

# The Caroline Islands script

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By

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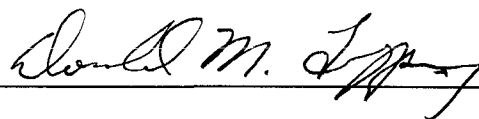
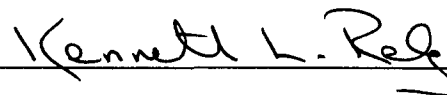
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## Abstract

This thesis maintains that the Caroline Islands script has been unjustly dismissed as a preferable orthography for the Woleaian language. The reason for this dismissal were twofold: (1) the researchers compared the script with an inaccurate tentative orthography by Smith (1951) and (2) there are still many misconceptions about syllabaries in general. However, this thesis seeks to show that the script should be preferred to introduced Roman alphabets for the Woleaian language, since (1) it strengthens cultural practices, (2) enforces indigenous forms of education and (3) adds to cultural pride, whereas schooling with conventional Roman alphabet orthographies tend to influence these factors negatively.

Three syllabaries, the Yi, the Vai and the Cherokee syllabary, with histories similar to the Caroline Islands script support the thesis that the script should be preferred for cultural reasons. These official printed syllabaries demonstrate that political support is needed to revive the Caroline Islands script and restore it as an official orthography.

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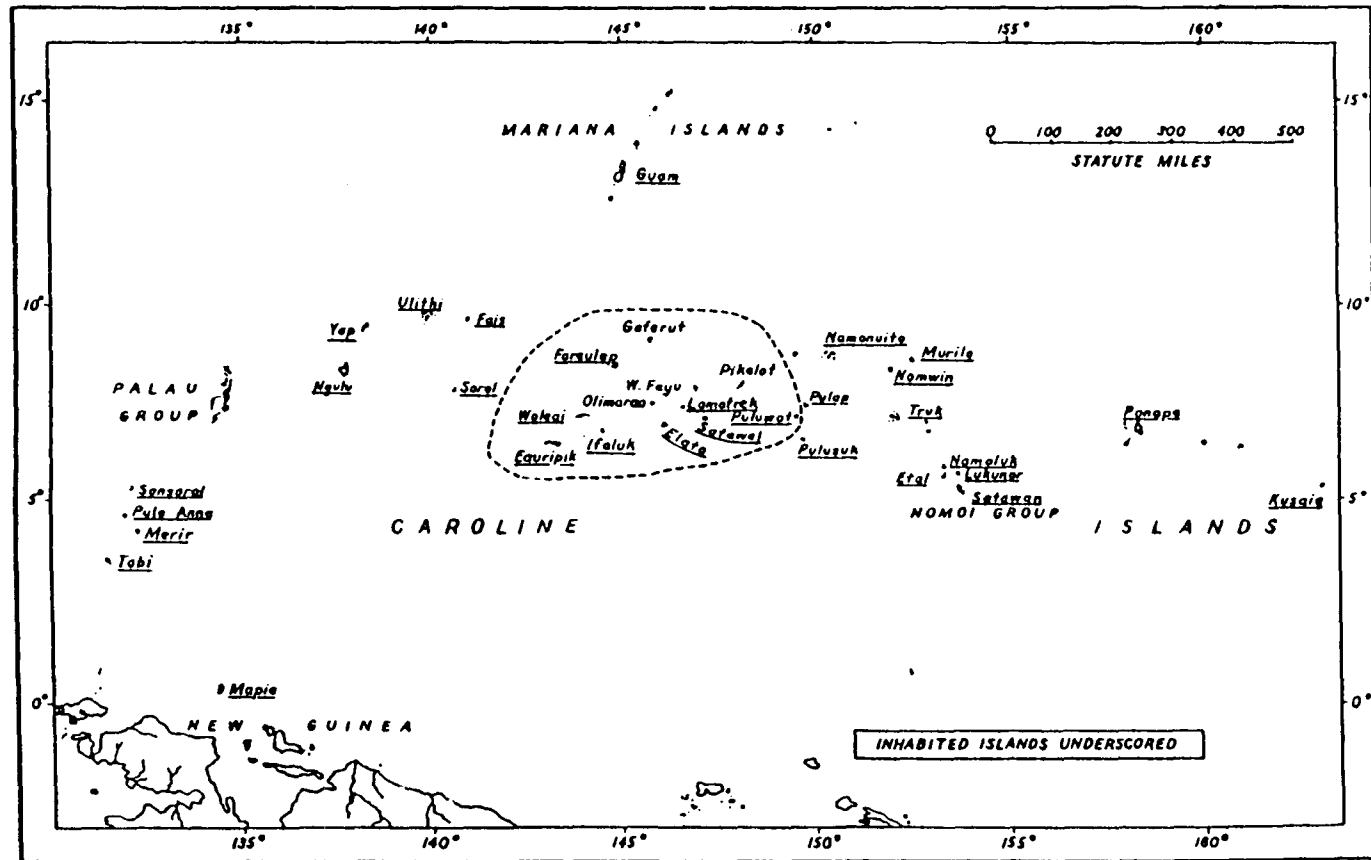


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**Figure 1. Map of the Caroline Islands**  
 Encircled is the Woleai group, where the Caroline Islands script is found.

# Chapter I

## Purpose

### A. Statement of thesis

The topic of this thesis is the Caroline Islands script. The script is a syllabary, which means that each symbol represents a syllable. The idea of writing was introduced by Westerners after which the islanders developed a script that was provided to them into a syllabary. Western scholars have dismissed the Caroline Islands script as not useful. This process reveals the biases of the researchers involved. For me, this script is important precisely because of the indigenous development within the context of its tradition that took place. It is, therefore, regrettable that the efforts by the islanders have not received the attention they deserve. This is why I have chosen this topic for my thesis.

This thesis maintains that the Caroline Islands script has been unjustly dismissed as a preferable orthography for the Woleaian language. The cause of this dismissal were twofold: (1) Western researchers compared the script with an inaccurate tentative orthography by Smith (1951) and found it wanting, and (2) there are still many misconceptions about syllabaries in general. However, this thesis seeks to show that the script should be preferred to introduced Roman alphabets as an orthography for the Woleaian language, since (1) it strengthens cultural revival, (2) reinforces indigenous forms of education, and (3) adds to cultural pride, whereas schooling with

conventional Roman alphabet orthographies tends to influence these factors negatively.

## B. Approach

The Caroline Islands script is considered in its historical context. Chapter II discusses the available research on the script and other research that should be used when considering the Caroline Islands script. Chapter III presents a history of the script. Chapter IV describes why it has been dismissed and the errors in the reasoning of the researchers involved. Chapter V presents research to support the view that the script should be preferred as an orthography for the Caroline Islands language (Woleai). Chapter VI provides a conclusion and makes suggestions for the script's future applications.

## Chapter II

### Previous research

Research relevant to the Caroline Islands script can be divided into three groups. First, there is a body of research literature directly related to the script. Secondly, there are works dealing with the orthography of the Caroline Islands language (Woleai) that make occasional reference to the fact that the Caroline Islands script was a syllabary; these works dismissed the syllabary for ‘practical reasons’. Besides these two obvious sources, there is a third body of research. This research does not deal with the Caroline Islands script, but instead deals with other syllabaries and appears to provide evidence that an indigenously developed script has many advantages for its users.

#### A. Literature directly related to the Caroline Islands script

The Caroline Islands script was described when it was first discovered by Damm and Sorfert in 1909. The first publication on the script was by J. MacMillan Brown (1914). However, David Diringer (1948) was more systematic and although largely referring to the work of Brown, he is most often used as the primary source. It is surprising that the fully revised third edition of Diringer 1968 makes no mention of Riesenber and Kaneshiro’s research which was published in 1960. Diringer’s descriptions were, therefore, not exhaustive. Still, his works deserve to be mentioned, since

Characters Used in Oleai  
Written by the Chief Egilimar.

X	na	E	tshra	⊕	rā	P N Runge
T	goo	Δ	mmä	⊕	lüh	
Σ	dāa	⊕	tshä	⊕	stak	EYE B ROUN
Λ	bä	F	moä	⊕	tōo	
⊕	tshroa	E	ro	⊕	wä	HGNEE EGILIMAR
⊕	nōo	⊕	ma	⊕	schä	
Λ	pu	⊕	boa	⊕	kü	
P	ru	⊕	tā	⊕	soä	
⊕	ma	⊕	pä	⊕	bag	
⊕	bö	X	vōa	Λ	ku	
W	mä	E	schrü	⊕	schrö	
N	ngä	⊕	pu	Σ	gkea	
⊕	boa	⊕	lö	⊕	rü	
⊕	warr	⊕	tüt	⊕	nga	
E	rāa	H	va	⊕	mōo	
Y	uh	⊕	lä	⊕	gä	
⊕	dōo	K	mai	⊕	du	

The mark Λ indicates accent

Figure 2. Examples of the Caroline Islands script (J. MacMillan Brown 1914).

his research on writing systems provides the basis for most of the subsequent research on scripts.

A more theoretical work on writing is that of I.J. Gelb (1963). His work offers no new data on the Caroline Islands script and neither does he mention Riesenberg and Kaneshiro. However, his theories about borrowed and invented scripts are valuable and demonstrate that the syllabaries like the Caroline Islands script have similar histories and development patterns. It is Gelb (1963:210) who comments that writing systems of “primitive societies” are a fertile ground for investigation, heretofore badly neglected in works on writing.

### **1. Riesenberg and Kaneshiro**

The most important research concerning the Caroline Islands script was done by two anthropologists, Shigeru Kaneshiro and Saul H. Riesenberg.

Kaneshiro did not publish much on the Micronesian region before he worked on the Caroline Islands script; however, his co-author was deeply involved in Micronesian matters long before their cooperation.

Saul H. Riesenberg worked as an assistant and later as an associate professor at the University of Hawaii. Between 1953 and 1954 he was also the staff anthropologist of the United States Trust Territory of the Pacific Islands. After leaving his position at the University of Hawaii, he became curator of ethnology of the Smithsonian Institute and was chair of the National Museum’s department of anthropology until 1970.

Riesenberg published extensively on the Caroline Islands (1946, 1957, 1960 and later in 1968 and 1975), in particular on Puluwat (1971, 1977)



I Γ K Γ Δ □ □ Γ ~ ʘ H C K θ λ  
 ʘ ʘ ʘ ʘ Δ □ □ Γ K P  
 ʘ ʘ T θ N ʘ Γ V ʘ N M Γ ʘ I  
 Δ □ □ N ʘ Γ V ~ ʘ Y ʘ ʘ C ʘ X □  
 λ X V P ʘ ʘ ʘ ʘ ʘ P ʘ K K P  
 ʘ N C ʘ K ʘ K N Δ □ □ N I X Γ ~  
 ʘ ~ ʘ λ X ʘ ʘ E ʘ I ʘ ~  
 I ʘ M Γ I B Γ Δ □ □ N I X Γ ~  
 I ʘ N I ʘ M Γ T θ ʘ Γ V ʘ  
 ʘ ʘ P ʘ K ʘ P

Figure 3. Example of a text written in the Caroline Islands syllabary. (Riesenberg and Kaneshiro 1960).

and Ponape (1947–1949, 1948, 1954, 1968), all on anthropologically related subjects.

From his work one can conclude that he was an expert in his field of anthropology but perhaps less qualified to judge the linguistic attempts by Alfred G. Smith (1951) that he would use for comparison in the Caroline Islands script research.

## **B. Existing research regarding the Woleaian orthography**

Alfred Smith (1951) was the first to make a standard orthography for the Woleaian language. This orthography was improved by Sohn and Tawerilmang (1976) when they designed a reference grammar and dictionary of Woleaian. In 1984, Sohn made another design for the orthography of Woleaian. The designs of Sohn (1984) and Smith (1951) will be discussed extensively in chapter IV, where their particular difficulties and errors will be pointed out.

### **1. Alfred Goud Smith**

Alfred Goud Smith worked for the Department of Education of the Trust Territory of the Pacific Islands. He made a standardized orthography not only for Woleaian, but also for Marshallese (1951), Trukese and Kosraean (1951) and a textbook for Yapese (1951). He subsequently published an anthropological paper on incest taboos of Woleai (1960) and general works on literacy (1956) and education (1966).

Smith's work for the Trust Territory of the Pacific Islands is rather extensive, but sometimes rather inaccurate. It appears as if he used a standard procedure to produce as many spellings as possible for the various languages in a short time frame.

Despite Smith's inaccuracy (see chapter IV), he still provided the only spelling for Woleaian at that time, a spelling with which Riesenber and Kaneshiro then compared the Caroline Islands script. This, I will show later, was rather unfortunate for the future of the script.

## **2. History of the new orthography system**

Smith (1951) developed the first official orthography for Woleaian. Twenty years later, the first program for improvement of the orthography, the development of a grammar and a dictionary of Woleaian, was initiated.

Anthony Tawerilmang, a Woleaian, was a student at the University of Guam in 1971, when he was asked by Donald Topping, the Director of the Pacific and Asian Linguistics Institute, to come to the University of Hawaii to help a Korean linguist, Ho-Min Sohn, standardize the old Woleaian orthography and to work on a Woleaian-English dictionary and reference grammar (Spencer 1989:22).

Sohn was already an established Korean and Oceanic linguist. During his tenure at the University of Hawaii, he not only published Korean related works, but he also wrote an outline of Ulithian grammar (1969) and co-authored the Ulithian grammar a few years later (1973). In chapter IV, I will discuss a later work on Woleaian orthography published in 1984.

In 1972, Tawerilmang went back to Yap in Micronesia to establish an orthography committee to make the Woleaian orthography official. He brought people from various dialects of Woleaian to Yap and this committee reached agreement concerning a Woleaian orthography. However, this agreement was never signed into law (Spencer 1989:23). There were other problems as well. In a symposium on new and developing orthographies in Micronesia in 1989, Tawerilmang spoke about the old system, i.e. the Caroline Islands script, that had been used and noted that it was more economical in that words in the old orthography were shorter than in the new spelling (Spencer 1989). Moreover, Ho–Min Sohn proposed a spelling system based on ‘underlying forms’ that would be very systematic and account for all the different variations in a word (see chapter IV, section B). People in the islands did not accept Sohn’s suggestion because, if the script were revised according to these suggestions, the spelling would no longer reflect the pronunciation. Sohn’s revision would also pose a problem because the people had already become accustomed to the old system.

After more than three years of work on the language of the Woleai group (see figure 1), a Woleaian–English dictionary was published. The work was conducted at the University of Hawaii under the Pacific Language Development Project, a cooperative endeavor of the Culture Learning Institute of the East–West Center, the Pacific and Asian Linguistics Institute, the Department of Linguistics, and the Department of Education of the Trust Territory Government (Sohn and Tawerilmang 1976:vii).

In the dictionary of Sohn and Tawerilmang (1976), two spelling systems are used, an underlying and a surface form. The latter is now used in the schools and for Peace Corp training, etc. Tawerilmang (in Spencer

1989) states that people who speak other dialects in the Woleai group would prefer a system of their own, and that a great deal of improvement can be made in both the dictionary and the reference grammar.

In 1976, Tawerilmang published a reader for Woleai and a study of Woleaian grammar for the bilingual education program in Woleai (1982). At present, the orthography program has reached its first goals of publishing a dictionary and a reference grammar for Woleaian. Further developments and suggestions proposed by Sohn in 1984 have not yet been officially implemented in the Woleai standard orthography.

### C. Existing research regarding other syllabaries with related histories

Works on syllabaries with similar histories and related implications are rather diverse. As I pointed out in section A, it was Diringer and Gelb who assembled scripts from different parts of the world for an intensive comparison. They included the Caroline Islands script in their comparison, although their material was not up-to-date at that time.

In this thesis, I will compare the Caroline Islands script with the Cherokee, the Vai, and the Yi syllabary, all of them having a similar history. For a first reference and for a broad comparison of the Caroline Islands script with Cherokee, Vai, and Yi, the works of Gelb (1963) and Diringer (1968) suffice. It is important to note that the other syllabaries discussed in this thesis have a far more extensive body of literature than the Caroline Islands script. It is my goal to examine the cultural values and reasons for

the success of Cherokee, Vai, and Yi and suggest applications for the Caroline Islands case.

In the case of Yi, I depended on the general work of John DeFrancis (1989) who also discusses Chinese and Japanese syllabaries in detail and makes mention of Cherokee and Vai. However, the Caroline Islands script is not referred to. Besides DeFrancis' work, I will also use older, more comprehensive, studies by Ollone (1912) and Dessaint (1980), who deal with Asian scripts and who also do not mention the Caroline Islands script.

In the case of Cherokee, there exists an interesting updated introduction to the Cherokee language and the script (Holmes and Smith 1989). Among other references, this work, which stresses the cultural importance of the Cherokee syllabary and includes a biography of Sequoyah (Foreman 1938), has provided the material for the Cherokee story.

The most important study in support of my thesis was done on Vai. This psychology project by Scribner and Cole (1981) concentrated on literacy issues. Vai was chosen because of the exceptional circumstances there. The Vai people learn the Vai script at home, English at school, and Arabic in the Koran school. This work also provides a concise history of the script and the authors' conclusions are also relevant to the Woleaian situation.

There are still other syllabaries to which the Caroline Islands script can be compared. Perhaps less famous examples like the Mende syllabary or more obvious examples like the Japanese syllabary would have supported my arguments as well. However, I chose these particular scripts because they had their origins in stimulus diffusion and a successful implementation in their societies. Further, there are adequate published sources in the three.

Most importantly, the history of each script supports a specific point in my argumentation.

#### D. Summary statement

After the Caroline Islands script was discovered in 1909, it took fifty years before extensive research was done by Riesenbergs and Kaneshiro (1960). The Woleaian language did not receive scholarly attention until the 1950's. The efforts in the fifties, followed by new projects in the seventies, have provided the language with its first grammar and dictionary. But as Tawerilmang (1989) has pointed out, a lot remains to be done.

An omission in the Caroline Islands script research is the lack of studies which compare the Caroline Islands script with other syllabaries. This omission has a threefold effect: (1) Research about the Caroline Islands script does not profit from insights gained in the study of other syllabaries. (2) The language policy for the Caroline Islands does not incorporate the insights gained from language policies towards other syllabaries. (3) The research regarding other syllabaries lacks the added insight that can be gained from the studies of the Caroline Islands script. My thesis will focus on the first two effects. From a comparison with the existing literature concerning other syllabaries, I will reach the conclusion that not only the Caroline Islands script was unjustly dismissed but also that it should have been preferred as an orthography for the Caroline Islanders.

# Chapter III

## History of the Caroline Islands script

### A. History of the Caroline Islands script

The Caroline Islands are located in the Federated States of Micronesia. According to Sohn (1975), the Caroline Islands refer to the islands of Woleai Atoll, Ulithi, Fais, Sorol, Eauripik, Faraulep, Ifaluk, Elato, Lamotrek and Satawal, better known as the Outer Islands of the Western Carolines. ‘Outer’ specifies their distance from Yap, the center of the traditional hegemony as well as the present administration.

Woleaian is spoken with dialectal differences on Woleai, Eauripik, Faraulep, Elato, Lamotrek, Puluwat, Satawal and Ifaluk. It is on this group of islands that the Caroline Islands script was found. For reasons of convenience I use Riesenbergs and Kaneshiro’s (1960) term ‘Caroline Islands script’ and refer to the islands as the Woleai group.

In 1975, there were approximately 1,500 speakers of Woleai on the various islands. Like Trukese, Ulithian, and others, the language can be classified as a member of the Trukic subgroup of the Micronesian group of the Oceanic branch of Austronesian.

#### 1. The discovery

In 1909, the Hamburg Südsee Expedition visited Woleai. Their ethnographic work was not published until 1929 and later — so late, that



one of the prime ethnographers, Sarfert, had died just before the 1938 publication of his work. Sarfert and Damm (1938) describe examples of the script from both Ifaluk and Faraulep.

Shortly after the Hamburg expedition, Brown (1913), during a short visit, collected a whole series of characters but, according to Riesenbergr and Kaneshiro (1960:276), he did not collect the complete set. Diringer (1948), who wrote a standard work on all the writing systems of the world, based his paragraphs largely on Brown's article.

Few others have commented on the script. Imbelloni (1951:164) and Barthel (1971) commented on the possible link between the undeciphered Easter Island script and the Caroline Islands script, and there is one Japanese scholar, Someki, who visited the islands, mentioned the script, and described 38 characters collected from different islands.

There appear to be two sets of characters. The origin of the two sets of symbols form an important part of Riesenbergr and Kaneshiro's research.

## **2. Type 1 and type 2**

Type 1 and type 2 are the names for two sets of symbols of the Caroline Islands script. From 1954 to 1957, Riesenbergr and Kaneshiro did fieldwork and obtained a list of the two types of symbols. They also collected inscriptions on canoes, houses, and on people (as tattoos). Type 2 (see figure 4) appears to have had an European source since it resembles Roman alphabet characters. Type 1 (see figure 5: only the first fifty are shown since these symbols show little variation between spellers) bears little resemblance to any other script, including the Easter Island script.

1. V ya
2. Y yoa
3. Q yae
4. H i
5. O wo
6. D yoe
7. G fi
8. K ki
9. Tl ngi
10. N ni
11. W mi
12. h wi
13. B chi
14. D pi
15. S si
16. E yo
17. T+ti
18. R ri
19. A u

Figure 4. Type 2 script (Riesenberg and Kaneshiro 1960)

1. X na.	27. 27. Xvδa
2. T goo	28. 28. f schrü
3. d dā	29. 29. q pu
4. bā	30. 30. lō
5. Qtschroa	31. 31. θ tūt
6. f nōo	32. 32. H va
7. x pui	33. 33. J la
8. P ru	34. 34. K mai
9. A ma	35. 35. k rā
10. C bö	36. 36. f lüh
11. W mä	37. 37. sthah
12. N ngä	38. 38. tōo
13. Q boa	39. 39. s wä
14. warr	40. 40. schä
15. rāa	41. 41. kÜ
16. Y uh	42. 42. soä
17. C dōo	43. 43. Q bog
18. tschra	44. 44. X ku
19. Δ mmä	45. 45. Q schrä
20. Z tschö	46. 46. gkaa
21. F moä	47. 47. R rü
22. X ro	48. 48. nga
23. C ma	49. 49. mōo
24. Q boa	50. 50. G(6)gä
25. Q tã	51. 51. % du
26. □ pä	

Figure 5. Type 1 script (Riesenberg and Kaneshiro 1960)

Both types of symbols represent syllables, as Brown had discovered in 1913. He also found that the names for the two types of symbols are equivalent to their sound value.

Riesenberg and Kaneshiro found 78 characters of type 1 and 19 of type 2. They state that this was a system of writing which was developed some time before 1909 (Riesenberg and Kaneshiro 1960:282). The difference between the two types was pointed out by indigenous informants. In their research, Riesenberg and Kaneshiro (1960) translated this distinction into a type 1 and a type 2 script.

Riesenberg and Kaneshiro reconstructed the history of type 2 symbols and found that the type 2 symbols ended in an *-i*. They attributed this to the introduction of an alphabet whereby the names of the symbols were taken as their syllabic sound value. The islanders learned the alphabet by using the names for the letter symbols. These names then became the values of the symbols, i.e. a consonant and a vowel *-i*, or vowels alone.

The number of inhabitants who knew how to write the script in the 1950's was minimal. On Faraulep, Woleai, and Ifaluk, there were a few old people who knew the script; on Elato and Satawal, the last experts had died. According to Riesenberg and Kaneshiro (1960:277), there is evidence that in 1909 both types of symbols were known on Woleai, Faraulep, Puluwat and possibly Satawal. In 1934, when Someki visited, both systems were known on Ifaluk and Elato as well. But, as suggested by the number of persons able to write in the 1950's, the knowledge of the script was in decline.

Since the knowledge of script was distributed over a distance of 300 miles between several islands, and since few European traders or missionaries frequented those islands, Riesenberg and Kaneshiro (1960:284)

assume that the islanders themselves were more active agents in the cultural dispersal at that time than were traders, explorers, or missionaries.

### **3. The origin of the script**

Type 2 script appears to be an adaptation of the alphabet created by the missionary Logan who in 1878 was assigned by the American Board of Commissioners for Foreign Missions to write religious texts in the Trukese language. H. Damm (1935) suggested that a missionary from Truk, who had been shipwrecked on Eauripik, was instrumental in transferrring the Trukese alphabet to Woleaian, which then became the source of the type 2 script. In fact, various stories were collected that spoke about a missionary shipwrecked with his companions who taught the Trukese alphabet to the people of Eauripik and later Woleai. Riesenbergr and Kaneshiro (1960:288–289) identified this missionary as Alfred Snelling, a missionary in Truk at the beginning of 1888. He had been lost at sea in 1905 and reached Eauripik, after which a Woleaian chief brought him to Woleai. One surviving companion, Airas, later confirmed this story to Frank Mahoney, the district anthropologist in Truk in the 1950's.

Riesenbergr and Kaneshiro compared the alphabet of Trukese with the type 2 writing of the Carolines. Logan's alphabet appeared to be close enough to the type 2 to conclude that the Truk area must have been the source. Airas, Snelling's companion, also pronounced the consonant letters with i-endings in later interviews with Frank Mahoney.

Type 1 writing (see figure 5) was then developed after the syllables with endings in –i appeared to be insufficient. This development occurred in

the course of teaching type 2 to other people by the islanders. Riesenber and Kaneshiro suggest a series of inventions, because they found variations. The characters of type 1 appeared to have a certain order, and after the first 50 characters more variation was found than at the beginning, which suggests a later invention of characters at the end of the order.

The type 1 symbols have values with vowels other than 'i'. Riesenber and Kaneshiro's informants agreed that type 1 was invented in Faraulep. They even called it the 'writing of Faraulep'. Their statements suggest that the script was learned through correspondence between islands. Surprisingly, even the people who did not master the script recognized it as the script from Faraulep.

Type 1 is said to have been invented after the big typhoon. Riesenber and Kaneshiro reconstruct this date to 1907 so that the invention must have taken place between 1907 and 1909 when the Hamburg expedition found the writing on various islands.

The values of the type 1 characters are the same as or close to the names of the objects they represent (Riesenber and Kaneshiro 1960:297). Riesenber and Kaneshiro had their informants identify the characters and they appeared to be parts of canoes, certain fish, body parts, etc..

In sum, the Caroline Islands script, i.e. the combination of type 1 and type 2 script as it was used by the Caroline Islanders, seems to have developed after 1907 (from a type 2 script) and then developed further into a syllabary on Faraulep (a combination of type 1 and 2). Frequent communication between the islands allowed the script to spread to many of the islands in the Woleai group. The most comprehensive study, by

Riesenberg and Kaneshiro, shows that the script was well–developed, but already in decline in the 1950’s.

## **B. Research on invented scripts**

The Caroline Islands script is a partly invented and partly borrowed script (versus evolved) and shares many of its historical characteristics with other invented scripts. To understand the different processes of stimulus diffusion, I will mention previous research by Gelb (1963) and others. Gelb’s analysis of the evolution of invented scripts provides the general framework for the history of the Caroline Islands script and also for the Vai, Cherokee, and Yi scripts that will be discussed in chapter V.

### **1. Evolution of scripts**

Taking into account the histories of Cherokee, Vai, and to a lesser degree that of the Caroline Island script, Gelb (1963:210–211) observed the following processes in the invention of a script:

1. Some writing systems went through an extended process of evolution that parallels the history of writing in its natural evolution: from a logographic to a syllabic to, sometimes, an alphabetic system.
2. The process has been accelerated under foreign influence and the systems have developed in a few generations.

3. Word writing, or writing with logograms only, has not been feasible as a system of communication.
4. An alphabet develops from nothing but a syllabary.

These observations are of considerable interest to the study of written language, since they suggest that there is indeed a general principle at work in the development of all written languages. Not only the structure of script developments but also the kind of script (word, syllabic, alphabetic or combination thereof) is generally the same for all peoples. DeFrancis (1989) spoke about the diverse oneness of writing systems and drew similar conclusions.

## **2. Kinds of borrowed scripts**

The Caroline Islands script is partly borrowed. As such, it shares certain characteristics with other borrowed scripts. With reference to the history and development of writing systems, Gelb (1963:143) lists six gradations of borrowing:

1. The forms of the signs and their values are borrowed.
2. The forms are all borrowed, but the values assigned are partly borrowed, partly freely invented.
3. The forms and values are partly borrowed, partly invented.
4. The forms are borrowed but the values given to the signs are new.
5. The forms are partly borrowed, partly invented, with new values.
6. The forms are freely invented, with new values: In this case nothing is borrowed.



Gelb makes a distinction between the forms of the signs and their values. Both can be borrowed, partly borrowed, or invented. He gives examples of scripts with forms that are “freely invented, with new values” and also of forms that are “partly borrowed, partly invented, with new values”.

The invented and borrowed scripts like the Caroline Islands syllabary follow the same pattern as that of other scripts in the world. The process of stimulus diffusion in which people borrow the idea of writing from other cultures is very old and probably occurred with the early Semitic writing systems as well. Borrowing seems to be an ongoing process for which each century has had its examples.

### C. Conclusion

In the case of the Caroline Islands script, it appears that Gelb was correct in his observation that an invented script goes through an extended developing process accelerated under foreign influence. However, the syllabary of the Woleaians did not seem to evolve out of a word script but rather out of an alphabet. It seems that the alphabet only brought the idea of writing and that the invention of a syllabary was an independent effort of the islanders. Riesenberg and Kaneshiro mention no history of word signs. Therefore, it may be concluded that the script’s development skipped this phase.

As for the kinds of borrowing that took place, two types of scripts have to be considered, type 1 and type 2. Type 2 forms of the script and their values were borrowed. Type 1 was freely invented. The script as a whole is then a blend of different kinds of borrowing and original inventions.

# Chapter IV

## Discussion of the script

### A. Riesenbergr and Kaneshiro with Smith

In their analysis of the Caroline Islands script, Riesenbergr and Kaneshiro (1960:299) considered phonemes and phonemic combinations. Based on Smith's (1951) orthography of the Woleai language, they assumed that Woleaian had 50 phonemes, of which there were 24 vowels — 11 long ones and 13 short ones. There were also 2 semivowels, 'w' and 'y', and 24 consonants. The official introduction was at that time proposed to the Trust Territory administration. Riesenbergr and Kaneshiro used this orthography in the remainder of their study.

#### 1. Inadequacy of phonemic representation

Riesenbergr and Kaneshiro found 97 characters in the Caroline Islands script (78 of type 1 and 19 of type 2). All of them have consonant+vowel, semivowel+vowel or vowel values. Smith's phonemic analysis would indicate that there is a theoretical possibility of:  $24 \times 26 = 624$  syllables of consonant and vowel and an extra 24 vowels as independent syllables, state Riesenbergr and Kaneshiro. In their sample of 301 words written in the script, only 175 syllables occur with a projected maximum of 250 or 300 if larger texts would have been used. 'd' and 'ngh' in Smith's orthography do not occur in the syllabary in initial position at all and some consonants (ch, j,

n, rw, th, z) have only one or two entries under them (Riesenberg and Kaneshiro 1960:301).

According to Riesenberg and Kaneshiro, the number of possible syllables is actually less, since the distinction between long and short vowels does not seem to be utilized, its opposition indeed being very infrequent. Long vowels occur infrequently (Sohn, personal communication) and there are no characters that represent them. In this arrangement, only 338 syllables and 13 vowels as independent syllables can occur. Also, most characters representing vowels also represent the semi-vowel + vowel combination (10 out of 13).

However, Riesenberg and Kaneshiro (1960:303) conclude that there still is considerable variation and that it is obvious that the system is inadequate for truly phonemic representation (in Smith's phoneme system). They state that many of the 94 characters must serve for several combinations. This statement is further strengthened by the lack of exact correspondence of characters and syllables. Not only must one symbol serve for several different syllables, but also some syllables may be represented by different symbols.

It would appear that where it necessary to represent a sound which differs from the attributed value of any character, a choice may be made among two or more characters whose attributed values are close phonologically (Riesenberg and Kaneshiro 1960:304).

Riesenberg and Kaneshiro admit that it is possible that they misheard some of the tape-recorded values. Other differences might have been due to dialect differences. For instance, 'a' and 'aa' in Smith's orthography are separate phonemes on Woleai and Faraulep (Smith 1951:40) and on Eauripik

(Rehg, personal communication). Sometimes informants used more syllables for a word than Smith recorded, which also suggests dialect differences (Riesenberg and Kaneshiro 1960:304).

There is consistency for the choice of end-consonants. Riesenberg and Kaneshiro suggest that when the script was invented a weakly pronounced vowel might have been present, as in some other Malayo-Polynesian languages, so that the character whose full syllabic value includes the vowel sound was formerly terminal. Sohn (1975:18–22) confirmed that there are voiceless end-vowels, which supports Riesenberg and Kaneshiro's suggestion. Perhaps, as a second option, the informants anticipated vowels which would appear only when additional syllables were suffixed to the same word. Although Riesenberg and Kaneshiro (1960:307) present a series of explanations for the consistencies in the script, they could find no clear rule.

In the last part of their article, they compare two texts written by two informants. They conclude that there is freedom in expression and preference through choosing between one character or another. In a single person's writing, however, there is considerable consistency.

## **2. Inadequacies of Smith's orthography**

Smith (1951) designed the first official orthography of the Woleaian language. His work on Woleaian for the United States Trust Territory of the Pacific Islands extended to other islands of the territory as well. Smith's description of the orthography, which was adapted for use by Riesenberg and Kaneshiro without diacritical marks, is presented in table 1.

Table 1. Smith's 'phoneme' inventory

a	father	ch	choose
ah	fa-ther	f	aloof
aa	fat	j	(a strong "h")
aah	fa-t	k	kid
ae	fed	l	bottle (Brooklynese)
aeh	fe-d	lh	balle (French)
e	father	m	some
ee	safe	mw	someway
eeh	sa-fe	n	man
i	sea	nh	manikin
ih	sea-	ng	sing
ii	sit	ngh	singer
o	oak	p	up
oh	oa-k	r	"British" (trill "r")
oa	off	rw	Irwin (trill "r")
oah	o-ff	s	sow
oe	hors d'oevres	sh	show
oeh	hors d'oe-vres	t	pat
u	boot	th	pit-e-pat
uh	boo-t	z	adze
uu	Nürnberg	Hyphen (-) used for on-glides or escrescent vowels in reduplicatives	
uuh	Nü-mberg		
v	(like "oe" but with the tip of tongue curved up and back)		
vh			
w	wood		
y	yes		
b	upward		
c	juice		
g	Bach		
d	bad		

Smith (1951) introduced fifty phonemes for the Woleaian language with single phonemes represented by more than one symbol in more than half of the alphabet . It is important to understand this point. The syllabary represents different combinations of phonemes with the same symbol. To solve this ambiguity in the script, readers have to rely on the context of the written words. This context is ‘created’ by Smith, who introduces one or two additional symbols that always accompany the first symbol to distinguish it from other phonemes. The letter ‘o’ is used for ‘o’ but also for the long vowel ‘oh’ and for the vowel ‘oa’ and its long variant ‘oah’ (see table 1). Adequacy of a script becomes, therefore, very difficult to assess since different techniques create different problems. A syllabary has symbols representing different sounds, the alphabet has letters used in different letter combinations to represent different sounds. They both use the context of the symbols to prevent ambiguity.

Riesenberg and Kaneshiro (1960: 299) have the following opinion about Smith’s orthography:

Smith’s published work is non–technical in language, and his phonemes were established by means of minimal pairs. The values indicated below are, in Smith’s words, “only a meager approximation indeed.” For this reason we are not satisfied that our transcription in his orthography of the attributed values of the various characters in figs. 25 and 26 is always accurate.

When we consider Sohn’s orthographic design for Woleaian (1984) we see a number of considerable differences with Smith’s orthography (see table 2). Sohn (1984:217) states:

Table 2. Sohn's and Smith's orthography

This table presents a comparison between two Woleaian orthographies. The comparison should be considered speculative; however, it illustrates the strong differences between the two.

Consonants		Vowels	
Sohn:	Smith:	Sohn:	Smith:
p	p	i	i
pp	-	ii	ih
t	t	e	ae (?)
tt	th (?)	ee	ae'h (?)
ch	ch	a	a
k	k	aa	ah
p	b	iu	uu
bb	-	eo	oe
f	f	u	u
ff	-	uu	uh
s	s	o	o
ss	-	oo	oh
sh	sh	oa	oa
l	l	-	aa
r	-	-	aah
m	m	-	ee
mm	-	-	eeh
mw	mw	-	ii
mmw	-	-	oah
n	n	-	oeh
ng	ng	-	uuh
nng	ngh	-	v
-	c	-	vh
g	g		
-	d	(?) – extra speculative	
-	j		
-	lh		
-	nh		
-	rw		
-	z		
y	y		
w	w		

The spelling proposed by Smith (1951), which is an alphabetic writing, is an example of an orthography based on a poorly analyzed sound system, in which Smith sets up too many letters and poor spelling conventions.”

### **3. Over – and underrepresentation**

Indigenous writers of a language may prefer a less analytical system of writing, since knowledge of the indigenous language provides enough context for understanding. So-called underlying forms (where sounds are written because they are heard in other derivations of a word) are often disregarded. These underlying forms are only used to decide end-consonants in the Caroline Islands script, and nowhere else.

Certain abstractions serve a purpose for a general understanding of language, i.e. linguistics, but not necessarily for the practice of writing. Some marginal distinctions, e.g. semivowels, or complex consonant alternations with ‘l’ in Woleaian (Sohn 1984:223), or tone in other languages (see chapter V), may be difficult to analyze or more difficult to represent in an orthography. The main argument of linguists for incorporating these distinctions into the orthography is the possible ambiguity that can otherwise arise. Also, islanders could write words identically and pronounce them differently, or pronounce them the same and write them differently.

However, it is my contention that Smith’s orthography does not solve these problems at all, but by over-representing the sounds of the language helps to exaggerate the variability in the syllabary system, because it produces too many possible syllables (see also paragraph 5).



#### 4. Final consonants and other syllabary techniques

The techniques for syllabaries are different than for alphabets. Riesenbergr and Kaneshiro mention, for instance, the problem of representing occasional final consonants (see page 26).

DeFrancis (1989:251) identifies four techniques used in syllabaries from all over the world, what he calls the ‘syllable–telescopic technique’ (C = consonant; V= vowel):

(Cuneiform)	Sumerian	$C_1(V_1+V_1) C_2 = C_1V_1C_2$
	Mayan	$C_1V_1 + C_2(V_1) = C_1V_1C_2$
(Linear B)	Greek	$C_1(V_1) + C(V_1) = C_1CV_1$
	Japanese	$C_{(i)} + {}_yV = C_yV$
		$C_{(u)} + {}_wA = C_wA$

In Sumerian and Mayan for example, two symbols with syllable values can form one closed syllable. The vowels in parentheses are then merged or deleted. I will come back to DeFrancis when discussing Sohn’s comments on the Caroline Islands script. It is obvious, however, that these techniques can reduce the number of syllables significantly.

#### 5. Conclusion

Smith’s analysis suggested there are fifty phonemes in the Woleaian language, and single phonemes were represented by more than one symbol in more than half of Smith’s orthography. Riesenbergr and Kaneshiro compared the Caroline Islands script to Alfred G. Smith’s analysis. I

considered other points that concern the comparison made by Riesenbergr and Kaneshiro. The following are conclusions largely based on the comparison between Smith's and Sohn's list of phonemes:

1. Lengthening is not represented for all vowels in Sohn's list.

Furthermore, lengthening is an infrequent opposition in the transcribed texts of Riesenbergr and Kaneshiro (1960). It appears that the Woleaians can very well do without length-representation in their spelling (Sohn, personal communication).

2. Semivowels are predictable in many environments (Sohn 1984:215) and therefore, do not need to be represented every time and counted as syllables in addition to syllables with other consonants.

3. The syllabary never developed into a standard form. As a consequence, different writers of the syllabary solved spelling problems in different ways. However, this did not represent any great obstacle as a writing system. Other syllabaries, like the Cherokee (see chapter V), have functioned quite satisfactorily with such a system.

4. Dialect differences (Woleai, Faraulep, etc.) appeared not to have bothered the informants, because of the relative flexibility of the script. (Riesenbergr and Kaneshiro 1960:304).

5. Consistency was found when the writers had to decide on the end-consonant. That means there certainly is systematic writing. Also, individual writers are consistent in their own writing.

The Caroline Islander script has been criticized for variation in symbol values and dismissed for its inadequacy by Riesenbergr and Kaneshiro (1960:311). However, the research of Riesenbergr and Kaneshiro will have to be repeated in the light of other more accurate orthographies to determine

the value of the Caroline Islands script. This research has not been done. Smith's orthography of the Woleaian language shows so many inaccurate transcriptions of the Caroline Islands script, and moreover contains superfluous letters and poor spelling conventions that a comparison between the Caroline Islands script and Smith's orthography should not have taken place. The syllabary was, therefore, unjustly dismissed as an orthography for the Woleaian language.

## B. Sohn's orthography proposal

If the research of Riesenbergr and Kaneshiro is to be repeated and a comparison with a more accurate orthography is to be made, then Sohn's orthography proposal should be adequate for such a purpose. However, although Sohn made a new proposal, he dismissed the syllabary without making a new comparison. His arguments, presented in a paper published a decade after the publications of the Woleaian-English dictionary and reference grammar, will be discussed in the following paragraphs.

### 1. Supposed inadequacy of syllabaries

Sohn (1984) has argued that syllabaries and ideographies are inadequate for languages, especially those with a complicated syllable structure. These writing systems would need too many symbols in order to represent a language systematically. In Sohn's view, only systematic writing systems

should be developed, because this makes it easier for outsiders to learn and to investigate the language.

Ideographies and/or word scripts have never been feasible as writing systems. (See also Gelb 1963.) Sohn cites Chinese as an example as an ideography that was used as a writing system. However, DeFrancis (1989) and others have, in my view, convincingly argued that Chinese is not an ideography.

Sohn (1984:216) stated that “syllabaries are adequate only in such a language as Japanese where there are a relatively small number of different syllables.” However, the syllabaries in other parts of the world do not support this generalization. Sohn stated: “WOL has a syllable structure as simple as Japanese, but has many more vowels and consonants. This fact makes it disadvantageous for Woleaians to have a syllabary.” The fact, that the Woleaians had a syllabary suggests that this syllabary was by (Sohn’s) definition inadequate. Similar conclusions would have to be drawn for the large number of Sumerian and Semitic languages that used the Cuneiform writing and even the Greek language that was represented in the syllabary Linear B for a long time. The Yi (see chapter V) have adapted an official orthography with syllabic symbol values amounting to 860 different signs. This purely syllabic script is perhaps the best proof against the statement that syllabaries are not adequate for more complicated languages, meaning languages with a large number of possible syllables (see chapter V).

DeFrancis (1989:231) stated that in the case of Japanese “there are 105 or 113 syllables and 46 syllabic symbols to represent them. The 46 symbols are juggled around in various well known ways so as to handle all of the syllables, in somewhat the same way that we combine ‘t’ and ‘h’ to

represent the sounds in ‘this’ and ‘thin’.” Thus, not even the Japanese represented all the possible syllables in their language. It is interesting to note that with a phonemic spelling as proposed by Sohn, and disregarding vowel length and geminated consonants, the total of possible (open) syllables in Woleaian is just  $15 \times 8 = 120$  and 8 syllables for single vowels. This number is very close to that of the Japanese language.

Apparently, the ‘indigenous’ writers of various languages of ancient and modern times were and are not really concerned with the particular features of syllabaries that Sohn finds so inadequate.

## **2. One-to-one relationships and language change**

An ideal alphabet writing system should serve not only for native speakers who already know the language but also for those who either partly know the language or want to learn or work on it. (Sohn 1984:216)

People who work on a language are usually linguists and although the number of people who want to learn, for example Woleaian, will be relatively small, both linguists and students of the language have a reason for wanting an ‘ideal’ writing system.

Sohn set criteria of strict sound–letter correspondence for such a system. He admitted that the present orthography for the English language fails to pass this criterion. I claim that the majority of writing systems cannot pass this criterion, because it is not inherent in a writing system to have a strict sound–letter correspondence. Languages change through time. As soon as a writing system is standardized, which, according to Sohn, is

done easily with a strict sound–letter correspondence, further changes in the language will become more and more difficult to be represented in the orthography. English, Dutch and many other orthographies provide ample evidence for this phenomenon.

In my opinion (and in the opinion of others, including DeFrancis), language and writing systems are similar in that they are both used by humans and as such they are bound to change. Since the writing system tends to be much more conservative, the systems of language and writing will grow apart. An ideal orthography will have to undergo continuous change and this continuous change is often undesirable for other (e.g. economic) reasons.

### **3. Rules and representation in Woleaian**

Although some of Sohn's analyses are very insightful linguistically, his orthography proposal has a number of rules and spelling conventions that would complicate the Woleaian orthography if they were implemented.

According to Sohn (1984:223), there are five consonants that do not have corresponding double consonants. These consonants are doubled, however, for some grammatical purposes. Sohn (1984:222) states that, for example, “doubled *lx* becomes *lkk*, doubled *ls* and *lr* become *lccl*, and doubled *ll* becomes *lnnl*, ..” Instead of introducing more consonants, Sohn provided a small list of ‘exceptions’ with their representation.

In a subsequent paragraph, Sohn (1984:223) stated, that “with the deletion of *i*, the consonants *l* and *s* are collapsed to *lccl*. In the same way, *l + r = lccl*, *l + t = lttl*, and *l + s = lssl*. These alternations are phonologically

instead of grammatically conditioned.” He discussed base forms (see below), how to represent derived forms, and provided linguistic details. It is important to list these alternations here to illustrate that rules have to be designed to make a spelling system accessible for writers of the language.

Vowels have even more extensive phoneme alternations, according to Sohn (1984:223). For instance, the word which means ‘name’ is phonemically represented in three different ways, *liitel*, *litel*, and *lital*. Sohn lists five different environments that are involved in determining the right representation. Here Sohn (1984:223) makes a strong argument for using a ‘base form’:

Since the different realizations of the word ‘name’ are due to sound environments such as neighboring vowels, the word boundary, and the presence or absence of a modifying word, we can easily imagine that there is a *base form* in terms of their sound environments. . . . [The different realizations of the word ‘name’] are derivable from the base form . . . by means of a few general phonological rules.

Sohn (1984:228) argued that we have to decide in what manner sounds and letters are to be matched in actual words and he proposed three alternatives (1984:229):

- a. Phonetic spelling, where words are written in letters corresponding to their actual pronunciation. Many sound alternations may, however, be predicted from the sound environment. Therefore, this alternative should be dismissed, according to Sohn.
- b. Phonemic spelling, where words are written according to their phonemic representation (that is, according to the proposed list of alphabetic symbols).

c. Base form spelling is proposed as a third alternative. Sohn (1984:229) stated: “As we have seen, base forms of words are set up by reducing any sounds caused by environments to their source sounds, that is, to those sounds which would be pronounced if no sound environment were present.”

Option (b) is closer to the phonetic spelling, but option (c) gives less variation of the spelling of a morpheme.

#### **4. Base form spelling and the tradition of convenience**

The introduction of base form spelling, as suggested by Sohn, as an alternative for the Woleaian orthography is surprising. Base form spelling represents what has been a strong tendency in most conservative writing systems. Syllabaries with or without word symbols have a tendency to write according to base form spelling. For instance, Chinese has developed one (conservative) ‘base form’ spelling that is still used by different language groups. I think it is possible to generalize that conservative and long lasting spellings acquire a base form spelling, since the sound values tend to change in time. Sohn himself quoted the example of English with an adequate base form spelling, but a poor sound–letter correspondence.

Sohn’s appendix (1984:233–234) lists spelling conventions following the general recommendations of the Yap outer Islands Orthography Committee (Kuroiwa 1973). He stated:

Almost all native speakers seem to prefer tradition and convenience to linguistic simplicity and clarity, at least at this stage of linguistic sophistication. . . . This is understandable when we take into account



the popular notion that writing systems are only for those who know the language.

He concluded by saying that the spelling conventions that they adopted are not those of the base form spelling, but a more phonemic spelling; i.e. the spelling adopted in the dictionary (Sohn 1975) and reference grammar of Woleaian (Sohn and Tawerilmang 1976).

## **5. Conclusion**

Sohn argued that only languages with small numbers of syllables can have an adequate syllabary. If he had studied other syllabaries, he would have found that this adequacy, meaning full representation of the phonemes, is reached in a complex language like Yi and reached to a much lesser degree in a 'simple' language like Japanese. Moreover, if Sohn had counted syllables in Woleaian, he would have concluded that Woleai is as simple or as difficult as Japanese.

Secondly, the idea that a script should serve non-native speakers and beginning writers as well is rather idealistic. Time alone will change the orthographies for any language. Frequent changes in the standardization are expensive. Therefore, whether to make a script ideal for outsiders and beginning writers should be considered a minor point of consideration in the orthography development. Since linguists work on languages like Woleaian, they will continue to have a strong say in the spelling conventions, because they provide the dictionaries and grammars. Communication and negotiation are, therefore, the only solution to blend these different views.

I pointed out that most orthographies will become base form systems to a certain extent and that the phonemically based representation of the forms will be partly lost. However, a continuous movement between base form and phonemic writing seems to be accurate for the description of old and modern script developments.

In order to reach a strict sound–letter correspondence or a base form spelling, Sohn had to introduce a number of rules that make the spelling not much easier than the Caroline Islands script, especially for the beginning writer for whom it was supposed to be designed.

It is unfortunate that Sohn voiced his complaints about islanders who prefer convenience and tradition, a ‘convenience’ of an erroneous spelling by Smith and not a traditional writing system.

In sum, I have to conclude that Sohn was mistaken in dismissing the Caroline Islands script. A new comparison would have shown him the errors in Riesenberg and Kaneshiro’s work. Sohn also erred in dismissing syllabaries for ‘difficult languages’, of which Woleaian is not even an example. His work could have made a greater contribution if he had improved the script instead of dismissing it. Sohn should not have dismissed the Caroline Islands script, but should just have dismissed Smith’s orthography instead. Subsequently, he could have made a proposal to improve the syllabary.

## C. Summary statement

Sohn and Riesenbergr & Kaneshiro made the mistake of depending on one source for their conclusions. Riesenbergr and Kaneshiro depended on Smith for their transcription, since there was no other source available. Sohn depended on Riesenbergr and Kaneshiro's discussion and accepted their erroneous conclusions concerning the script's adequacy.

Smith, Sohn, Tawerilmang, Riesenbergr and Kaneshiro have all contributed considerably to our knowledge of Woleaian and its script. However, their research also facilitated the decline or least did not encourage the revival of the syllabary , partly because it was unjustly dismissed and partly because the value of the script was not recognized. I will explain this value with the use of another body of literature, that concerning other syllabaries in the world.

# Chapter V

## Preferable orthography

### A. Use and context

Riesenberg and Kaneshiro (1960) stated that the Caroline Islands script was used for personal correspondence, a catechism, records of chants and magical formulae, accounts of travel and even for some government orders. The Caroline Islanders also used the script in tattoos and decorations of boats and houses. The wide use of this script suggests that it was accepted by the indigenous people. Even though Riesenberg and Kaneshiro were aware of the different uses of the script, they did not appreciate the fact that these uses justified the existence of the script. If the script served such variety of purposes, then there was and is no reason to replace it.

Sohn (1984) suggested that the Caroline Islands script posed a number of learning and research difficulties. However, such difficulties are only encountered by the outsider. When the Trust territory of the Pacific Islands replaced the indigenous writing with an outsider alphabet for the Woleaian language, this appeared to serve only the purposes of these outsiders. Sohn should not have dismissed the Caroline Islands script but Smith's orthography instead. Subsequently, he could have made a proposal to improve the syllabary, as was done for the Yi.

The story of the Yi (see figure 6.) will be my first analogy with the Caroline Islands script, followed by Cherokee and Vai. These analogies

show that a script provides more than a spelling. It appears to strengthen indigenous educational practices and enhances a certain (cultural) pride.

## **B. The parallel of Yi**

The Yi language belongs to the Tibeto–Burman branch of the Sino–Tibetan language family and has several rather diverse dialects. The Yi syllabary deserves special attention because of its one–to–one correspondence between syllabic sound and syllabic representation. The system is used by the Yi people, an estimated 4.8 million people (in 1978), in South West China. They are also known under the pejorative name Lolo.

### **1. The history of the Yi syllabary**

In 1956, the year of the abolition of slavery in Yi country, there was an overall policy on the part of the Chinese government of aiding minority peoples to improve their writing systems or make new ones. This project for the minority groups also reformed the Yi system of writing.

All syllables of the Yi language consist of a consonant+vowel+tone. Depending on dialect, Yi has circa 48 consonants, circa 10 vowels and 4–7 tones. The Chinese government tried to find the most suitable dialect as a basis for the new script. The standardization of the writing system also had to cope with the conglomeration of symbols already in existence among the Yi (DeFrancis 1989:146). These existing symbols are considered to be very old. Ollone (1912) gives examples dating back to the 16th century and



earlier. The Yi people's idea of writing came, most likely, from the Chinese who also might have inspired the Yi to make a syllabic script rather than an alphabet. The signs of the Yi script are, however, completely different from those of Chinese. Generally, there were no Yi that knew the script besides the experts, called the 'pimo' (Ollone 1912:8).

The people working on the project, linguists and members of various minority nationalities, tried to reduce the chaos of the existing script, find the spoken norm, and match one symbol with one sound (and vice versa).

In 1975, a Yi Writing Standard was created and officially adapted with 819 symbols, 756 for the Yi language and 63 for loan words (DeFrancis 1989). Three years later, the system was introduced in the schools and became accepted for newspapers, books and other written material.

According to DeFrancis (1989:148): "The number of symbols comprising the syllabic script makes it the largest standardized syllabary ever created." This large number of symbols is mainly due to the incorporation of tone. DeFrancis also states that "unlike the Vai syllabary, which marks tones – when they are indicated at all – by separate external symbols, the Yi system has distinctly different symbols for syllables with different tones." Separate tone diacritics would have reduced the syllabary to circa 300 signs. The principle of one sign – one sound was apparently more important.

## **2. Conclusion**

The establishment of the Yi syllabary demonstrated two things. First, it proved that a complicated language can employ a syllabary and, more importantly, that this syllabary can become the official spelling. Secondly, it

shows that amending an existing script is a successful way to come to an official orthography. Therefore, it is not always necessary to replace the script with Chinese or a Western alphabet. It also shows that the Yi people themselves could participate in the successful adaptation and application of the script.

I argue that the story of the Yi has wider implications, since this option of amending could easily have been applied to the Caroline Islands script.

### C. The parallel of Cherokee

Cherokee is a language in the branch of the Iroquoian language family. Due to a prehistoric migration of the Cherokee to North Carolina, Tennessee and Georgia, the language is not closely related to the other Iroquoian languages near the great lakes. Cherokee has about 20,000 speakers today.

The parallel of Cherokee and the Caroline Islands script is obvious, since both scripts have their origin in the stimulus diffusion of the idea of writing. The Cherokee script, however, has had a very successful history. This success with its effects should illustrate the contribution that an invented script can make to a people's (historical) pride, cultural revival and to the printed word (Kilpatrick 1968), which, apparently could overcome the difficulties of a syllabary.



## **1. Use and context**

From the 1830's until after the U.S. civil war, Cherokees in Oklahoma were an independent nation with a constitution, law code, government, etc. Cherokee was spoken throughout the Cherokee nation and many books and papers were published in the Cherokee script. (See figure 7.) Also, a great deal of personal correspondence was conducted using Cherokee characters (Holmes and Smith 1989:ix).

## **2. The history of the Cherokee syllabary**

The invention of the Cherokee syllabary is attributed to one man, Sequoya. Sequoya was born in the 1760's near what is now called Tennessee — an independent Cherokee nation at that time. His mother came from a prominent Cherokee family and his father is said to have been white. His mother took Sequoya to Virginia when he was still a baby and Sequoya did not see his father again.

Sequoya knew no other language but Cherokee. As a young man he had noticed the power that written language gave to the white man. It was then, in 1809, that he started to invent the same advantage for the Cherokee. For ideas as to the function of the letters he used some printed alphabets, supposedly Greek, Hebrew and English, lent to him by missionaries . At first, he hoped to make letters for every word, but later he started to break down the words into smaller units. After being wounded in the 1813–1814 Creek war, he continued his work and became obsessed with it. His early work was destroyed in a fire, presumably set by his wife. Therefore, he left

Cherokee Alphabet.					
D <sub>a</sub>	R <sub>e</sub>	T <sub>i</sub>	Ꭰ <sub>o</sub>	Ꭱ <sub>u</sub>	Ꭲ <sub>v</sub>
Ꭶ <sub>ga</sub> Ꭷ <sub>ka</sub>	Ꭸ <sub>ge</sub>	Ꭹ <sub>gi</sub>	Ꭺ <sub>go</sub>	Ꭻ <sub>gu</sub>	Ꭼ <sub>gv</sub>
Ꭽ <sub>ha</sub>	Ꭾ <sub>he</sub>	Ꭿ <sub>hi</sub>	Ꮀ <sub>ho</sub>	Ꮁ <sub>hu</sub>	Ꮂ <sub>hv</sub>
Ꮇ <sub>la</sub>	Ꮈ <sub>le</sub>	Ꮉ <sub>li</sub>	Ꮊ <sub>lo</sub>	Ꮋ <sub>lu</sub>	Ꮌ <sub>lv</sub>
Ꮎ <sub>ma</sub>	Ꮏ <sub>me</sub>	Ꮐ <sub>mi</sub>	Ꮑ <sub>mo</sub>	Ꮒ <sub>mu</sub>	
Ꮓ <sub>na</sub> Ꮔ <sub>nna</sub> Ꮕ <sub>nah</sub>	Ꮖ <sub>ne</sub>	Ꮗ <sub>ni</sub>	Ꮘ <sub>no</sub>	Ꮙ <sub>nu</sub>	Ꮚ <sub>nv</sub>
Ꮛ <sub>qua</sub>	Ꮜ <sub>que</sub>	Ꮝ <sub>qui</sub>	Ꮞ <sub>quo</sub>	Ꮟ <sub>quu</sub>	Ꮠ <sub>quv</sub>
Ꮡ <sub>sa</sub> Ꮢ <sub>s</sub>	Ꮤ <sub>se</sub>	Ꮥ <sub>si</sub>	Ꮦ <sub>so</sub>	Ꮧ <sub>su</sub>	Ꮨ <sub>sv</sub>
Ꮩ <sub>da</sub> Ꮪ <sub>ta</sub>	Ꮫ <sub>de</sub> Ꮬ <sub>te</sub>	Ꮭ <sub>di</sub> Ꮮ <sub>ti</sub>	Ꮯ <sub>do</sub>	Ꮰ <sub>du</sub>	Ꮱ <sub>dv</sub>
Ꮮ <sub>dla</sub> Ꮯ <sub>tla</sub>	Ꮰ <sub>tle</sub>	Ꮳ <sub>tli</sub>	Ꮴ <sub>tlo</sub>	Ꮵ <sub>tlu</sub>	Ꮶ <sub>tlv</sub>
Ꮷ <sub>t<sub>sa</sub></sub>	Ꮸ <sub>t<sub>se</sub></sub>	Ꮹ <sub>t<sub>si</sub></sub>	Ꮺ <sub>t<sub>so</sub></sub>	Ꮻ <sub>t<sub>su</sub></sub>	Ꮼ <sub>t<sub>sv</sub></sub>
Ꮽ <sub>wa</sub>	Ꮾ <sub>we</sub>	Ꮿ <sub>wi</sub>	Ᏸ <sub>wo</sub>	Ᏹ <sub>wu</sub>	Ᏺ <sub>wv</sub>
Ᏻ <sub>ya</sub>	Ᏼ <sub>ye</sub>	Ᏽ <sub>yi</sub>	᏶ <sub>yo</sub>	᏷ <sub>yu</sub>	ᏸ <sub>yv</sub>

Sounds Represented by Vowels	
a, as <u>a</u> in <u>father</u> , or short as <u>a</u> in <u>rival</u>	o, as <u>o</u> in <u>note</u> , approaching <u>aw</u> in <u>law</u>
e, as <u>a</u> in <u>nate</u> , or short as <u>e</u> in <u>met</u>	u, as <u>oo</u> in <u>fool</u> , or short as <u>u</u> in <u>pull</u>
i, as <u>i</u> in <u>plique</u> , or short as <u>i</u> in <u>pit</u>	v, as <u>u</u> in <u>but</u> , nasalized

Consonant Sounds	
g nearly as in English, but approaching to k.	g nearly as in English but approaching to k.
to z. <u>n k l m n g s t w y</u> as in English. Syllables beginning with g except Ꭶ (ga) have sometimes the power of k. Ꭺ (go), Ꭼ (du), Ꮱ (dv) are sometimes sounded to, <u>zu</u> , <u>ty</u> and syllables written with tl except Ꮯ (tla) sometimes vary to dl.	

Figure 7. The syllabary of the Cherokee language (Holmes and Smith 1989).

home and migrated to Arkansas. There he reduced the syllabary from 200 signs to 86. He also married again around 1815 and had a daughter.

In 1821, the Tribal council heard of his achievement of writing letters to his little daughter and Sequoya was asked to train other Cherokee in writing the language. Eventually, the council made the syllabary the official Cherokee script and in a few months the script spread through the Cherokee nation. Missionaries made a font to print the script and it became a great success.

Dr. Samuel A. Worcester, an American missionary, designed the font for the printing of Cherokee material. He assigned a few Roman letters to the syllabary, drawing on fonts he had available. He printed almost 14 million pages between 1821 and 1861 of Indian language texts, mostly Cherokee, and was also involved in translations of religious texts (Holmes and Smith 1989:9). Worcester also designed the particular order of the characters based on the English alphabet.

The Roman letters were not imitations by the hand of Sequoya; he merely cooperated in the modification of his syllabary to make it available to the whole Cherokee nation. Furthermore, none of the Cherokee characters that resemble Roman letters are pronounced like the Roman letters (Holmes and Smith 1989:12 and Diringer 1968:129).

According to Holmes and Smith (1989:8) “This syllabary, though not perfect, is as well adapted to the sounds of the Cherokee language as the European alphabet is to the sounds of the English language.” They also state that the Cherokee spelling is easy though it is not standardized. Each person spells as the word sounds to him. Cherokee syllables make the same sound as their name. Some differences as between ‘g’ and ‘k’, and ‘t’ and ‘d’ are

not represented, also the ‘intrusive h’ as Holmes and Smith call it, is not in the Sequoya syllabary.

Sequoya also devised a numeral system but the Arabic numerals were already in use and the tribal council dismissed the proposition. Later on, Sequoya became active in Cherokee politics until he died in 1843 on a trip to Mexico.

### **3. The script**

The Cherokee script is an original invented script for which both the symbols and the sounds were invented and later adjusted for printing purposes. Gelb (1963) and Diringer (1968) have discussed the script briefly. Both Diringer and Gelb base their information on the work of Friedrich in the late 1930’s and early 1950’s. Diringer (1968), like Holmes and Smith, lists 85 signs, but distinguishes four kinds:

1. Latin characters (capitals or small) with different (phonetic) values.
2. Transformed Roman letters with different values.
3. European numeral signs with different values.
4. Arbitrary signs.

Diringer (1968:129) states:

The fact that there is no single case of a Cherokee symbol retaining the original phonetic value, i.e., that of the Latin letters, is in my opinion the clearest proof that Sequoya’s intention was to create a script quite different from the English alphabet. Further, the fact that Sequoya’s syllabary represents Cherokee quite satisfactorily, proves

that the creator of this script knew how to deal with the problems he had to face.

There is, however, also the possibility that Sequoya preferred to use a syllabic system, which in itself is suitable to the Cherokee speech, though not so easily suitable for a language like English, which contains many accumulations of consonants (such as e.g., ‘stretch’).

#### **4. Conclusion**

Sequoya is widely respected and considered a genius by the Cherokee. The script he devised is now an integral part of the language tradition. Even the language revival, to which Holmes and Smith (1978) responded, includes the Cherokee script in the learning material.

Cherokee follows the same principles of invention and stimulus diffusion as the Caroline Islands script, outlined in section A. However, its success is in stark contrast to the decline of the Caroline Islands script. The Caroline Islands script’s decline is perhaps partly due to the short time depth in which the Woleaians had to fully develop the script. But on the other hand, support by missionaries and the government could have been given just as easily to the Woleaians as to the Cherokee.

More important in the Cherokee story is that the script became an integral part of the culture. The people take pride in its history and the script has become perfectly appropriate for the Cherokee context. And even beyond the limits of handwritten communication, the Cherokee have a printed word as well.

Considering these possibilities and advantages for the Cherokee, I have to conclude that with the dismissal of the Caroline Islands script these advantages have been missed.

## **D. The parallel of Vai**

The Vai live on the border of Sierra Leone and Liberia and have 7,000 square miles of land. About 12,000 Vai live there as farmers and live elsewhere in cities and distant parts of the country.

The Vai script (figure 8) shows a successful invented script that exists next to Arabic and English language teaching schools. Scribner and Cole's research (1981) centered on the questions of the perpetuation of the script alongside Arabic and English (Roman) alphabets. They have proven that the script does not interfere with other learning processes and actually reinforces the traditional education methods by which all typical Vai traditions are communicated from generation to generation.

### **1. History of the Vai script**

It is generally agreed that in the beginning of the 19th century a phonetic system for the Vai language was devised in Vai society. A three-century long contact with European and African traders is the probable origin of the idea of writing.

	i	a	u	e	ɛ	ɔ	o
p	Ⓟ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
b	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
ɓ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
mɓ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
kp	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
mgb		Ⓢ		Ⓢ	Ⓢ	Ⓢ	Ⓢ
gb	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
f	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
v	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
ɸ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
d	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
l	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
ɖ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
nd	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
s	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
z	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
c	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
j	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
nj	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
y	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
k	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
ŋ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
g	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
h	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
w	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
-	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ

Ⓢ Syllabic nasal

Nasal syllables

	ɪ	ɔ	u	ɛ	ɔ
ɲ	Ⓢ		Ⓢ	Ⓢ	
m	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
n	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
ny	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
ŋ		Ⓢ		Ⓢ	Ⓢ

Figure 8. The syllabary of the Vai language (Scribner and Cole 1981).

The Vai script was not just a borrowed invention because Vai is a syllabary and the scripts of traders were alphabets. There is evidence that there was already a system of graphic signs and even pictograms used for communication. Apparently, these symbols were further developed into a syllabary. There appeared to be an evolutionary process of pictograms acquiring a phonetic character during the script's invention. Logograms (signs for words) have been found even in today's script and support this suggestion (Scribner and Cole 1981:265).

The nineteenth-century spread of the script is remarkable and the literacy rate among the Vai was probably higher than in European societies of that time. It is said that originally the script was taught in schools. The European discoverer of the script, however, found no formal schools, since various warfares had destroyed the school buildings and the Vai had abandoned the idea of schools, so only informal modes of learning were practiced.

The large-scale seaward trade and commercial networks plus the intertribal warfare and hostilities may have been at the basis of the "powerful stimulus that existed for the adaptation of a writing system that no one else but the Vai knew" (Scribner and Cole 1981). Record keeping and 'secret' communications seem to have been the initial functions. Furthermore, the script served ideological values because of its role in traditional activities, in trade, and in political affairs.

The first report on the Vai script came from Mr. Edwin Norris, a British Naval Officer, who presented his discovery in a lecture at the Royal Geographical Society in 1849. Immediately following his account, a German philology student, Koelle, went to see for himself and found a



certain Dualu Bukele and five of his friends to be the real inventors. Bukele's background and that of his friends is unknown. Other evidence suggests that a series of independent developments at different times and places have occurred (Scribner and Cole 1981:264).

## **2. The Vai script**

Diringer (1968:130-131) lists 226 symbols that are mainly vowels or open syllables, whereas Scribner and Cole (1981:33 figure 3.2) mention only 194 symbols. There is tone, vowel length, nasalization of vowels, seven vowels, two implosives, a list of other consonants and a syllabic nasal in the language. All but seven consonant–vowel combinations have a symbol. Tone and vowel length are, however, not represented in the script.

As Scribner and Cole (1981:265) report:

The signs are only partly borrowed from Roman letters and are very complicated. Thus, books and writing, and the instruments producing them, were known to some Vai from both African and European contacts for at least three centuries before the Vai script's reported invention . . . The Vai script, however, cannot simply be dismissed as a borrowed innovation. Since the foreign scripts in use were alphabets and the Vai script is a syllabary, we know that whatever external influences were active in creating pressure for an indigenous writing system, the form and articulation of that system represented an original production.

The Vai script is still in use. The 1981 study by Scribner and Cole confirms this:

While outsiders have found the origin and maintenance of the script astonishing, we have seen that a conjuncture of material and social forces produced and maintained it. The script served ideological values through its role in traditional activities, pragmatic values in trade, and political values in maintaining the autonomous interests of the Vai in a region beset by local colonization and foreign penetration.” (1981:269)

It is apparent that Vai people have developed highly diversified uses for writing, and that a host of pragmatic, ideological, and intellectual factors sustain popular literacy. (Scribner and Cole 1981:86)

Apparently, the cultural value, but also the ideological, pragmatic and political values of the (Vai) script play an important part in its distribution and survival.

The Vai script illustrates a case in which three different writing systems for three different languages co-exist in one culture: the Arabic alphabet, the Vai syllabary, and the English alphabet. Each language brings its own culture and schooling system. Scribner and Cole (1981:233) further state: “We prefer to interpret results conservatively as indicating that memory for oral stories is not affected by literacy education.” In fact, the indigenous way of teaching is applied to the Vai script and therefore reinforces the traditional educational system that teaches oral traditions and other skills as well. This strongly suggests that indigenous writing systems which are learned in the traditional way (at home) should be preferred for the indigenous language to other introduced writing systems that have to be learned in schools, since they preserve the culture by writing it down *and*

reinforce it by teaching a script the traditional way. The teaching of English can occur independently without any interference.

### **3. Conclusion**

Vai shows that their invented script served ideological, pragmatic and political values. The Vai cherish a highly diversified use for their writing. A number of these uses (see chapter V) have been found in the Caroline Islands script as well, even when it was already in decline. However, its ideological, pragmatic and political values have not been recognized by the researchers of the Woleai group.

The Vai example also corrects the view that syllabaries interfere with the learning of English. Vai not only shows that the script does not delay the learning process, but also that it reinforces indigenous processes of education. Subsequently, the oral traditions are not affected by literacy education, on the contrary, the Vai script reinforces the traditional learning system by which these traditions are continued.

### **E. Summary statement**

The Cherokee syllabary was printed and received numerous publications. Its invention is part of Cherokee cultural history and, therefore, the Cherokee take pride in its use. The Vai showed that an indigenous syllabary has ample applications and that it will not delay the learning of other scripts. Instead, it will reinforce the traditional ways of learning and support the indigenous

culture. Finally, the Yi script exemplifies that some governments help to develop a (minority) writing system and that such a system can be successfully adjusted in order to represent the language adequately and serve it as an official spelling.

# Chapter VI

## Conclusion

### A. Summary of thesis arguments

Between 1907 and 1909 the idea of writing introduced by outsiders was adapted and developed into a syllabary by the islanders of the Woleai group for writing their own language. The script did not receive serious attention until 1960, when Riesenbergs and Kaneshiro described and analyzed the script using the few writers left on the islands. They used the only available and official orthography at that time by Smith to transcribe the syllabary symbols. They reached the conclusion that the script would be inadequate to represent the language correctly.

New linguistic research in the 1970's by Sohn made clear, however, that Smith's orthography was a poor one. The number of letters and possible syllables of the language were much lower than Riesenbergs and Kaneshiro had assumed. The script appeared to have been unjustly dismissed as an inadequate orthography. However, Sohn also disapproved of the script, not based on a new transcription of the syllable signs with his own phonemic analysis, but on general principles of adequacy and practicality. Since he did not make a new comparison, he overlooked the fact that his arguments did not apply to the Woleaian case.

Studies on syllabaries with a related history have shown that an indigenously invented script can serve many positive purposes for the people. The positive effects appear to be much greater than that of the

replacement, so one has to conclude that in the case of the Caroline Islands, the script should have been preferred as an orthography instead of being dismissed.

## B. Suggestions

Although the script should have been preferred, there is little we can do if it no longer exists. However, thanks to the various studies mentioned in this thesis and with the help of surviving informants on the islands, it should be possible to make new use of the script, if the Woleaians would accept this.

Since the syllabary can exist along with other scripts, there is no need for drastic changes in the official system. Sohn's orthography is still useful for dictionaries and other research. The script, however, can bring back the study of writing to the informal sphere while the schools could then concentrate on, for instance, the study of English.

In order to make use of a system that is valuable to the Woleaian culture, the old system could be reintroduced in the spirit of cultural revival. An other alternative is to reanalyze the syllabary and introduce it as the official orthography. Both suggestions have little value if the Woleaians themselves are not in support of their script. Even if there is no revival or reintroduction, there still is an important lesson to be learned from the story of the Caroline Islands script: Indigenous efforts at writing should be understood in their own context. The policies that support co-existence of scripts or just the amendment of a script are much more desirable than policies that dismiss, replace and neglect the indigenous writing systems.

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