



University of Pittsburgh

University Library System

**MAIN CAMPUS (PIT)
G-27 Hillman Library
INTERLIBRARY LOAN
3960 Forbes Avenue
Pittsburgh, PA 15260
Phone: (412) 648-7762
Fax: (412) 648-1245
Email: dd2ill@pitt.edu
ARIEL: 136.142.96.11**

RESEND REQUEST

Please respond with resend request within **3 days** of receiving your article. In addition, please include the copy of the OCLC request form sent with article.

ILL # _____

MARGINS CUT OFF _____

MISSING PAGES _____

UNREADABLE COPY _____

OTHER _____



Request ID: 14503688

Borrower: GDC

Status: PENDING
20051117

Lenders: *PIT UPM UPM EAU LOY

Source: ILLiad

Request Date: 20051117

Need Before: 20051217

Bibliographic Information

OCLC:30511327

Author:



Title: Scripts and literacy : reading and learning to read alphabets, syllabaries, and characters /

Imprint: Dordrecht ; Boston : Kluwer Academic Publishers,

ISBN: 0792329120 (acid-fre

Uniform Title:

ISSN:

Series: Neuropsychology and cognition ; 7.

Volume:

Dissertation:

Issue:

Edition:

Date: 1995

Verified: <TN:75789> OCLC

Pages: 77-94

Free

Article: Rice, Keren: Developing orthographies: The athapaskan languages of the Northwest Territories,

Location Information

Tray:

BibID: 0

MFHID: 0

Item ID: 0

P 211

542 1995

No bib found

Borrowing Information

Fax: 717-337-7001 ARIEL : ariel.cc.gettysburg.edu or

MaxCost: \$25 IFM

Ship Via: IDS #132 or L/R

Copyright Comp: CCL

Affiliation: ACLCP, Oberlin

Borrowing Notes:

Bill To: same/ FEIN #23-

ariel.cc.gettysburg.edu or 138.234.152.5

Patron: :dept: :type:

Billing Notes:

From:

Interlibrary Loan
Hillman Library
University of Pittsburgh
3960 Forbes Ave.
Pittsburgh PA 15260

To:

300 N. Washington St.
Interlibrary Loan
Gettysburg College Library
Gettysburg, PA 17325-1493

SCRIPTS AND LITERACY

*Reading and Learning to Read Alphabets,
Syllabaries and Characters*

Edited by

INSUP TAYLOR

*The McLuhan Program in Culture and Technology,
University of Toronto*

and

DAVID R. OLSON

The Ontario Institute for Studies in Education



KLUWER ACADEMIC PUBLISHERS
DORDRECHT / BOSTON / LONDON

Library of Congress Cataloging-in-Publication Data

Scripts and literacy : reading and learning to read alphabets, syllabaries, and characters / edited by Insup Taylor and David R. Olson.

p. cm. -- (Neuropsychology and cognition ; v.7)

Papers presented at a conference held June 1-4, 1988, Toronto, Canada.

Includes bibliographical references and index.

ISBN 0-7923-2912-0

1. Writing. 2. Literacy. 3. Graphemics. 4. Reading (Early childhood) 5. Reading, Psychology of. I. Taylor, Insup.

II. Olson, David R., 1935- . III. Series: Neuropsychology and cognition ; 7.

P211.S42 1994

302.2'244--dc20

94-20325

ISBN 0-7923-2912-0

Published by Kluwer Academic Publishers,
P.O. Box 17, 3300 AA Dordrecht, The Netherlands.

Kluwer Academic Publishers incorporates
the publishing programmes of
D. Reidel, Martinus Nijhoff, Dr W. Junk and MTP Press.

Sold and distributed in the U.S.A. and Canada
by Kluwer Academic Publishers,
101 Philip Drive, Norwell, MA 02061, U.S.A.

In all other countries, sold and distributed
by Kluwer Academic Publishers Group,
P.O. Box 322, 3300 AH Dordrecht, The Netherlands.

Printed on acid-free paper

All Rights Reserved

© 1995 Kluwer Academic Publishers

No part of the material protected by this copyright notice may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without written permission from the copyright owner.

Printed in the Netherlands

KEREN D. RICE

"NOTICE; This material may be
protected by copyright law
(Title 17 U.S. Code)"

6. DEVELOPING ORTHOGRAPHIES: THE ATHAPASKAN LANGUAGES OF THE NORTHWEST TERRITORIES, CANADA

Over the past several years, there has been a focus on literacy in the native American languages of the Northwest Territories, Canada. I have been involved in a committee that is concerned with the development of orthographic conventions for one of the languages of the Athapaskan family in the Northwest Territories. This language, defined largely on geographical and political grounds rather than on linguistic grounds, is usually called North Slavey or Dene.¹ In this paper, I discuss a process that is part of the development of literacy for North Slavey, a process that is designed to lead to orthography standardization.

The paper is organized as follows. Section 1 is a description of the Athapaskan languages and of dialect variation in North Slavey. Section 2 is a brief history of literacy in North Slavey. Section 3 presents the terms of reference given to the orthography committees. Section 4 deals with background issues and with the actual decisions that have been made.

1. THE DENE LANGUAGES

North Slavey is a language complex consisting of three major dialects that are usually called Hare (spoken in Fort Good Hope and Colville Lake), Bearlake (Fort Franklin), and Mountain (Fort Norman). These dialects differ in several ways, largely phonological and lexical. In this section, several linguistic characteristics, both shared and varying, of the language are examined. The variation is important since it is the differences between dialects that were problematic in establishing a standardized orthography.

1.1. *Shared Characteristics*

The Dene languages show many shared characteristics that do not enter into decisions about orthographic standardization. A major area of importance in looking at standardization is the sound system. The Dene languages have large sound systems, with a typical inventory including thirty-five consonants and six vowels, with vowels occurring with or without tone and nasalized or non-nasalized. A typical consonant inventory, this one for Bearlake, is shown in (1). The inventory is given in phonetic symbols, with orthographic symbols in parentheses where they differ from phonetic symbols.

(1)	labial	dental	alveolar	lateral	alveopalatal	velar	labiovelar	glottal
<i>stops and affricates</i>								
aspirated		t	ts	tʰ	č (ch)	k	kw	
plain	b	d	dz	dl	ǰ (j)	g	gw	
ejective		t'	ts'	tʰ'	č' (ch')	k'	kw'	ʔ
<i>continuants</i>								
voiceless			s	ʃ	š (sh)	x	w (wh)	h
voiced			z	l	ž (zh)	ɣ (gh)	w	
<i>sonorants</i>								
nasals	m	n						
other		r			y			

The sound differences between Bearlake and the other dialects, Hare and Mountain, will become clear in later sections.

There are six distinctive vowels in Slavey, /i/, /e/ (orthographic ⟨ə⟩), /ɛ/ (orthographic ⟨e⟩), /a/, /o/, and /u/. Each vowel can bear high tone, marked with an acute accent ´ in the orthography, or low tone, unmarked in the orthography. In addition, all vowels but /e/ can be nasalized, marked by a hook under the vowel, ˆ, in the orthography.

In addition to complex sound systems, Athapaskan languages exhibit complex morphophonemics, or alternations of sounds in phonologically predictable environments. Thus a single morpheme can be pronounced in a variety of ways. I will give a few examples in order to help make sense of some of the problems faced in standardizing the orthography.

In Bearlake and Mountain, many d-initial prefixes show [d] phonetically word-initially and [r] phonetically after a vowel. Examples are given in (2), where the underlined segment is the same morpheme.

- (2) a. déhtła 's/he started out on land'
 naréhtła 's/he started back on land'
- b. dék'ó 'it burns'
 ʔek'arék'ó 'candle (fat burns)'

In Hare, a prefix begins with [n] if the following vowel is nasalized and with [r] if the following vowel is oral. (3) illustrates this. The underlined segment is the initial consonant of the same morpheme.

- (3) k'ínannıyo 'you sg. drive around'
 k'ínanreyo 's/he drives around'

The actual phonetic pronunciation of an Athapaskan word can thus be quite different from its underlying representation.

1.2. *Variation*

Within North Slavey, there is variation found in all dialects and there is variation between dialects.

1.2.1. *Variation Throughout the Language*

In all North Slavey dialects, variation between [zh] and [y] is found. All /zh/'s can be pronounced as [y]. The factors that control this variation are uncertain; they seem to include a combination of discourse and dialect factors. Examples of alternative pronunciations are given in (4).

- (4) zh-y variation
- | | | |
|------------------|-----------------|--------------|
| <u>zh</u> a | ya | 'snow' |
| nágo <u>zh</u> ə | nágo <u>y</u> ə | 's/he plays' |

Underlying /y/'s do not vary with [zh], as shown in the words in (5), in which only [y] occurs.

- (5) y only
- | | |
|-----------------------|----------|
| ʔe <u>gh</u> álayehda | 'I work' |
| yiʔá | 'I ate' |

This is just one example of a widespread phenomenon in North Slavey. There are many other similar variations in pronunciation. For stance /gh/ may be pronounced [w], but /w/ cannot be pronounced [gh].

1.2.2. *Between-dialect Variation*

There is a second kind of variation within North Slavey. The three dialect differ in several ways, largely phonological and lexical. Some of the major phonological correspondences found between dialects are discussed in section 1.2.2.1. Section 1.2.2.2 is a brief description of lexical variation.

1.2.2.1. *Sound Correspondences.* There are regular correspondences between consonants in the North Slavey dialects. For example, whenever [kw] is found in Bearlake, [f] occurs in Hare and [p] in Mountain. Likewise, where [kw'] is found in Bearlake, [w'] occurs in Hare, and [p'] in Mountain. There are also regular correspondences between Bearlake [gw], Hare [gw] or [b], and Mountain [b], between Bearlake [wh], Hare [w], and Mountain [f], and between Bearlake [w], Hare [w], and Mountain [v]. These correspondences are shown in (6).

(6)	Bearlake	Mountain	Hare	
a.	kw: sekwí	p: sepí	f: sefí	'my head'
b.	kw': kw'á	p': p'á	w': w'á	'dish, plate'
c.	gw: nágwe	b: nábe	b/gw: rábe/rágwe	'she, he stays'
d.	wh: wheda	f: feda	w: weda	'she, he sits'
e.	w: ?ewé	v: ?evé	w: ?ewé	'skin, hide'

In Hare, the affricates /ts/, /tʃ/, and /ch/ have been largely lost phonetically, with the fricatives [s], [ʃ], and [sh] occurring instead. This deaffrication process is illustrated in (7).

(7)	Bearlake	Mountain	Hare	
a.	ts: tsá	ts: tsá	s: sá	'beaver'
b.	ch: choh	ch: choh	sh: shoh	'feather'
c.	tʃ: tʃe	tʃ: tʃe	t: te	'lard, oil'

1.2.2.2. *Lexical Variation.* There is a second major type of variation, lexical variation between dialects. Examples are given in (8).

(8)	Bearlake	Mountain	Hare	
	tehmí	tehmí	?óhshú	'pack'
	nazha	nazha	lalén	'wool'
	bé	?íyε	?íyε	'meat'

1.2.3. Sources of Variation

The types of variation identified so far are phonologically (e.g. [d]-[r] alterations) or geographically determined (e.g. sound correspondences between dialects). There are additional factors that control variation in North Slavey. As well as between-community geographical variation, there is within-community variation. This variation is determined by a variety of factors. First, each community was settled by groups of people who came from different places, and the various origins are reflected in the speech of people within the community today. Second, there is variation which is determined by age, or more exactly by conservatism of the speaker, variation which is determined by sex, variation due to speech style, variation due to the degree of assimilation, and other sources. The committee established to propose a standardized orthography attempted to deal with geographical variation, both within and between community, and with differences between conservative and innovative speech, and it is how these areas were dealt with that I will concentrate on.

2. HISTORY OF WRITING

Before turning to recent work in the development of orthographic conventions, it is useful to review the history of writing of these languages.

North Slavey was first written in a systematic way by Oblate priests, beginning in the latter part of the nineteenth century. The Oblates did extensive language work, writing dictionaries and grammars, translating hymns and prayers, and preparing hymnals and prayer books in the native languages. They introduced two writing systems, a phonetically-based alphabetic system taking French as its basis and a syllabic system. Both systems are problematic in some ways.

The French-based Alphabetic System

The alphabetic system is phonetically based, with each symbol designed to represent a single sound. While the principle on which this orthographic system is based is still in use, the implementation of the French system is problematic in that it does not give an accurate representation of the range of sounds in the languages. In particular, it sometimes underdifferentiates the consonants and sometimes uses more than one symbol for a particular sound. Some examples from Petitot (1876) are shown in (9).

(9)	French orthography	current orthography	correspondence	
			French-current	
a.	tł'in̄	'dog'	tł̄i	tł'-tł̄
	'kla, tla	'bottom'	tł'á	'kl-tł', tł-tł'
	klô	'grass'	tł'o	kl-tł'
	glure, klu	'mouse'	dlq	gl-dl, kl-dl
	'klié	'squirrel'	dliye	'kl-dl
b.	tchô, χô	'big'	cho	

Two problems with the French orthography can be seen in (9). First, a single symbol may represent more than one sound. This is evident in (9a), the lateral affricates, where the symbol <'kl> represents [tł'] or [dl]. Second, a single sound may be represented by more than one symbol, as in (9a) and (9b). In (9a), [tł'] is written in three different ways, <'kl>, <tł>, and <kl>. [dl] is also written in three different ways, <'kl>, <gl>, and <kl>. In (9b), the sound [ch], usually written <tch> by Petitot, has a variant spelling <χ>.²

The French writing system, while designed to be a phonetically-based orthography, did not meet that goal and is thus to some extent an unsuccessful system. The fact that the second language of the Dene is English rather than French also contributes to the unpopularity of the French-based orthography. It is important to keep in mind, however, that the problems with the French system are in implementation rather than concept: current orthographies rely on the same basic principle of sound-symbol correspondence.

2.2. *The Syllabic System*

The syllabic system is based on the syllabary developed by Reverend James Evans for Cree and widely used for Algonquian languages and Inuktitut. The syllabic system is phonetically based, with each symbol representing a single syllable. Examples of symbols used in this system are given in (10).

(10)	te	∪	ti	∩	to	∩	ta	∪
	se	∪	si	∩	so	∩	sa	∪
	she	∩	shi	∪	sho	∩	sha	∪

The shape of the symbol indicates the consonant and the direction the vowel quality. Some North Slavey words written in this system are shown in (11).

(11)	orthography	syllabics	
	shá	∪	'knot'
	sa	∩	'sun'

This writing system is hampered for Athapaskan languages. A major problem arises from the fact that North Slavey has six distinctive vowels, with vowels having nasalized and oral counterparts and high and low tone counterparts. The syllabic system used for North Slavey relies on directionality, and there are only four distinctive directions, as in (10). It therefore cannot capture a six vowel distinction and is thus inadequate to handle the range of vowels. While it theoretically could use diacritics for tone and nasalization, this was not done. In addition, the consonant inventory of North Slavey is larger than that of Cree, the language for which the syllabary was developed. Additional symbols which are interpretable directionally and diacritics would have to be introduced to capture the range of consonantal sounds as well.

2.3. *Use of the French-based Orthography and Syllabics*

How did the French-based and syllabic writing systems fare with respect to literacy? This is perhaps not a fair question since it is unclear that literacy was perceived to be an important goal when these systems were introduced. As noted earlier, hymnals and prayer books were written in these orthographies. These are ritual materials, not meant to be read in a creative sense of reading. It appears that while there are some readers of syllabics and the French-based orthography, at least some of the people who read syllabics and the French-based orthography do not so much interpret new material as recite known material.³

2.4. *Recent Orthographies and the Push for Standardization*

The next major step in the development of literacy was the introduction of a phonemic writing system by missionaries in the 1950's. This writing system was based on an interpretation of a principle current in linguistics, "one sound, one symbol; one symbol, one sound." Behind this orthography was a different goal than that of the Oblates. The missionaries aimed at literacy, with their personal goal being Bible translation. They felt the need to create literacy materials in the native languages so that people could be taught to read, and eventually be able to read the Bible. The missionary movement began the current phase of literacy work.

Until the mid 1970's, major literacy work was carried out by missionaries, with some materials, largely prepared by missionaries, published by the government of the Northwest Territories. In the mid 1970's, a major effort was made by the government to introduce the teaching of native languages in the schools, to develop curriculum materials in the native languages, and to introduce literacy in the native languages. At this time, native people, missionaries, and linguists interested in the native languages formed a group under the name of Athapaskan Languages Steering Committee which was directed to introduce a standardized orthography. The committee interpreted 'orthography' in a narrow sense, and concentrated on developing a single set of symbols for use in all of the Athapaskan languages in the Northwest Territories. The committee made some progress in this; however, even in choice and use of symbols it left question unanswered.

2.5. *Why Standardization?*

In 1985, the government of the Northwest Territories established a Task Force on Aboriginal Languages. A recommendation of the Task Force was that committees be established for each of the Dene languages to make recommendations about orthography standardization. The reasons for suggesting standardization were many. The most salient reason given in the report concerns official language status. I quote from the report:

Developing a standardized Dene writing system would strengthen the Dene languages as a whole, and would overcome some of the barriers to official status. However, it would not be an easy task. It would have to be done by the speakers of the languages, and would particularly involve elders. Once achieved, a widespread public education campaign would be necessary to familiarize all Dene with the new system. (p. 20)

It was pointed out in the Task Force report that standardizing writing does not imply standardizing speech:

Standardizing the writing system for the Dene languages may mean that all speakers of the Dene languages would write and read the same symbols. Some speakers suggest that over a long period of time, the various Dene languages will become more understandable to each

other. Standardizing the writing system does not, however, mean standardizing the spoken languages. (p. 19)

The Task Force recommended that efforts to standardize the writing systems of the Dene languages be made a high priority and that funds be made available for this work under the direction of the Ministry of Aboriginal Languages and Cultures.

In other discussion of the need for standardization, the issue of official language status also arose as a primary motivation for standardization. Chambers (1986), for instance, discusses the position of the Dene Nation, the political organization representing all descendants of the Dene tribes in the Northwest Territories, with respect to the need for the protection of aboriginal rights, including that of language. Chambers remarks that the enshrinement of the Dene languages as official languages is considered to be an aboriginal right, a right that must be protected by legislation. In order to use the Dene languages in Denendeh, the Dene name for the Dene territory in the Northwest Territories, Chambers suggests that a campaign of literacy is required. With a standardized writing system, all written government communication (legislation, documents, advertisements, etc.) could be produced in one rather than numerous writing systems, making the notion of official language status a feasible one. While much work has been done on standardization, the issue of official language status remains an important one, and one of growing political importance as of the late 1980's.

Another reason for standardization has been cited. There has been a push to teach the Dene languages in the schools as both first and second languages. In the first language schools, early schooling is done in the native language, with reading taught in the native language. A prerequisite to the development of reading skills is that words and grammatical conventions be the same across speakers. In the type of system in use, each reader is taught the letters of the alphabet. Because the alphabet is largely phonemic, it is considered that once the sound associated with each symbol is known, a person can read and write. The result is that even for an individual, a word is not always written in the same way. This is shown in (12).

- (12) a. ya, zha 'snow'
 b. weda, wada 's/he sits' (Hare dialect)

A given speaker might pronounce the word in (12a) sometimes with [y] and sometimes with [zh]. This person would write the word in two different ways. The word in (12b) is sometimes pronounced with [ɛ] and sometimes with [a] as the first vowel. Again, a single speaker can use both pronunciations and therefore would have alternative spellings for the same word.

When writing across individuals within a dialect and between dialects

is examined, there is a great variety in how words are spelled. When words are not always written in the same way, a reader cannot easily develop strategies for productive reading.

Finally, finances are an oft-cited reason for developing a standardized writing system. More writing systems means more money for production of materials, and, given a fixed budget, means fewer overall materials.

Thus, in the fall of 1987, committees were established for each of the Dene languages in the Northwest Territories. Each committee consisted of a number of native people including native language teachers, teachers who are natives, native language curriculum developers, interpreters, and a linguist as a resource person. It is basically the deliberations of the North Slavey committee that I will discuss in the remainder of this paper.

3. TERMS OF REFERENCE

The orthography standardization committees were given guidelines by a planning committee consisting largely of people working in the areas of language education and interpreting in the Northwest Territories. The goal of the committees as laid out by the planning committee in April 1987 was to devise a set of writing conventions for the language. These conventions were to include decisions about (i) choice of orthographic symbols, (ii) use of orthographic symbols, (iii) guidelines on dealing with within- and between-dialect variation, (iv) word divisions, and (v) punctuation.

All committees were required to use an alphabetic system similar to the one in current use. There was to be no returning to the syllabic writing system. It might be noted that throughout the meetings several people suggested using syllabics despite the problems with it. The syllabic system is in many ways viewed as a true writing system for native languages, while the Roman alphabet system is viewed as a writing system imposed by whites.

The committees were instructed to develop a consistent system of symbols to be used for writing the languages so that all of them would use a particular symbol for a common sound. (This became a point of controversy.) They were instructed to inquire how far towards uniformity of spelling it is possible to go between significantly different dialects of a major grouping. The committees were also directed to develop guidelines on dividing words, to develop guidelines for writing conservative vs. innovative and formal vs. informal forms, and to consider intonational tones. The committees were also instructed that in general more conservative forms of speech should be represented in the writing system. Several specific orthography questions were also identified.

It should be noted that the guidelines did not always give clear guidance. In particular, there was a conflict between two goals. The goal of maintaining a one sound-one symbol correspondence and that of developing

uniformity of spelling between different dialects is a particularly thorny one, and one that occupied much of our time.

4. BACKGROUND ISSUES

Before turning to a discussion of orthographic decisions, it is useful to outline some of the major background considerations that were important in making decisions on the orthography questions.

4.1. *Types of Standardization*

There was major discussion within the North Slavey committee as to just what standardization means. The committee recognized three possible levels of standardization: individual standardization, community-based standardization, and regionally-based standardization.

4.1.1. *Individual Standardization*

By individual standardization, we meant that each person would be consistent in his or her own writing, but need not strive to make his or her writing consistent with that of others. Some advantages were recognized to this system. Prime among these were that little training is required and that different dialects, both within a community and between communities, are preserved. However, there are drawbacks to such a system. Most important of these is that there is no single established writing system. As noted above, a major argument for standardization is that a fluent reader reads many words as chunks rather than sound by sound; the more possible ways of writing a particular word that exist, the less likely it is that a learner will become a fluent reader. In addition, it was recognized that there would be considerable problems in producing teaching materials since the teacher might write in a different way than that used in the teaching materials.

4.1.2. *Community Standardization*

Standardization at the community level was a second possibility. By this we meant that one orthographic system would be chosen for each community despite differences in pronunciation within that community. For instance, some Hare speakers use [gw] while others use [b] (see (6)). In the orthography system in use for Hare, a community-based decision was made and all speakers write ⟨gw⟩ even if they use [b] when they speak. There would then be essentially three orthographies in North Slavey, one for Hare, a second for Bearlake, and a third for Mountain. While these orthographies would be similar, there would be differences between them.

Many advantages to this system were apparent. Because all speakers within a community would use the same orthography, the problems for the reader noted with an individual orthography would be largely overcome. However, the system does allow the community of origin of the reading material to be readily identified.

Another advantage noted for this system in comparison to a regional system (section 4.1.3) is that because the sound-symbol correspondences in the Dene language are similar to those in English, transference of reading skills between languages would be enhanced. In the regionally-based system, transference could be impeded, depending on choice of symbols.

There were a number of negative points recognized with a community-based orthography. First, if a teacher or child moved from one community to another, as often happens, she or he would have to learn to write in the system of the local dialect. Second, while some of the problems of use of materials noted under an individual standardization approach would disappear, the cost of materials under this system would still be high since materials would have to be printed for each of the three dialects. Third, with basically as many writing systems as there are communities, there are problems with the recognition of the native languages as official languages since the cost of preparing materials in numerous dialects makes it less feasible for native languages to be regarded as official languages.

4.1.3. *Regional Standardization*

The third possibility for standardization offered was what we termed regional standardization. By this, we meant that one orthographic system would be chosen for all dialects within the language, despite differences between the dialects. Each reader would read this writing system as she or he spoke. For instance, for a word like 'rock' which is pronounced [kwə], [fə], and [pə] depending on dialect, we might choose to use a slash (/) to represent this sound and write the word as </ə>. Speakers would each bring their own pronunciation to this word.

Several advantages were recognized. First, costs are kept down. The need for preparing materials for each community is lessened, allowing for the production of more materials. It also makes it more feasible to consider official language status. Problems of movement between communities are lessened when the communities use the same writing system.

Some negatives were recognized. Primary among these is that major changes in current practices become necessary. People who now read and write would require retraining. In addition, teacher training would require rethinking since the system generally used for teaching reading and writing would cease to be adequate. The need for resource materials such as dictionaries becomes even stronger. Finally, it was felt strongly that there is a danger that individual-community dialects and within-community

dialects could be lost since they are not directly expressed in the writing system.

As a whole, the committee felt that regional standardization should be aimed for. As we shall see, social reasons prevented this from being adopted in full blown form.

4.2. *Other Considerations*

As a committee, we took a variety of other factors into account in coming to decisions about orthography standardization, including literacy (reading), social, political, and linguistic considerations.

4.2.1. *Reading Considerations*

Several issues concerning reading were considered to be important to decisions about a standardized orthography. One concerned the type of orthography to be used, a phonemically-based orthography, as is currently used, or a more abstract morphophonemic orthography. (We did not seriously entertain returning to a syllabic system.) A writing system must allow an adult to read rapidly and effectively and must also provide cognitive clarity in learning to read. As discussed in Burnaby & Anthony 1986 and other sources, a phonetic system is easier for a learner. However, there is some indication that the early advantages to a phonetic writing system are lost in the intermediate grades, and that a morphophonemic system, which gives some clues about the structure of the language, is easier for readers at an intermediate level. For mature readers, Burnaby & Anthony state that it does not matter whether a phonetic or morphophonemic system is used. Burnaby & Anthony also point out that transference of reading skills between languages is facilitated when both languages have the same type of writing system. The transference problem suggests that a morphophonemic writing system might be more suitable for North Slavey. While we considered such issues, they were not very important in actual decision making. Moving to a morphophonemic writing system was with few exceptions thought to be too great a shift from the current orthography for the people that now know how to read and write.

A reading consideration that was felt to be quite important in our decisions concerned word recognizability. Given the complex nature of the Athapaskan word, we agreed that a reader needed certain guidelines in reading to recognize words. Many of our decisions about whether sequences should be written as one or two words were based on this criterion.

4.2.2. *Social and Political Considerations*

A second area of concern in making decisions was social and political considerations. While it was recognized that regional standardization need not create a levelling of dialect differences, there was considerable discussion about how people would respond to regional standardization. Fear was expressed that standardization at a regional level would make all dialects the same. In addition, in two of the North Slavey communities the language is a second language for most speakers. Many people felt that while regional standardization has advantages, given the actual language environment a regionally standardized system in a community where most people read English would probably create a situation where people from different dialects pronounce the words the same way. The need to retain dialect differences in the spoken language was an overriding consideration, often overshadowing other reasons for adopting regional standardization.

Linguistic considerations separate from reading considerations played a role in decision making as well. The clearest area in which this can be seen was in choice of symbols. I will return to this below.

5. THE ACTUAL DECISIONS

I now turn to some of the decisions made by the North Slavey committee. I look at the different areas in which we were required to make decision and discuss some of the criteria used in coming to decisions.

5.1. *Regular Correspondences Across Dialects*

One of the harder areas to deal with was dialect variation. As discussed above, there is considerable predictable variation between dialects. Because the differences are predictable (e.g. whenever one says [kwə], the second says [fə], and the third [pə] 'rock', etc.), it should theoretically be possible to develop one symbol to represent the sounds /kw/, /f/ and /p/, with the speaker learning which way to pronounce it in his or her own dialect. Because of a variety of problems including transference from English, I suggested that nonalphabetic symbols found on a typewriter keyboard be used, symbols like >, /, etc. Examples of possible choices are shown in (13).

(13)

orthography	pronunciation			
	Bearlake	Mountain	Hare	
>ə	kwə	pə	fə	"rock"
>'ih	kw'ih	p'ih	w'ih	"mosquito"
ná/e	nágwe	nábe	rágwe, rábe	"s/he stays"

There was considerable understanding in the committee about why such a system would be good – it would facilitate exchange of materials between dialects, it would allow more materials to be produced, it would foster the goal of the aboriginal languages being recognized as official languages. Despite this, social reasons prevailed, with people feeling that this sound difference was important in dialect identity and it would represent too much of a loss to the individual dialects if a standardized system were used.

Another predictable difference between dialects can be seen in the affricates. As discussed in section 1.2.2.1, there is a correspondence between aspirated affricates in Bearlake and Mountain and voiceless fricatives in Hare. With respect to this issue we faced a two-fold problem. We first dealt with the affricates [ts] and [tʃ] and the corresponding Hare forms [s] and [ʃ]. The question that arose was whether we should use [ts] and [tʃ] in all dialects, including Hare, compromising the principle of one symbol-one sound, but creating more standardized material. Several linguistic considerations guided us. While Bearlake and Mountain [ts] is [s] in Hare, there is a difference in patterning between the [s]'s in Hare that come from [ts] and the [s]'s that correspond to [s]'s in the other dialects. An example is given in (14).

(14)

Bearlake	Hare	
<i>s-s correspondence</i>		
sa	sa	'month'
bezá	bezá	'his, her months'
<i>ts-s correspondence</i>		
tsá	sá	'beaver'
betsá	besá	'his, her beaver'

While Hare [s] corresponding to Bearlake [s] voices when a prefix is added, Hare [s] corresponding to Bearlake [ts] fails to voice in the same environment. Thus, the two [s]'s in Hare pattern differently. Based on evidence such as this, the committee at first agreed that a Hare speaker would benefit by using ⟨ts⟩ and ⟨tʃ⟩ in writing despite the fact that she or he did not use these sounds. It was thus primarily linguistic evidence that led to this decision. However, reconsideration took us back to the 'one sound-one symbol' principle, and the final decision was to maintain the writing system as is, with ⟨s⟩ representing two different patterns in Hare. The alveopalatal affricate caused additional difficulties. In the established writing system, this sound was written ⟨ch⟩. We noted that if we adopted the proposed revision for ⟨ts⟩ and ⟨tʃ⟩ (which was later rejected), a simple rule of thumb could be given to Hare readers – do not pronounce the initial ⟨t⟩. This did not hold true for the alveopalatal affricate. In order to maintain this rule, we suggested that the alveopalatal affricate be written ⟨tsh⟩ rather than ⟨ch⟩. This proposal was based on linguistic and reading

factors, and such a decision leads to the goal of facilitating exchange between dialects. This decision was not well-received by the other standardization committees. They did not require such a change in orthography, and in order to keep the orthography as close as possible to the current system were not keen to change. Based on their input, the North Slavey committee reconsidered its decision, and decided to maintain the status quo.

We see then that while the need for facilitating exchange between dialects is important, this was not the only factor involved in coming to decisions. Social and political reasons sometimes led to avoiding a standardized system, while linguistic and reading reasons led to a standardized system. However, social and political reasons sometimes created standardization while reading reasons led to the avoidance of standardization. I will not look at the other areas of between-dialect variation since the types of criteria used in making the decisions are similar to those outlined for the two examples given above.

5.2. *Variation Within All Dialects*

As discussed in section 1.2.1, in addition to between-dialect variation, there is variation found within all of the North Slavey dialects. Some of this variation appears to be free, others is controlled by linguistic factors. In recognizing the need to have a single way of writing a particular lexical item, we came to a general principle to deal with such variations. If a particular morpheme could be pronounced with only one of the two sounds, it is to be written with the symbol for that sound. For instance, the word ⟨ʔeghálayehda⟩ "I work" can be pronounced only with a [y], and is thus to be written with a ⟨y⟩. If the morpheme can be pronounced with either of the two sounds, it is to be written with the varying one. For example, the word 'snow' is pronounced [zha] or [ya]. It is to be written with ⟨zh⟩ since ⟨y⟩ is reserved for the nonvarying sound. There is a linguistic basis for this decision, with a general principle required in order to facilitating readability.

5.3. *Morphophonemic Alternations*

In all dialects, there are predictable morphophonemic alternations, as discussed in section 1.1. In dealing with these variations, it was decided that the words should be written the way they are pronounced. This is illustrated for the d-r alternation in (15).

(15)	orthography	pronunciation	
	déht̥ta	déht̥ta	's/he started out'
	naréht̥ta	naréht̥ta	's/he started back'

Thus in dealing with dialect variation and morphophonemic alternations, many factors, including literacy, social, and linguistic considerations, contributed to the choices made. We arrived at a symbol system that is a hybrid between community-based and regional standardization. Perhaps over time we will move towards regional standardization; perhaps we will develop a system of materials exchange and people will find themselves able to read the different dialects. This remains to be seen.

5.4. *Word Divisions*

The area in which linguistic and readability considerations were of greatest importance is that of where to divide between words. As pointed out earlier, all major category lexical items (noun, verb, postposition) have a stem, the final element of the word. However, stems can be followed by clitics that indicate tense, mode, and aspect. These clitics are phonologically bound to the noun or verb. Some examples are given in (16).

- | | | |
|------|-------------------------|---------------------|
| (16) | shénetj | 'you sg. eat' |
| | shénetj íle, shénetj le | 'don't you sg. eat' |
| | shéwohtj wolé | 'I am going to eat' |

Because the clitics are phonologically part of the stem, it was suggested that they be written as part of the same word. However, based on facilitating word recognizability, the committee decided against this position, and decided that clitics are to be written as separate words. This allows a reader to recognize the final syllable as the stem, the part of the word that carries the main lexical (as opposed to grammatical) meaning. Similarly, because the subject immediately precedes the stem in verbs, it also allows a ready strategy for identifying the subject of the verb.

A similar rationale was used for deciding how to write compounds and deverbal (or desentential) nouns. Compounding is highly productive in Slavey. Compounds in Slavey often have meanings that cannot be easily derived from the meaning of the pieces of the word. (17) is an example.

- | | | |
|------|-----------------------|------------------------|
| (17) | góhsimílé | 'rainbow' |
| | góhsi 'spider' + mílé | 'net (possessed form)' |

Because compounds function as a single lexical item rather than as two lexical items, it was agreed to write them as a single word.

Nominalizations provided a somewhat greater problem. Nouns can be derived from a single verb, from a phrase, and from an entire sentence. Some examples are given in (18).

- | | | |
|------|-----------------------|---|
| (18) | nádu | 'snake, s/he crawls around' |
| | satsóné helu | 'siren, metal rings' |
| | zhú behé k'ená?enetsi | 'washing machine, clothes are washed with it' |

In general, it was decided that phrasal compounds should be written as separate words since this would enhance ease of readability. If they were written as a single word, the word could be long, and thus difficult to decipher. However, in a few cases, it was decided that phrasal nominalizations had to be written as a single word because the phonology so strongly suggested this. An example is given in (19).

- (19) ʔek'a dék'q [ʔek'a dék'q] 'fat burns'
 ʔek'a 'fat' + dék'q 'it burns'
 ʔek'aréq'q [ʔek'aréq'q] 'candle'

In the noun, it is impossible to separate the two pieces and within-word phonology, with /d/ becoming [r], is found. In the sentence, it is possible to put other items (e.g. adverbs) between the noun and the verb and the /d/ is always pronounced [d]. In cases like this then, it was felt that it was important to write the noun as a single word. It might be noted that all such cases that we could think of involved relatively short items, as in (19).

6. CONCLUSION

In developing conventions for writing, we began with an alphabetic system, and with the basic principle one symbol-one sound. In making decisions about choice and use of symbols, language variation, allomorphy, and word divisions, various considerations were taken into account, including reading, linguistic, social and political factors. We aimed for standardization among three dialects that differ in some significant ways in their sound systems. This goal was not reached, and the reasons for not reaching it have largely to do with the strongly felt need to have dialect identity reflected in the writing system. The work of the committee is ongoing, and perhaps we will later find other criteria to bring to decision making and set other goals that might differently affect decision making.

NOTES

¹ The word "dene", pronounced [dene], means "person, man" in the native languages. This word is used both for the particular language and for all the Athapaskan languages of the Northwest Territories. The word "Slavey" is pronounced [slevi]. I use angled brackets ⟨ ⟩ to enclose orthographic forms, where necessary. Slashes // are used to represent underlying representations and square brackets [] to represent actual pronunciations. In general, orthographic symbols are used throughout the paper unless otherwise noted.

² Petitot (1876) notes that ⟨x⟩ is an abbreviation for ⟨tch⟩.

³ I should note that this has not been tested beyond mere observation. Several of the elders who were taught syllabics can read and write, and will send notes to each other in syllabics.

REFERENCES

- Burnaby, B. and Anthony, R.: 1985, 'Orthographic choice for Cree language in education', in B. Burnaby (ed.) *Promoting Native Writing Systems in Canada*, OISE Press, Ontario Institute for Studies in Education, pp. 105-126.
- Chambers, C.: 1985, 'Practical suggestions for making Dene literacy function', in B. Burnaby (ed.) *Promoting Native Writing Systems in Canada*, OISE Press, Ontario Institute for Studies in Education, pp. 159-174.
- Petitot, E.: 1876, *Dictionnaire de la langue Déné-dindjé*, Ernst Laroux, Paris. *The Report of the Task Force on Aboriginal Languages*, 1986.