself objectionable, and is in fact inevitable; however, it is distressing to find the source of the change to be partially the result of poorly understood and inaccurate orthographies offered as the only tools available for beginning students of the language. While spelling systems like that of English have historical and traditional excuses for their modern inaccuracy, they also have a history of use. In devising an orthography for use in the reclamation of a previously unwritten language, it seems advisable to use a system that accurately reflects the pronunciation of the remaining or recorded fluent speakers. Once the learners themselves are familiar with traditional pronunciation, the language will no doubt change in accordance with expected influences on living languages.

Most of the current students and teachers of the language have heard the language spoken by only one living native speaker. Some may have also had the pleasure of hearing a second; both speakers participate to varying degrees in the language classes, and are essentially the only living sources available to the students. Of necessity, all students rely on the transcription of the language as it appears in the Nicodemus dictionary.

At least one student, maybe more, has looked for sources beyond the Nicodemus dictionary, and has

³ Doak has found no records by any others who have used this system, though her search has been casual. The tribal archives may show some evidence of its use.

found and used Reichard's grammar (1938); and at least one teacher has made use of Doak's dissertation (1997); thus there is current use of all three orthographies.

There are four specific areas where the current orthographies differ: transcribing stops vs. fricatives; indicating vowel variety; marking stress; and marking glottalization. The pronunciation errors engendered by the older orthographies (Reichard and Bitar) are presented in the following sections.⁴ In some cases, these pronunciations occur only when a person is reading, and thus indicate simple errors. In other cases, the pronunciations occur with every use, indicating an essential change in the language.

Stops and Fricatives

Individual velar and uvular fricatives are written with multiple symbols in the Bitar orthography. As Table 1 shows, the labialized velar fricative [x^w] is transcribed as *khw*, and the uvular fricatives [x] and [x^w] are transcribed as *qh* and *qhw*.

An example that pervades is the pronunciation of the determiner x^we. Some learners pronounce this word [kwe], based on the Bitar spelling *khw*e. At least one person uses this pronunciation consistently. The related deictic x^wi? and its variants also begin with [x^w] and are also pronounced with initial [k].

Vowel Variety

Reichard's system of vowel transcription is at first overwhelming. By marking releases of glottal stops with full or raised vowels and employing three separate graphemes to represent excrescent schwa, her system includes a full 23 unique vowels. Glottal stop releases and schwa variants (discussed in following sections) are all generally predictable, and are included in the LPO system as rules rather than symbols. The same is true for the long vowels, or what Reichard describes as "doubled" vowels (1938:529).

Reichard's three distinct symbols used to represent predictable variants of excrescent schwa are E, ɪ, and ʊ. Generally, Reichard uses E before nasals, where it indicates a syllabic nasal; ɪ represents a very short sound, approaching the articulatory position of [i], which occurs before laterals or between alveolars or alveopalatals; ʊ represents another very short sound, this one approaching the articulatory position of [u], which occurs adjacent to labialized segments. These

⁴ Doak has made observations on pronunciation during 15 years of field research. Out of our utmost respect for all teachers and learners of the language, no names or affiliations will be associated with the pronunciations remarked upon here; many are the same pronunciations Doak has produced at one time or another.

symbols are mistakenly interpreted as full vowels by those unfamiliar with Reichard's system.

For example, the dot under the *u* is unfamiliar, and it goes unseen, or perhaps is ignored; the result is that the learner pronounces *u* as [u].

Though simpler in appearance, the Bitar vowel system can also be misleading. Bitar uses only five vowel symbols, and for the most part does not indicate excrescent vowels. But he does use full vowel symbols to indicate reduced vowels, and this can cause problems in pronunciation and interpretation.

In the following example, the two *u*'s both represent underlying /e/, from the root $\sqrt{\text{ceg}}^w$ 'nature, character', which reduce to schwa when unstressed (the Bitar transcription precedes the phonetic transcription):

syentsugwtsugwicht (Nicodemus 1975b I:250)
[syèncəg^wcəg^wɨçt] 'copycat'

In cases where stress is not marked, reduced vowels represented by full vowel symbols is an especially difficult problem, and will be discussed in the following section.

Marking Stress

One of the significant omissions of the Nicodemus dictionary and its accompanying course book (Nicodemus 1975a) is the regular marking of stress. In the course book, stress is not marked at all; in the dictionary, stress is marked by underlining on about a quarter of the entries. A "Note on Accent" that appears in volume one of the dictionary states that accent, or stress, is "so important in fact that it can sometimes change the meaning of a word" and that "it must be learned from a native speaker."⁵ This is nearly impossible with the paucity of speakers available to learn from, and the problem is exacerbated when an available speaker relies on the written materials.

One example of frequent mispronunciation due to lack of stress marking is shown in the phrase meaning 'nine hundred'. The form given in the course book (Nicodemus, 1975a:53) is unstressed and capitalized:

QHAQH'NUT HA SNOK'O'QIN

Due to the lack of stress marking, a person reading from the book pronounced the phrase with primary stress incorrectly placed on the penultimate syllable:

*[x̣x̣n'òt ha snək^wóʔqən] 'nine hundred'

In the audio tapes that accompany the book, the phrase is correctly pronounced with stress on the /i/ of the final syllable.

An example of the problems associated with an inconsistent vowel system combined with lack of stress marking is in the pronunciation of the word for *bluebird*, which appears in the course book:

chatteqegwet (Nicodemus, 1975a:71)

The person reading this chose to pronounce it with stress on the second *e*, which by its appearance as a full vowel is apparently stressable. However, the correct pronunciation has stress on the first *e*:

[çattéqəg^wət] 'bluebird'

The remaining vowels, being unstressed, are reduced to schwa.

Marking Glottalization

A particularly confusing feature of the Bitar orthography is the inconsistent positioning of the glottalization mark. As shown in Table 1, glottalized stops and affricates are indicated with an apostrophe following the segment, while glottalized sonorant consonants are marked with an apostrophe preceding the segment. When this system is followed consistently, confusion necessarily occurs where an apostrophe, or glottalization mark, occurs between a stop or affricate and a sonorant consonant.

An example exists in the word for *children* (Nicodemus 1975b I:240), where the apostrophe occurs between *ts* and *m*, both of which are segments that may be glottalized:

ststs'mj'lt 'children'

The correct interpretation in this case is *scm'ilt* rather than *sc'milt*. The same apostrophe also indicates an independent glottal stop word internally, causing similar confusion.

Language Death and Language Change

Some of the deviations from native pronunciation are the result of language death. A very few of the native learners have heard their elders, either parents and grandparents or great grandparents, speak the language and so know how the language sounds. Most learners are not so privileged. Now, the teaching of the language is dependent on written records and the availability of the two speakers who attend the classes. With language death come further restrictions in the learner's opportunities to hear the language in natural use. The result is that learners mispronounce, based on their inexperience, unfamiliarity with the sounds, and perhaps also "performance anxiety."

⁵ Nicodemus 1975a:4. The course book is accompanied by a set of six cassette tapes.

All of the problems discussed as resulting from poor orthographic representation are also problems of language death. Since the learners can't distinguish the sounds, they can't help but confuse the symbols.

Recognition and Production

Examples of change in the language resulting from the inexperienced ears and tongues of those who are attempting to speak the language include the velar for uvular pronunciations (e.g. [k] for [q]); stop for fricative pronunciations (e.g. [kw] for [x^w]); and the general lack of pharyngeal and glottalized segments where they are expected.

Representation

Efforts by tribal members to write the words they know often show a lack of detail similar to that observed in the speech of the language students. Several forms appeared in letters, captions, and in the subtitle of the June 2000 issue of the *Coeur d'Alene Council Fires*. Compare the word for *gathering* as it was typeset with the phonetic transcription of the form:

yap-keehn-um [y'a^opqín'm] 'gathering'

and as it appears in the Nicodemus dictionary:

'ya'(pqí'n'm (Nicodemus 1975b:I.315)

Note that the newspaper form includes no marking of glottalization and no pharyngeal resonant.

The letter *k* is used to represent the uvular stop [q] in the word for *gathering* just as it is in the written form for *grandmother*.

kana [qíne?] 'maternal grandmother'

The words for *grandmother* and *gathering* have the same stressed vowel, [í], which is written in one form as *ee* and in the other as *a*.⁶ The form for *grandmother* also lacks a symbol for the final glottal stop, as do the two forms for relatives three generations apart:

topiea [fúpye?] toopeya [fúpye?] 'great grandparent/child'

Problems of this type are not due to lack of knowledge of the language, but a lack of tools: How does one write these sounds? Even the Bitar writing system, devised for ease of use and familiarity, is daunting. Native speakers recognize the unique sounds of the

language but are reluctant to use unique symbols to record it. Non-native users of the language are similarly reluctant; for example, the following spellings appear in a child's biography (Connolly 1990) which employs its own system of spelling. Each word is given with the Bitar spelling followed by the phonetic transcription and definition:

keéna qíne' [qíne?] 'maternal grandmother'

scheé-chu-umsh schitsu'umsh [sčícú?əmš] 'Coeur d'Alene people'

Chérumsh ch'e(wmsh [č'é^wmš] 'pray!'

These examples again illustrate the *k* for [q] spelling, the lack of glottals and glottalization, and the lack of pharyngeal representation.

Innovation and Change

Efforts to revive the Coeur d'Alene language necessarily introduce new speakers and new terminology to the language environment. Until recently, one speaker has served as consultant to three generations of linguists, and has contributed to the development of the tribe's orthography and to the expansion of the lexical data set. Other speakers have only begun to be consulted in the coining of new words to accommodate new jobs and new technology, but were not involved with the development of the orthography. Each of the few surviving speakers has his or her own history and, in effect, his or her own dialect. The words recorded in the Nicodemus dictionary do not always reflect other native speakers' pronunciations. The inaccuracy of the Bitar system also fosters pronunciation errors, by native and non-native speakers alike. These factors contribute to language change based on diversity and error.

Fresh interest in the revival of the language has brought more of the young learners together with native speakers to cooperate in the development of a new Coeur d'Alene (cf. Montler 1999:488). Those who are just learning the language are aware of the difficulties they face when pronouncing the language, but are undaunted by the task. When they see a *q* on the printed page, and find they can produce only [k], they are aware of the discrepancy and are nevertheless determined to pursue fluency.⁷

In discussing the revitalization of Straits Salishan languages, Montler (1999) states:

Among a language's many functions, it is the emblematic function that is most needed--and the most viable--in the Native American communities

⁶ A probable reason for the use of *ee* and *a* is that stressed /i/ is sometimes diphthongized following /q/, sounding somewhat like English *a* in 'cane'.

⁷ R. Brinkman, personal communication, July 2000.

of the Northwest. Knowing one's ancestral language functions as the singular emblem of pride in one's identity. . . . Although the overriding goal for second language learners is to speak a form of the language as close to that of the ancestors as possible, the focus on the emblematic function puts perfection in matching the ancestors' pronunciation and grammatical construction into the background.

The Coeur d'Alene language is changing, as it must in order to survive. While the learners of the language attempt to reproduce its sounds accurately, factors including inconsistent and inaccurate recording of the language hamper their efforts.

The Coeur d'Alene Dictionaries Approach

The Reichard orthography is out of use because it is distractingly detailed and difficult to type. The Bitar orthography overcomes these obstacles, but creates problems of its own. Both orthographies have contributed to pronunciations inconsistent with the traditional sounds they attempt to record.

The Nicodemus dictionary and course book were clearly intended for community use, and the tribe has officially adopted the "linguistic style of Lawrence Nicodemus".⁸ However, the community itself has not embraced the system. When Coeur d'Alene words appear, for example, in the tribal newspaper, ad hoc English-based spellings are used.

One reason for its disuse may be that the Bitar system makes this phonologically complex language look confusingly like the more familiar English, which seems to give license to any English-like spelling. Another possible cause of the difficulties encountered in using this system is that explanation and detailed description of the values of the symbols are lacking. Resources for learning pronunciation by imitation are extremely limited.

The goals of the Coeur d'Alene Dictionaries Project include the notion of language preservation as well as revitalization. Our goal is to produce two dictionaries of the language. One dictionary will be an analytical dictionary using standard phonetic transcriptions of the sounds and detailed technical descriptions of pronunciation and usage. The other will be a learners' dictionary organized on the Bitar orthography supplemented with phonetic guides to the analytical dictionary. Both dictionaries will be produced from the same electronic database.

The analytic dictionary, being based on an orthography used by all of the neighboring Salishan languages, is

designed for use by comparative linguists and advanced students of the language. The instructional dictionary will be designed for ease of use and to foster students' interest in the language. It will, thus, forgo technical detail and serve as an introduction to the more detailed information contained in the analytical dictionary. Minor adjustments will be made to ease learning: for example, the fonts used to construct the learners' dictionary will be designed to reduce ambiguity found in the Nicodemus dictionary between glottalization of consonants and independent glottal stops. For example, glottalized *p* will be printed *p̣*, while the sequence of *p* plus a glottal stop will be printed *pʔ*.

As a convenient source of example pronunciations for students to imitate, the learners' dictionary will be accompanied by a CD containing sample words, phrases, and connected text keyed to dictionary entries. Importantly, the CD will contain samples from more than one speaker. Until now students have had access to lesson material spoken only by one person. We have tape recordings of six native-speakers, both men and women, that we will include on the CD. The CD will also contain a computer game that will give students practice in associating sounds with symbols of both orthographies and in recognizing the spelling of Coeur d'Alene words. The game will incorporate a sound database that can be expanded and changed to meet classroom needs. A version of this game is being used with success in teaching the distantly related Klallam language in the Port Angeles, Washington, public schools (Montler, 2000).

We believe that this dual orthography approach will help alleviate the problems presented by either system as the sole orthography. We hope to preserve as accurately as possible the sounds of the Coeur d'Alene language and at the same time make a dictionary that is maximally accessible to learners of the language.

Acknowledgements

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⁸ *Coeur d'Alene Council Fires*, masthead, Series 3, volume 2, Issue 4, April, 2000.

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An orthography is a set of conventions for writing a language. It includes norms of spelling, hyphenation, capitalization, word breaks, emphasis, and punctuation. Most significant languages in the modern period are written down, and for most such languages a standard orthography has been developed, often based on a standard variety of the language, and thus exhibiting less dialect variation than the spoken language. Sometimes there may be variation in a language's orthography, as between American and