Gibberish to Shibboleth

A typographic and type design approach for multiscriptural and multilingual design based on a case study of the Bai and Han languages

一套依托对
白语和汉语的分析
所建立的
多语言、多文字
字排设计思路

A graduate thesis document by **Liyang Zha**
查理扬著

Gibberish to Shibboleth: A typographic and type design
approach for multiscriptural and multilingual design
based on a case study of the Bai and Han languages

By

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Table of Contents

Abstract

This research proposes an approach for designers to improve multiscriptural and multilingual design. Built on a case study that includes field interviews, historical artifacts analysis, and research through design methodology, this project examines the multilingual relationship between the ethnic Bai language and the dominant Han language of China. This case study explores different optimizations for multiscriptural designs, which appear between historical orthography and contemporary standardized orthography of Bai, as well as the contemporary Romanized Bai script and the Chinese character system. The case study constructed a theoretically feasible alternative orthography around the typographic concept of visual shibboleth to preserve the Bai language through communication design. This core concept of visual shibboleth is then applied to explore the improvement which designers can utilize in their type/typographic design through multiple typographical and type design explorations. With the case study and design iterations combined, this research proposes a typographic and type design approach that is expandable to other multilingual settings, which can be applied to the ideation, testing, and evaluation of communication designs to improve language and scriptural equality.

Keywords

Key Concepts

The following three concepts below are listed in the order of **the 1993 phonetic spelling**, **the Simplified Chinese characters**, and **the Pinyin**/Standard phonetic Romanization of Mandarin Chinese. For ease of future reference and research accessibility, the Pinyin spelling will be used as a standard reference in this thesis.

Berp 白 Bai

These terms refer to the ethnic group of people who have been long residing around the Jifcaolseif/点苍山/Diancang mountain and Gaod/洱海/Erhai Lake region of the central-eastern ranges of Hengduan Mountain ranges. This group of mountain ranges run over the east end of the Himalayan, upper watershed of the Mekong, separating the lower land of Sichuan Basin to its north and the Irrawaddy Valley of Myanmar to its south.

This thesis discusses the specific Bai culture and language variety from the Dali Bai Autonomous Prefecture, Yunnan Province, China.

Berpngvz 白语 Bai Language

These terms refer to the language used by the Bai people. Although there are arguments regarding the linguistic classification, the Bai language is mostly recognized as a Tibeto-Burman language, which under the primary language family of Sino-Tibetan (Wang, 2013). The Bai language is significantly influenced by other regional languages, especially of the Sino-Tibetan family like dialectic Mandarin and Yi. Though there are three recognized dialects of the Bai language, this research is primarily based on the Southern (Dali) dialect with Central (Jianchuan) dialects in consideration. The Northern (Bijiang) dialect is omitted in this research due to the limitation on the scale of this research project.

Berpngvzzi 白字 Bai Script(s)

These terms refer to the orthography of the Bai language. There are two significantly different systems for Bai Script(s). One is based on the historical character system derived from Han Chinese characters, and the other is the Romanization standardized in 1993.

Chinese characters/Han characters

Unless specifically indicated, Chinese/Han character(s) in this thesis refer(s) to the CJK Unified Ideographs, which blocks the Unicode space from U+4E00 to U+9FFF.

There are occasions in which specific characters are present in both Old Bai characters and Han characters blocking the same Unicode space. These characters generally do not share the pronunciation and meaning due to different etymology. For example, "哎" (U+54B9). This radical added character is pronounced /ŋa^{55}/, as a sound reading loan of the Han character 安, and means "we/us" in Bai; though the same character would be pronounced /ɤ^{51}/ and means "eat" or functions as a modal particle in dialectic Han.

For the ease of future reference and research accessibility, this thesis uses the term *Bai* to indicates to components exclusively originated within the Bai language, while uses the term *Han* to refer to linguistic components with the etymology of either standard or dialectic Mandarin.

Orthography & Script

In this thesis, orthography refers to the practice of recording the sound of a language in a written or textural format under a common understanding of a certain culture. Meanwhile, script refers to the principal system of glyphs that are used in writing, which a single script may be observed in one or more languages.

Shibboleth

The term shibboleth is defined as a phonetic linguistic signifier. According to Kemmer:

> A shibboleth is a kind of linguistic password: a way of speaking (a pronunciation, or the use of a particular expression) that is used by one set of people to identify another person as a member, or a non-member, of a particular group (n.d., n.p.).

This thesis borrows the linguistic marker quality of the term shibboleth and expands the definition to the domain of communication design, which acts as a visual identifier of a language. In the context of this research, the term shibboleth inherits the neutrality of its linguistic counterpart, which means a shibboleth acts solely as an objective typographic identifier in a multilingual scenario.

Semantic unit

A semantic unit is defined in this thesis as the minimum number of glyphs carrying the accurate meaning within a given context. This is less confusing for the English language, as a word or a phrase is often considered the most basic unit to carry any meaning in any given context. However, a semantic unit within the scope of Bai or Han may contain a variety of amounts of glyphs, ranging from a single character to a short word containing two or more characters to a phrase containing a few words. There are cases in which the same character carries different meanings in different semantic units, while retaining drastically different meanings.

Introduction

Since I moved to Vancouver from China more than a decade ago, I have been exposed to an elevated level of cultural diversity. First and foremost, Canada is an officially bilingual country, every document I had to file is enlisted in both English and French. Then, there is Vancouver, the "most Asian city outside of Asia", the city so proud of its multiculturalism, that it sends out postcards with astonishing eight (8!) languages written on the back of it, albeit in most cases, these eight languages are nothing more than indicating "IMPORTANT INFORMATION. Please have this translated".

Image 1.1 | Scan of the back of a postcard sent out by the City of Vancouver.

Inappropriate text compressor was used in the design software when designing this image, results in the reversed flow orientation and disconnection of glyphs, rendering this section illegible.

Platform's built-in compressor was able to conjugate and connect glyphs in each word, and this section is legible, but the typeface does not match the brand's lineal type.

Image 1.2 | A screenshot of a commercial posted by Volkswagen of Richmond in Farsi, with texts set using an inappropriate text compressor. Retrieved on October 26th, 2023

Dingbats, in the format of .notdef glyphs

Image 1.3 | A mock-up banner to encourage voting that targets Chinese-speaking communities but the glyph for "you" turned into dingbats due to the usage of an inappropriate font. These dingbats turn the translation into gibberish.

To the city hall's defence, these multilingual cards are functional. There is nothing wrong with the spelling, no misuse of text compressor for right-to-left scripts (*image 1.2* ←), nor let dingbats mixed in for more "exotic looking" languages (*image 1.3,* ←).

While governments, organizations, and businesses may brag and promise cultural fairness through multilingual design, I argue that this is a minimum viable product. For many multilingual designs, the minimal viable effort is obvious in the lack of design for non-Romanized languages that use scripts other than the "standard", that is to say when they require something other than what Western European languages used, Roman script. The more obvious manifestation of lack of design as shown in *image 1.2* and *image 1.3*, while some others take the form of imbalanced spatial relationships and rhetorical mismatch. Although there has been more discussion in the field of design about addressing the problems and solutions in multilingual design, the linguistic limitations on individual designers, and the fast turnover rate of the industry, restrains design research from reaching an ideal level in achieving visual fairness. Tam (2017) argues that multiple perspectives should be accounted for in multilingual design for different linguistic audiences within a single document. According to Tam (2017), visual imbalance, including spatial and typographical, provokes mistrust between the information publisher and the audience, and renders the effort of catering to multiple cultures perfunctory. I think this is arguably the main reason of language tokenism in multilingual design that we are most exposed to in North America.

Image 1.4 | A mural promoting NISSAN Z, a cult car model made by Japanese car maker Nissan, in Mexico City. Character-glyphs used in this work were written to resemble Japanese or Chinese, but makes no sense in either language.

However, multilingual tokenism may have roots far beyond the incapability of the designer's understanding of the foreign language. Languages, or rather "exotic" scripts, are sometimes intentionally used for the sole purpose of fantasizing about a foreign culture. (*image 1.4, ←*)

Optimistically, with the increasing discussion and criticism around this design exotification (Boman, 2022), designers will make better decisions when working or collaborating on a multilingual design.

Image 1.5 | A photo of a footwear store's signage in the Jianchuan Old Town, which carries and fabricates traditional and modern Bai style cloth footwear. The three bigger characters on the centre of this signage are Han characters, while the three smaller pictographic glyphs above are picked from the Dongba glyphs, which is traditionally used by clergies of the ethnic group of Naxi. Photo taken on June 2023.

Image 1.6 | A photo of a restaurant's signage in Xiaguan, Dali, which specializes in ethnic Yi style cuisines. There are five heavily stylized Han characters mimicking the historical script of Xiaozhuan, also known as "small seal script", which is one of the first standardized Han writing styles during the standardization of Qin dynasty (221 - 206 B.C.). The lower glyphs are depictions of an ethnic minorities' script and do not carry any semantic meaning. Photo taken on February 2024.

Optimistically, with the increasing discussion and criticism around this design exotification (Boman, 2022), designers will make better decisions when working or collaborating on a multilingual design.

However, there lies another layer of the problem. In my own experience, I have seen my own ethnic language, the Bai language, suffers from scriptural appropriations due to the diminishing of its traditional, Han character derived orthography. Dali, and the Yunnan province, as an ethnically diverse region, and to convey the ownership of minority ethnicities, some businesses resort to a random range of exotic glyphs, from ideographs used by other regional ethnic languages to meaningless icons camouflaged as a script. (*image 1.5 & 1.6, ←*)

What can we do as communication designers when we design for languages that do not have a script, have lost their orthography, or simply have a script that is not accepted by most of the speakers?

By exploring design possibilities within my own ethnic language, I've created an experimental environment for typography and type design that has not previously being explored. The autoethnographic relationship between me and the language enables me to act as both the designer and the audience. Being able to critically examine this exploration using another language (English) provides an additional layer of verification in theories and knowledge learned from this project.

About Bai Language

Who, Where, When

According to Wang (2014), there are about 1.3 million Bai users, with the majority of them residing in the Dali region. For many Bai people, Bai is the preferred language in daily life, especially in rural areas and relatively monoethnicity areas. Notable places of such include tourist hot spots Xizhou and Zhoucheng of Dali City, and the less tourist-dependent Jianchuan County. In these locations, daily communications, from casual conversation to trading, are initiated in Bai, then may switch to Han if one or more participants are incapable of understanding Bai. In industrialized areas and municipalities like Xiaguan and Dali Township of Dali City, Han is used in communication by default in settings like restaurants, supermarkets, banks, and hospitals due to the coexistence of ethnicities. However, as farmers and marketplace traders residing in Dali City are mostly Bai, the Bai language is also the preferred language in wet markets and/or farmers' markets.

The Common Understanding Of Bai As A Character-Based Language

Meanwhile, contemporary Bai literature, including music, lyrics, and poetry, is almost exclusively folk-originated. This situation may be the result of the lack of production and budget in Bai programms. Additionally, the exclusively Han usage in governmental and legal domains further reduces the influence of Bai. However, due to the constant creation of Bai literature, the abundance of verbal usage, and the relatively sustainable speaker population, the Bai language is not considered an endangered language.

The Bai script is rooted in the concept of characters. In the case of Bai (and Han), each character is phonetically identified as a single unit of syllable, visually identified as a glyph with radicals arranged in a block, and is capable of carrying a complete meaning by itself. This is best demonstrated in the term Berpngvzzi, the Bai character, which is pronounced in three syllables as /pe¹42 ŋɣ32 tsi55/. Each syllable contains its own meaning, the first means white (referring to the community), the second means language, and the third means character. In this specific combination, these three characters make the meaning of "the Bai writing" comprehensible. Moreover, through the abiding exposure to the influence of Han, the term can be directly transliterated in Han characters as 白语字, which takes the pronunciation of /pai35 y214 tsi51/ in standard Mandarin.

Visual rhythm of the character transcription

Visual rhythm of the Roman transcription

Transcription in the Han characters

则汪叭应过则汪
史汪叭应委媒加
三汪叭应三汪三
西汪叭应逛三兰
五旺搞富格
夫汪眉灯灰举白
姜汪郭出造
八汪郭美白
金汪郭自锡自锡
直汪郭自井自井
直一汪很咚直载
牙汪囚歹革

Transcription in the Standard Romanization

Zerfwa pia yef guoz zerfwa,
sit wa pia yef weipmaox jia,
sal wa pia yef sal wa sal,
xi wa pia yef guerxsallad.
Ngvx wa daot fvlgerf,
fv wa meifdef huixzuit berd,
qi wa guod cvcaol,
bia wa guod meix berd.
Jiex wa guod zilxif-zilxif,
zip wa guod ziljierd-ziljierd,
zipyi wa het dvlzilzeiz,
yapwa ye deipgerd.

However, the concept of characters is immensely pruned in the standardized Romanization. There are two significant factors that may be the causes of this. The first factor is the linear assembly of syllabic and semantic units in the Roman script which breaks the visual and semantic rhythm of two-dimensional character assemblies, as each syllable consists of a different quantity of letters. This visual disjoint is especially discomforting when the letter-character transliterations are listed side by side. It is obvious that the visual rhythm of the character-based script in this example is lost in the alphabet (*image 2.1, ←*).

The second factor is that the semantic unit in Romanization is per word, instead of per character/syllable. This diminishing of character is contradictory to the community's understanding and preference of orthography and language. In fact, a similar disjoint exists and manifests in the character of the Romanized Pinyin system as well. Defying a punctuation standard (General Administration of Quality Supervision, Inspection and Quarantine & Standardization Administration of China, 2012), Mandarin speakers constantly partition Pinyin per the unit of each character instead of each semantic unit. These disjoints between the standardization and community preferences make the orthography education popularization even harder. Thus, to the general community members, the existence of an orthography for the Bai language is not widely known .

Image 2.1 ← | The transcript of the folk lyric, Twelve Month Song, in Roman script and Han character.

Historical And Contemporary Bai Characters

Meaning radical, indicates the glyph is relatd to communication

咧 → /piɛ⁴⁴/ ask

→ /piɛ³⁵/ farewell, do not; a character used as a **sound** radical

→ /pʌ55/ a rare onomatopoeia for bird song

phono-meaning compounding of radicals

Additional radical to differenciate from the original character

唭 → /ŋeˑ²¹/ go, to

→ /əˑ³⁵/ a conjunction; a character used as a **sound** radical

→ /əˑ³⁵/ a rare alternative character for lip(s).

indicating addition of radicals

/tʂən⁵⁵/ real, very; a **character** used as a **sound** indicating radical

賿 → /tsɯ³³/ have, own; Bai specific character

→ /iou²¹⁴/ have, own; a **character** used as a radical to loan the **meaning**

phono-semantic compounding of characters

/zɿ⁵¹/ sun, day; a **character** used as a radical to partially indicate the **meaning**

旦山 → /tsha⁵⁵/ breakfast

→ /ʂan⁵⁵/, mountain; a **character** used as a radical to partially indicate the **meaning**

semantic-semantic compounding of characters

Image 2.3 | A diagram showing different classifications of Bai characters formed with Han characters components to form glyphs rarely used, or do not exist in Han.

Within the character-based system, there are the historical orthography and the contemporary orthography. In the historical orthography, Bai characters are categorized into two primary and eight sub-classes using Han character radicals (Wang, 2013). The first class consists of characters using unmodified Han characters through sound reading, meaning reading, loaning, or shape loaning (*image 2.2,* ↓).

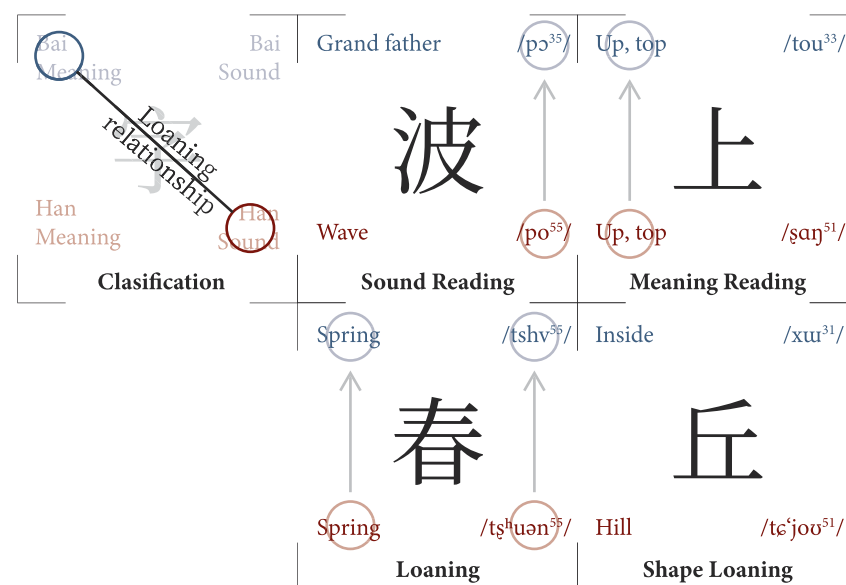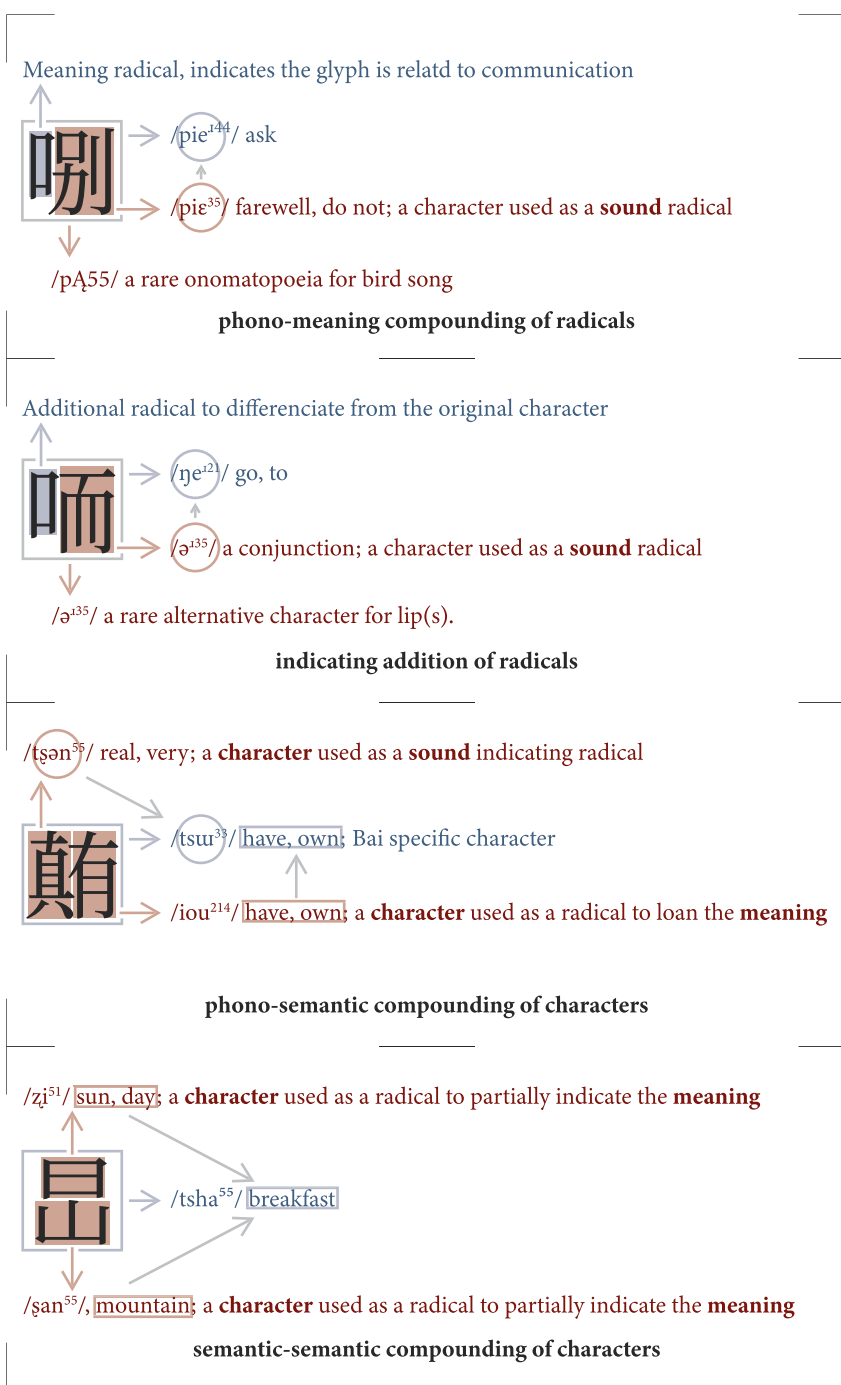| Bai Meaning | Bai Sound | Grand father | /pɔ³⁵/ | Up, top | /tou³³/ |
Han Meaning	Han Sound	Wave 波	/po⁵⁵/	Up, top 上	/ʂaŋ⁵¹/
Clasification		**Sound Reading**		**Meaning Reading**	
Spring	/tshv⁵⁵/	Inside	/xɯ³¹/		
Spring 春	/tʂʰuən⁵⁵/	Hill 丘	/tɕʰjou⁵¹/		
Loaning		**Shape Loaning**			

Loaning relationship

Image 2.2 | A diagram showing different classifications of Bai characters with glyphs representing unmodified Han characters

The second class consists of bespoke compound characters through phono-meaning compounding of radicals, indicating addition of radicals, phono-sementic compounding of characters, and semantic-semantic compounding of characters (*image 2.3,* ←).

The contemporary Bai characters are reading loan characters from standard and dialectic Han that represent the Bai characters.

Han As A Contemporary Mediator Between Minority Languages

Although exogenous to the region, Han is the dominant language in the region through both historical and contemporary economic development and tourism. This makes the Han a mediator language between ethnic languages of the region. Regional ethnic languages, including Bai and noticeably Dai (傣), Yi (彝), and Tibetan (藏), uses Han characters as a phonetic mediator between scripts to communicate, as is best showed in restaurant signages (*image 2.4, ←; image 2.5, ↓*).

Image 2.4 | A photo of a mural of a Bai restaurant. Main characters on this mural are the transliteration of Bai phrase "come eat here", while the smaller characters are the Han translation of the Bai phrase, and the standard Pinyin of the tranliterated Han characters.

Image 2.5 | A photo of a mural of a Dehong style Dai restaurant. Main characters on this mural are the transliteration of Tai Nuea words, with the original Tai Le script that reads /siaŋ^{35}lim^{33}ǝŋ^{55}tai^{55}/ takes a minor position on this sign.

Field Study

In the summer of 2023, I conducted a month-long field study in Dali to gather information and knowledge about, and from, the culture, the language, and the people.

Interviews

During this study, I collected field assets and conducted interviews and in Dali Bai autonomous prefecture with three acclaimed Bai experts from Dali University. They are linguist Li Suqin, cultural expert Zhao Min, and musician Zhao Quansheng. I also interviewed the principle of Jianchuan Bai Folk Music Association Duan Huisheng. These experts provided their insights on the historical and contemporary situation of the Bai language. There are four community members who preferred to participate anonymously. These anonymous community members provided their living experience and relationship of Bai language in action. *

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* Interviews took place in multiple occasions during June 2023 with voice recording. The identity of non-expert interviewees are hidden due to the privacy concern and to the ethic code of Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2: CORE 2022).

Archival Highlights

There is one key artifact, Shanhua Bei 山花碑 (*image 3.1*, ←), which was recorded photographically. An accompanying print booklet from 1989, which contains a phonetic Romanization system that predates the 1993 standardization, also acquired and digitally archived.

Wang Feng, the linguistics scholar who drafted the 1993 standard Romanizations for Bai language, has explained that Shanhua Bei is considered to be the most important historical artifact for Bai literature and language studies (2013). This artifact from 1450AD also granted the name of the format used for Bai poetries and lyrics.

Image 3.1 ← | A photo of Shanhua Bei, digitally stitched.

剑川坝(Jian Chuan Dam)

白曲创作:张明德	英语翻译:杨白露
Bai Qu Creator:MingDe , Zhang	English Translator:BaiLu , Yang
收集整理:杨鸿先	汉语翻译:羊松鹤
Collector and arranger:HongXian,Yang	Chinese Translator:SongHe,Yang

汉字借音白语	英语翻译	汉语意译
剑川坝子社坐朽,	What livable place JianChuan Dam is!	剑川坝子好齐楚,
赛过云南十八府。	Best of YunNan 18 state capitals.	赛过云南十八府。
文王封够舍京者,	Appointed with Little Capital by King Wen,	文王封过小京城,
称隍者望坐。	Cheng Huang Temple outside Town.	城隍城外处。
满白艳出鸡公山,	After dawn Sunshine on JinHua Mountain,	黎明日照金华山,
阿宣巫奴加黑无。	Dark clouds enveloped but only light rain.	一丝细雨罩黑云。
岩邹波等处红学,	Cradle of knowledge near Yan Chang Valley,	岩场箐头建红学,
安欣奎阁楼。	Building new Jing Feng Pavilions.	建新景风楼。
十罗芒山瑞生穷,	Snow flying in YuLong Snowmountain,	玉龙雪山雪花飘,
狮子山奎滚绣球。	Lion rolling embroidered ball in Lion Mountain.	狮子山如滚绣球。
窘奎子做墨斗得,	Worshipping ink bucket in Ink Bucket Mountain,	墨斗山上朝墨斗,
千眼做务窘。	Thousands of Jian Chuan Carpenters.	木匠不胜数。
野鸡板须担格西,	YeJiPing River runs to west,	野鸡坪水流向西,
百架钱义漏者各。	Many water tanks beside HaiHong Bridge.	百节水槽海虹桥。

Transliteration in   *English*   *Han*
Han Characters   *Translation*   *Translation*

Image 3.2 | A digital scan of the Bai lyric book

During this field research I also acquired two (2) folk music lyric books from Jianchuan Bai Folk Music Association, which is a prime example of character-based phonetic recordings of traditional and contemporary Bai lyrics. These books also demonstrated how the community records Bai literacy with Han and partial English translation (*image 3.2, ←*).

Image 3.3 | A photo of a public stone bench in Jianchuan, with Han character transliteration (top), Romanization (middle), and Han translation (bottom) scripted on.

Photos where the Bai language presents in a public space were taken. These instances include both standardized Bai (the Romanization) and non-standardized Bai (Han character transliteration). (*image 3.3*, ←)

Information From Interviews

It is important to understand that the hybrid use of Bai and Han is a critical practice in Bai literary creation. Through the interviews, it became clear that this is evident in both historical poetries (M. Zhao) and contemporary lyric writing (Q. Zhao & Duan). M. Zhao pointed to the common understanding of historical hybrid language writing is due to cultural communication through trading and political influences. Because Han was the politically dominant language post Dali Kingdom (937 – 1253 AD) in the region, it garnered enough support from the elite and ruling class of the time, they began to inscribe documents and artistic creations with the Han script. This is also manifested in the critical historical artifacts collected during this field trip, the Shanhua Bei. While Q. Zhao suggested that the contemporary language hybridization in literacy may very well be a legacy of the historical literature, there are additional reasons for the hybrid use of Han. Duan mentioned that the first is that some musicians write with Han first and then translate their works into Bai; the other one is musicians can keep the rhyme untouched while keeping the lyric rhythm by switching between languages. Furthermore, the verbal rhythm in Bai is an important perspective in the daily spoken Bai. Multiple interviewees, including the Li and Duan, have addressed that one reason they would prefer speaking Bai or substituting Han syntaxes with Bai is due to a variety of exclusive rhythmic features of Bai phrases. These substitutions can also be observed in the dialectic Han, as some dialectic Han syntaxes are adopted from Bai.

The verbal rhythm previously brought up is better transcribed in characters. On the topic of transcribing Bai, the community holds different opinions on the preference of an orthography. M. Zhao confirmed that a significant number, if not most, of the community members prefer transcribing Bai with Han characters. This preference is also confirmed by Duan with the grassroots folk musicians' choice to transcribe lyrics in Han characters. However, Duan also recognized that being unstandardized, transcriptions in Han characters are nearly impossible to accurately decipher by members without extensive knowledge of the transcriber's character choice. Duan stated that a solution adopted by the Jianchuan Bai Folk Music Association is to dispatch a dedicated group of transcribers to communicate with the original authors, and then transliterate the lyrics with an internal phonetic framework. This solution keeps the language in distinction and may be preferred by some community members due to the phono flexibility of the orthography which has also been mentioned by M. Zhao. However, the principles of this system are mainly superficial rules that fail to address the problem of phonetic accuracy. Therefore, this system has minimum understanding beyond the association.

However, Li suggested the major challenge of adopting Han character orthography lies in the technical and pedagogical perspective. As each Bai character follows the eight classes of formation (Wang, 2013), multiple historical characters may share the semantic root. Thus, the approach of reviving the old orthography based on historical archives might result in redundancy. Another technical reason is the back-end limitation, as registering an unknown number of characters is enough of an obstruction for the community to not work toward it. This perspective also resonates with M. Zhao's opinion on the challenge for most minority languages' revitalization and preservation efforts, where external communities do not share the same level of affinity for the language to work on the standardization of a language; while the internal community does not need the standardization to drive the daily use of the language.

On the other hand, the push for the Roman orthography faces its own obstruction. The shared speculation across the community on the reason behind the situation is that Romanization is ultimately a synthesized script for the Bai language (Duan, Li, and anonymous interviewees). A synthesized script means it lacks the organic development rooted in everyday life and lacks the essential input from the community. An interviewee also brought up the failed Chinese Romanization movement in the early 20th century and the attempt of a second round of simplification of the Han characters in the mid-20th century, where the interviewee sees both movements faced the same absence of organic adoption from the society. Another reason for the lacklustre promotion of Roman orthography is the confusion of the script. For the younger generation, the Pinyin system for Han is mandatory in the curriculum, and interviewees had indicated that students had confused the Roman Bai with Pinyin when they got a chance to learn the Roman Bai within the curriculum. And for the older generation, they are used to neither Roman Bai nor Pinyin, which results in the absence of any Roman script in their daily life. Contradictory to the common understanding in societies that primarily use alphabets, Duan stated that complicated characters are easier to learn for those living in a character-majority society. This opinion may also answer to what was brought up by Li, that the Romanized Bai became a niche tool for a niche group of people. Li suggested that most alphabetical Bai users are those who have had extensive education and are not working as linguists, because linguists prefer the phonetic accuracy of international phonetic alphabet (IPA) over the 1993 Romanization.

Perspectives After The Field Study

Understanding The Information

With the information and knowledge collected from the field trip, we have the following understanding on the current situation of the Bai language.

First and foremost, the Bai language is not critically endangered and the threat to the survival of the language is minimal. It is important because the topic here is about the preservation and reclamation of a language, rather than revitalizing a language. Therefore, this thesis talks about how to utilize visual elements in an orthography to make it more relatable to the community.

However, the threat of language hegemony to languages like Bai should not be ignored, as it was brought up in the field trip interview and confirmed with a peer-reviewed publication (Guo & Beckett, 2008). The hegemony of a language leads to the devaluation of the local language, cultures, and identities through the imposition in education and social economy.

With the advantages and disadvantages of both character and Romanization orthographies laid out, the optimal solution for Bai orthography should balance preferences and feasibility. A possible solution for this, which is supported by Li, is to further develop and optimize the 1993 Romanization to meet the preference of the community. Meanwhile, the idea of a slow, adaptive approach to standardizing orthography is recommended, and has been applied in the establishment of new orthographies for minority languages globally (Giffen, 2022).

Thus, the question becomes how can we retain and transliterate the visual qualities of block-based characters, when the typographic and type design involves the linear Roman alphabet?

Visual rhythm, a key identity of Bai

Based on the field study, the research demonstrated that the rhythm, both verbal and visual, is a fundamental identity of Bai language. Although the rhythm itself does not construct enough distinguishability to be considered a full-scale linguistic shibboleth of Bai, the lack of rhythm in Romanized Bai is a vital reason for the community to not identify it as the preferred orthography. Therefore, it is important to define visual qualities like rhythm when exploring the design potential.

Say

translation

transcription ←

कहना

Hindi
(Devanagari)

/kəɦ.nɑː/

pronunciation

transcription →

کہنا

Urdu
(Perso-Arabic)

Image 4.1 | A diagram explains the digraphia relationship of Hindi and Urdu, using the example word "say".
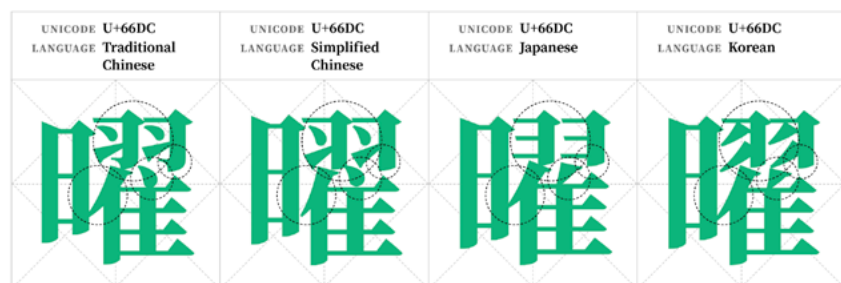
Image 4.2 | A screenshot of a diagram shows the subtle different preference in character details for the same character in different CJK languages. (Source Han Serif, 2017)


Image 4.2 | A screenshot shows the different writing preference in different languages using letter t (top pair) and q (bottom pair) as examples. (Typotheque, 2023)

Language Identifier & Visual Shibboleth

Most languages have two perspectives of communication: verbal (phonetic) and written (visual), and Twyman (1981) extensively discussed the importance of graphical representation. As shibboleth is linguistically a neutral identifier to the verbal (phonetic) perspective of a language, visual shibboleth is thus defined as the identifier of the written (visual) perspective of a language. As a descriptive parameter of the written language, it can be identified from a spectrum of orthographic features. These include the macro-level scriptural features (*image 4.1*, ←) to micro-scale orthographic preference (*image 4.2*, ← & *image 4.3*, ←).

Shibboleth Of The Character Bai

Identifying Shibboleths From Shanhua Bei

As a poem inscribed with both Bai and Han, the Shanhua Bei can be deciphered by community members who recognize the syntax of each language with the assist of phonetic recordings. Although the linguistic shibboleth of Bai to Han is more distinguishable through the modal sound and compound consonant and/or vowels specific to Bai, the same level of distinguishability in visual shibboleth of character Bai to Han is less so. The main reason behind this is some identifiable Bai characters are used in Han as standard characters, albeit used in niche situations. These shared characters are often visually distinguishable when considered within the scope of a Bai semantic unit, but indistinguishable when the text is deciphered on a per character bases. As both Bai and Han are heavily contextual languages, it is arguable the shibboleth quality of these characters should be determined in the context of a semantic unit.
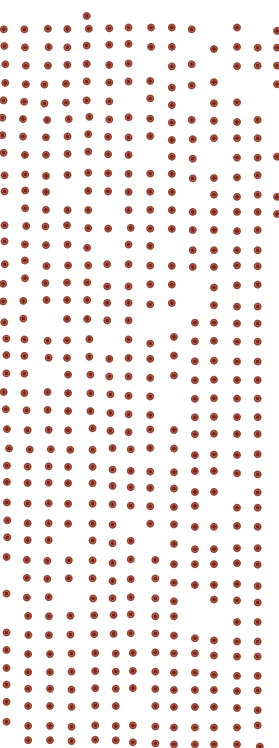
Semantic unit
as a unit
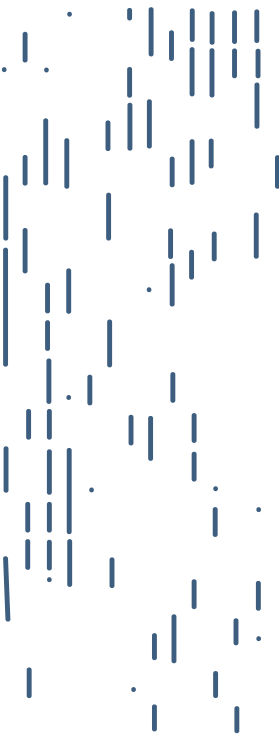
Individual character
as a unit
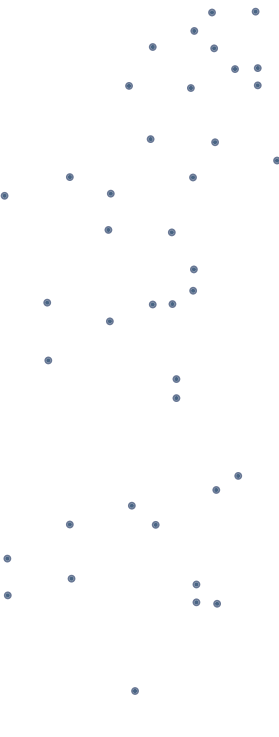
From the perspective of semantic units, 75 units containing 176 characters are exclusively Bai.

From the perspective of characters, 40 characters are exclusively Bai.

From the perspective of semantic units, 148 semantic units containing 344 characters are not exclusively Bai

From the perspective of characters, 480 characters are not exclusively Bai

As here we can see a sample analysis using the Shanhua Bei in *table 5.1* (←), out of 75 semantic units containing 176 characters that can solely be deciphered in Bai through visual analysis, only 40 characters in 30 semantic units are recognized as visually distinctive to standard Han Chinese in a semantic unit. Within these 40 characters, only 9 appearances of 8 distinctive characters are not found in the Unicode Unihan registry. Meanwhile within the 148 semantic units that can be deciphered in Han, 20 characters (in 19 phrases) can be deciphered in Han but in alternative form to the common writing form.

In the case of Shanhua Bei, I argue that all 40 visually distinguishable characters, regardless of the Unihan registration status, should be considered as visual shibboleths of Bai. In these 40 characters, the 8 non-Unihan-registered characters are especially worth of a in depth discussion. I will use the character 昝 Caol /tshau⁵⁵/ as the sample shibboleth for the following analysis (*image 5.2, ↓*).
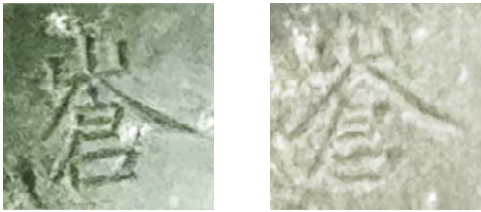

Image 5.2 | two instances of the sample shibboleth character 昝 on Shanhua Bei.

Table 5.1 ← | A diagram visualizing the visual relationship between Bai and Han on Shanhua Bei.

Sample Shibboleth Analysis

What's special about the character 耆 is that it is used exclusively for the subject mountain. Combined with the character 洱, which in the contemporary context is exclusively used for the subject lake, 耆洱 acts as a semantic unit that refers to the region of Dali in both contemporary Bai [Caol Er] and Simplified Han [苍洱] as well. Before we dive into the discussion of 耆, it is helpful to briefly discuss the character 洱 first. Although this is a character that has been standardized in Han and already registers as Unicode U+6D31, the sole contemporary definition of this character is referring to the subject watershed in Dali (except phonetically used to transcribe other locations). For this reason, this research does not consider the character 洱 is a visual shibboleth of the old Bai by itself, but it is worth noticing the semantic unit 耆洱 as a visual shibboleth candidate of the old Bai when 耆洱 is in the form of 耆. Similarly on the semantic level to the character 洱, the shibboleth character 耆 is exclusively used for a geographical formation that's local to the language. 耆 is classified as a phono-semantic compound character (Wang, 2004), with the ⺌ being the determinative (semantic radical), while 倉 is the rebus (phonetic radical). There was no evidence found during the study that indicated that this specific character exists outside the Bai language, nor beyond the Dali region. Other occasions with the presence of this character are mainly architectural mural artworks, although it's extremely rare for recently finished architectures.

Another perspective of the character 耆 is that the difference between this and the standard traditional Chinese character 蒼 (Unicode U+84BC) is so subtle that it doesn't obstruct the legibility when in line with other text, but still disturbs the reading experience and makes readers realize there is something different happening with this character. This disturbance for Han readers is also confirmed through a series of studio explorations.

Shibboleth In Action

Simplification & Recognizability: Where Lies The Balance?

How many modifications we can apply to a glyph while still retaining its shibboleth property? This design experiment, *Shibboleth Seal Set*, explored these limits with tangible materials in the form of five (5) 3D-printed polylactic acid (PLA) seals (*image 6.1, ↓*).

Image 6.1 | A diagram visualizing the visual relationship between Bai and Han on Shanhua Bei.

Each seal contains the same shibboleth glyph that was gradually simplified and stylized to different degrees. The five stages of digital simplification (*image 6.2.a, ←*) started from a digital iteration of the engraved glyph from the Shanhua Bei (*image 6.2.a*), a standard Heiti (sans serif) with standard simplification (*image 6.2.b*), two simplifications with geometrical stylization (*image 6.2.c & 6.2.d*), and an abstract, continuous path (*image 6.2.e*). The recognizability stays within this set of glyphs, as participants, who read Chinese at a native level, recognize each glyph as a version of simplification from the previous glyph when the set is displayed in a sequence. Additionally, participants were able to read the original and the simplified glyph immediately as 蒼/苍. However, participants failed to draw a direct connection when only the engraved (*image 6.2.a*) and the continuous path (*image 6.2.e*)were displayed. I think the reason behind this may partially due to the gradual simplification process turned the continuous path a simplification of the previous stage (*image 6.2.c & 6.2.d*), rather than a simplification of the character 蒼.

So where lays the balance between the simplification and recognizability? The answer from this project reveals that we need to consider the connection between the original to the modified, and that the answer can vary from case by case. Additionally, this discovery re-confirms the widely understood design principle, that typography is always contextual. And in the case of this project, what is the context of our design? Are we showing just one glyph? Will the process of alteration be on display? While these questions were developed from this project, they are extendable to other typography works. This is especially critical when alternating the shape of glyphs for more than one script at the same time, and designers should reflect on questions like these to evaluate the appropriateness of their scriptural alteration.

6.2.a

6.2.b

6.2.c

6.2.d

6.2.e

Image 6.2 | Detailed look on the set of seals and the corespondent prints

Image 6.3 | A photo of the ceramic 3d-printed shibboleth glyph

Alternating The Shape Of A Shibboleth

This project, *Extruded Glyph*, explores the shape of a glyph and how to optimize the design for emerging and/or non-traditional technology and material (*image 6.3*, ←). For this specific project, we are looking at 3d ceramic printing. The optimized route for ceramic printing would be a smooth, continuous, spiral outline of the shape, which challenges the traditional methods used in type design from multiple fronts. The most intriguing challenge would be how to optimize complex-shaped glyphs for this technique. For example, the original shibboleth character picked, 瞢, has too many individual "counters" (negative spaces) inside a single glyph. These counters act as layers of outlines that need to be continuously extruded while connected to the outermost layer of the glyph. The challenge here is how to simplify the glyph to eliminate counters while keeping the shape of the glyph as recognizable as the original glyph.

The solution is a two-step simplification. The first step is to use the same simplification method of the registered Unicode glyph (U+84BC to U+82CD), which simplifies the shibboleth glyph into a glyph that still visually represents the same character. The next step is to stylize the character by rounding up the corners and strokes of the glyph. This results in a shape that is still recognizable by Chinese speakers (through random survey on campus), through optimization for the 3d ceramic printing process.

Image 6.4 | Detail look of the 3d-print.

Although altering characters' strokes and radicals is a common practice, especially in CJK type and typography design (Minami, 2024 & Victionary, 2022), the focusing point of this project is that by adapting the script to different media and technologies, we can break from the standard ductus system and give the glyph a new shape, while keeping the recognizability of the glyph. This also synchronizes with Olocco and Patanè's (2022) approach to reviving a historical Roman typeface. In this book, the authors discussed the necessity to forego some original features to retain the same historical quality in the process of digitalization. This project established a foundational principle in type and typographic design for this case study, which calls for the purposeful and radical alteration to the shape of glyphs to adopt to specific fabrication method and material. Furthermore, I believe this theory can be further expanded into more contemporary designs like non-material-based typography design as well. What this means is that designers should test out if the design can retain the recognizability of a certain script, especially altering the Roman script under the North American, when drastically altering the shape of glyphs, or even creating new orthographies to accommodate other scripts like Arabic (right-to-left complex script) or Thai (abugida).

Materialization Through Digitalization

Typographic murals have long been a very important element in the traditional Bai architecture. A traditional complex consists of buildings surrounding an inner yard, with the exterior wall facing the alley decorated with patters and a four-character phrase in calligraphy (*image 6.5, ←*). Although the most common calligraphy decorated the mural, being the identifier phrase for the family (Tanghao/堂号), there are often occasions of generic phrases, which includes the term 苍洱毓秀 (*image 6.6, ↓*).

Image 6.5 | A photo of a Bai residential complex, with a calligraphy mural facing the East.

Image 6.6 | A photo of a mural in Dali, with the phrase 苍洱毓秀 written on it.

This project, *Portable Mural*, (*image 6.7*, ←) tested the design elasticity of the visual shibboleth framework through the materialization. By digitalizing the historical glyphs, designers can apply type-centric designs to expand a certain cultural significance, especially traditionally immovable designs like architectural characteristics. Contradictory to the traditional flat calligraphy on brick and mud mural, this project created a portable work by carving the design on a solid cherry plank with a Computer Numerical Control (CNC) router.

Image 6.7 ← | A front shot of the "Portable Mural".

Image 6.8 | A digital rendering of the design being applied to the façade of Emily Carr University of Art + Design.

The same design can be applied to different material and medium to invoke a high level of familiarity akin to the murals of a traditional Bai mural (*image 6.8,* ←). even though the size, location, environment, and material are vastly different from the traditional format. The adaptability of type-centric design in size and material makes it a suitable approach to increase language exposure. This aligns with the opinion of *The Routledge Handbook of Language Revitalization* (Hinton et al., 2018), that an effective approach to revitalize, protect, and reclaim a minority language is to expose and acquaint the speaker with the language. The potential for the increase in visual exposure through designs makes type-centric design a viable approach to combat language hegemony.

One important point to note is that although this is a type-forward design, the decorative pattern on each corner of the plate significantly contributes to the accuracy of the message delivery. This plate retains the cultural quality of a traditional mural because of the existence of both the type and the pattern. The inference is that the type and the pattern has always appeared in pairs when they are on a wall. Without the decorative pattern, the meaning through the typography does not change, but the emotional emphasis attached to a mural is lacking. However, the ultimate telltale of the ethnic ownership came from the use of the shibboleth character. It is also arguable that by emphasizing the etymology with the endemic shibboleth, the shibboleth in this design further emphasis on the endemic environment, and provokes the Han speaking viewers to reflect on the uniqueness of the design and the culture.

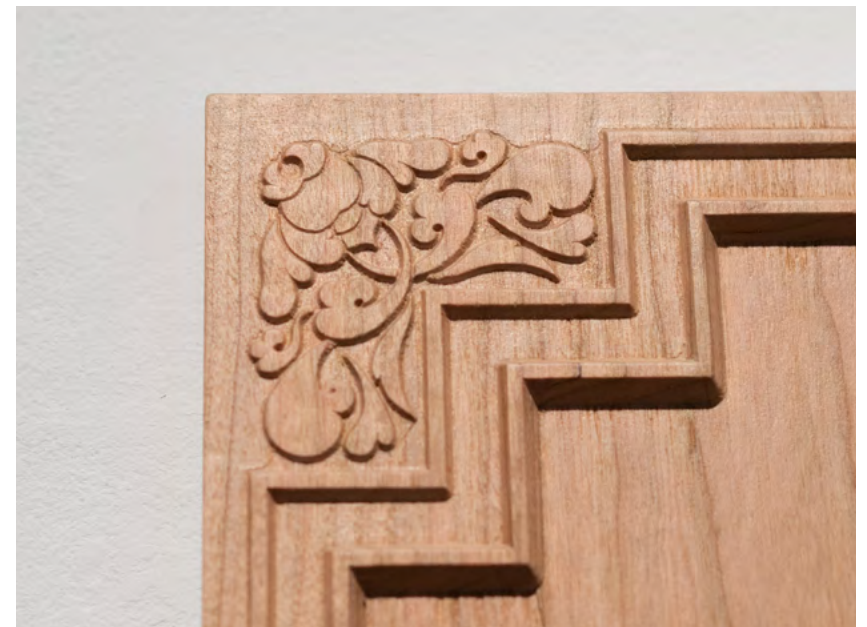*Image 6.9 ← | Typography detail of the plate*

Image 6.10 | Decorative graphic details of the plate

Image 6.11 | Typography detail of the plate

Image 6.12 | The size comparison of the plate to human body

Rewrite The Tome With Alphabetical Bai

Back to the topic of the Shanhua Bei. What can we do to better transliterate with the 1993 standard, while preserving the rhythm of the old script? The absence of visual rhythm in the Roman alphabet is obvious. The rhythmic quality is fundamentally different in the character system and the linear alphabet. This visual rift between Roman and CJK languages has previously been discussed in different publications (Sendpoints Publishing Co., Ltd., 2020 & Wittner et al., 2018). However, what is lacking in the discussion is how this rift affects the preservation of a language facing a scriptural dilemma. On top of the lack of visual rhythm, linear orthography deemphasizes the usage of Han semantic units in Bai poetry. These flaws can be concluded from the excessive differences that manifest in the form of visual shibboleth between characters and letters. Everything that is not a character can be classified as a visual shibboleth of Bai in this content. However, we already know from the field study that the community's preferred orthography of Bai is in characters. Thus, the recognizability along with the scriptural contrast between two drastically difference scripts became its own downfall, results in the rejection of the orthography by the community.

Caoler jerpjiax qiout duox bux
造化工迹 zex axvux
南北金鎖 bax heilguerf
鎮青龍白虎

Image 7.1 | The first verse of Shanhua Bei with Bai in Romanization and Han in characters. Text set in 圓体 *(Yuanti)*

Image 7.2 | Early stage design explorations on presenting English with languages set in directions other than left-to-right.

With the source of the alienation identified, we can work on a solution to deemphasize the scriptural contrast when transliterating the tome. By examining what is available to designers, I would recommend the best approach in this case is to alternate the common linear Roman orthography to visually look like a character, as is written in a character-like, block-based orthography.

This block-based Roman orthography has been previously examined by others. Xu Bing, the famed Chinese artist who first developed the Square Word Calligraphy in 1994, exhibited multiple iterations of his system through installations (images). According to the artist, this system has "introduced a novel Eastern art form into the Western cultural sphere. It transcends established notions of Chinese and English, reshaping perceptual norms and challenging the very foundation of cognition." This artist's claim of visually connecting Chinese and English can be drawn as an outcome of minimizing scriptural contrast. Meanwhile, an earlier design exploration during the development of this thesis leads to a similar product. In a series of typographic design projects, I tried to fit English in directions that are drastically different from the common understanding of what Roman orthography should look like (*image 7.2, ←*). Although the original intention was to combat the English-first, Euro-centric design approach, the final design communicates a better visual harmony to the audience.

However, visual appeal along does not make for a functional orthography. Xu's Square Word Calligraphy (1994) is a system designed for the specific calligraphy font. The immediate instruction did not demonstrate the typographical flexibility of this system, while there is minimal font variety shown in any follow-up installations. My early explorations on an alternative orthography for English had a similar issue. Those explorations are fundamentally alternating a single typeface (Neue Haas Grotesk/Helvetica). Both Xu's work and my early-stage exploration failed to address the intrinsic quality of a programmable font, which is that a font is supposed to be typed in a dynamic range of contexts, but not an aesthetic rearrangement of static components. This also runs parallel with Noordzij's (2019) opinion that type design came from the writing, but not the other way around.

This understanding leads the design exploration in a new direction. Although flawed to accurately describe every Han character, the Ideographic Description Characters (IDC) of Unicode block U+2FF0 to U+2FFF (Unicode, 2023) is the most available system to reference the classification of a compound character. What we know about the Romanized Bai is that there are three components that form a syllable: a consonant, a vowel, and a tone, albeit in practice the consonant and tonal marks are sometimes absent from a syllable. This characteristic of standard romanization leads to the design of a block orthography using available compositions from the IDC chart. If we treat each component as a radical made with a ligature(s), we can transform each syllable into a compound block by using a selection of the formation enlisted in the Ideographic Description Characters. With the tone always attached to a vowel, we can further treat the combination of a vowel and a tonal mark as one compound radical, in which the vowel and the tonal mark are either compounded horizontally (as U+2FF0) or vertically (as U+2FF1). Furthermore, except for the syllable written with a solo vowel component, we can treat each glyph with a consistent grid system that prioritizes the vowel component (*image 7.3*, ←).

U+2FF0
Ideographic description character left to right

U+2FF1
Ideographic description character above to below

Image 7.3 | A diagram showing different compounding compositions.

	Reverse contrast (Digital decorative)	Lineal (Utilitarian)	Pointed brush style (Analog decorative)
English (Linear Roman)	Did you eat — *Lone Pine Regular*	Did you eat — *Neue Haas Grotesk 55 Roman*	Did you eat — 上首华凤书法体 -
Simplified Chinese (Chinese Character)	你吃了吗 — RVS Basic (Demo) Regular	你吃了吗 — 思源黑体 CN Medium	你吃了吗 — 字由点字隽永 -
Proposed Bai (Block Roman)	nil ye lao cx	nil ye lao cx	(Bai script samples)

Table 7.4 | A diagram showing the possibility of type stylization in Linear Roman, Chinese Characters, and Block Roman systems.

With the compound block framework in place, we can then utilize the standard ligatures feature (.liga) of OpenType to build and display the Bai script as a block-based font. We can also apply the techniques and principles we learned from the shibboleth projects, to design visually appropriate fonts for different scenarios (*table 7.4*, ←).

By writing the Roman alphabet in block (*image 7.5*, ←), we can easily distinguish the Bai and the Han components in the poetry, while restoring the visual rhythm of the physical artifact. This exploration puts the possibility of an alternative orthography into a framework, which utilizes the existing Roman alphabet, bypassing the necessity of registering new glyphs in the Unicode system, and unburdening type designers' obstacles workload when creating new fonts. This block approach combined with the linear Roman can further act as digraphia, a term referring to a singular language with two distinguishable orthographies (Dale,1980), which the linear Roman provides a back-up display orthography in the absence of a Bai specific block Roman font.

Image 7.5 ← | An iteration of the first verse of Shanhua Bei using the block-Roman orthography. The text is vertically set and stylized to accompany the typeface 圓体 (Yuanti) used for the Han characters

Summarizing The Case Study

Through the Bai script case study, this research developed an alternative orthography that caters to the preference of most Bai language speakers, while improving the visual equity through a rebalanced spatial and visual rhythmical compositions to Han characters. Although exploratory, this orthography preserves the community preference inherited from the history, meanwhile retaining the accuracy to record the pronunciation while amplifying the phonetic rhythm through a character-like structure. There is also a possibility that a visually distinguishable orthography can help beginners distinguish the orthography from other linguistic systems, especially the Pinyin. Furthermore, the block-based orthography for the Roman script has the potential to bridge historical tradition, community preference, and evolving new technologies and technological approaches. This experiment also concluded that altering the form of a glyph and/or the orthographic norm is a contextual choice, and sometimes the alteration can usher in a new generation of design. Combining extensive community tests and trials, projects like this may create new orthographies for different minority languages and boost the language preservation effort through a distinguishable community identity (Ohara, 2015).

World Exploration

Overall, the case study on Bai concludes a visual shibboleth centric approach to optimize Bai-Han typographic design. The flexibility and simplicity of this approach makes it applicable to other multi-scriptural and multilingual designs as a two-step approach. This calls designers to first identify visual shibboleths factor in typography, then make the decision to either emphasize or deemphasize on the level of scriptural contrast to better convey their intended information delivery.

To Address Scriptural Equity

As is discussed in the project on re-imaging Shanhua Bei with block alphabet, one way to create visual harmony is by decreasing the scriptural contrast in typography. This is resonating with expert's views on Chinese-English trust (Tam, 2017), which detailed the distrust of imbalanced design which caused monolingual audiences "are provided with incomplete information, weakening trust". On the other hand, for bi-lingual individuals, unilaterally visually dominant in one language but not the other, causes an imbalance of communication that may be seen as a reinforcement of racial bias and stereotypes. According to Tam, the distrust rooted in the scriptural contrast between Chinese and English, which the author suggested that by populating the missing 39% of space between English and Chinese (Sadek et al., 1997), designers can improve the visual equity through minimizing scriptural contrast.
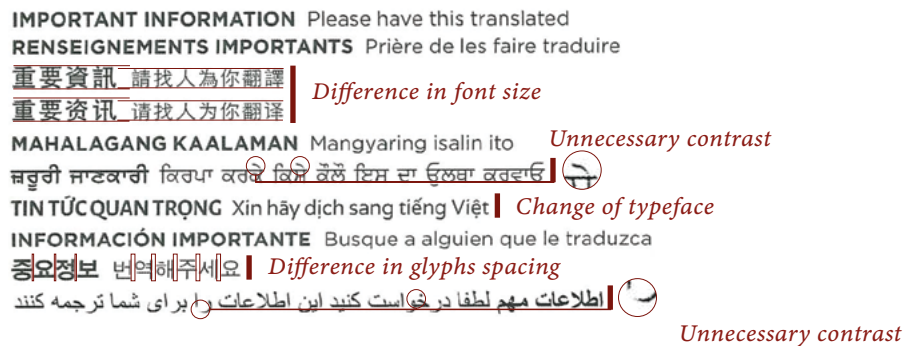
The same principle is applicable to other languages as well. Government postcards having 8 languages shows the good intention of inclusivity but fail to persuade the audience because of the design choice made in orthographic elements, which may further cause isolationism and distrust in specific languages. Often time these problems can be addressed by reducing the level of scriptural contrast. By revisiting the postcard from the city of Vancouver, we can point out the typographic flaws and how a better design may look like.

The city of Vancouver's visual identity designated Gotham as the organizational typeface for the Roman script. There are traces in this particular design that the designer tried to unify the visual across different languages, which deserve its recognition for the effort. Although this multilingual design in this postcard is far from horrible, there are several flaws that can be better addressed (*image 9.1*, ←).

Image 9.1 | Anatomy of the postcard from the city of Vancouver.

The visual equity in this existing design can be improved, and the most approachable improvement can be done by emphasizing on transferable scriptural features and deemphasizing on visual shibboleth element, which can be archived by reducing the unnecessary spatial and typographical difference while keeping the legibility of each language. These differences can often be dealt with through the universally recognized typeface features, like the style of the typeface (serif vs sans serif), breathing room between glyphs (leading and line-hight), and more. Here (*image 9.2*, ←) is a possible design approach to better address the language equity.

Image 9.2 | Proposed redesign of the postcard

Image 8.3 | A photo of the RISO poster #BLESSED (2023)

An extremely important point for communication designers when working on a language they do not speak is that there should always be consultation involved with the community of the particular language. With the adequate information from the consultation and only then designers can then start to work on the analysis and deemphasizing shibboleth elements.

Additionally, when designers are working with a customized typeface, some typographic characters are translatable and transferable to different scripts. For example, a RISO project during the writing of this thesis, #BLESSED (*image 8.3*, ←), connects 5 drastically different languages and scripts through compressed glyph width and wavy, decorative strokes. The visually consistent decoration is enough of a compounding agent between languages, which improves the language equity in this multilingual design.

Image 8.4 | A photo of a shelf of oat milk, with the French word for oat "avoine" having a close appearance of "almond" to English speakers

Create Distinguishable Designs

Although this thesis has so far mainly discussed the situation of reducing the level of scriptural contrast to improve the language equity in designs, visual shibboleth should not be understood as a negative element in multilingual and multi-scriptural design. Arguably the relevance and necessity to emphasize more on visual shibboleth is especially acute in the Canadian design context.

As officially a bilingual country, most products sold in Canada have packages designed in both English and French. And sometimes, English and French are designed to present in different side of the same package. Therefore, when these items are loaded onto the shelf, consumers are restricted to access the information of the language facing the aisle. This may result in the delay and miscommunicate of information to consumers, which compromise the effort of designing a visually appealing package (*image 8.4,* ←).

Using compromised script

Emily Carr University is situated on unceded Musqueam, Squamish and Tsleil-Waututh territories

Using preferred script

ECU is situated on unceded xʷməθkʷəẏəm, Sḵwx̱wú7mesh Úxwumixw and səlilẇətaʔɬ territories

Visual shibboleths of the preferred script

ECU is situated on unceded xʷməθkʷəẏəm, Sḵwx̱wú7mesh Úxwumixw and səlilẇətaʔɬ territories

Image 8.5 | A diagram comparing the land acknowledgment, according to the ECU Indigeneity territory acknowledgment guideline, in the preferred script of each nation and the glyphs restricted to the common Roman glyphs used in English.

Another reason to emphasize on the stronger scriptural contrast in design is to emphasize on the language identity. Strong visual shibboleths give a language strong visual identity. For example, as Emily Carr University of Art + Design is situated on traditional unceded territory of the Coast Salish peoples–Sḵwx̱wú7mesh (Squamish), səlilẇətaʔɬ (Tsleil-Waututh) and xʷməθkʷəẏəm (Musqueam) Nations, this is especially important of how we as uninvited guests would interact with the language. One example of incorporating the preferred script of each Nations in design is in land acknowledgment (image 8.5, ←). By doing so, designers can emphasize on Indigenous sovereignty through the drastically increased language presence of the Host Nations.

Epilogue

This study was conducted amid the rising wave of multilingual and multi-scriptural design. With the abundance of discussion and opinions across the globe, this thesis aims to contribute to the less-discussed field of designing with and for fringe languages. With the original intention to design for the revival, preservation, and reclamation of endangered and indigenous languages of the world. However, with the progression of this research, the realization of the rather blurry boundary between type designer and linguist pins down the research to a scale appropriate for a communication designer.

Then what is an appropriate scale for a communication designer? Designers, especially those who heavily lean towards typography and type design, need to establish a solid understanding of the language before touching on the visual perspective of any project, and any word-related projects seemingly inseparable from the realm of linguistics. To me, communication design is a rather superficial work when compared to linguistics. Linguists research the fundamental elements of a language, like the origin, the grammar, the etymology, and so on. In comparison, communication design is often treated by non-designers as merely the outermost layer of the packaging to this language package, and often getting ignored in content presentation. However, this layer is rather acute in the delivery of a language. This is the layer that packs in emotions, attachments, preferences, and every perspective of a language. Should a designer be brave about breaking linguistic concords? Or rather, can a designer be brave to do it? I think this is a debate that will last for a lifetime, and no one will ever be satisfied with the conclusion.

But what I learned through this research is that there are parameters we can utilize in type/typography design, and design education to improve language equity and vitality. For one, the shibboleth framework introduced a new parameter for multilingual and multiscriptual design. As designers increasingly work on multilingual and multiscriptual projects, using shibboleth as a design anchor point helps designers maintain the visual coherency between languages and scripts. Meanwhile, the "dominant language as a mediator" understanding realized through my case study points out a possible approach that helps develop and evolve design curriculums. With this understanding in mind, design education has the potential to better foster multilingual and multiscriptual education in a monolingual institution. And lastly, my case study shows the possibility of designing a visual identity for a language. By thoroughly and accurately reflecting on the speaker community's preference, while utilizing what is available in the system, we may contribute our efforts to language vitalization as a designer.

I did this research as a designer, and I can now throw my insights into the ocean of design practices. What I have done in this project is far from a conclusion. What I have done is just a starting point for future projects, whether it will be done by me or some other designers. Hopefully, my work can provide some insights for the representation of Bai language, and insights for future designers working with fringe scripts and languages.

Acknowledgment

Reference list

Dale, I. R. H. (1980). Digraphia. *International Journal of the Sociology of Language, 1980*(26). https://doi.org/10.1515/ijsl.1980.26.5

General Administration of Quality Supervision, Inspection and Quarantine & Standardization Administration of China. (2012). Basic rules of the Chinese Phonetic Alphabet Orthography. In *National Standards of the People's Republic of China* (GB/T 16159-2012). Retrieved February 15, 2024, from https://web.archive.org/web/20201206053114/http://www.moe.gov.cn/ewebeditor/uploadfile/2015/01/13/20150113091717604.pdf

Giffen, R. (2022). Developing orthographies for unwritten languages. *Journal of Multilingual and Multicultural Development, 43*(3), 276–278. https://doi.org/10.1080/01434632.2022.2054254

Guo, Y., & Beckett, G. H. (2008). The Hegemony of English as a Global Language. *Education and Social Development*, 57–69. https://doi.org/10.1163/9789087904401_006

Hinton, L., Huss, L., & Roche, G. (2018). *The Routledge Handbook of Language Revitalization*. Routledge.

Kemmer, S. (n.d.). *The Story of the Shibboleth*. https://www.ruf.rice.edu/~kemmer/Words/shibboleth#:~:text=A%20shibboleth%20is%20a%20kind,member%2C%20of%20a%20particular%20group.

Linus Boman. (2022, February 2). *How this font became the face of Chinese food in America* [Video]. YouTube. https://www.youtube.com/watch?v=YP9gEeVQZ2U

Masica, C. P. (1993). *The Indo-Aryan languages.* Cambridge University Press.

Minami, K. (2024, January). *Japanese Typography.* Instagram. https://www.instagram.com/p/C1pAwYAPyCP/?hl=en&img_index=1

Noordzij, G. (2019). *The Stroke. Theory of writing.* De Buitenkant.

Ohara, Yumiko. (2015). Re-inventing Hawaiian Identity Conception of Ethnicity and Language in the Language Revitalisation Movement. *Internationales Asienforum, 47*, 57–80. https://doi.org/10.11588/iaf.2016.47.3662

Olocco, R., & Patanè, M. (2022). *Designing type revivals: Handbook for a Historical Approach to Typeface Design.*

Sadek, G., Zhukov, M., Typography, C. U. F. T. a. O. S. a. a. C. F. D. &., & Internationale, A. T. (1997). *Typographia Polyglotta: A Comparative Study in Multilingual Typesetting.*

Sendpoints Publishing Co., Ltd. (Ed.). (2020). *TYPOGRAPHY NOW -: Typography Manual of Latin, Chinese and Japanese.* Sendpoints Publishing Co., Ltd.

Source Han Serif. (2017). Typekit. https://source.typekit.com/source-han-serif/#story

Tam, K (2017). *Trust in Chinese–English bilingual documents: a heuristic for typographic decision-making.* Typography Day Sri Lanka 2017 conference proceedings. Katubedda, Sri Lanka: University of Moratuwa.

Twyman, M. (1981). The graphic presentation of language. *Information Design Journal, 3*(1), 2–22. https://doi.org/10.1075/idj.3.1.01twy

Typotheque. (2023, November 8). *Dash, a typeface with different speeds and expressions.* https://www.typotheque.com/blog/dash-a-typeface-with-different-speeds-and-expressions

Unicode. (2023). *Ideographic Description Characters.* Unicode – the World Standard for Text and Emoji. Retrieved January 14, 2024, from https://unicode.org/charts/PDF/U2FF0.pdf

Victionary. (2022). *Hanzi*Kanji*Hanja 2: Graphic Design with Contemporary Chinese Typography.*

Wang, F. (Ed.). (2013). *Báiyǔ Dàlǐ Fāngyán Jīchǔ Jiàochéng* [Basic Introduction to Berpngvz of Dali Dialect].

Xu, B. (1994). *Square Word Calligraphy.* XU BING; https://www.xubing.com/. Retrieved January 14, 2024, from https://www.xubing.com/en/work/details/198?year=1994&type=year#198

```css
@font-face {
    font-family: "
        Minion 3,
        Neue Haas Grotesk,
        Freight Sans,
        Source Code Variable
        ";
    unicode-range:
        U+000-5FF, U+1D00-1D7F, U+1D80-1DBF,
        U+0250-02AF, U+02B0-02FF, U+0300-036F
        ;
}

@font-face {
    font-family: "
        Source Han Serif /*思源宋体*/,
        Source Han Sans /*思源黑体*/
        ";
    unicode-range:
        U+4E00-9FFF;
}
```