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What is Māori Typography?

A thesis

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by

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Ngāti Porou, Te Whakatōhea, Te Aitanga a Māhaki



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ABSTRACT

Te Reo Māori was traditionally an oral language similar to many indigenous cultures. Writing systems were not familiar to Māori until 1769 where Māori were introduced to the written language by Pākehā. Early Māori writing can be found printed, carved and painted in a number of different parts of Māori society. These myriad texts were strongly influenced and inspired by Pākehā biblical texts and newspapers. The influence of Pākehā texts meant that overtime the written language of Te Reo Māori had a Pākehā visual identity.

To date, there is minimal research about the history and visual identity of Māori typography. The lack of research and resources about Māori typography confirms how underdeveloped Māori typography is and highlights the potential for research and development in this space.

This thesis aims to explore Māori typography. In particular, this thesis will provide an understanding of how Māori typography has evolved, addressing the perceptions of Māori text features and advice on design guidance of Māori typography.

Two studies within this thesis involved analysing the text-based features in 21 Māori newspapers dated from 1842-1935. Māori newspapers are a valuable resource that captured moments in history and also early displays of Māori text. The second study involved interviews with 50 participants — Māori and non-Māori, from a range of different backgrounds — who provided their understandings and perceptions surrounding the features of Māori text.

The results from these studies have shown that the serif typeface classification was commonly used in early print such as Māori newspapers. Serif lettering also reminded participants in our studies of early Māori texts such as old text books and newspapers. This appears to be the reason as to why, a strong theme of serifs and the style of Didone typefaces have been used throughout Māori typography and by default are recognised features of Māori typefaces today.

Having analysed Māori newspapers, an unexpected finding appeared in the 1908 Te Pipiwharuroa newspaper. Two unique letter characters were found that was revolution for Te Reo Māori text of the time. This oddity combined the ‘ng’ letters into one letter character and the ‘wh’ letters into one letter character also. The aim in combining the two letters together was to emphasise the one sound that the ‘ng’ and the ‘wh’ make to avoid confusion in the pronunciation of Māori words. The results showed that these two letter characters appeared from 1908 through to 1912. There is no evidence of these characters appearing after 1912 and also appearing in other newspapers. The two characters were a rare appearance of its time.

As a result of this research it is clear that the visual identity of Te Reo Māori remains unclear and was highly influenced by serif lettering. This thesis highlights the need for more research about Māori typography and design guidance for developing appropriate Māori typefaces that are influenced and inspired by Maori culture.

MIHI

Kia ū ki te pai

Kia ū ki te whenua

Kia ū ki te mātauranga

This whakatauki for me describes how I came into this journey knowing nothing and through it I had to seek knowledge from many people and resources. I could not complete this on my own. It was the good, the sustenance and the knowledge that I cleaved to that got me through.

My first steps into this journey started with key conversations with the right people, being surrounded by academics and being exposed to the right thinking which encouraged me to embark on what has been one of my biggest achievements.

My first mihi goes to my whānau in Gisborne who are always there and supportive of everything that I do. To my Mum who is my encourager and number one fan, thank you for having my back through this with your prayers and aroha.

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Overall to all those who crossed my path, who had my back, supported me in little and big ways, your input into my life and into this mahi is acknowledged.

To those who are reading this who might be on their Masters or PHD journey, kia kaha. The road is long but consistency is key. Focus on one step at a time instead of giant leaps. Be diligent and slowly but surely you will make it.

WHAKATAKI

My story begins in the place of the rising sun, Gisborne where I was born and raised. Both of my parents are Māori, Dad is of Ngāti Porou descent and my Mum is of Te Whakatōhea and Te Aitanga a Maahaki descent. I hail from the East Coast of the North Island of New Zealand, the first place in the world to see the sun rise. This section talks about my background and explains the purpose of this research.

I was raised in a tight small Māori family and there were parts of my life which were disconnected from Te Reo Māori, tikanga, whenua and marae. The level of my understanding of things Māori were minimal, I knew enough to get me by. However, when I started making friends who were fluent in Te Reo Māori and were confident in their Māoritanga, it made me realise that I was missing a huge part of my identity. This resulted in a soul-searching journey to unravel my Māori identity.

This journey of self-discovery collated many elements such as, connecting with whānau, pepeha, kāinga and whakapapa. These elements combined gave me clarity. Throughout these moments I started to piece the puzzle together about where I came from, who I was and ultimately where I wanted to go. This resulted in this burning desire to learn Te Reo Māori and I knew I had to put myself into the deep end. Therefore, this led me into enrolling at The University of Waikato into the full immersion Te Reo Māori class, Te Tohu Paetahi 2014.

Taputapu, my small business was created in 2015. I was applying with a business idea for the Waikato Summer Start Up Scholarship. Sitting in my lounge one late evening I brainstormed everything that I was passionate about to help draw some inspiration towards a business idea. Two main themes stuck out for me which were Te Reo Māori and graphic design. As I gazed over into the kitchen, I saw the tea and coffee canisters, I thought to myself ‘wouldn’t it be cool if those cannisters were in Te Reo Māori?’ I then started to see tea towels with kīwaha on them, a pihikete tin for biscuits and every other object in the kitchen. There were no businesses at the time selling items like this. It was at this moment that I knew this was the idea I was looking for.

I received a 10-week kick start to business scholarship. This process made me think about the mechanics of business and how to solve the problem of Te Reo Māori being an endangered language. My solution was to normalise Te Reo Māori within homes by designing and producing Te Reo Māori homeware. The intention was to help family groups create a Māori environment within their home. Where, hopefully the products would encourage families to interact, learn and ultimately converse in Te Reo Māori with each other.

At the end of the 10-week program I pitched my business idea, at this moment I knew that I wanted to pursue this further. Later on, I worked from home, turned the garage into a small warehouse and sold my products online.

This opportunity opened a door to see that there is a market for people who want to incorporate Te Reo Māori within their households. Our audacious goal is to have Te Reo Māori in every household in Aotearoa. My objective is to design the best, quality products with purpose.

In 2017 I graduated at The University of Waikato with a Bachelor of Media and Creative Technologies majoring in Te Reo Māori and Design. Going through my undergraduate studies I knew there was more to explore.

I looked at the opportunity of doing postgraduate study, how I could dive deeper into design and furthermore into Māori typography. I knew that my business Taputapu needed an x-factor element, a special weapon to set me apart from the competitors. Therefore, knowledge about Māori typography was going to be my secret weapon.

At first the purpose of this study was to understand what style of fonts to consider for our products in Taputapu. Also, to explore what fonts are easier to read for learners of the Māori language. Overtime though these intentions changed with the journey of this research.

From my up-bringing in Gisborne, being disconnected from Te Reo Māori and my Māori identity, it has all led me through a self-discovering journey, a whirlwind of academia and the business hustle life. Every element and every step of the journey have led me here. The passion I have for my business, for design and the well-being of our beautiful language have driven me to do this study on Māori typography and this is my contribution to Māori design.

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1. INTRODUCTION

Typography is the arrangement of any written material (Jury, 2006), a unique process to make a language visible (Cullen, 2012). Therefore, Māori typography is the visual representation of Te Reo Māori. Since there is minimal research about Māori typography it is hard to understand what it is and what it looks like. Consequently, this thesis will explore the evolution, the perceptions and the design guidance of Māori typography.

There are three studies involved with this thesis. The first study involves a comparative analysis of typography used throughout 21 Māori newspapers from the 19th century. The second study explored two unique letter characters used within a Māori newspaper called Te Pīpīwharau. The third and final study involved interviewing a wide sample of readers of Te Reo Māori about their perceptions and knowledge of Māori text use, presentation, and design.

1.1 Motivation

The number of examples, information and knowledge about Māori typography is limited. Therefore, researching this topic has been challenging. Perceptions of Māori typography were generally unconsidered by participants and overall Māori typography is an underdeveloped topic in the research literature. Clearly there is a need for research and discussion in this field.

Research about Māori typography is important. Ultimately, typography creates language visibility and therefore without typography there would be implications for the culture and people (Cullen, 2012). The difficulties that currently exist are finding typefaces that reflect the Māori language and the culture. The outcomes from this research will provide a better understanding about the visual identity and representation of Te Reo Māori.

1.2 Research Hypothesis and Questions

Presented in this section is the research hypothesis and research questions.

The research hypothesis is:

Design guidance for developing Māori typefaces is required.

There are three research questions which help to understand Māori typography. These questions will provide insights about this topic and the research hypothesis. The research questions are:

RQ1: How has Māori typography evolved?

RQ2: What are the perceived features of a Māori typeface?

RQ3: What advice is given for design guidance of Māori typography?

The following sections will explain the purpose of each research question.

1.2.1 Research Question 1

The first research question is: How has Māori typography evolved?

This research question investigates the origins and the developments of Māori typography. The purpose of this question is to better understand the evolution of Māori typography. This includes understanding the origins, the developments, the styles of typography and the landscape in which Māori typography existed. With this understanding it will bring clarify how Māori typography should develop moving forward.

Research question one is considered in Chapter 2- Related Work, Chapter 3- Niupepa Māori, Chapter 4- Te Pipiwharauoa and in parts of Chapter 5- Perceptions of Māori text.

1.2.2 Research Question 2

The second research question is: What are the perceived features of a Māori typeface?

The purpose of this question is to understand the perceptions of Māori text and the typeface features that connect to people. The findings of research question one will potentially help to understand where the perceptions derive from and if early examples of Māori typography impact the current perceived ideas. This is an essential question because it will specify the ideologies and preferred features of a Māori typeface. These results will serve to inform future research.

A study was conducted for this research question and the results appear in Chapter 5- Perceptions of Māori Text. The study consisted of 50 interviews with the aim to understand what typeface features are perceived to be Māori.

1.2.3 Research Question 3

The third research question is: What advice is given for design guidance of Māori typography?

This question was posed because there are values and protocols to uphold in a Māori design process (Witehira & Trapani, 2015). The answers from this question will provide necessary considerations for someone designing a Māori typeface. It means that a Māori typeface can be created through the right process, respectfully and appropriately.

This question will be valuable for future research and design projects pertaining to Māori typography. The insights from this question in particular will provide a set of guidelines of what to consider when creating a Māori typeface. This information will contribute to the bigger picture of Māori typography.

Results from Chapter 2- Related Work and Chapter 5- Perceptions of Māori text will help to inform and answer this research question.

1.3 Structure

The structure of this thesis is outlined below, and each chapter is explained.

Chapter 2: The second chapter of this thesis explores typography, indigenous typography, early examples and modern examples of Māori typography. This chapter includes an explanation of what typography is. Secondly, a background scope of the typographic landscape from indigenous cultures such as Hawaiian, Rapanui, Brazilian and Korean are explored to find any similarities and connections to Māori typography. The origins and evolvments of Māori typography from painted text on whareniui, carved text on pou, tattooed text on skin, printed text in newspapers and weaved text on tukutuku panels are presented. The early examples of Māori typography lead into modern examples where Māori and non-Māori have designed typefaces that represent Māori culture.

The aim of this chapter is to understand the developments of Māori typography, where it began, what were the influences, the possible connections to other cultures and how it has evolved.

This chapter addresses RQ1: How has Māori typography evolved? And RQ3: What advice is given for design guidance of Māori typography?

Chapter 3: A study on Niupepa Māori is detailed in Chapter 3. This study analysed 21 Māori newspapers from the 18th and 19th century. Māori newspapers are important pieces of preserved information which showcase one of the earliest examples of Māori text in printed form. The reason for this study is to explore and identify the many typefaces used throughout the Māori newspapers.

The aim of this study was to identify typographic decisions that were made at the time and to hypothesise about how these might have influenced modern Māori typography.

This study provides insights into RQ1: How has Māori typography evolved?

Chapter 4: In this chapter a small study was conducted looking at two distinct letter characters. These characters were found within a Māori newspaper from Gisborne called Te Pipiwharauoa. The two letter characters used in the 1908 Te Pipwharauoa edition contained two letters 'wh' joined together to make one character. The other letter character were the letters 'ng' joined together to form one character as well. The two letter characters are unique because they are not featured in any other Māori newspapers in the 18th and 19th century.

This study offered additional information in answering RQ1: How has Māori typography evolved?

Chapter 5: The fifth chapter includes interviews with 50 participants across all ages, from different cities and occupations. The interview is to understand the ideas and perceptions of Māori typography. There were three parts involved which covered demographic information, understandings of Māori text and opinions of four different font examples.

This study was valuable for this research because it provided insights into how people perceive Māori text. Their thoughts, ideas and conversations were important to understand, where Māori text is seen, how often

and the knowledge people have about Māori typography. Also to understand what features they constantly see and think about.

The contributions from this chapter answer RQ2: What are the perceived features of a Māori typeface? And RQ3: What advice is given for design guidance of Māori typography?

Chapter 6: Finally, Chapter 6 will summarise the results of this research. The final chapter will present the findings, limitations, recommendations and concluding remarks.

1.4 Terminology

Throughout this thesis the personal pronoun ‘we’ is used. This is to recognise the collaborative approach involving the researcher and a team that included supervisors, participants and guidance from others. The pronoun also acknowledges guidance from Māori spiritual, ancestral and family entities in line with a kaupapa Māori methodology that has guided this research.

Also mentioned throughout this thesis are typographic terms and features such as serifs, sans-serif, blackletter and script. These terms are explained in Table 1.

Table 1: Basic Typeface Terminology

Name	Description	Example
Serif	Lettering with small lines attached to the start and ends of the letters	mauri
Sans-serif	Lettering with no small lines attached to the start and ends of the letters	mauri
Blackletter	An old English style of lettering also known as Gothic	mauri
Script	A handwritten style of lettering	<i>mauri</i>

2. RELATED WORK

Typography is a developed skill that makes language visible, which over time means that Typography is seen everywhere (Cullen, 2012). There are various forms where typography is seen, on signage, interfaces, buildings, transport publications and more (Cullen, 2012). Research has investigated a range of features on how people create, use and read text, but little evidence of perception and cultural influence is reported in the literature.

A brief overview of typography and its history will be discussed. The sparse literature on indigenous typography will be presented. Also, I will contextualise the limited literature regarding typography in Aotearoa. Much of the research that has been identified were for display typography not body copy typography. Display typography are typefaces made for headings and body copy typography are typefaces made for text used in the body content.

The research in this chapter will contribute towards answering *RQ1: How has Māori typography evolved?* and *RQ3: What advice is given for design guidance of Māori typography?*

The content of this chapter responds to the fact that there is limited academic research around Māori typography itself. To provide a full scope on indigenous typography worldwide is beyond this thesis.

2.1 Typography

This section discusses typography and its features. The reason for this section is to explain typography terminology because these terms and features are mentioned throughout this essay.

2.1.1 What is Typography?

Dating back to prehistoric cave painting and Egyptian hieroglyphs human communication especially typography has developed overtime (Cullen, 2012). Some messages read for the first time by a group of people was not written text but text that was chiselled into stone (Spiekermann, 2003). From drawing images and glyphs on stone, to conceptual marks and symbols of sound all have formed the origins for alphabetic writing systems (Cullen, 2012).

Typography refers to the assortment of letters and the formation of words. Jury (2006) states that “the word typography is increasingly used to refer to the arrangement of any written material” (p. 08). Cullen (2012) adds that typography is a unique process to communicate a language, Cullen (2012) shares, “typography is a process, a refined craft making language visible. Designers shape language with type and give words life and power to speak text fluently” (p. 07).

Similar to other forms of art, typography is forever changing and evolving (Rahim, 2012). Rahim (2012) further explains, that “any approach can be used to create a typeface including hand rendering, computer code or program generation” (p. 01).

Advertising is a form of typography. Many companies use typography in the logo designs. Rahim (2012) states how important typography is in our daily lives, which is further reinforced by Cullen (2012) who says “Typography is everywhere” (p.14) and is at the heart of design practice.

There is a subtle difference between a typeface and a font. According to Friesen (2010), “a typeface is a set of fonts in the same family, such as Arial or Goudy. A font is a single kind of typeface, whether it is Times New Roman bold or Times New Roman in 10 point.” (p. 10) Therefore, a typeface is a family of fonts that consists of relatives such as italics, thick, thin, and normal (Friesen, 2010).

There are different classifications of fonts according to the process in which they were drawn (Drumeva, 2013). These classifications are split into six groups or families. The groups are: Gothic, Antiqua, Egyptian, Grotesque, Script, and Ornamental (Drumeva, 2013).

The fundamentals and terminology of typography are all the same (Cullen, 2012), regardless of what country or what style. The origins of typographic terms come from metal typesetting days and include Glyphs, Characters, Aperture, Apex, Bowl, Chin, Crossbar, Descender, Flag, Hook, Leg and more (Cullen, 2012).

2.1.2 Perceptions of Typography

This section addresses how typography is perceived. This is important because this thesis is about perceptions of Māori typography. Therefore, the information within this section will help readers to understand and view typography.

Cullen (2012) describes the role of type as conveying information which provokes emotion, “it shares stories and influences behaviour” (p. 12). Printed text on paper will immediately influence a reader, simply by the arrangement of various elements. Spiekermann (2003) states that “an overall impression is created in our minds before we even read the first word” (p. 40).

Going beyond basic words on a page, typefaces form a link between the writer and the reader. A connection is made where form and function of type play a role with the reader in their ability to make meaning (Magdi, n.d). Rahim (2012) explains how to ensure typography manipulation remains legible.

Typographic clarity comes in two types: legibility and readability. What’s the difference? Legibility is a function of typeface design. It is one of the informal ways to identify one letter from another in a particular typeface. Readability, on the other hand, is dependent upon how the typeface is used. Readability is about typography. It is a way of how easily words, phrases and blocks of copy can be read. (p. 01)

Other than the appearance of a typeface, the function and usability are important. The biggest influencers for digital type design is legibility and readability (Magdi, n.d).

With the speed of on-screen reading and grabbing the attention of readers, Magdi (n.d) explains how words must aim to “attract, inform and seduce quickly” (p. 02). This highly driven web world has forced type to

evolve into its own visual entity. Typefaces have adapted to function on-screen and to be used well on the computer.

Unknowingly readers become aware of the emotive qualities of type. Rahim (2012) mentions how “typography is conveying messages through the design, selection and composition of typefaces” (p.02). Light or heavy physical characteristics of a typeface contribute to the reading of certain words or sentences. Typefaces can move the reader beyond reading the physical text. Typefaces are more than words but are the connection to the author. The reader, therefore can look at typefaces and feel something and be drawn to a visual connection of mere words.

Type designers use different strategies to communicate with their readers. Type designers will use different layouts that break up a heavy page to ensure a more welcoming feel. These strategies help to create a grid design which reinforces multiple design principles. Through the manipulation of contrast, colour, texture, scale and juxtaposition these elements can provoke certain emotions and feelings (Rahim, 2012).

Furthermore, there are strategies behind how the designer wants the reader to feel, to act and to be informed. Text is more than words on paper, it causes emotional reactions and becomes a visual connection for the reader.

2.1.3 Vox-ATypI Classification

All or most typefaces can be grouped into basic classifications, such as those with serifs, those without serifs, decorative styles and scripts (Haley, n.d). The ‘Classification Vox’ was a response to address the comparisons between types and for their individual differentiation (Dixon, 2002). The Vox system consists of a list, a classificatory method whereby each type classifications are split into a category of terms (Dixon, 2002). Consequently, the Vox-ATypI classifications consisted of three type categories such as classical, modern and calligraphics. Each classification is named and explained in Table 2. This classification system will be used in Chapter 3.

Table 2: Terms for the Vox-ATypI Classification (Source: Wikipedia, 2019)

CLASSICAL	
Humanist	Humanist, humanistic, or humanes created during the 11th century. Described by short, thick connected serifs, a low contrast between horizontals and verticals. A skewed cross stroke on the lowercase 'e'.
Garalde	Garalde, also called Aldine. Described as stronger contrast between down stroke and upstroke and have much finer proportions than the humanists.
Transitional	The transitional is defined by, realist, or réales. Also known as the typical typefaces of the traditional period. The weight of the letters are distributed according to a quasi-vertical axis. Contrast between main and connecting strokes.
MODERNS	
Didone	Drawn from the type founders Didot and Bodoni inspired the Didones, a group of modern typefaces. Strong contrast between full and connecting strokes. Vertical characters which had un-bracketed, hairline serifs.
Mechanistic	The name of the Mechanistic group evokes the mechanical aspect of these typefaces. The main features of these typefaces consists of rectangular slab serifs and very low contrast.
Lineal	The Lineals or linéales are described to combine all typefaces without serifs. Typefaces without serifs are called sans-serif, gothic and grotesque.
Neo-Grotesque	The Neo Grotesque originated from the earlier grotesque typefaces. Usually neo-grotesque typefaces have a more regular design and less stroke contrast. Many Neo-Grotesque typefaces are refined with variances of widths and thickness.
Geometric	Geometric typefaces are described mostly as sans serif typefaces. Geometric are created from geometric shapes. Curves and lines are often repeated throughout the letter forms which result in minimal diversity between letters.
Humanist	Typically Humanist typefaces are similar to the classical handwritten Roman capitals. The lowercase letters are similar in form to the Carolingian script.

CALLIGRAPHICS	
Glyphic	As opposed to calligraphic handwriting, the Glyphics are typefaces which suggest a carved, engraved or chiseled appearance of characters in stone or metal. They have small triangular serifs or tapering down strokes.
Blackletter	The Blackletters and the Non-Latins are described by pointed and angular forms. These typefaces were fashioned by late medieval hands written with a broad-nibbed pen.
Script	Originally the scripts included typefaces that suggested formal penmanship of cursive script. The features of the letters have a strong slope where the letters are often linked to each other as if written with a quill.
Graphic	The graphic or manual are known by hand-drawn originals which were written with writing instruments such as a pen, brush, or pencil.
Gaelic	Used from the 16th until the mid-18th century (Scotland) but is now rarely used, the Gaelic type is a family of Insular script typeface.

2.2 Examples of Indigenous Typography

Little research exists world-wide to discuss indigenous typography in any culture. This is likely due to so many cultures being oral cultures or pictographic cultures. Some learnings can be made from some of the pictographic representations which are discussed here, particularly when those representations are used for signatures, information or communication purposes.

This section gives some background on indigenous typography and how it relates and connects to the origins of Māori typography. The topics in this section are, Rongorongo: The Easter Island Script, Hawaiian Petroglyphs, Brazilian Typography and the Korean Hangul Alphabet.

I have selected four indigenous typography to give a description to see if any relate, link or connect in some way to Māori typography.

2.2.1 Rongorongo: The Easter Island Script

Rapanui also known as Easter Island is located in the South Pacific. A remote volcanic island home of the Rapanui people, the easternmost Polynesian culture. Rapanui is known for their unique glyph script called Rongorongo.

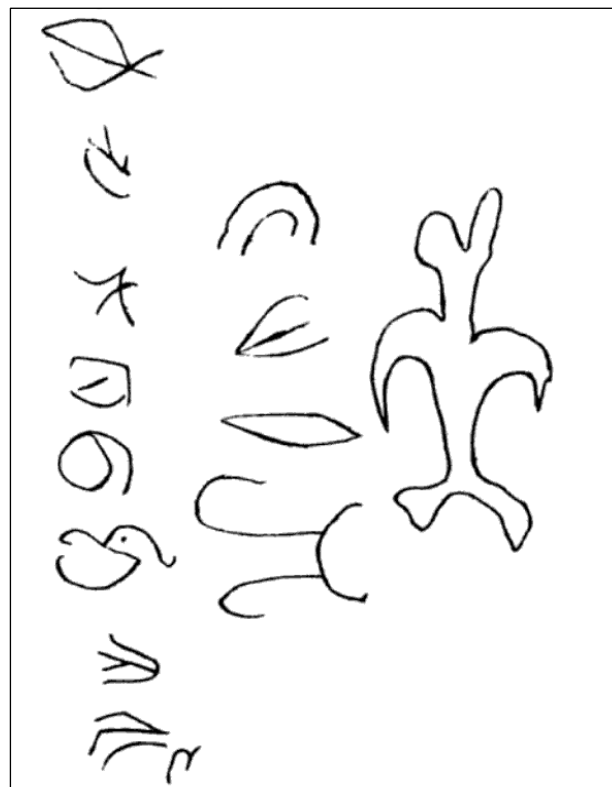
In 1770 when Commander Jose Bustillo took possession of Easter Island a signing of an official deed occurred (Fischer, 1997). On this document the native people signed certain characters according to their

style (Fischer, 1997). The characters upon the deed were rediscovered 100 years later and were understood to be authentic signatures. The Rapanui signatures are represented in Figure 1.

It was understood by Harrison in 1874 that the chiefs of New Zealand used their distinctive tattoo marks as signatures in the same way (Fischer, 1997). Since then, several scholars have connected the Rapanui signatures to Māori signatures signed on the Treaty of Waitangi in 1840 (Fischer, 1997) as shown Figure 1. Emory (1972) clearly understood, “these signatures to be petroglyph designs of birds and the vulva, and some other marks which might have been attempts to imitate European writing” (as cited in Fischer, 1997, pp. 04). The vulva refers to the female genitalia.

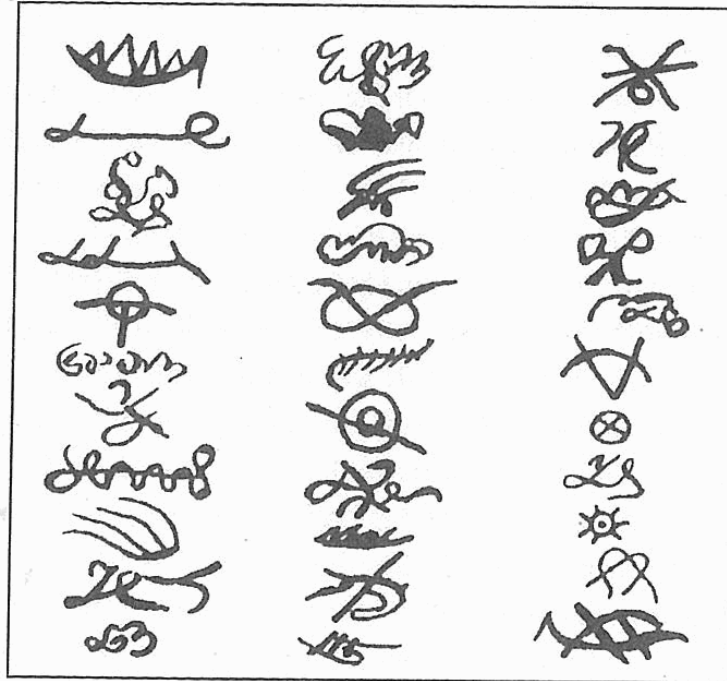
In Figure 1 the signatures show a connection to nature. The bird characters are visible and also what seems to be leaves are clearly drawn too or according to Emory (1972) they could be symbols of the vulva. The things of nature seem to have been their form of identity and their way to communicate. In Figure 2 Māori signatures are different more diverse and complicated with no common theme.

Figure 1: The Rapanui Signatures 1770



Note: The Rapanui Signatures 1770 and Māori Signatures Treaty Of Waitangi 1840. From Rongorongo: The Easter Island script (p.5), by S. Fischer, 1997. Copyright by Oxford University Press.











Figure 2: Māori Signatures Treaty Of Waitangi 1840



Note: The Rapanui Signatures 1770 and Māori Signatures Treaty Of Waitangi 1840. From *Rongorongo: The Easter Island script* (p.5), by S. Fischer, 1997. Copyright by Oxford University Press.

The Rongorongo script from the Easter Island tablets show many characters and objects. de Laet (2009) explains in detail the number of glyphs used in the Easter Island script are characters that represent common animals. According to de Laet (2009) “in a number of cases their phonetic value has clearly been derived from the name of the objects they are depicting”(p.08). Each sign in Figure 3 names the character, the Rapanui word and the sound value in which the glyph represents.

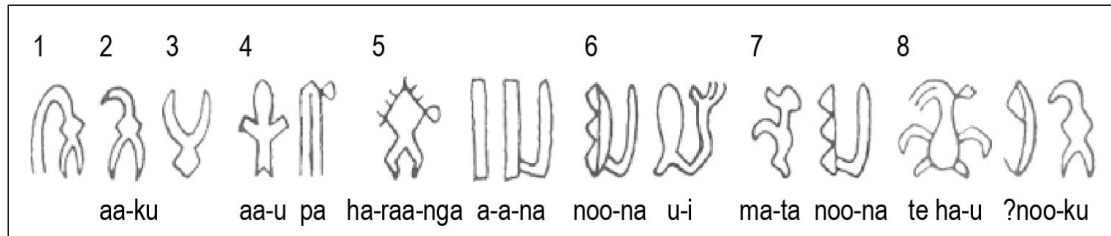
Figure 3: Rongorongo Character Descriptions (Source: de Laet, 2009)

				
frigate bird taha ta	fish ika ka	star hetuu tu	yam uhi (h)u	moon mahina ina
				
shark mango ma	shark mongo mo	opening vaha va	half / middle vae vae	blood toto to

Note: Rongorongo Character Descriptions and Indefinite Possessive Pronouns. From *Words out of wood: Proposals for the decipherment of the Easter Island script* (p.8, p.62), by M de Laet, 2009. Copyright 2009 by Eburon Academic Publishers.

The Rapanui language is very similar to Māori (de Laat, 2009), they use the ‘a’ and ‘o’ forms like the Māori language. The ‘a’ and ‘o’ forms are compounded with alternative possessive particles such as ‘na’, ‘no’, ‘aku’ and ‘oku’ (de Laat, 2009). The glyphs could easily be translated into Māori, for example in Figure 4 glyphs 1-3 spell ‘aaku’ and 6-7 spell ‘noona’.

Figure 4: Indefinite Possessive Pronouns (Source: de Laat, 2009)



Note: Rongorongo Character Descriptions and Indefinite Possessive Pronouns. From *Words out of wood: Proposals for the decipherment of the Easter Island script* (p.8, p.62), by M de Laat, 2009. Copyright 2009 by Eburon Academic Publishers.

The connection from the Rapanui language through to the Māori language are similar. The glyphs however are unique to Rapanui. There is a link between Rapanui signatures in 1770 and Māori signatures in 1840 where special characters were markers of identity. It seems that Rapanui and Māori used symbols to write and to communicate. Rapanui symbols show their connectedness to their environment. Māori share a similar connection depicted in kōwhaiwhai patterns and moko.

2.2.2 The Hawaiian Petroglyphs

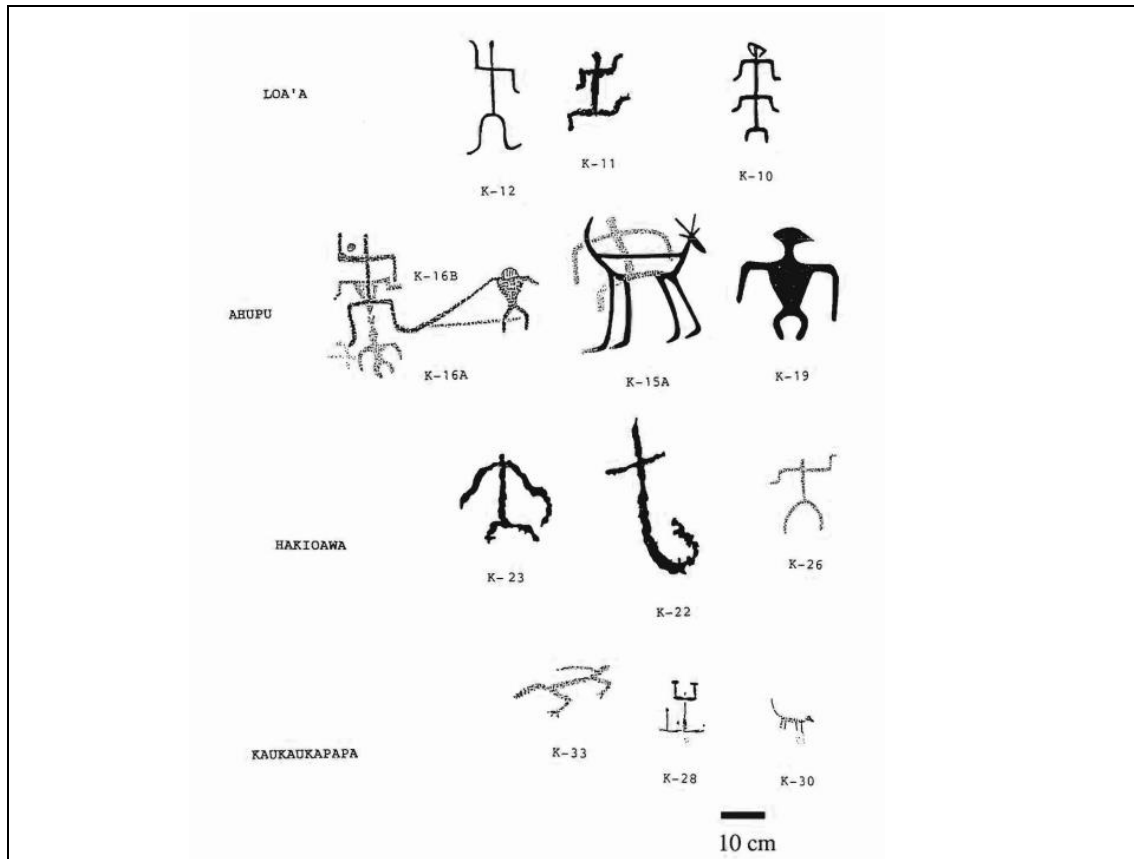
Another example of Polynesian petroglyphs are found in Hawai’i. The link between Rapanui and Hawai’i are Polynesian voyagers who travelled from the Marquesas Islands (Lee, 1997). Design motifs travelled with Polynesian voyagers as others have compared similar rock art across the South Pacific.

Looking at designs from the Marquesan Islands and Hawaiian petroglyph designs it assures that the settlement of Hawai’i was from the Marquesan Islands. The new arrivals therefore introduced petroglyphs soon after their arrival (Lee, 1997). There are similarities between both Hawaiian and Marquesan designs such as stick figures, dog characters, geometric circles, concentric rings and cupules (Lee, 1997).

The petroglyphs were made at Kaho’olawe (Stasack, Dorn, & Lee, 1996). The largest concentrations of archaeological sites are in Hakioawa, a site based on Kaho’olawe island. Kaho’olawe is one of the eight islands in Hawai’i and is one of the smallest however, this island contains four archaeological sites where petroglyphs have been found.

Hawaiian petroglyphs were stick figure like drawings, small and simple (pictured in Figure 5). Stylisations started to appear through the middle period such as bird man figures with various body shapes, unique proportions with headdresses and winged arms. The final period after A.D 1800 Stasack et al. (1996) states that names and words were inscribed. The lettering may have been influenced in a place nearby called Lahaina, where in the 19th century a school and printing press were established.

Figure 5: Hawaiian Petroglyphs (Source: Stasack, 1996)



Note: Hawaiian Petroglyphs. From *First direct 14C ages on Hawaiian petroglyphs* (35(1)., p.53), by E. Stasack, R. I. Dorn, G. Lee, 1996. Copyright 1996 by University of Hawai'i Press

Lee (1997) states that unlike the stick figures from Hawai'i and the Marquesan Island, there are none in Rapanui, which identifies that there is no Marquesan influence in Rapanui. The figures are fully developed. The motifs which correlate with Marquesas are the fish, turtle and faces. However, the Rapanui face designs are different from the Marquesas.

The Hawaiian petroglyphs are connected with designs from Marquesas showing a Polynesian link between islands. Their communication method of the written language was through the use of glyphs and their connection to their environment.

2.2.3 Brazilian Typography

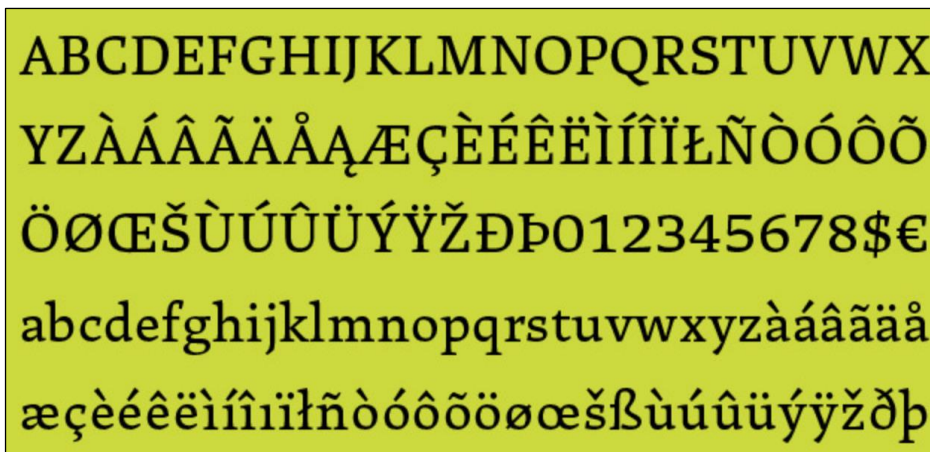
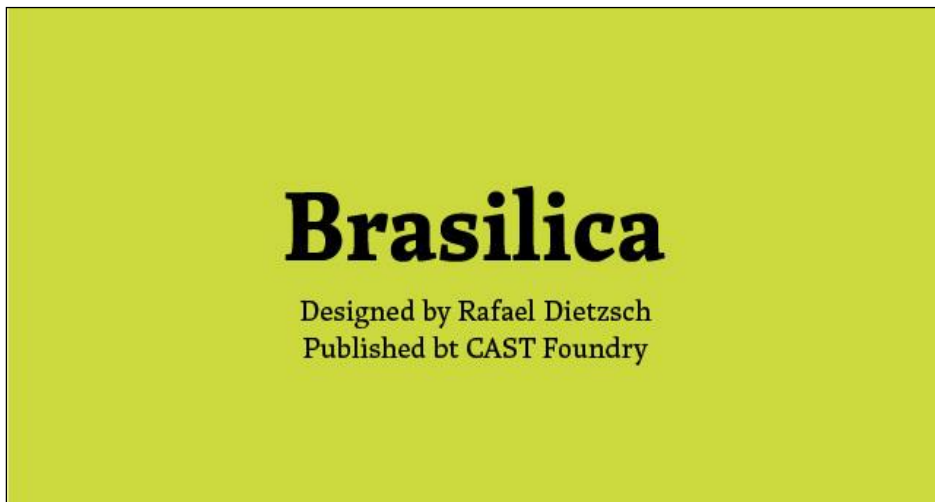
From an old glyphic indigenous text, this section looks at Brazilian typography. In particular this section will discuss typeface designs by Rafael Dietzsch, an assistant professor and typeface designer from the University of Brasilia. This information helps to understand what has happened with a few examples of indigenous typography.

It is known that Latin is originally an unwritten language (Dietzsch, n.d). The amount of publications written about Brazilian typography is very little (Dietzsch, n.d). The orthographies of the Brazilian native language has a remarkable feature and unfortunately the Latin alphabet lacks representation of the numerous amount of sounds made from many of the Brazilian languages (Dietzsch, n.d). Accented letters

and stacked diacritics are required in many Brazilian languages and the difficulty is, most of these features and other characters are absent in most typefaces (Collective, 2015). According to Dietzsch (n.d) “Some of these orthographies employ accented letters that are rare in most of the fonts for the Latin script” (p. 195).

Rafael Dietzsch, has observed that Brazilian languages required precise glyphs that majority of typefaces do not recognise (Waldeck, 2014). Dietzsch completed Brasília as his Masters project at the University of Reading (Collective, 2015). The Brasília typeface, pictured in , is a contemporary typeface that Dietzsch created with the intent to use the right glyphs that match the Brazilian indigenous languages. According to Waldeck (2014) “Brasília may be considered an authentic national typeface” (p. 187).

Figure 6: Brasília Typeface (Source: Dietzsch, 2015)



Note. Brasília Typeface . From “Cargo Collective,” by Cargo, 2015 (<https://cargocollective.com/dietzsch/Brasilia>). Copyright 2015 by Dietzsch.

Overall, the historic typographic origins of Brazilian languages are similar to Māori where both cultures are originally unwritten languages. There are challenges where the majority of typefaces do not have the right glyphs to represent Brazilian languages well. Therefore, the opportunity exists to create indigenous typefaces that are appropriate, relatable and functional.

2.2.4 The Korean Hangul Alphabet

From Brazil to Korea there are similar challenges with non-indigenous typefaces not fitting well with indigenous languages. This section will discuss the background of the Korean alphabet and the challenges of communicating the Hangul written language through typography.

In 1446 the Korean alphabet was revealed during the time of the twenty-fifth year of King Sejong's reign (Kim-Renaud, 1997). King Sejong, the inventor of the alphabet was enthusiastic that the new writing system would be made universally valid. However, it is no ordinary writing system, the Korean alphabet was structured based on theory brought in from China (Kim-Renaud, 1997). The alphabet was originally called Hunmin Chong'um and it was made up of 28 letters however 24 remain today. Korean alphabetic writing is now known as Hangul (Kim-Renaud, 1997).

A Korean linguist Ju Sikyung gave the name Hangul. The word Han translates to Korean and gul represents words. Prior to the Hangul writing system the Korean people wrote Chinese characters which resulted in many difficulties. The reason for creating Hangul was to create a written language in Korean. The spoken Korean language is very different to the Chinese written language. Also, King Sejong was driven to increase literacy amongst his people since only the privileged were literate. The overall objective of Hangul was to strengthen communication for Koreans (Paek, 2014).

The make-up of the Korean alphabet consists of stacked symbols. Paek (2014) states that "unlike Roman characters where the letters are written sequentially, Hangul is stacked into blocks" (p. 08). Horizontally or vertically the stacked blocks can be arranged. Kim-Renaud (1997) further explains how the letters are arranged into syllable blocks, which makes this writing system unique. The structure however is simple, a dot, a line and a horizontal line (pictured in Figure 7). This structure represents the sky, human and earth (Paek, 2014). In many alphabets letters signify specific sounds but, the Korean alphabet shows a relationship between the letters and the sounds they represent (Kim-Renaud, 1997).

Figure 7: The Structure Of Hangul (Source: Paek, 2014)



Note: The Structure Of Hangul . From *Typography in cross cultural environments* (p.12), by J. Y. Paek 2014. Copyright by Carnegie Mellon University.

What is inspiring about King Sejong's ambition is the mana he gave to his people. Creating a Korean alphabet gave the Korean people cultural independence it differentiated them from the Chinese, Japanese

and the rest of the world. Unfortunately after his reign the use of Hangul was banned and since the reign of King Yunsangun in 1504 Hangul lay dormant until a small revival in the 16th century (Paek, 2014).

Today, there are challenges that Paek (2014) explains, “Under the western guidelines, Korean designers face challenges when designing text because the guidelines are not entirely fitting for the Korean alphabet” (p. 06). Behind the invention of the Hangul language it is an unusual writing system (Kim-Renaud, 1997). Therefore, there is a need for a Korean structural guideline for effective Korean communication design (Paek, 2014). The difficulties exist in communicating between different languages, writing systems and cultures. Overtime, communication between cross cultures has become more difficult due to the vast amount of information and influences (Paek, 2014). There are common occurrences where the Roman alphabet is matched with the Hangul alphabet and often these occurrences do not fit well. Paek (2014) explains that “Unfortunately, the two alphabets are not harmoniously paired together because typefaces that can cater to both alphabets are qualitatively unsatisfactory and very limited on the market” (p. 08)

The difficulties with an indigenous written language varies. Lack of knowledge, time and influences of non-indigenous typefaces all impact upon the visual authenticity of an indigenous typeface. For example, Hangul typefaces take longer to create, Swiss Typography and Bauhaus have impacted the authenticity of Hangul which means that true Hangul design became unseen. Overall, design research for the Hangul language is very much underdeveloped.

2.3 Early Māori Typography

Three indigenous perspectives on typography have given insights into what has been done or experienced before Māori typography. This section will focus on early examples of written Māori text through different media and art forms. The examples of Māori text discussed throughout this section cover carved, painted, woven, tattoo and printed text. Before discussing the examples, a background of Māori text including the encounter between Māori and the written language will be discussed.

The findings from this section will present a good understanding of the origins of Māori typography.

2.3.1 Background

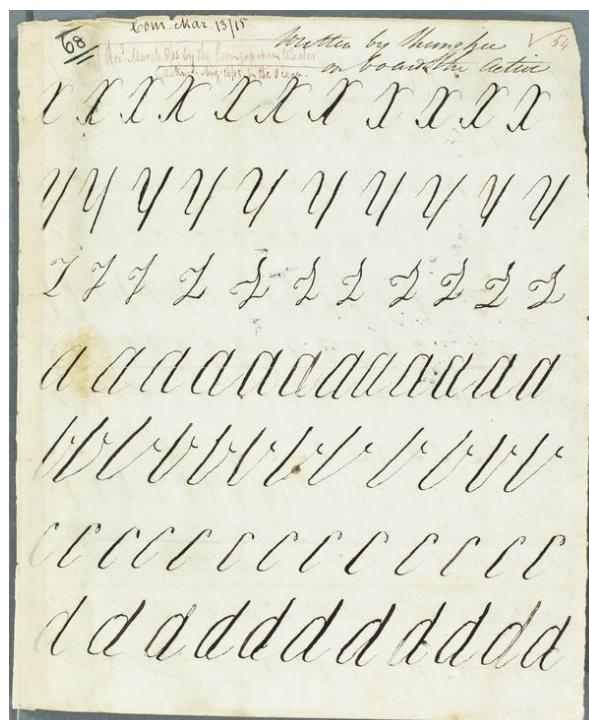
For over a thousand years Te Reo Māori has been spoken in Aotearoa (Mcrae, 2005). Historically, an oral tradition, the language was passed down from the Polynesian ancestors of present day Māori. The development of Māori occurred when the Eastern Polynesian immigrants settled in approximately AD800 (Mcrae, 2005). Prior to the arrival of European settlers, Māori language was only spoken and not written.

Indigenous Māori used art and design significantly in their culture and in their way of living. Pattern, imagery and symbolism was used in the Māori world, on clothing, housing, tools, weaponry and more (Witehira & Trapani, 2015). According to Paama-Pengelly (2010) “art was the way Māori communicated knowledge, ideas and values, rather than by written language, and together the arts constituted a vital communication system” (p. 09). The art therefore acted as a fundamental communicative method.

The first encounter for Māori with the written word came from an event with Captain James Cook in 1769 (Witehira, 2019). Three Māori youth were taken aboard the Endeavour ship in October 1769. A variety of written forms of communication such as initials on uniforms and descriptive text stenciled onto the ship's inventory were exposed to the boys (Jones, 2011). Whilst upon the ship, the Māori boys observed their names being written by Botanist Joseph Banks (Jones, 2011).

After this, the earliest account of Māori writing was in 1814 (Te Kotahitanga Rangihou Marae, 2012) pictured in Figure 8. Hongi Hika copied the English alphabet and practiced his calligraphy aboard the HMS Active (Witehira, 2019). In 1815 the first book about the Māori language was written by a missionary Thomas Kendall and supported by Hongi Hika and other Māori chiefs. It is suggested that this led to Māori writing their own language and using what was still strange new art forms to them (Witehira, 2019).

Figure 8: Alphabet By Hongi Hika (Source: Marae, 2012)



Note: Alphabet By Hongi Hika From *Sample of Writing by Shunghie [Hongi Hika] on board the Active*, by Marsden Online Archive 2014. (http://www.marsdenarchive.otago.ac.nz/MS_0054_068) . In the public domain.

There has been a long history of Māori newspapers, hand written letters, printed bibles through to carved, painted, woven type and more. However, Witehira (2013) argues that, no design attempts by Māori occurred to create functional typefaces. There were no observations or written visualisation of authentic Māori typefaces created by Māori until recent history (Witehira & Trapani, 2015).

2.3.2 Carved Text

Since the first encounter of written text in the 17th century Māori have developed their style of written text. In Witehira's (2019) research into Māori typography history, he found similar themes occurring through old carvings used in nineteenth and twentieth century whare. Written text made its way in and outside of

the whareniui. The text was either carved or painted onto poupou inside the whareniui or outside on the maihi (Witehira, 2019). The earliest example of carved text on wooden pou was in the whareniui Te Hau ki Tūranga, a marae constructed and carved in the early 1800's (Witehira, 2019).

For Māori, the upper-case letterforms were preferred and was the common approach to typography (Witehira, 2019). Due to most examples of Māori text being display typefaces lowercase letters were not often used. If lowercase letters were used they were often a similar height to upper-case letters or were slightly shorter. Witehira (2019) mentions that, type used within the whare were created with a broken rhythm. This broken rhythm was created through the inconstant x-height and the wavering widths of the letterforms. He also found that carvers used another prominent feature that used high-contrast letters, where thick and thin strokes appear in each letter. According to Witehira (2019), early printed bibles and newspapers hugely influenced this.

Witehira (2019) examined the written text on poupou and said it was commonly placed on the chest under the neckline to identify that ancestor. The style of the letterforms were influenced by biblical texts and also reflected the Didone style with some variances on certain letters (Witehira, 2019).

The trends in Māori lettering of the time consisted around the English Didone style. Māori then implemented the continuation of breaking the cross bar to a downward arrow, slanting letters such as the letter 'N' and a variety of serif forms seemed popular (Witehira, 2019).

2.3.3 Painted Text

Similar to carved text, Māori painted text inside and outside of the whareniui. Witehira (2019) details examples of this, that include the names of ancestors painted on the maihi, which are the slanted boards on the front of the meeting house, names of the marae painted on the outside of the whareniui and also painted names on the wood carvings inside the whareniui. The lettering styles Witehira (2019) observed were those influenced by wood block printing, Didone style and the Tuscan style that originated in wood type.

Figure 9: Te Puihi o Mataatua Wharenui and A Digital Version Of Text (Source: Witehira. 2019)



TE PUHI O MATATUA

Note: Te Puihi o Mataatua Wharenui. From *Te Puihi o Mataatua meeting house at Mataatua*, by Alexander Turnbull Library 1890s. Ref: PAColl-4249-09. Wellington, New Zealand. /records/22809452.

A Digital Version Of Text Te Puihi o Matatua. From *Mana mātātūhi: A survey of Māori engagement with the written and printed word during the 19th century* (p.97), by J. Witehira 2019. Copyright by J. Witehira.

Figure 9: Te Puihi o Mataatua Wharenui and A Digital Version Of Text (Source: Witehira. 2019) Figure 9 shows painted text on the maihi at the front of Te Puihi o Mataatua meeting house. Witehira (2019) closely inspected and digitised the painted text to reveal a clearer version. He states that this style of font is the creation of something new, a synergetic mix of the Didone serif elements merged with an inscriptional style of lettering (Witehira, 2019). There are strong themes of the Didone style which was commonly used in carved text. Witehira (2019) explains,

The Kaihoahoa Māori (Māori designer) has created something altogether new, a synthesis of the Didone rational serif with elements from an inscriptional style of lettering. The regular geometry, vertical stress and high stroke contrast on some of the letters are reminiscent of the Didone style used regularly in carved text. (p. 23)

Throughout these different forms of art such as carvings and paintings, Māori used similar styles of text. The text reflected a Didone style of typography however Māori changed and adapted the style which suggests that Māori invented and integrated text to develop forms suited to their own purposes (Witehira, 2019).

2.3.4 Woven Text

Adorning the inside of the whareniui alongside carved and painted text are examples of woven text. Displayed on the walls between poupou are tukutuku panels with woven text. The art style of tukutuku is similar to a cross-stitching technique (Paama-Pengelly, 2010). Paama-Pengelly (2010) describes tukutuku panels as being a thatched domestic insulation, a way to disguise the thatched walls of kākaho.

Examples of woven text are evident in Porourangi, an ancestral whareniui of Ngāti Porou on the East Coast of the North Island of Aotearoa. As shown in Figure 10 the text was placed between the legs of the ancestor. Closely examined the text resembles a Grotesque style of lettering and the cross bars of the ‘A’ and the ‘H’ are no longer downward but are set horizontally. A Grotesque typeface refers to a set of sans serif font from the time period of 1815. Throughout the whareniui line breaks are commonly seen where the names of ancestors are broken into parts. This is interesting as Witehira (2019) notes, disjointed names did not seem offensive to the ancestor.

Figure 10: Tukutuku Panels, Porourangi Whareniui (Source: Turnbull, n.d)



Note: Tukutuku Panels, Porourangi Whareniui. From *Tukutuku and carved wooden panels, inside Porourangi meeting house at Waiomatatini.jpg*, by Photographer unidentified, 1914-60, Wikimedia Commons (https://commons.wikimedia.org/wiki/File:Tukutuku_and_carved_wooden_panels,_inside_Porourangi_meeting_house_at_Waiomatatini.jpg). In the public domain.

2.3.5 Tattoo Text

From using a whareniui and wood as canvas, skin became another canvas to display text. A form of identity and recognition for Māori was the tradition of tā moko. Unique designs specific to a person’s whakapapa, iwi and mana were chiseled onto a person’s face, chin, legs and buttocks.

The mythical narrative of tā moko originates from various stories. There is the story most iwi from Te Ika-a-Maui know which the story of Mataora is, Niwareka and Uetonga. From Te Waipounamu the story of Tamanui-a-Raki is known. Both stories share similar themes of the underworld, the quest for knowledge, humiliation, self-confidence and unattractiveness. From the story of Mataora, moko was a symbol of his commitment, bringing the ways of the underworld into the ways of the human world. From that point of Mataora's symbol of commitment, moko was then cut into the flesh (Te Awekotuku, 2007).

Te Awekotuku (2003) explains that the physical narrative of tā moko started with the Lapita people who voyaged throughout the Pacific Ocean. Remnants of tools were left behind from the Lapita peoples of New Caledonia who crossed 4000 kilometres of the western Pacific Ocean. Small tattooing chisels from Lapita sites suggests similar customs to the Polynesian people of body and face tattooing.

Māori traditions of tattooed text is unfamiliar and are less acknowledged. There are examples of tattooed text and these appearances show the integration of the Roman alphabet into Māori visual arts. These tattooed examples are similar to the text carved, painted and woven that Witehira (2019) has already mentioned.

One example in particular from a photograph taken of a Whanganui Māori chief with the name Raimapaha tattooed across his chest. Witehira (2019) mentions how the tattooed text echos the style of text used in carving. Witehira (2019) mentions how tattooed text echos the style of text used in carving. The Didone style specifically the outline and slanting of characters such as the letters A and M have a close relationship to the text seen carved onto pou. Unfortunately we were not given permission to use this image.

From the traditional tā moko designs, the written language now provided another avenue for Māori to represent their identity. Similar typeface styles were used in carved, painted and tattooed text. Witehira (2019) describes it as a close relationship. As shown in the previous examples, the Didone style in particular has influenced Māori and how they display the written language. Māori seemed to have connected with the Didone lettering, however, was it due to only being exposed to a few typefaces or simply because they connected with that particular style?

2.3.6 Printed Text

As Māori text was thriving throughout many art forms, Māori text made its way into printing. Māori-language papers were produced from the 1840s through to the twentieth century (Curnow, Hopa, & McRae, 2002). The Government at the time printed the first newspapers for their own purposes and Māori newspapers followed which allowed Māori to share and voice their thoughts from a Māori perspective (Curnow et al., 2002).

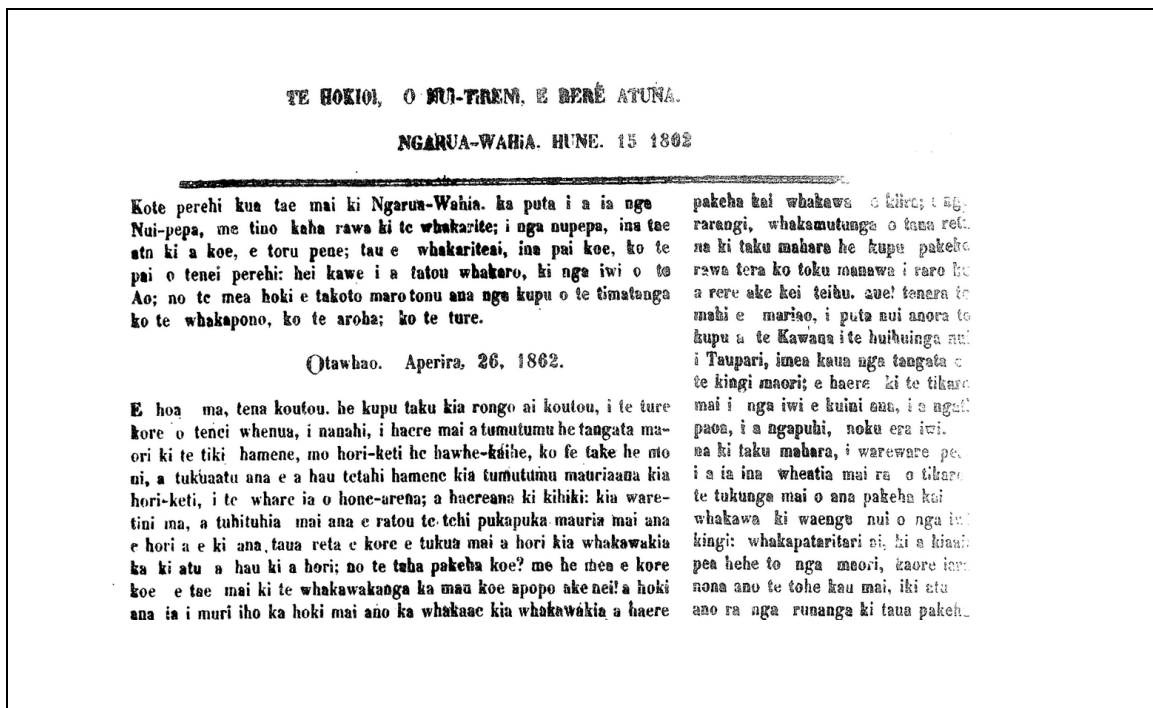
Māori newspapers are an important part of New Zealand's Encounter history (Curnow et al., 2002). They are preserved artefacts which hold accounts of important historical events and comments about issues that affected Māori in those times. They are rare examples of early printed text in Māori.

2.3.6.1 Newsprint technology of the time

In 1857 Wiremu Toetoe Tumohe from Rangiaowhia and Te Hemara Te Rerehau Paraone from Ngāti Maniapoto, both Waikato chiefs embarked on a journey to Austria ("Hokioi o Nui-Tireni, e Rere Atuna," 1862). It was said in Te Ao Hou (October 1958: 42-43) that their journey was to possibly learn the art of printing. They both were presented with a printing press and types from the Emperor of Austria of that time. When they settled back in Mangere in Aotearoa, they used the press for the Māori King's announcements.

The newspaper called Te Hokioi e Rere atu na (sic) was written by Māori in 1862 as illustrated in, Figure 11 ("Hokioi o Nui-Tireni, e Rere Atuna," 1862). This paper was connected to the Māori King movement called the Kīngitanga ("Hokioi o Nui-Tireni, e Rere Atuna," 1862). The example in Figure 11 shows the typographic design elements of how Māori communicated through the written word. From Witehira's (2019) observations he has noted that the newspaper is influenced by an English modern typeface called Didone and no more than two styles of this typeface is used. The masthead (main title) is slightly bigger than the body text. It is simple, bold and all uppercase. The even letter spacing and leading shows their understanding of typography (Witehira, 2019).

Figure 11: Detail Of Te Hokioi O Nui Tireni E Rere Atu Na (Source: Hokioi o Nui-Tireni, 1862)



Note: From Papers Past, by National Library of New Zealand, n.d.

(<https://paperspast.natlib.govt.nz/newspapers/hokioi-o-nui-tireni-e-rere-atuna/1862/6/15/1>). Copyright by National Library of New Zealand.

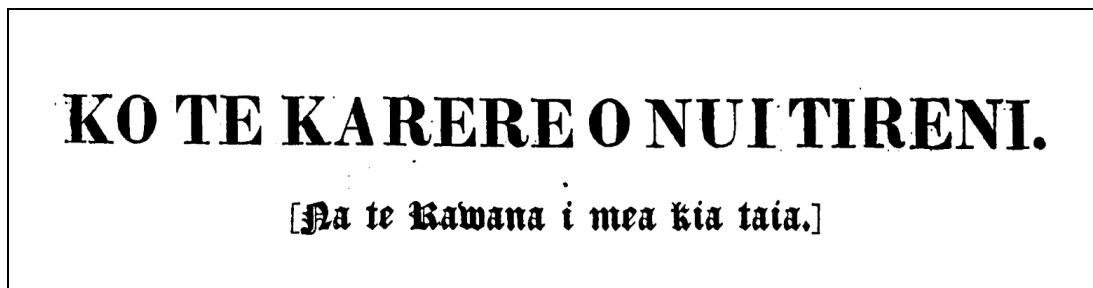
Māori realised the power of print. Producing newspapers was an opportunity for Māori to discuss issues, events and politics from their world view. In Curnow's (2002) words "these papers demonstrate Māori literacy and belief in print to educate, inform and reform" (p.17).

Māori and Pākehā published a substantial amount of Māori newspapers. Others such as the church and philanthropists created newspapers in Māori too. Altogether over forty titles were produced (Curnow et al., 2002).

2.3.6.2 Examples

The following example pictured in Figure 12 shows a serif masthead from The Māori Messenger Te Karere Māori newspaper dated 1842. Serif with Didone features were also used in painted text on the wharenuui in Figure 9: Te Puhī o Mataatua Wharenuui and A Digital Version Of Text (Source: Witehira, 2019) and also the tattooed name pictured in **Error! Reference source not found.** . The same serif Didone features are used in this masthead in Figure 12 ("The Māori Messenger Te Karere Māori," 1842). This masthead in particular is discussed further in Section 3.4. However, this is an example of the style of lettering printed in early Māori newspapers from the 19th century.

Figure 12: Ko Te Karere O Nui Tireni Masthead (Source: The Māori Messenger, 1842)



Note: From Papers Past, by National Library of New Zealand, n.d. (<https://paperspast.natlib.govt.nz/newspapers/maori-messenger-te-karere-maori/1842/2/1/1>). Copyright by National Library of New Zealand.

2.4 Modern Māori Typography

From discussing early Māori typography in Section 2.3, this segment will discuss modern Māori typography. Over the years non-Māori and Māori have attempted and designed Māori typefaces. The information from this segment will help to understand how Māori typography has transformed from the earlier examples of Māori text through to today.

2.4.1 The Whakarare Typeface

The first published record of a typeface reportedly designed by a Māori person with the intention of being considered to be a Te Reo Māori typeface was designed by Johnson Witehira in 2013. This typeface is called Whakarare (Witehira & Trapani, 2015). Whakarare is a Display typeface not a body copy typeface. The challenge was to create the first Māori typeface by Māori. For Witehira (2015) “typography is identified as an area of particular interest because it concerns both design and the written language” (p.05).

Witehira (2015) states the inspiration behind the design process of Whakarare came from three main areas. These areas were, whakapapa Māori, toi Māori and Māori typographic development. Therefore, Witehira searched in depth through historical Māori uses of type. In particular he examined nineteenth and early twentieth century where that had carved and painted type form. It was important to Witehira to create a

whakapapa or origin for Whakarare. This whakapapa had to be based on the history of how Māori used type designs, noting any consistency or typographic preferences that were used (Witehira & Trapani, 2015).

Once Witehira identified the common Māori typographic preferences then the design process began. Witehira (2015) used certain carving patterns such as whakarare, rauru, pākati and haehae, and aligned it with Māori type he had observed within whare to formulate the design aesthetic of Whakarare. The concepts and ideas from the whakarare pattern informed the final design of the Whakarare typeface featured in .

Figure 13: The Whakarare Font (Source: Witehira, 2015)



Note: The Whakarare Font. From The whakarare typeface project: When culture-specific design brings elements of universal value (p.13), by J. Witehira, 2015. Copyright 2020 by Witehira

During the process of developing Whakarare, it was important to Witehira that Whakarare was not reliant on stereo-typical Māori design elements. One of those elements he ensured was tātai manawa (heart-pulse). The heart pulse of the typeface was created in a way where the letters fitted together creating a natural rhythm between positive and negative space (Witehira & Trapani, 2015).

Witehira (2015) made a decision to only design Whakarare in a Māori alphabet. Therefore, the total number of glyphs created was 14, and the English alphabet letters B, C, D, F, J, L, Q, S, V, X, Y and Z were omitted from the typeface. This was to limit the use of Whakarare in non-Māori texts and it was a project done by a Māori person for ultimately a Māori audience (Witehira & Trapani, 2015).

2.4.2 Pure Pākati Typeface

Modern Māori typefaces are slowly developing as more designers and companies request for an Aotearoa identity. From Witehira's Whakarare typeface that represents a Māori carving pattern, Pure Pākati is another typeface inspired by the art of Māori carving and Māori narratives.

A collaboration of Māori and Pākehā creatives came together to design a brand system for Tourism NZ (Stevens, n.d). A missing factor in Tourism NZ’s branding was a Māori indigenous cultural narrative. Tourism NZ understood the importance of New Zealand’s indigenous heritage because the cultural and rich heritage becomes the point of difference (Stevens, n.d).

The project came down to designing a typeface that represented New Zealand to the world (Sowersby, 2015). The co-design team consisted of prominent Māori creatives including the leading Māori art and designer Rangi Kipa and also Aotearoa leading font designers who were all tasked with identifying the identity of New Zealand. A huge task when Sowersby (2015) states, “Unlike many other nations we have no indigenous style of lettering or typography: there is nothing to grasp easily” (p. 1).

The design process consisted of hui and wānanga and the pursuit to draw on both Pākehā and Māori design history and legacy. The essence of the project came down to the word ‘whānau’ meaning family because it encompassed the identity of New Zealand well and how we embrace our visitors (Stevens, n.d).

The team merged the current 100% PURE font with the art of whakairo rākau. This produced a unique hand crafted font distinctively from New Zealand. Elements of the typeface related to the culture of Aotearoa and Māori. Pictured in Figure 14 the typeface has a Kauri wood texture, hand carved specifically by Rangi Kipa a well known Māori carver and designer. The most important feature of Pure Pākati (pākati meaning notched) according to Sowersby (2015) are the three notches which reflects ‘taki toru’. Taki toru resembles an event from a significant Māori navigation story which talks about a Grandfather (Toi) and his grandson (Whātonga). The story talks about Whātonga going missing out at sea and as a way to find him Toi binded a stick together with three lashings and threw it out to the sea. The three lashes represented three questions, Where are you? How are you? When will you be back? Therefore the three lashings and story behind them reflected the kaupapa of Tourism New Zealand of ‘embracing visitors as whānau’. The name Pure Pākati represents the old branding 100% Pure and Pākati resembling the three notches.

Figure 14: Example Of Pure Pākati (Source: Sowersby, 2015)



Note: From Klim Type Foundry, 2005. (<https://klim.co.nz/blog/pure-pakati-design-information/>).
Copyright 2020 by Klim Type Foundry.

The Pure Pākati is an example of collaboration, indigenuity and the importance of connecting to Māori art forms and the story well. The lettering is different to early examples of Māori text and has moved away from the classic Didone style. This typeface is a Display typeface not used for body copy. Designing Pure

Pākati involved using natural materials, techniques of a traditional Māori art form and the inspiration from a Māori narrative. All of this process has ensured an authentic typeface that reflects Aotearoa.

2.4.3 Māori Typefaces By Non-Māori

Non-Māori designers have created Māori typefaces however, according to Witehira and Trapani (2015) “these attempts from non-Māori have been unsuccessful” (p. 6). This was due to their main source of inspiration coming from motif and imagery from Māori art (Witehira & Trapani, 2015). The typeface created by Joseph Churchward is an example. Witehira and Trapani (2015) explain that the koru element attached to the serifs of the letters within Churchward’s typeface is inappropriate.

Joseph Churchward a Samoan-born graphic designer marked this world and the world of typography through his specially designed, hand-drawn typefaces (fonts). Churchward created over 570 typefaces, each uniquely crafted. His inspiration came from his homeland in Samoa, to the Roman alphabet and the culture and life in New Zealand (Akeli, 2010).

The influence of Churchward’s heritage and homeland reflected upon his works. Churchward created an Alefapeta Samoa (a Samoan alphabet) to acknowledge where his roots were from. This alphabet was mass produced for use in schools. Throughout his works he acknowledged his cultural links and genealogy connections outside of Samoa to England, China, Tonga and Scotland (Akeli, 2010).

Although Samoan-born, Churchward was inspired by his time and life spent in New Zealand and typefaces such as Churchward Māori in Figure 15 and Churchward Ta Tiki reflect Churchward's connection back to his secondary homeland. Churchward Māori pictured in Figure 15 was created at a time of land marches in New Zealand in the early 1980’s. This period of time saw Māori rise up and protest against stolen land and the breaches of the Treaty of Waitangi (Akeli, 2010).



Figure 15: Churchward Māori Typeface Example

As mentioned before, non-Māori created less meaningful Māori typefaces. According to Witehira (2013) they generally fit within two distinct categories such as the classic koru icon that gets attached to letterforms and those of attempt to mimic and digitise painted or carved text. Furthermore, Witehira (2013) says that both of these categories poorly represent an authentic approach in creating Māori typefaces. For example, examining Churchward’s Māori typeface, the typeface is a standard roman typeface with koru attached to the serifs and other intersecting elements. Looking at past carvings of Māori type, there was at no point where carvers found it appropriate to use a koru onto their letterforms.

Another common approach that Witehira (2013) has seen in recent times is that non-Māori designers created digested versions of painted or carved type. Whilst these are versions from past carvings and relevant in some ways to Māoridom, the typeface does not consider the elements and principles of Māori design which is evident in customary Māori art.

Non-Māori have created different forms of Māori typefaces. According to Māori designers like Witehira their attempts have been poor and not a true depiction of Māori. As Witehira and Trapani (2015) note, Māori designers have a responsibility to bring Māori visual culture back into the world they live in. Overall, the contributions of Māori like Witehira and non-Māori like Churchward have contributed to the narrative of Māori typography. Their work helps to understand where Māori typography can go from here.

2.5 Conclusion

This chapter provides a discussion on related topics about typography such as indigenous typography and Māori typography. The origins of Māori typography started when Māori first encountered text upon the Endeavour in 1769. Māori art forms evolved from 1769 with developments of text painted on whareniui, text carved into pou, text woven into wood panels, text chiselled onto skin and text printed onto newspapers. Further, we found connections and similarities with the Rapanui signatures and the Māori signatures on The Treaty of Waitangi.

The discussions in this chapter contributed to answering RQ1 and RQ3.

2.5.1 Answering RQ1

RQ1: How has Māori typography evolved?

We aimed to answer parts of this question by exploring wider links through indigenous typography, researching early examples of Māori typography and lastly finding examples of modern Māori typography.

Firstly we began by exploring the Easter Island script. Discovered in Easter Island the Rapanui people drew symbols and characters similar to how Māori used symbols of their moko for signatures. The Rapanui people used animal and fauna like symbols which reflected their environment. Their language was similar to Māori as well. Additionally, the Hawaiian language also used petroglyphs which were stick figures of animal like figures. With the Hawaiian and Rapanui designs there is a Polynesian link of similar language, culture, and inscriptions between islands including Aotearoa.

We learned that Māori encountered the written language in 1769 upon the Endeavour. Not long after the encounter with Pākehā, Māori became literate. The form and style of lettering that Māori used on pou, whareniui, skin and newspapers was influenced by the Pākehā Didone typefaces and other Victorian styles seen in bibles and newspapers. The Didone lettering that Māori used appeared during the early years of contact between Māori and Pākehā settlers in the early 1800s. It is unknown of when Māori stopped using this style of writing.

Poor attempts of Māori typefaces were created by non-Māori according to Witehira and Trapani (2015) where symbols like koru were used out of context. Witehira (2015) explains that removing a cultural motif like koru from its original context and attaching it to the feet of letters is highly inappropriate.

Overtime, Māori typography developed further. Māori typefaces were created and attempted by Māori and non-Māori. The first Māori typeface created by a Māori was in 2013 called Whakarare by Witehira (2015). Inspiration of a carving pattern called Whakarare guided Witehira through the design process. The Pure Pākati typeface was a unique typeface made from a carving technique as well.

2.5.2 Answering RQ3

RQ3: What advice is given for design guidance of Māori typography?

There were three key areas that drove the design process for Witehira which was whakapapa Māori, toi Māori and Māori typographic development.

The design process for the Pure Pākati typeface included a team approach with Māori creatives, connections back to a Māori narrative and the use of Māori carving techniques.

The design process for both typefaces, Whakarare and Pure Pākati were organic, meaning a hands-on approach and not digital. The carving features from both typefaces, Whakarare and Pure Pākati show a connection to Māori design and Māori narratives.

Through this chapter we understand the evolution of Māori typography. From moko symbols on the Treaty of Waitangi to the influences of Pākehā typefaces that were used on whareniui, pou, skin and on newspapers. We have discovered that overtime Māori typography has developed and people like Witehira have designed Māori typefaces with a Māori approach to the design process. The next step is to understand in depth the earlier developments of Māori typography through print.

3. NIUPEPA MĀORI

This chapter investigates early use of typography in Māori newspapers. The newspapers come from the Papers Past database which provides an ideal catalogue of early printing in New Zealand. The total Māori newspapers published in the 19th and 20th century were more than 40 (Curnow et al., 2002). The process included auditing the Papers Past database which reviewed 21 Māori newspapers that it contained. The date of the earliest newspaper contained in the database was dated 1842, while the latest dated newspaper in the database was printed in 1935. A timeline of the newspapers analysed are in Table 3.

This study consisted of analysing and reporting the text-based features of the newspapers that were identified to be Māori newspapers. This study explored the different typographic treatments that were used in order to understand the landscape of Māori typography through early print in Aotearoa.

This chapter will provide the background history of Māori newspapers, the purpose of Māori newspapers, the editors, the method of this study, the results, the conclusion and summary as it relates to this thesis.

This investigation was aimed to answer *RQ1: How has Māori typography evolved?*

All newspaper figures used in this chapter are from the National Library Papers Past website.

3.1 Background to the Māori Newspapers

In this section we outline the background and the purpose of Māori newspapers. The background information gives context about the importance, relevance and the significance of Māori newspapers. History of what was happening at the time is explained including information about the editors as well.

The Papers Past website catalogue contains digitised New Zealand and Pacific newspapers from the 19th and 20th centuries. The catalogue is split into four sections, newspapers, magazines and journals, letters and diaries and parliamentary papers. However, the Papers Past website catalogue only contains a proportion of New Zealand newspapers.

According to Curnow (2002) the history of Māori-language newspapers occurred in three phases. In 1842 the first phase began with government publishing papers for colonising purposes with a component of contemporary philanthropy. The church and philanthropic papers were also part of this period however providing a greater importance for scriptural and biblical material. From 1862 the second phase, Māori-owned newspapers thrived. The ambition was to unify Māori ideas and opinion especially in regard to land issues and to inform Māori about their own civilisation and the world. The third phase was after 1913 where fewer Māori-language newspapers covered an extensive range of topics. The cause of the decline may have been due to the Native Schools Act in 1867 proclaiming that English was to be the only language of instruction which may have been due to the lack of capable writers in Māori (Curnow et al., 2002).

Between the years of 1855 and 1863 there was a transitional phase where Māori gained insights about Pākehā ideas (Curnow et al., 2002). In 1863 was the Government's invasion of Waikato. The resolutions remained by living separately away from Pākehā by maintaining their own Māori cultural and political

establishments. At that time, all Māori-language newspapers acted visibly as propaganda mouthpieces that conveyed political, religious and cultural messages rather than providing a platform for current affairs (Curnow et al., 2002).

Most Māori-language newspapers were managed by Pākehā leadership and control with the exception of the Kīngitanga newspaper, *Te Hokioi e Rere atu na* (Curnow et al., 2002). The majority were printed entirely in Māori with some newspapers that contained English translations. Māori newspapers such as *Te Karere Māori* and *Te Manuhiri Tuarangi* printed English articles and Māori articles side by side.

The Māori newspapers edited and created by Māori were papers such as *Te Hokioi o Nui Tirenī*, *Te Puke ki Hikurangi*, and *Aotearoa*. *Aotearoa* was established to benefit Māori with no input from Pākehā. Funds for the publication of the newspaper relied on advertisements and rentals off small portions of land throughout the district (Curnow et al., 2002).

The relationship between Māori and Pākehā differed. Through the production of newspapers both races had different ordeals, vision and cultural differences. Māori valued the formal spoken word whilst Pākehā discussed authority on the text (Curnow et al., 2002).

There were papers such as *Te Karere o Nui Tirenī* who proclaimed in its first issue in 1842 to bring both Māori and Pākehā to a level of understanding and to inform their readers on European customs, law and policy (Curnow, 2006). This paper was also the first Māori-language newspaper according to Curnow (2002). This paper was used for governmental services to communicate with Māori about Pākehā laws and customs and vice versa.

The language used in the newspapers were considered to be formal, rich and poetic. According to Curnow (2006), the letters within the newspapers were possibly the most valuable pieces of material because the letters offered a modern voice and views and feelings about Māori. Additionally, Curnow (2006) likened the letters to be a printed form of speech from the marae meaning, that the characteristics, formalities, wit and structure of Māori oratory were evident in Māori language press. The letters used *mihi* to firstly acknowledge the newspaper and or the editors, other writings included *karanga*, *tauparapara* and *whakatauki*. The majority of letters ended with *karakia* and or *waiata*. The change from formal to informal *Te Reo Māori* was shown through the letters. Transliterations and newly formed words and sayings were key indicators of language transformation (Curnow, 2006).

The land wars between government and Waikato caused the cancellation for the newspaper *Te Hokioi o Nui Tirenī* ("*Hokioi o Nui-Tirenī, e Rere Atuna*," 1862). For the rest of the newspapers it was the lack of income that caused the demise for many newspapers. The circulation costs, production, administration and printing contributed to the decline of the newspapers (Curnow, 2006).

3.1.1 The Purpose of Māori Newspapers

There were many reasons for printing Māori newspapers. Māori newspapers provided current affairs for Māori people about events happening everywhere in the world, on a daily, weekly or monthly basis, similar in the way European newspapers were used by Pākehā ("*Takitimu*," 1883). For Pākehā, it was an avenue

to deliver information to the ignorant and less informed. More or less Māori newspapers provided a voice for Māori, a lens into the political world, and to be their eyes and ears for Māori tribes to know about the events happening in their land and overseas ("Aotearoa," 1892).

Religious groups used Māori newspapers to spread the Good News and inform the people about their religion and events (Curnow et al., 2002). The Māori newspaper Te Haeata is an example and was used for religious purposes created by the Wesleyan ministers who wanted to promote their religious and social progress. It was a new venture for the Wesleyan Church, and it was possibly the first denominational paper in Māori and English in New Zealand ("Te Haeata," 1859).

The aim for The Māori Messenger Te Karere Māori also known as Te Karere o Nui Tirenī was to bridge a gap and unite both Māori and Pākehā together ("The Māori Messenger Te Karere Māori," 1842). The opening editorial for Te Karere o Nui Tirenī in 1842, states that 'it is a paper to inform Māori of Pākehā customs and practices and also to inform Pākehā of Māori practices' (Curnow, 2006). The hope in the creation of this newspaper was to bring an end to the ignorance about both races. Overall, from Curnow et al. (2002) "Ko te Karere o Nui Tirenī was issued monthly, 'so that Māori will know the laws and customs of the Pākehā and so that the Pākehā will know the laws and customs of the Māori'" (p. 18).

Other instances such as the newspapers, Ko te Kahiti Tuturu mo Aotearoa advertised Māori Land Court hearings ("Ko te Kahiti Tuturu," 1894). This newspaper was used to promote the details for land meetings. Te Hiiringa I te Whitu was used to publish reports and Huia Tangata Kotahi was printed to be the face, voice and messenger for Māori groups ("Huia Tangata Kotahi," 1893). Lastly the purpose of Te Puke ki Hikurangi, "it will be ears and voice for us who remain in ignorance of the enormous tasks of Te Kotahitanga in dealing with the Treaty of Waitangi, the gift from our forebears, and matters before our Parliament in Wellington" (p. 01).

Furthermore, there was a strong pull for Māori newspapers to be the voice and ears for Māori to speak directly to Māori about matters and issues concerning them. Māori newspapers were vehicles for Māori to inform and share content just for Māori. It was a time where Māori were excluded and felt ignorant on things that were happening in government.

Throughout all Māori newspapers there were many changes some big and some small such as changes in titles, the editors, typeface styles and heading styles as well. However, the purpose and the body text of the newspapers remained consistent throughout.

3.1.2 The Editors

The editors of Māori newspapers were either Pākehā or Māori. However, the majority of editors were Pākehā (Curnow et al., 2002). Some of the Pākehā editors were missionaries like Hugh Francis Carleton the editor for The Anglo Warder. Carleton was from the Church Missionary Society (Curnow et al., 2002). Some worked for government such as John Gorst who was the Resident Magistrate for Waikato, who worked on behalf of the Government. Gorst was the editor for Te Pihoihoi Mokemoke newspaper ("Te

Pihoihoi Mokemoke," 1863). Editor John White was the secretary for Governor Grey at the time and he edited the newspaper Te Wānanga in 1874 ("Te Pihoihoi Mokemoke," 1863).

Some of the Māori editors were prominent leaders in Māoridom. Wiremu Pātara Te Tuhi for example was the cousin to King Tawhiao, a significant Māori leader ("Hokioi o Nui-Tireni, e Rere Atuna," 1862). Te Tuhi edited for the Māori King movement's newspaper called Te Hokioi o Nui Tireni e Rere atu na. This paper was the first Māori language newspaper that was produced entirely by Māori for the years of 1862 and 1863 ("Hokioi o Nui-Tireni, e Rere Atuna," 1862).

There were editors who edited more than one paper. For example, Charles Davis, from New South Wales, a missionary who was a fluent Māori speaker was an editor for many Māori newspapers. Davis was also known by a Māori name which was Hare Reweti (Curnow, 2006). He was the editor for the following newspapers; Te Karere Maori, Te Waka o Te Iwi, Te Whetu o te Tau, Te Korimako, Aotearoa, the Māori Messenger and Te Whetu o te Tau. He edited these papers for approximately 50 years from the years of 1842 through to 1892 ("The Māori Messenger Te Karere Māori," 1842). Later editors for the Māori Messenger were David Burn and Walter Buller ("The Māori Messenger Te Karere Māori," 1842). There were times where Davis was assisted. For the newspaper Te Whetu o Te Tau, Wiremu Tamihana from Ngāti Haua assisted him with this.

Walter Buller was an interpreter in the Resident Magistrate's office and overtime edited three other Māori newspapers. Other than the Māori Messenger, Buller edited Te Karere o Poneke, Te Manuhiri Tuarangi and the Māori Intelligencer ("The Māori Messenger Te Karere Māori," 1842). Those three newspapers were similar in style and format ("The Māori Messenger Te Karere Māori," 1842).

There were approximately 15 newspapers who only had one editor. However, the Māori newspaper Te Paki o Matariki had a series of editors ("Te Paki o Matariki," 1892). The first editor was possibly W.T Tana Tainga Te Waharoa, the next was the secretary to the King, T Rāwhiti. Further on, joint editors were Haunui Tāwhiao, Tūmate Māhuta, Tonga Māhuta and Te Puea Hērangi (Curnow et al., 2002). They were all Māori.

3.2 Method

The method outlined below will set out how the early use of typography in Māori newspapers was analysed.

3.2.1 Selection of Sample

The Papers Past database contains 847,719 newspaper documents. Every newspaper title was assessed throughout the Papers Past database. We identified 21 Māori newspapers to be included in this study. These newspapers were considered Māori newspapers according to the following; if the masthead contained Te Reo Māori, if the content was written for a Māori audience, or if the body text was written fully or partially in Te Reo Māori. The names and date periods of each Māori newspaper is shown in Table 3.

The 21 identified Māori newspapers used for this study were from different regions throughout Aotearoa. The newspapers published themes such as regional news, farming news, faith-based events, council

meetings, advertisements for Māori land court meetings, awareness around Te Reo Māori and community events. Newspapers that published in Te Reo Māori, English or bilingually were included in this study.

The names, date periods, number of issues, languages used and regions of the 21 Māori newspapers analysed for this study are listed in Table 3.

Table 3: Name and Dates Of The Māori Newspapers Analysed

Name of the newspaper	Date	Issues	Language	Region
The Māori Messenger Te Karere Māori	1842-1863	50	English/Māori	Auckland
Anglo Māori Warder	1848	26	English	Auckland
Te Karere o Poneke	1857-1858	54	Māori	Wellington
Te Whetu o Te Tau	1857-1858	5	Māori	Auckland
Te Haeata	1859-1862	36	Māori	Auckland
Te Hokioi o Nui-Tirene	1862-1863	9	Māori	National
Te Pihoihoi Mokemoke	1863	5	Māori	Otawhao
Te Waka Māori	1863-1884	315	Māori	National
Te Wānanga	1874-1878	178	English/Māori	Napier
Matariki	1881	2	Māori	Gisborne
Te Korimako	1882-1890	80	English/Māori	Auckland
Takitimu	1883	1	Māori	Gisborne
Aotearoa	1892	2	Māori	National
Te Paki o Matariki	1892-1935	34	Māori	Cambridge
Huia Tangata Kotahi	1893-1895	67	Māori	National
Ko te Kahiti Tuturu mo Aotearoa me Te Waipounamu	1894-1896	3	Māori	National
Ngā Hiiringa i te Whitu	1896	1	Māori	National
Te Puke ki Hikurangi	1897-1913	183	Māori	Greytown
The Jubilee Te Tiupiri	1898-1900	78	English/Māori	Whanganui
Matuhi	1903-1906	36	Māori	Wellington
Te Mareikura	1911-1913	18	Māori	Wellington

Newspapers that were in circulation for a single year as well as newspapers that were in circulation for more than one year were analysed. The longest circulation period was ten years. We selected a certain date

from each year of each newspaper. Therefore, one newspaper for each year of circulation was selected for review.

The 3rd of February 1840 is a significant date in the history of Aotearoa because it marks the signing of the Treaty of Waitangi. Therefore, because of its relevance to Aotearoa history, this date was selected for which we attempted to sample newspapers. A newspaper dated as close to the 3rd of February in a given year for each year of existence of each newspaper was chosen for analysis.

3.2.2 Page Analysis

The front page of each newspaper was selected to be analysed. The front page was chosen because it offered a variety of headings such as the masthead, display and sub headings. These headings and text elements provided different styles of fonts. In total 114 pages were analysed throughout 21 newspapers. Nineteen newspaper editions were single pages. A single page newspaper consisted of only one page. The majority of those single page editions were from Te Pahi o Matariki which had 16 single pages.

Each newspaper edition was viewed in a web browser. Each page was then analysed and every text element on the page was assessed. The typeface and typeface classification that featured for each text element were identified and data was recorded into an excel sheet.

3.2.3 The Text Elements Analysed

Five text elements were analysed on each page. The five elements are a masthead main, masthead display, display main, display subheading and body text. Figure 16 shows an example of the five text elements. Boxed in dark blue is the masthead main, yellow is the masthead subheading, green is the display main, orange the display subheading and the body text is boxed in red.

The masthead main is the title of the paper and is positioned top of the page. The visual weight, meaning, the size and thickness of the masthead is often heavier than other titles.

The masthead subheading is a slogan, quote or an extra piece of information about the paper which is placed underneath the masthead main. This heading is normally smaller in size compared to the masthead main.

Positioned underneath the masthead subheading is a smaller title called the display main. In most cases throughout the papers the display main sat beneath the masthead, which often displayed the date of the paper.

Smaller than the display main is the display subheading. The display subheading is another title heading which introduced topics within the body text.

The body text is the content of the paper.

Pictured in Figure 16 is a coat of arms which is positioned beneath the masthead main ("Te Karere o Poneke," 1857). There were many newspapers which incorporated these types of images however, this study only analysed the text

Figure 16: Text Elements (Source: Te Karere o Poneke, 1857)

TE KARERE O PONEKE

Ko te kai rapu, ko ia te kite.

VOL. I.] MANE, 8 O PEPUERE 1858, [NO. 18

The "KARERE O PONEKE" is published every Monday morning.
TERMS OF SUBSCRIPTION;—Twenty Shillings per annum, payable half-yearly.
TERMS OF ADVERTISING;—Three pence a line for the first insertion of all Advertisements, and Two pence a line for every subsequent insertion. Advertisements will be continued and charged for until counter-ordered: such orders, in writing, as also all Advertisements (in English) will be received at the INDEPENDENT Office,

KO EKEREHA---

HE HOIHO TARIONA

HE HOIHO papai rawa tenei; ko tona matua tane ko Hamihona —ko te hoiho tera o te Hamona, i ntaina mai ra hoki i tawahi. Ko noa

PANUITANGA.

HE HOIHO kei te haereere i Pa-ramapoa, i Poneke nei. He uwba taua hoiho; ko te ahua, he whero; e haere tahi ana me tana kua, —he miura te kua. Na! ki toku whakaaro noku ake ano tenei hoiho (me tana kua hoki), otira, he tupato noku kei tango pohehe au i te taonga o te tangata ke, i panuitia ai e au enei korero. Tera pea he tangata kua ngaro tona hoiho: heoi ra, me haere mai ia me tiire—koia ranei tenei. A ki te tika ka whakaae au kia riro te hoiho nei (me tana kua) i taua tangata. Ko nga utu mo te hopuranga, mo te ahatarua ranei, mana ano e

Note: From Papers Past, by National Library of New Zealand. (<https://paperspast.natlib.govt.nz/newspapers/karere-o-poneke/1858/2/8/1>).

3.2.4 The Typeface Features

The typeface features of each text element were analysed and each typeface was placed into different type styles such as serif, serif bold, sans-serif, sans-serif bold. Also, typefaces such as script and blackletter were analysed. Figure 17 shows examples of each type style and or typeface. Starting at the top of Figure 17 the serif lettering has thin small lines attached to the end of the strokes in a letter. Serif bold is the same style as serif but the letters are bold. The sans-serif lettering is opposite to serif and has no small lines attached to the strokes. Sans-serif bold is a bold variant of a sans-serif classified typeface, that is to say the sans-serif typeset letters are bold weight letters. Fifth down the list the script lettering reflects a handwritten text and the Blackletter typeface-classification shows a dramatic Gothic style lettering with high ascenders and pointed ended strokes. Therefore, each text element of every front-page newspaper was matched with one of these typefaces and recorded for comparative analysis.

SERIF
SERIF BOLD
SANS-SERIF
SANS-SERIF BOLD
<i>Script</i>
Blackletter

Figure 17: Typeface Classification Examples

The four type styles and two typefaces shown in Figure 17 are broad. What became apparent after analysing the newspapers was a more in-depth examination of each type style. To be more specific and meticulous about what exact typefaces were used, the pages were examined again. The typefaces used were then matched with typefaces in the Vox-ATypI classification. As explained in Section 2.1.3 the Vox-ATypI classification is a system that was created to group typefaces together. This is the classification system used in this study and referred to as typeface classifications.

Every newspaper page repeated the same analysis process. However, this time each heading was analysed and then paired with a VOX-ATypI typeface classification listed from Table 3 which is discussed in Section 2.1.3. The typeface classification was then recorded for comparative analysis.

3.3 Results

Here we present the results of our visual analysis of Māori newspapers in the papers past database.

3.3.1 Masthead

This section will explain the results of the masthead main and the masthead subheading. The masthead main is the main title heading for the newspaper, positioned at the top of the paper. The masthead subheading is the secondary heading, usually positioned below the masthead main.

3.3.1.1 Main

A total of 114 masthead mains and 40 instances per paper were analysed in this study. As noted in Section 3.2.1 21 Māori newspapers were selected for this study. All 21 Māori newspapers contained a masthead

main and many of the editions repeated the same typeface. However, we found that seven Māori newspapers updated mastheads during the time that we have records for that newspaper a total of 19 changes. Five of those newspapers changed their masthead main on multiple occasions, please see Table 4 to see the changes. In total, 21 masthead mains, plus an additional 19 masthead mains shown in Table 4 were analysed. Therefore, 40 mastheads per instances were analysed. Also noted in Section 3.2.2 114 papers were analysed overall, therefore all papers had a masthead main.

Table 4: Masthead Main Changes Overtime

Newspaper	#Changes	Years Changes Occured
Ko te Kahiti Tuturu mo Aotearoa me Te Waipounamu	1	1885
Te Korimako	1	1884
Te Puke ki Hikurangi	2	1905, 1913
The Māori Messenger Te Karere Māori	3	1849, 1855, 1861
The Jubilee Te Tiupiri	2	1899, 1990
Te Waka Māori	2	1868, 1878
Te Paki o Matariki	8	1894, 1895, 1896, 1907, 1913, 1915, 1919, 1924

The results across all papers are shown by the orange line graph in Figure 18. The results show that serif was used 6 times, serif bold 65, sans-serif 8, sans-serif bold 4 and blackletter 31. There were 114 papers in total.

The results of instances per paper show that serif was used 5 times, serif bold 20, sans-serif two, sans-serif bold three and blackletter 10. Overall there were 40 instances.

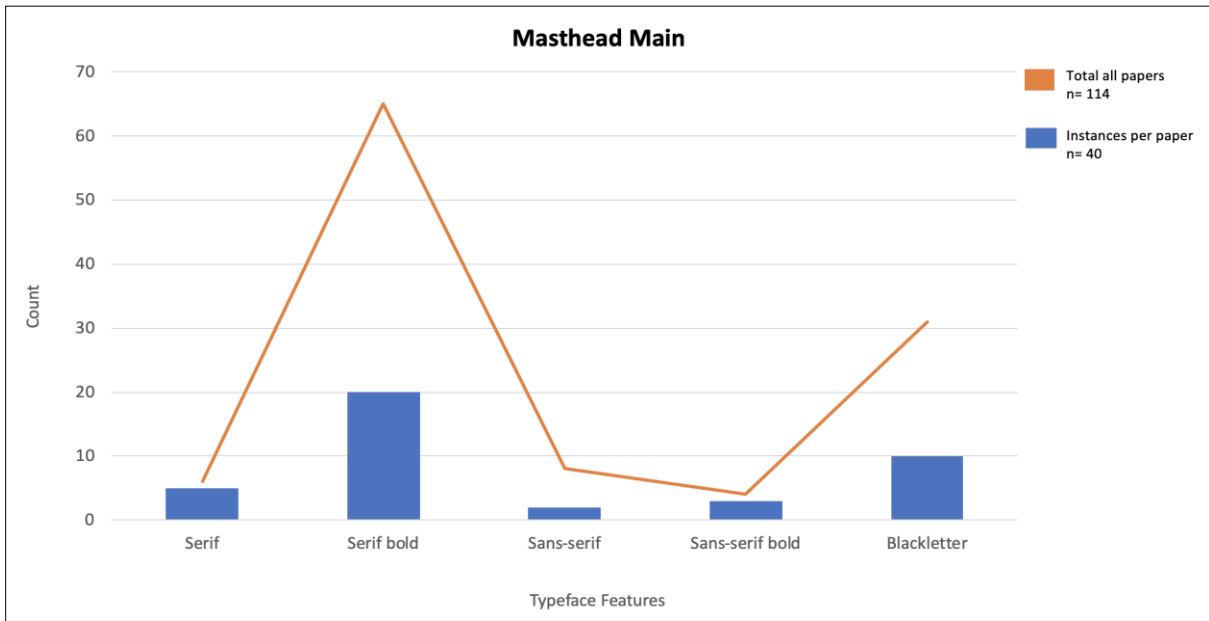


Figure 18: Masthead Main Graph

The Matariki serif bold masthead pictured in Figure 19 came from a paper printed in Gisborne in 1881 ("Matariki," 1881). The purpose of the paper was to release information concerning land issues in the Gisborne region. Figure 19 is an example of a serif bold typeface which was commonly used. This typeface has thick bold letters with thick serifs and the size of the text is large which is understandable knowing that this is a masthead main.

Figure 19: Matariki Masthead (Source: Matariki, 1881)



Note: From Papers Past, by National Library of New Zealand
 (<https://paperspast.natlib.govt.nz/newspapers/matariki/1881/4/23/1>).

The typeface classification results displayed in Figure 20 show Blackletter and Didone both featured 10 times. Handwritten was featured five, Mechanistic five, Garalde three and also Glyphic three. Neo Grotesque featured twice, Lineal and Geometric both featured once. The total of these results were based from the instances per paper.

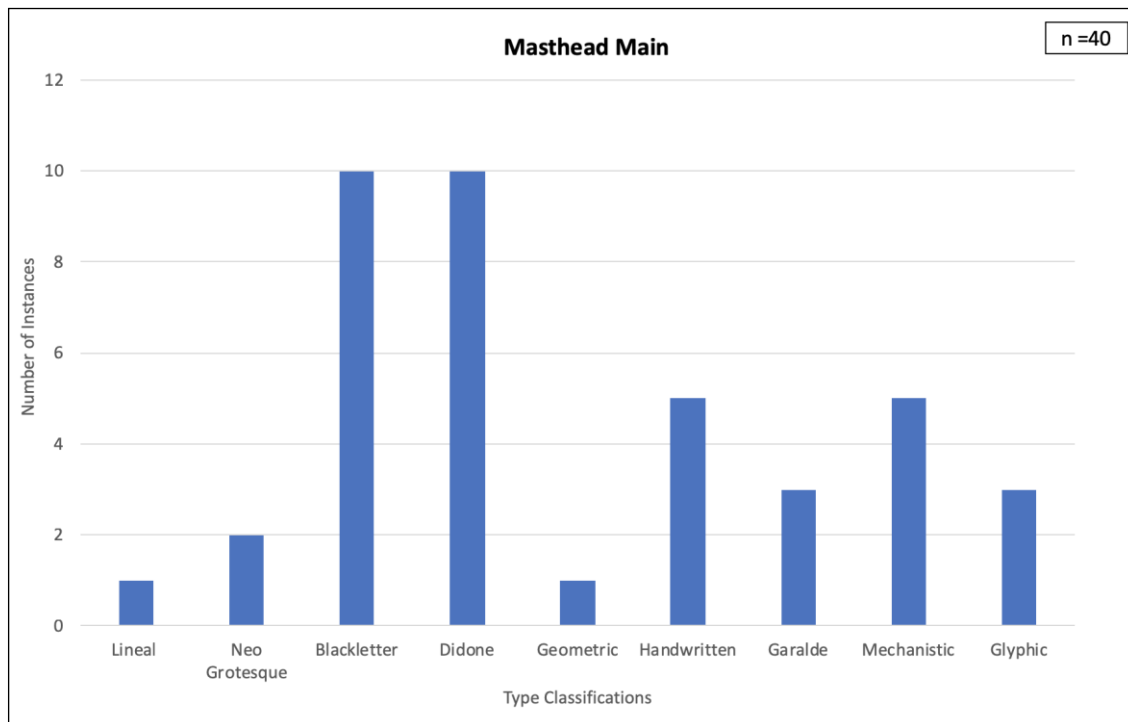
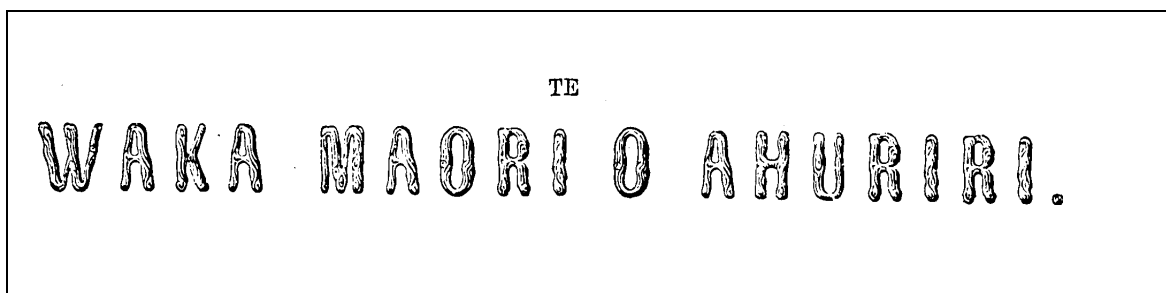


Figure 20: Masthead Main Typeface Classification Graph

Seven papers changed their masthead mains overtime as mentioned in Table 4. The Ko Te Kahiti Tuturu mo Aotearoa newspaper masthead main changed once and there were only slight changes made to the serif typeface. However, six other papers had significant changes. The newspaper Te Korimako changed once from a thin serif to a Blackletter typeface. The Māori Messenger changed three times from a serif bold typeface to a Blackletter and lastly it changed to a thin serif. The newspaper Te Puke Ki Hikurangi changed twice from a bold thick typeface with the slightest touch of serifs to a contrasted decorative carnival typeface. Te Waka Māori changed twice. The first masthead was a wood style sans-serif, it changed to a thin serif typeface and then a Blackletter typeface. All three masthead mains are completely different. The newspaper Te Paki o Matariki changed its masthead main eight times, it went back and forth from a blackletter to a thin serif, back to a blackletter and so forth.

The masthead of Te Waka Māori o Ahuriri, a national paper printed from 1863-1884, pictured in Figure 21 was unique because there were no other headings designed in this way ("Te Waka Māori," 1863). Throughout all of the 21 newspapers analysed, there are no other headings like this one and it is one of few sans-serifs. The style of this masthead is detailed, decorative, wood like, sans-serif but has its own unusual fluid character. The word Waka is in reference to a boat or mode of transport and Ahuriri refers to the place Napier. The style of the lettering looks like wood, which presumably, resembles the texture and materials used for waka. Also, the word TE, which means 'the', is placed on top of the heading; it has a serif typeface and is not included with the decorative wood typeface.

Figure 21: Te Waka Māori O Ahuriri Masthead (Source: Te Waka Māori, 1863)



Note: From Papers Past, by National Library of New Zealand. (<https://paperspast.natlib.govt.nz/newspapers/waka-maori/1863/6/13/1>).

During 1863 when the Te Waka Māori o Ahuriri masthead, in Figure 21, was printed, other newspaper mastheads were not similar. An example is pictured in Figure 22 dated the same time as Figure 21 in 1863. The Otago Daily Times was a non-Māori paper and the masthead is Blackletter. Figure 21, the decorative wood typeface was very much unique in its time ("The Otago Daily Times," 1861).

Figure 22: Otago Daily Times Masthead (Source: The Otago Daily Times, 1861)



Note: From Papers Past, by National Library of New Zealand. (<https://paperspast.natlib.govt.nz/newspapers/otago-daily-times>).

Another example of a wood-like typeface was a display main heading pictured in Figure 23. This example was taken from the Kahiti Tuturu mo Aotearoa me Te Waipounamu newspaper dated in 1894 much later than the Te Waka Māori o Ahuriri masthead main edition ("Ko te Kahiti Tuturu," 1894). The concept is similar, but the design of the lettering is different. It has a Lockwood appeal; each letter is made up of logs compared to Te Waka Māori o Ahuriri which is more fluid and less rigid.

Figure 23: Wood Typeface Display Main (Source: Ko te Kahiti Tuturu, 1894)



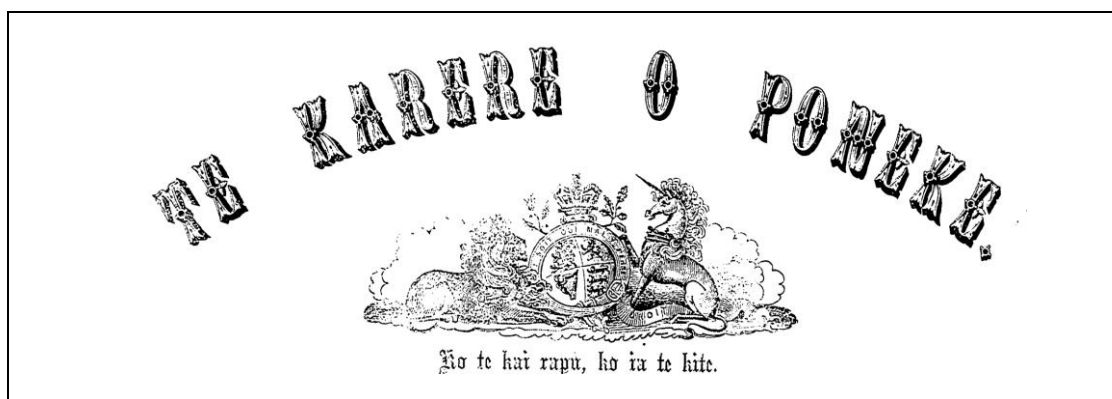
Note: From Papers Past, by National Library of New Zealand. (<https://paperspast.natlib.govt.nz/newspapers/kahiti-tuturu-mo-aotearoa-me-te-waipounamu/1894/11/20/1>).

For some instances the mastheads included either a coat of arms, a banner and or illustrations. Some mastheads were large in size approximately one quarter of the page, compared to others which were simply

a title with only text. For example, in Figure 24 the masthead for Te Karere o Poneke printed in 24th September 1857 displays a carnival inspired typeface with a Blackletter masthead subheading ("Te Karere o Poneke," 1857). Displayed in this example are two different typefaces which shows contrast and hierarchy to emphasise the masthead main. Centered between both headings sits an illustrated coat of arms of some sort which looks like a Lion, Unicorn and a crest. In comparison, Figure 25 displays a masthead from Huia Tangata Kotahi newspaper printed 8th February 1893 ("Huia Tangata Kotahi," 1893). This masthead uses a sans-serif typeface text, all capitalised and evenly balanced. The decorative border encloses the masthead main well. This masthead does not include a masthead subheading.

Unlike Figure 24 the Huia Tangata Kotahi masthead is plain and not decorative. Te Karere o Poneke is 65mm v 170mm (height and width) bigger in size compared to the Huia Tangata Kotahi which is 35mm v 195mm (height and width).

Figure 24: Te Karere o Poneke Masthead (Source: Te Karere o Poneke, 1857)



Note: From Papers Past, by National Library of New Zealand.

(<https://paperspast.natlib.govt.nz/newspapers/karere-o-poneke/1857/9/24/1>).

Figure 25: Huia Tangata Kotahi Masthead (Source: Huia Tangata Kotahi, 1893)



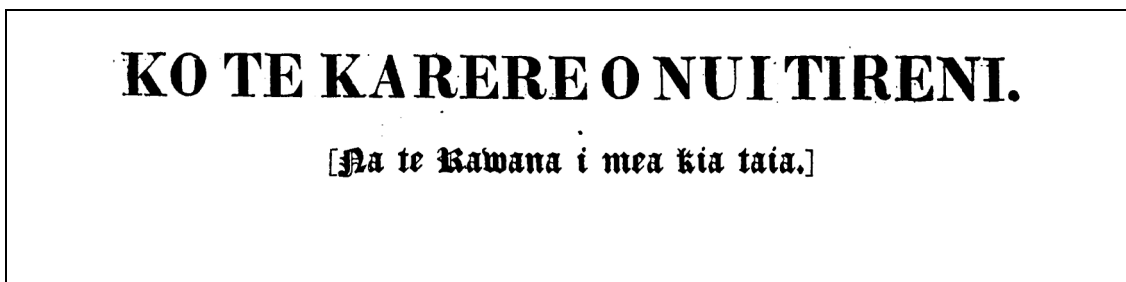
Note: From Papers Past, by National Library of New Zealand.

(<https://paperspast.natlib.govt.nz/newspapers/huia-tangata-kotahi/1893/2/8/1>).

There were masthead mains like the Ko Te Karere o Nui Tireni pictured in Figure 26 that resembled familiar Didone style lettering ("The Māori Messenger Te Karere Māori," 1842). The Didone style was researched

and noted by Witehira which is discussed in Section 2.3.3. This style of lettering was painted by Māori on their wharenui and similar typeface style which were also tattooed.

Figure 26: Ko Te Karere O Nui Tireni Masthead (Source: The Māori Messenger Te Karere Māori, 1842)



Note: From Papers Past, by National Library of New Zealand.

(<https://paperspast.natlib.govt.nz/newspapers/maori-messenger-te-karere-maori/1842/2/1/1>).

3.3.1.2 Subheading

A total of 92 masthead subheadings and 34 instances per paper were analysed overall. Not all 21 Māori newspapers contained a masthead subheading, three newspaper editions had no masthead subheadings which results in 22 papers overall having no masthead subheadings.

Five newspaper editions changed typefaces overtime, see Table 5. Two newspapers changed typefaces only once and three other newspapers changed their subheadings multiple times. In total, 18 masthead subheadings, plus an additional 16 masthead subheadings were analysed.

Table 5: Masthead Subheading Changes Overtime

Newspaper	#Changes	Years Changes Occured
Te Korimako	1	1884
Te Puke ki Hikurangi	1	1905
Te Waka Māori	3	1878, 1879, 1884
The Māori Messenger Te Karere Māori	4	1849, 1854, 1855, 1861
Te Paki o Matariki	7	11896, 1907, 1909, 1914, 1915, 1919, 1924

The results across all papers show in Figure 27 that serif was used 42 times, serif bold 18, sans-serif 8, sans-serif bold 2, Blackletter 11 and script 11. A total of 92 masthead subheadings were counted.

The results of instances per paper in Figure 27 show that serif was used 13 times, serif bold 8, script 4, Blackletter 4. Sans-serif only featured 3 times and sans-serif bold 2. A total of 34 instances per paper were counted.

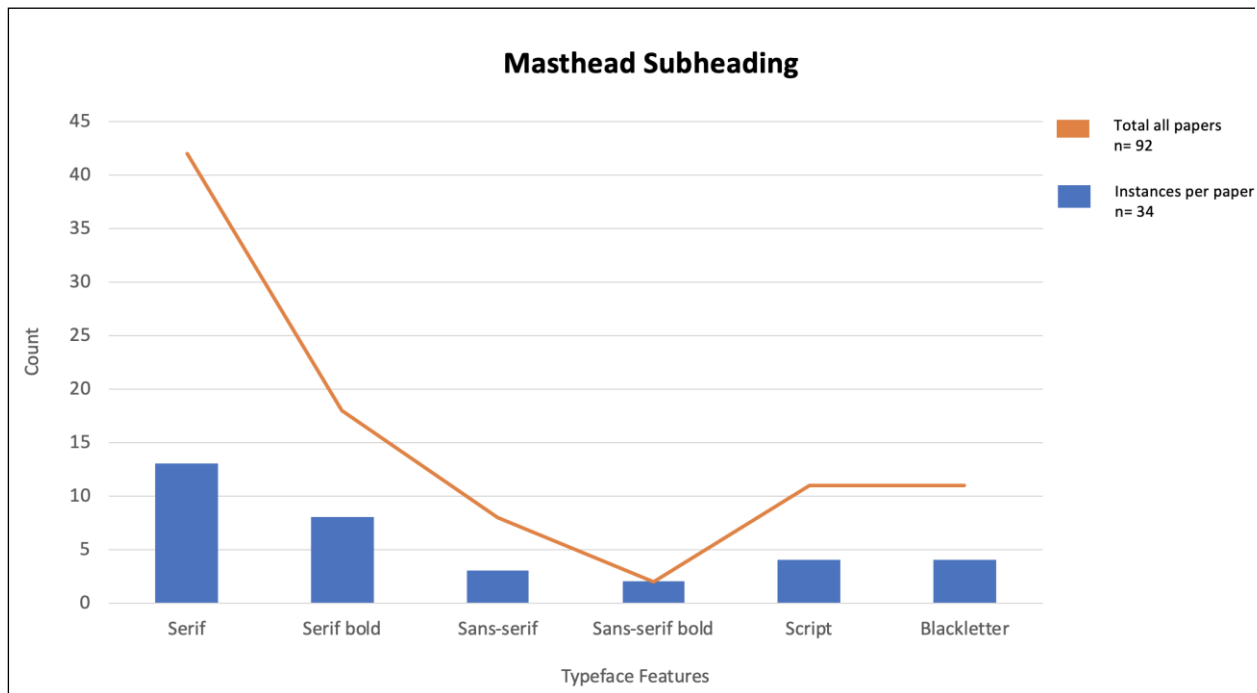


Figure 27: Masthead Subheading Graph

The masthead subheading pictured in Figure 28 came from the national paper Te Waka Māori o Niu Tirani from 1863-1884 ("Te Waka Māori," 1863). The purpose of the paper was to report world events and to keep the people in Aotearoa informed. Figure 28 is an example of a serif typeface commonly used for the masthead subheading. The letters are thin, small and capitalised emphasising the importance of the message behind the quote. The quote says, "Ko te tika, ko te pono, ko te aroha" this refers to "Justice, truth, love". This example also shows the same typeface used for both the masthead main and masthead subheading.

Figure 28: Te Waka Māori o Niu Tirani Masthead (Source: Te Waka Māori, 1863)



Note: From Papers Past, by National Library of New Zealand.

(<https://paperspast.natlib.govt.nz/newspapers/waka-maori/1863/6/13/1>).

The typeface classification results show that Didone featured in 12 papers, Blackletter, Transitional and Garalde 4, Neo Grotesque 3 times, Geometric and Mechanistic both featured twice, refer to Figure 29. Grotesque, Glyphic and Humanist all appeared only once.

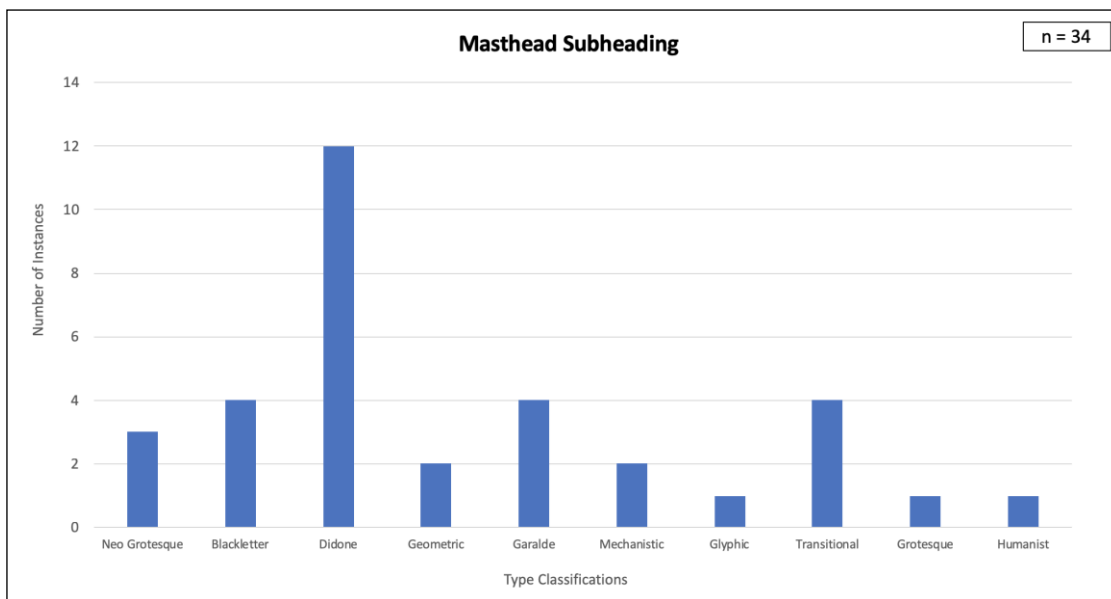


Figure 29: Masthead Subheading Classification Graph

Five papers changed their masthead subheading typefaces overtime, refer to Table 5. Both newspapers Te Korimako and Te Puke ki Hikurangi changed once from a sans-serif to a serif. Te Waka Māori changed three times from sans-serif, serif and slab serif. The Māori Messenger changed typefaces four times from Blackletter, script, serif and serif-bold. Lastly, Te Paki o Matariki changed typefaces the most. Seven times Te Paki o Matariki changed the typeface from a series of different serifs such as Garalde to Didone and so forth. One sans-serif featured in between which was classified as a Neo-Grotesque.

In Figure 30 are two masthead subheadings from the Te Korimako newspaper ("Te Korimako," 1882). The first example from 1882 is a serif italic typeface that has a mixture of thick and thin strokes and only certain letters have serifs. The second example from 1884 is a sans serif font, completely opposite to the 1882 example. This change could have occurred from the influence of other newspapers of the time. The 1884 edition from the newspaper Te Waka Māori has a sans-serif masthead subheading as well.

Figure 30: Te Korimako Masthead Subheading Changes Overtime (Source: Te Korimako, 1882)

<p><i>He Nupepa whakaatu i nga rongo o te ao katoa, nga tikanga o Te Whakapono, me era atu mea.</i></p>
<p>Masthead Subheading 1882</p>
<p>He Nupepa whakaatu i nga tikanga o te Whakapono, nga Rongo o te Ao katoa, me era atu mea.</p>
<p>Masthead Subheading 1884</p>

Note: From Papers Past, by National Library of New Zealand.
(<https://paperspast.natlib.govt.nz/newspapers/korimako/1882/3/25/1>).

3.3.1.3 Masthead Changes

This section will discuss a few masthead changes that occurred during the publication of two newspapers; The Jubilee and Te Paki o Matariki. These two papers were selected for review because of the dramatic changes that were made and also the number of changes that occurred. The changes for The Jubilee Te Tiupiri will be discussed first and then the changes for Te Paki o Matariki.

The Jubilee Te Tiupiri newspaper created three different masthead mains for every year of its publication from 1898-1900 ("The Jubilee: Te Tiupiri," 1898). The three masthead mains are shown in chronological order in Figure 31.

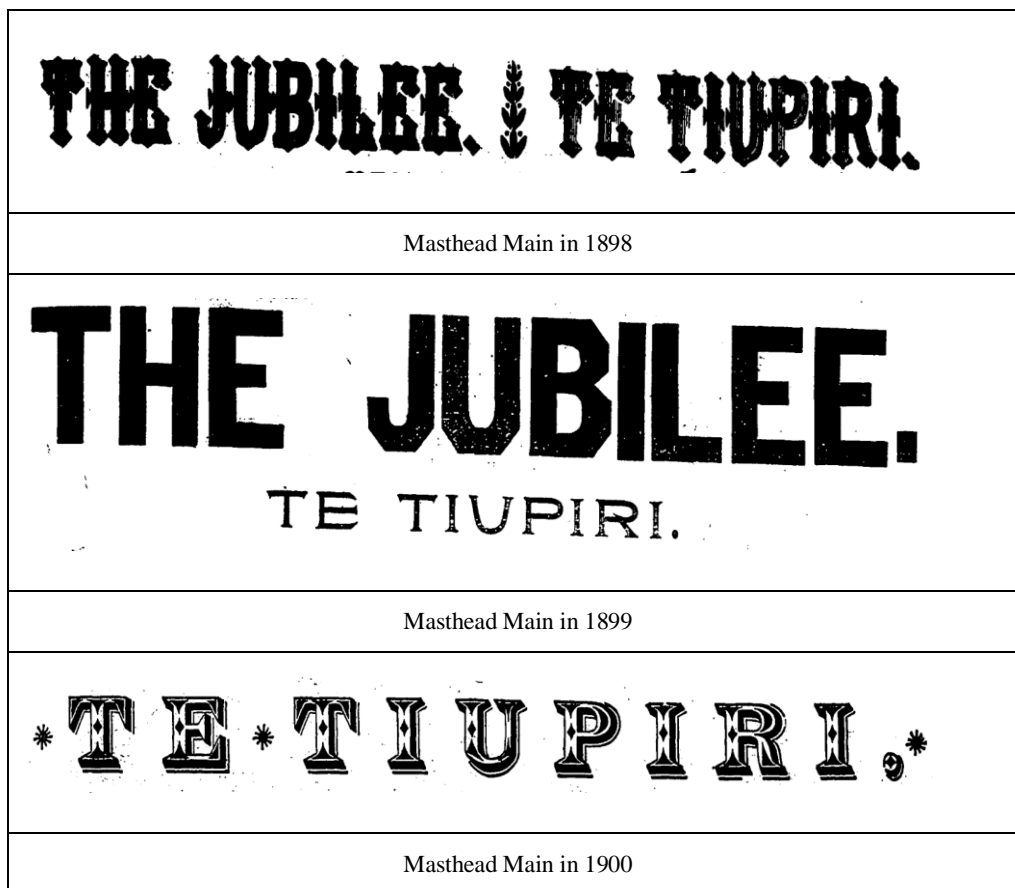
The first masthead main in 1898 is very unique, the style of lettering is a bold capitalised pointed serif-like typeface. The kerning or, the space between the letters are tight and close together. There were no other typefaces like this throughout the other newspapers, this one in particular is very distinctive. The fern or flower symbol centered in between both languages is also unique. The symbol is the same height as the lettering therefore it does not show a split or dominance between languages but, because of its nature it creates the impression of equality bridging the two cultures. The other three mastheads do not have this symbol. The diamond shape full stops after the words Jubilee and Tiupiri show the distinct separation between titles.

The next masthead main in 1899 is a mix of bold, wide, thin letters, different sizes and is split into two lines. The first line of text 'The Jubilee' is a wide sans-serif block letter with tight kerning and straight

edges. The second line of text ‘Te Tiupiri’ is a thin serif with slightly wider kerning. Very few Māori newspapers used this style of lettering for their masthead main. The block letter typeface compared to the thin serif typeface are odd when put together and overall both typefaces are very different compared to the masthead main in 1898. The different sizes and styles of lettering clearly show contrast, distinction and a dominance between the two titles. Overall it has a form of hierarchy clearly showing that the English title is of importance. There are also full stops at the end of each line. No symbols of bridging the two cultures are included with this masthead.

Lastly, the third masthead main from 1900 shows a playful, decorative, carnival serif. The kerning is wide which spaces the letters further away from each other stretching the title horizontally. The wide kerning possibly shows a design technique to emphasis the title’s importance, almost stating its position. The serifs are sharp and the capitalised letters ensure easy reading. There are also three Asterix star symbols placed at the beginning, at the end and between the two words which reflect the style of the lettering well. Also noted is the full stop at the end. This carnival style of typeface was used in three other newspapers.

Figure 31: The Jubilee Te Tiupiri Masthead Main (Source: The Jubilee: Te Tiupiri, 1898)



Note: From Papers Past, by National Library of New Zealand.
(<https://paperspast.natlib.govt.nz/newspapers/jubilee-te-tiupiri/1898/2/8/2>).

Aside from the typeface and lettering changes, the wording and the language transformed overtime. Firstly, the word ‘Tiupiri’ translates to the English word ‘Jubilee’ therefore, ‘Te Tiupiri’ translates to ‘The Jubilee’.

The masthead main in 1898 started with both the English and Māori titles all on the same level. The title is one, positioned on one-line, same weight and is one typeface. This masthead shows the equality of both languages. However, the second masthead main in 1899 shows a dramatic split between both languages. In this masthead the size of the English title is more superior than the Māori title which is smaller. The split and the different sizes of fonts show the importance of one language to the other. Lastly, the third example from 1900 displays only the Māori title 'Te Tiupiri'.

The use of language in all three mastheads provides a snapshot and insight into the time period the newspaper existed in. Questions have arisen from these incidences and I wonder if these changes were made to attract certain readers of the time? Or a change in editor who had different preferences? Or perhaps these changes were made according to the committee of the time? A deeper analysis of why these changes occurred is beyond the scope of this thesis.

The language used in the body text changed overtime as well. The 1898 edition shows notices in Māori and English with a column that addresses their Pākehā audience. In English, the column notifies Pākehā that the paper will be introducing Native matters, why it is important for them and how the content will be published in English. In the 1899 and the 1900 editions however, the front and second pages are all printed in Te Reo Māori. Therefore, whilst the language in the masthead shows a dramatic change, it also reflects the language that was used in the body text. With the exception of the 1899 masthead where the English title was more dominant, the body text, however, is all in Te Reo Māori. This English title, Māori body text mix does not appear to be logical.

The purpose of the Jubilee Te Tiupiri was to pass through the reports of the Māori Parliament of the time. The paper was organised by a committee of 24 members ("The Jubilee: Te Tiupiri," 1898). Such notices were printed; parliamentary news from Wellington, land matters, any local news, traditions, sports, theatre and racing events ("The Jubilee: Te Tiupiri," 1898). The newspaper was also named in honour of Queen Victoria's Jubilee ("The Jubilee: Te Tiupiri," 1898).

According to sources from Curnow and the Papers Past database, Waata Hipango published the newspaper and H T Whatahoro Jury was the editor (Curnow, 2006). However, in the 1899 and 1900 newspapers, it shows that Hipango signed off as the etita (editor) for Te Tiupiri in the editorial section. Had the change in editor determined the change in mastheads? Possibly so.

All three masthead mains are diverse, they have no similarities, no common thread and no cultural connection. They are three separate stand-alone masthead mains. The progression overtime shows experimentation and an abrupt evolution from one unique masthead main to another. It is unknown why these changes were made.

In the newspaper Te Paki o Matariki there were eight masthead changes, the most changes made out of all newspapers that were analysed. Te Paki o Matariki existed from the year 1892 to 1935. The masthead changes were made from the years 1894 to 1924. These masthead changes are shown in Figure 32.

At the outset, six mastheads include the coat of arms of the Māori King movement which is called Te Paki o Matariki. Two mastheads are without the coat of arms. Four mastheads have used the same Blackletter

typeface and the other four have used similar serif Didone typeface styles. The 1919 masthead is a serif bold typeface, the only typeface that is slightly different from the others. The 1907 masthead is the only masthead that contains a certain saying or slogan about the newspaper. The other seven mastheads contain the place and date of the paper.

Compared to the diverse changes of The Jubilee Te Tiupiri, these changes are not so distinct. Each change varies from one typeface to another and, overtime the mastheads remain with the same layout and same typefaces. There is one exception where the layout is different. The masthead in 1913 shows a split where Te Paki o Matariki has been placed on three lines rather than one line similar to the other seven mastheads.

What is known about the editors for Te Paki o Matariki is that the first editor according to Curnow et al. (2002) was possibly W.T Tana Tainga Te Waharoa. After him was T Rāwhiti who was the secretary to the King. Further on there were other editors who were Haunui Tāwhiao, Tūmate Māhuta, Tonga Māhuta and Te Puea Hērangi (Curnow et al., 2002). It is unknown what year these editors came on board but knowing that there were many editors likely indicates why the masthead was changed so often.

The content of these papers consists of generic notices, updates, greetings to the people and minutes from meetings. The content shows nothing about why these mastheads changed. One of the differences is that the print location changed from Cambridge to Huntly in the newspapers 1907, 1913, 1915 and 1924. But the change in location does not show any evidence for the changes.

Figure 32: Te Paki O Matariki Masthead Changes (Source: Te Paki o Matariki, 1892)



Te Paki o Matariki Masthead 1894



Te Paki o Matariki Masthead 1895

TE PAKI O MATARIKI,

MAUNGAKAWA KEMURETI WAIKATO.

MARHE 18 1896.

Te Paki o Matariki Masthead 1896

Te Paki o Matariki

TE MANA MOTUHAKE, O TE TUTUKU, O NGA TUPUNA, O NGA IWI MAORI O NGA
MOTU ERUA NEI. O AOTEAROA. ME TE WAIPOUNAMU.

WAAHI HANATERE, WAIKATO. MEI 2 O NGA RA, 1907.

Te Paki o Matariki Masthead 1907



Te Paki o Matariki Masthead 1913



Te Pahi o Matariki Masthead 1915



Te Pahi o Matariki Masthead 1919



Te Pahi o Matariki Masthead 1924

Note: From Papers Past, by National Library of New Zealand.
(<https://paperspast.natlib.govt.nz/newspapers/pahi-o-matariki/1892/7/26/1>).

3.3.2 Display

This section will explain the results from the display main and display subheading. The display main is a smaller heading compared to the masthead main. The display main is positioned below the masthead. The display subheading is the next smallest heading, smaller or sometimes similar in size to the display main, however it is another heading positioned usually within the body text.

3.3.2.1 Main

The display main was featured less compared to the masthead main and subheadings. A total of 109 display mains and 30 instances per paper were analysed. There were 5 newspapers with no display mains.

Two newspapers changed typefaces only once and three other newspapers changed multiple times. Therefore, five newspapers changed typefaces overtime adding an additional nine display mains, refer to Table 6. In total, 21 display mains plus an additional 9 resulting in 30 instances of display mains were analysed overall.

Table 6: Display Main Changes Overtime

Newspaper	#Changes	Years Changes Occured
Ko te Kahiti Tuturu mo Aotearoa me Te Waipounamu	1	1885
Matuhi	1	1905
The Jubilee	2	1899, 1900
Te Paki o Matariki	2	1915, 1924
Te Puke ki Hikurangi	3	1903, 1905, 1913

The results from across all papers in Figure 33 show that serif was featured 85 times, serif bold 17, sans-serif 2, sans-serif bold 4 and black letter 1. Overall 109 display mains were counted across all papers.

The results of instances per paper show that serif featured 17 times, serif bold 7, sans-serif 2, sans-serif bold 3 and Blackletter once. The total of instances was 30.

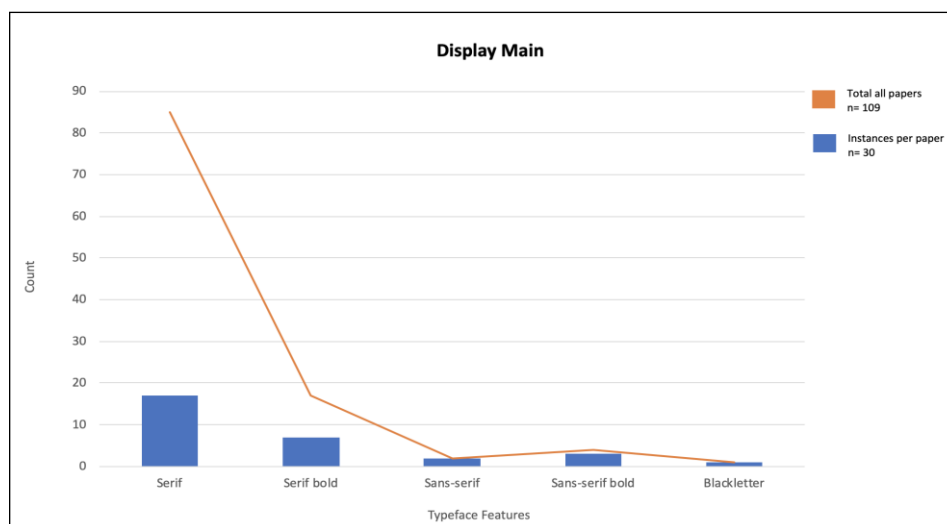


Figure 33: Display Main graph

Figure 34 is an example of a serif Didone display main. This example was taken from the Matariki paper dated 23rd April 1881 ("Matariki," 1881). The text is all capitalised and small which is not taking attention away from the other headings.

Figure 34: Matariki Display Main (Source: Matariki, 1881)



Note: From Papers Past, by National Library of New Zealand.
(<https://paperspast.natlib.govt.nz/newspapers/matariki/1881/4/23/1>).

The classification results from Figure 35 shows the following. Didone featured 23 times and Neo Grotesque 3. Blackletter, Handwritten, Garalde and Mechanistic only featured once.

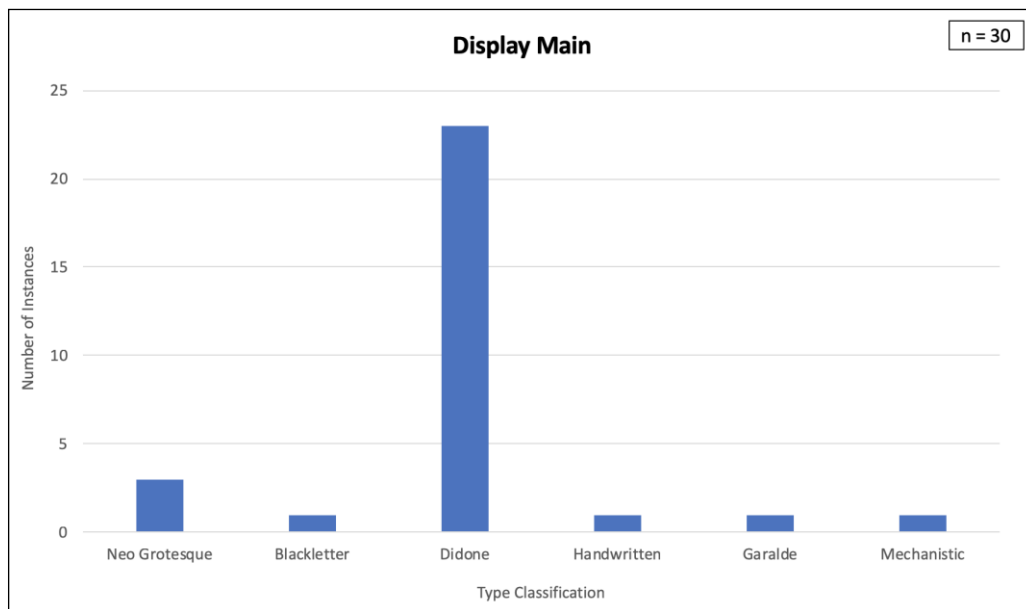


Figure 35: Display Main Classifications Graph

The display main changes overtime as shown in Figure 36 are broken down into the following. Ko te Kahiti Tuturu mo Aotearoa me Te Waipounamu changed the display main once from Handwritten to Didone. Matuhi changed once from Didone to Garalde, a slight change in a serif typeface. The Jubilee display main changed twice and each year was different from the other. For example, in 1898 the typeface used was a sans-serif Neo Grotesque, a year later it changed to Blackletter and finally in its last year, changed to Didone. Three completely different changes. Te Paki o Matariki also changed the display main twice starting with Didone to a Neo Grotesque typeface and then changed back to a Didone. These changes suggest a convergence to a commonality. Finally, Te Puke ki Hikurangi changed three times similar to Te Paki O Matariki except it included a Mechanistic classification.

In Figure 36 are two display mains from the Ko Te Kahiti Tuturu mo Aotearoa me Te Waipounamu newspaper ("Kahiti Tuturu mo Aotearoa, me te Waipounamu," 1894). In the first example from 1884 is a Handwritten typeface, an ensemble of logs which are textured and detailed. The second example from 1885

is a serif typeface, Didone type, all capitalised and not detailed or creative compared to the 1884 handwritten example. What has remained the same is the language, both display mains have kept the use of Te Reo Māori.

Figure 36: Ko Te Kahiti Tuturu mo Aotearoa me Te Waipounamu Display Main Changes

(Source: Kahiti Tuturu mo Aotearoa me te Waipounamu, 1894)

HE KUPU WHAKAMARAMA KI NGA IWI O AOTEAROA ME TE WAIPOUNAMU.
Display Main 1884
HE WHAKAMARAMA KI NGA IWI O AOTEAROA, ME TE WAIPOUNAMU.
Display Main 1885

Note: From Papers Past, by National Library of New Zealand.

(<https://paperspast.natlib.govt.nz/newspapers/kahiti-tuturu-mo-aotearoa-me-te-waipounamu/1894/11/20/1>).

3.3.2.2 Subheading

Not all 21 Māori newspapers contained a display subheading. A total of 43 display subheadings and 19 instances per paper were analysed in this study. 71 newspapers had no display subheadings. Four newspapers changed typefaces overtime adding an additional four display subheadings, refer to. All four newspapers changed typefaces only once. In total, 15 display subheadings plus an additional 4 resulting in 19 instances per paper were counted.

Table 7: Display Subheading Changes Overtime

Newspaper	#Changes	Years Changes Occured
Te Korimako	1	1884
The Jubilee	1	1900
Te Paki o Matariki	1	1895
The Māori Messenger	1	1861

The results across all papers are shown in Figure 37 which confirms that serif featured 25 times, serif bold 6, serif italics 3, sans-serif bold 7 and blackletter 2.

The display subheading results for instances per paper show that serif featured eight times, sans-serif bold five, serif-italics three, blackletter two and serif bold once.

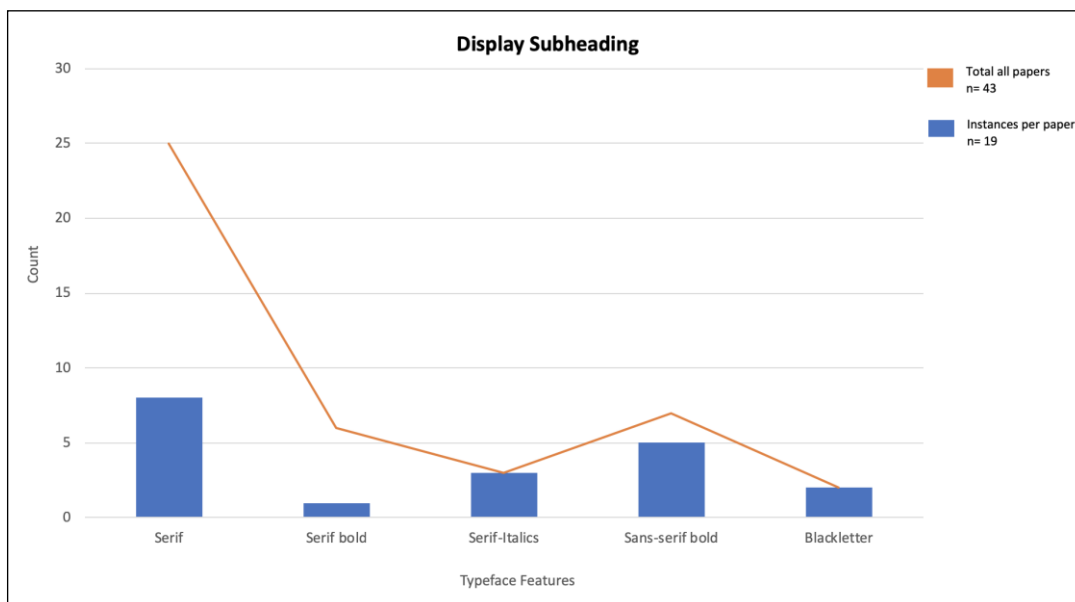
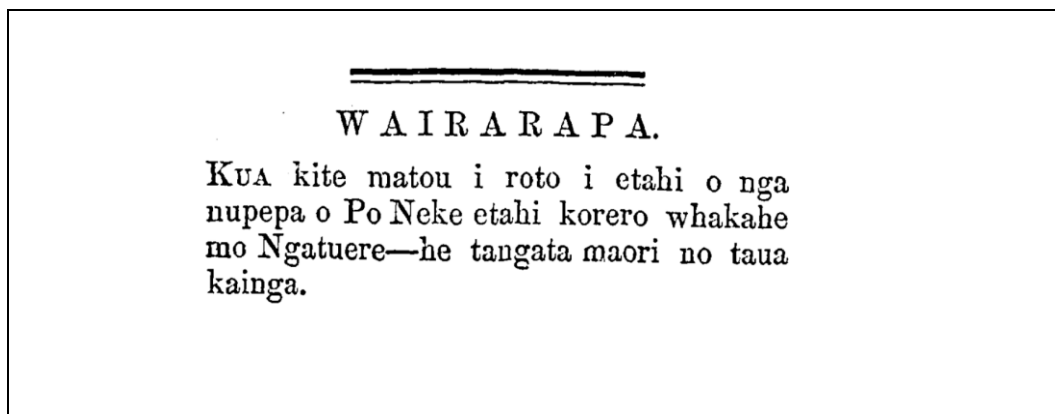


Figure 37: Display Subheading Graph

Figure 38 is an example of the serif typeface used for the display subheading. This subheading was featured in the Te Waka Māori o Ahuriri paper dated 6th February 1864 ("Te Waka Māori," 1864). In this example it shows that this display heading was used to introduce a topic within the body of text therefore it is plain but capitalised to differentiate away from the body text.

Figure 38: Wairarapa Subheading (Source: Te Waka Māori, 1864)



Note: From Papers Past, by National Library of New Zealand.
<https://paperspast.natlib.govt.nz/newspapers/waka-maori/1864/2/6/1>.

The results from the typeface classification are shown in Figure 39. Didone featured 11 times, Blackletter and Neo Grotesque twice. Geometric, Transitional, Grotesque and Humanist only once.

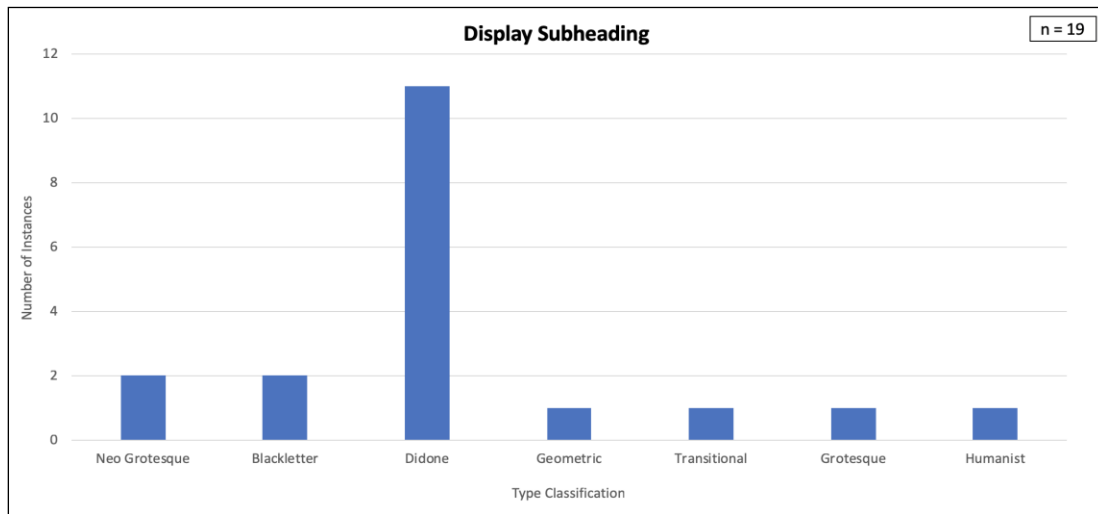


Figure 39: Display Subheading Classification Graph

Two display subheadings which changed overtime from The Māori Messenger newspaper are shown in Figure 40. The first example from 1849 is a serif typeface, bold and capitalised. The second example from 1861 12 years later is a sans-serif bold Geometric typeface. A change of style is shown here, from an old traditional text to a contemporary text. Also, the content changed in these two examples as well.

Figure 40: The Māori Messenger Display Subheading Examples
(Source: The Māori Messenger Te Karere Māori, 1849)



Note: From Papers Past, by National Library of New Zealand.
(<https://paperspast.natlib.govt.nz/newspapers/maori-messenger-te-karere-maori/1849/2/1/1>).

3.3.3 Body Text

All 21 Māori newspapers used a serif typeface, the results are shown in Figure 41. No other typeface was used. The typeface classification results showed that Didone was used throughout all of the newspapers. Results are shown from Figure 42.

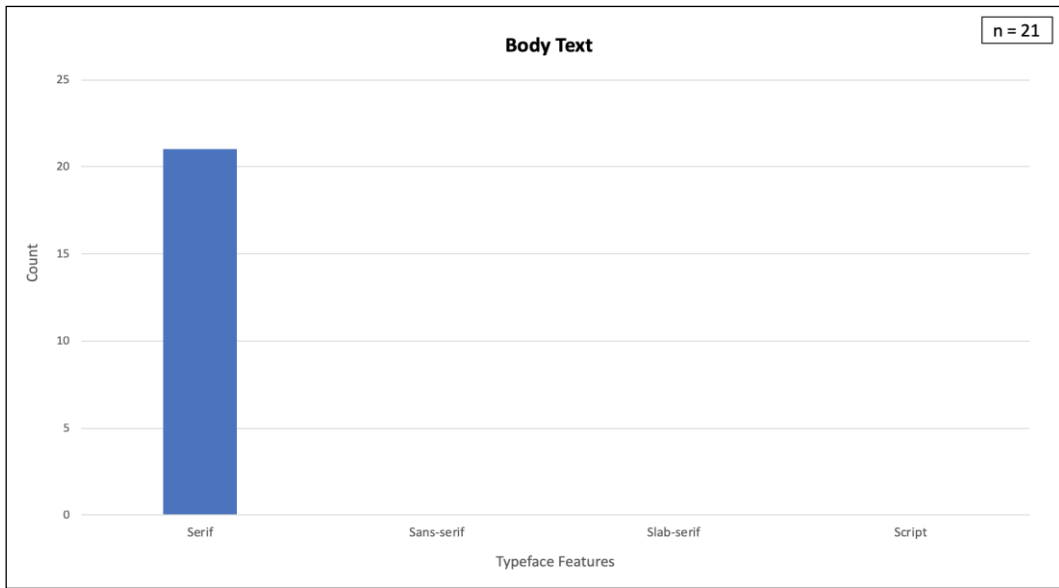


Figure 41: Body Text Graph

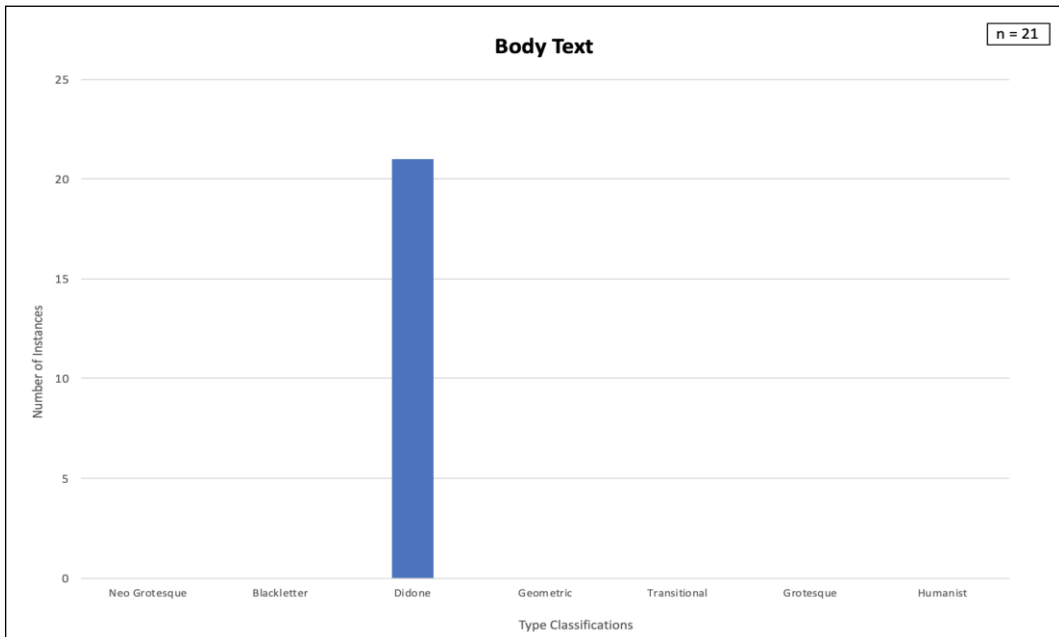


Figure 42: Body Graph Classifications

3.3.4 Typefaces Used for All Headings

An overview of all results across all typefaces and headings are shown in Figure 43. The results across all papers show that serif was used 158 times, serif bold 106, sans-serif 18, sans-serif bold 17, blackletter 45, script 11 and serif-italics 3. Overall there were 358 papers in total.

The results for instances per paper show that serif was used 43 times, serif bold 36 times, sans-serif 7, sans-serif bold 13, blackletter 17, script 4 and serif italics 3. There were 123 total of instances per paper.

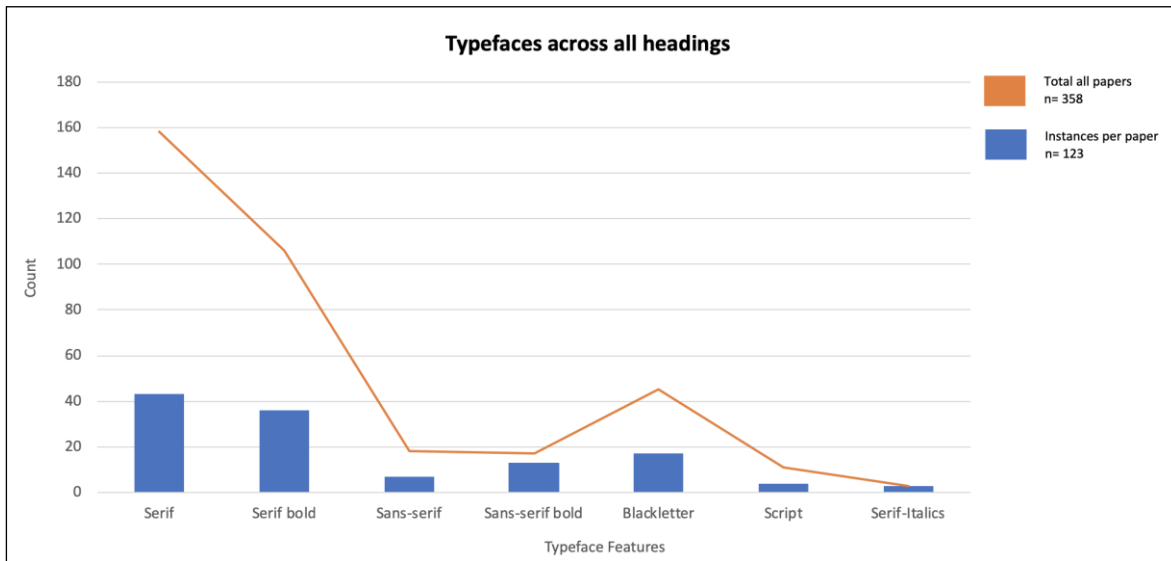


Figure 43: Typefaces Used For All Headings Graph

3.4 Discussion

A total of 21 Māori newspapers from the Papers Past database (National Library of New Zealand, n.d) were analysed for this study. There is another online database called The Niupepa (Niupepa: Māori Newspapers, n.d) which holds the same and other Māori newspapers. This initial study provides insights which could be furthered by future work that includes a study on all 40 Māori newspapers, background study of the editors and printing technology of the time. Future work will be discussed in detail in the conclusion section of this chapter.

3.4.1 Masthead Discussion

The style of typefaces and lettering used in the mastheads were decorative. A masthead is a different expression of written text, opposite to the typical serif body text and or smaller headings.

The results from the masthead main shows that a serif bold typeface featured 57% across all 114 papers and featured 50% across all 40 instances. Sans-serif bold was a rare typeface used for the masthead. Sans-serif bold was only featured four times which could be due to the availability of the printing press at the time. The Blackletter typeface showed significant results that shows Blackletter featured in 27% of all 114 papers and 25% of all 40 instances.

Even though Blackletter was used 31 times in the masthead main it was not popular for other headings. Overall, Blackletter was used 45 times throughout all of the Māori newspapers across all headings which is 12% out of 358 headings. This means that Blackletter was rarely used for other headings except for the masthead main.

The typeface classification results show that Didone and Blackletter were the top typeface classifications that were used more than others. Both typeface classifications featured 25% out of all 40 instances. Other classifications featured less than 25%.

The masthead main across all of the headings, altered typefaces the most overtime. There were seven newspaper editions out of the 21 newspapers that changed masthead main typefaces overtime. The masthead subheading, display main and display subheading all had less than seven newspapers that changed typefaces overtime. Across all newspapers the masthead subheading changed over the existence of the newspaper in five of the 21 newspapers that we sampled, while five of the 21 newspapers also had changes in the display main. Furthermore, four newspapers out of the 21 newspapers transformed the display subheading. Seven of the 21 newspapers in total redesigned the masthead main. It is uncertain why the newspapers changed masthead mains, but the change in time, area, audience and editor are potential reasons to consider.

Six newspapers had dramatic masthead main changes. Those papers were, Te Korimako, The Māori Messenger, Te Puke ki Hikurangi, Te Waka Māori, Te Paki o Matariki and The Jubilee Te Tiupiri. Three dramatic masthead changes for The Jubilee Te Tiupiri showed a unique evolution year after year. The typeface changes from each year show a new masthead, the typefaces used were all different. The language

too changed radically from bilingual to the last masthead which was in Te Reo Māori only. The language used in the body text changed also. All of these changes could have been due to the change in editors, and or change of the target audience.

With the numerous masthead changes that occurred it shows a few things. One, there does not appear to be a reason around the changing of typefaces which means that there was a sense of experimentation. Second, there was no clear vision in deciding what typefaces to use.

A connection from Māori newspapers to painted text on whareniui can be found from viewing the Ko Te Karere o Nui Tireni masthead pictured in Figure 44 ("The Māori Messenger Te Karere Māori," 1842). The Didone lettering are similar in both examples, the masthead main and the text painted on the Te Puhi o Mataatua whareniui. Witehira (2019) describes the lettering on the whareniui to be a synergetic mix of the Didone serif elements merged with an inscriptional style of lettering. The whareniui is pictured again in Figure 45. The lettering pictured on the whareniui shows the influence of the Didone serif style with added features such as slanted letters and high horizontal cross bars. This shows that Māori used Didone typefaces for newspapers and on whareniui. Māori seemed to have a connection to this style of typeface.

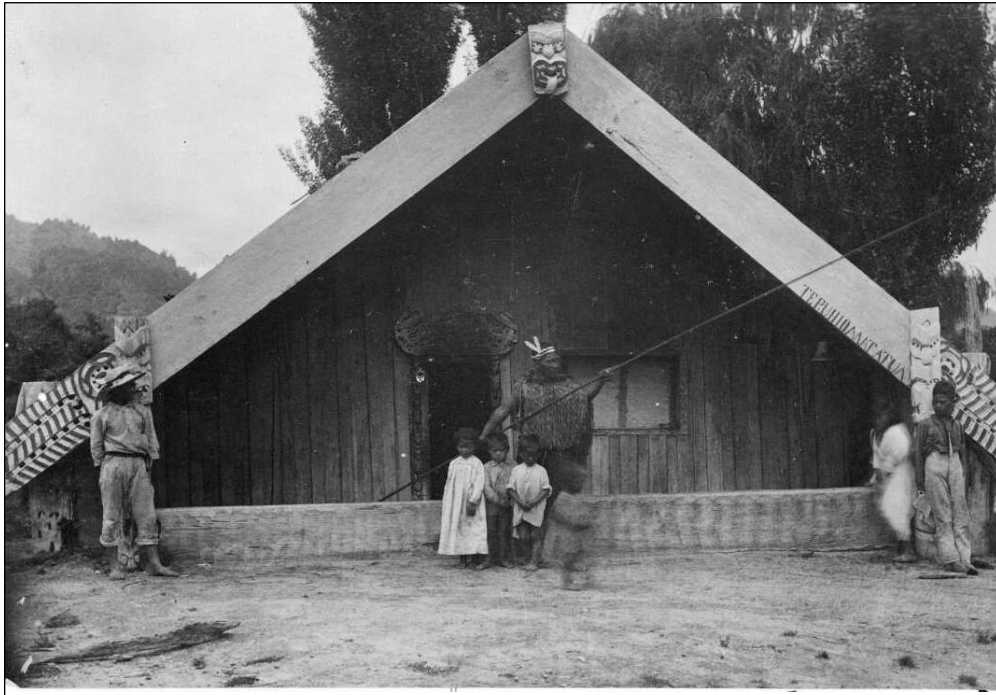
Figure 44: Ko Te Karere O Nui Tireni Masthead (Source: The Māori Messenger Te Karere Māori, 1842)



Note: From Papers Past, by National Library of New Zealand.

(<https://paperspast.natlib.govt.nz/newspapers/maori-messenger-te-karere-maori/1842/2/1/1>).

Figure 45: Te Puihi o Mataatua Wharenui (Source: Witehira, 2019)



Note: Te Puihi o Mataatua Wharenui. From *Te Puihi o Mataatua meeting house at Mataatua*, by Alexander Turnbull Library 1890s. Ref: PAColl-4249-09. Wellington, New Zealand. /records/22809452.

The latest newspaper was *Te Paki o Matariki* printed in 1924, the masthead main was Blackletter. A contrast from *The Māori Messenger* which used a serif bold for its masthead main. Two diverse papers and two different time periods indicate the alteration of typefaces through time.

The results from the masthead subheading show that serif was used more than other type styles. Serif featured 45% out of the 92 papers that had a masthead subheading. Serif also featured 38% out of all 34 instances. Serif bold was used more in the masthead main however, it featured 38% across all papers and 23% across all instances. This means that serif was preferred over serif bold for a masthead subheading which shows that a bold feature is not ideal for a masthead subheading. This allows the masthead main to be dominant.

Didone featured 35% out of all 21 papers and Blackletter 11%. This means that Didone was used more frequently.

The Māori Messenger *Te Karere Māori* printed in 1842, used a Blackletter typeface for the masthead subheading, refer to Figure 44. This occurred for five consecutive years then it changed to a script typeface.

The Anglo Māori Warder in 1848, another newspaper printed around the same time also used a Blackletter typeface as a masthead subheading.

The latest newspaper edition, *Te Paki o Matariki* in 1935 used a serif type style for the masthead subheading. The Papers Past database shows that, *Te Paki o Matariki* was in printing for 19 years and 10

of those years the masthead subheading was a serif. For the other years the masthead subheading was a serif bold for 7 years and a sans-serif bold for one year. There was one year in which there was no masthead subheading.

In comparison, a newspaper closest to the year of 1935 was Te Mareikura who also used a serif type style as a masthead subheading for three years in 1911, 1912 and 1913.

The masthead main and masthead subheading results show that 71% of all the 21 newspapers used different typefaces for both headings. These newspapers used one typeface for the masthead main and then a completely different typeface for the masthead subheading. For example, in Figure 46, The Anglo Māori Warder newspaper in 1848 used a sans-serif bold type style for the masthead main and a Blackletter typeface for the masthead subheading ("The Anglo Māori Warder," 1848). Two contrasting styles used for the masthead headings. Another example is the Māori Messenger Te Karere Māori 1842 edition, refer to Figure 44. This shows how they differentiated the two titles. The use of different typefaces and sizes shows hierarchy and what is of importance.

Figure 46: The Anglo Māori Warder Masthead (Source: The Anglo Māori Warder, 1848)



Note: From Papers Past, by National Library of New Zealand.

(<https://paperspast.natlib.govt.nz/newspapers/anglo-maori-warder/1848/4/25/1>).

It makes sense that a bold feature and strong typefaces like Blackletter were used for the masthead main. Serif bold and Blackletter were more prevalent. The masthead main had to stand out amongst other headings. The masthead was of importance to show the name of the newspaper. This possibly means that serif and Blackletter were considered to show significance and credibility for those newspapers. Does this mean that serif and Blackletter have more status than the sans-serif or script type styles? Or was this due to the technology and options that were available during that time of printing?

Overall, the results show that the serif bold and Blackletter were preferred for the masthead main. A serif type style was selected for the masthead subheading meaning that a relatable, common font, not too bold was preferred. It is clear that a bold font was considered for the masthead main but not for the masthead subheading. It was also common for newspapers to use two different typefaces for the masthead main and masthead subheading to differentiate the two titles.

3.4.2 Display Discussion

The results show that the typefaces used for the display headings are simpler compared to the masthead headings. Identifiable type styles such as serif were used.

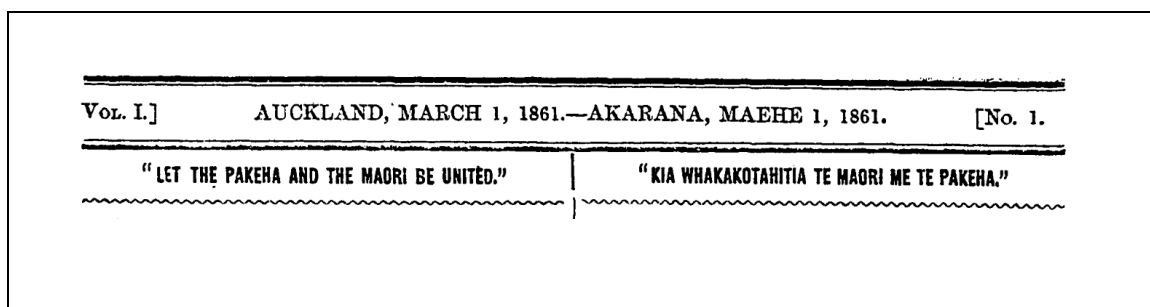
The outcomes of the display main show that serif and serif bold were used repeatedly more than the other type styles such as sans-serif. Serif featured 77% across all 109 papers and 56% across all instances. Serif bold featured 15% across all 109 papers and 23% across all instances. All other type styles featured less than 15%. Blackletter was only used once as a display main across all papers and instances. This means that a traditional serif type style was preferred.

The serif type style used for this type of heading reflects the purpose and use of the display main. The display main is a heading which sits below the masthead, normally just above the body text. The typeface classification results show that Didone featured in 76% of all 30 instances. It proves that there is no need for this heading to be creative or bold but easily read. The display main and display subheading aims to not detract from the masthead main which in this case were mainly serif bold and Blackletter.

The earliest newspaper, The Māori Messenger Te Karere Māori printed in 1842 used a serif type style for the display main. The display main remained the same serif type style consecutively for 20 years. The latest newspaper Te Paki o Matariki printed in 1924 used a serif bold for the display main. However, in its first year of printing in 1892 the display main was a serif and remained the same for seven years.

The serif and sans-serif bold type styles were frequently used in the display subheading. In total serif was used 58% across all 43 papers that had a display subheading and 42% across all 19 instances. Sans-serif bold was used 16% across all 43 papers and 26% across all 19 instances. Blackletter was rarely used, only 6% which means that this heading was kept simple, traditional and plain similar to the display main. Didone featured 57% throughout the display subheadings. This means that Didone was frequently used in over half of the papers that had a display subheading.

Figure 47: Te Karere Māori Display Main and Subheading (Source: The Māori Messenger Te Karere Māori, 1861)



Note: From Papers Past, by National Library of New Zealand. (<https://paperspast.natlib.govt.nz/newspapers/maori-messenger-te-karere-maori/1861/3/1/1>).

The example in Figure 47 shows the importance of one heading from the other. The sans-serif bold display main clearly makes a statement. The eye can see the location and date just above it, but the letters in bold draw more attention. The statement itself ‘Let the Pākehā and the Māori be united’ is a bold statement. The use of a sans-serif bold in this context shows the reader how significant this notice or message is.

The body text results reveal no other fonts were used but a serif Didone.

3.5 Conclusion

This chapter reports the results of a visual audit of the Papers Past database. We investigated the text elements on the front page of every Māori newspaper. We found that typefaces such as Didone and Blackletter were frequently used in the masthead main and masthead subheadings. Didone typefaces were commonly used for the display headings and body text. Serif was observed throughout all headings and the body text. Sans-serif and script were not commonly used.

Overall, the findings from this study contributed towards answering RQ1.

3.5.1 Answering RQ1

RQ1: How has Māori typography evolved?

We aimed to answer parts of this question by doing a wide study of Māori newspapers to understand the earliest form of printed text by Māori. The typographic elements used within newspapers were valuable records to analyse to help pull together information, processes and developments of Māori typography.

Printing newspapers was a different typographic technique introduced to Māori in the 1800s. Their writing methods were ink, carving, painting, weaving and tattooing. Therefore, the process moved away from using a paintbrush and a chisel to using western technology like a printing press.

Serif was a commonly used typeface classification throughout the entirety of newspapers and we found that Māori consistently used Didone typefaces. Didone was seen throughout all of the headings. The use of Didone typefaces shows similarities from the Didone styles that Māori used in earlier examples of Māori typography discussed from Section 2.3.

Evidently, the landscape of Māori typography through the medium of newspaper print shows that a serif typeface classification and Didone typefaces were prevalent and were seen more than other typefaces across all papers.

3.5.2 Recommendations

Further study may allow for broader contextualization of the findings presented here. We recommend study of all 40 Māori newspapers, a deeper exploration of editors, a study on non-Māori newspapers and the available printing technology of the time. These things may offer further insights into early Māori printing.

Additionally, research into non-Māori New Zealand newspapers, in particular newspapers printed around the same time as the Māori newspapers held in this database would be useful. This will provide in-depth research about how Māori printing was either different or the same to other non-Māori newspapers at the time. This type of research will also show insights to see if Māori were designing their newspapers according to the technology that was available at the time or if they choose to venture into different styles.

A deeper understanding of the editors backgrounds would provide insight into their knowledge in regard to Māori typography and possible insights into why certain typefaces were used. Similarly, studies of early

letterpresses and printing technology in New Zealand may clarify why Māori used certain typefaces and when they used them. It would clarify whether Māori used certain typefaces because of the technology available, or if they sought their own letterpresses that best suited them.

4. TE PIPIWHARAUAO

Having conducted the Niupepa Māori study we discovered two letter features in Te Pipiwharaura. A conducted analysis of this oddity was compiled and will be discussed within this chapter. Also discussed in this chapter will be the background of Te Pipiwharaura, the results from the analysis, the capitalised features and a small look at other newspapers printed at the time.

The findings from this chapter will help to understand further *RQ1: How has Māori typography evolved?*

4.1 Background of Te Pipiwharaura

On the East Coast of Aotearoa, a series of Māori church newspapers were published. This lasted for about 30 years (Mcrae, 2014). In collaboration with the Church of England the following newspapers were published: He Kupu Whakamarama 1899, Te Pipiwharaura 1899–1913, Te Kopara 1913–1921, and Te Toa Takitini 1921–1932 (Mcrae, 2014).

The purpose for these papers were to inform the people about church matters, religion, local news and world news. Māori content was also printed such as Māori songs, whakatauki, whakapapa and tribal histories (Curnow et al., 2002).

Reverends Frederick Bennett and Rēweti Kōhere were amongst the editors for these papers. The editors were highly regarded tribal leaders and ministers.

Te Pipiwharaura in particular was printed in Gisborne by Te Rau Press and published by Herbert Williams (Curnow, 2006). H. Williams also known as Te Wiremu Hapata born in 1860 was a Māori linguist and dedicated his life to the Anglican church (Mcrae, 2014). Williams's grandfather was William Williams who wrote the Maori-to-English dictionary in 1844 (Mcrae, 2014).

In 1899, He Kupu Whakamarama published 10 issues, then the newspaper evolved into Te Pipiwharaura (Curnow, 2006). Te Reo Māori is the primary language used within this newspaper. Te Pipiwharaura printed general news, religious matters and also waiata Māori and whakatauki that specifically came from Te Tai Rāwhiti (Curnow et al., 2002). Informative letters from Tā Apirana Ngata were contained within this newspaper as well (Curnow, 2006). There are examples of Te Pipiwharaura available on the Niupepa database (Niupepa: Māori Newspapers, n.d).

The online Niupepa database provides access for readers to view a collection of Māori newspapers. Editions 59 through to 180 of Te Pipiwharaura are available on the Niupepa database. These editions provide a scope from the years 1903 through to 1913.

Found within the headings and body texts of editions 123 through to 165 of Te Pipiwharaura are two peculiar letter characters. In the June 1908 edition, pictured in **Error! Reference source not found.** shows an example of the front page ("Te Pipiwharaura," 1908). The first peculiar letter character is displayed in the masthead main. The letters wh in the word Pipiwharaura is joined together forming one character. Also, in the masthead subheading the letters wh in the word whakamarama are also joined together. The

wh character continues throughout the rest of the page. It is seen in the display main and also throughout the body text.

The second peculiar letter character is found in the body text, refer to Figure 48 ("Te Pipiwharauoa," 1908). In the first sentence the letters ng in the word taenga, is replaced with a ŋ character. The descender on this particular ŋ has a decorative stroke similar to a lower-case letter g. Similar to the wh character; this example joins the letters n and g together. The ŋ character is used throughout the body text and continues throughout more editions.

Figure 48: Te Pipiwharauoa (Source: Te Pipiwharauoa, 1908)



Note: From Niupepa: Māori Newspapers, by Alexander Turnbull Library. (http://www.nzdl.org/cgi-bin/library?e=d-00000-00---off-0niupepa-00-0---0-10-0--0--0direct-10---4-----0-11-11-en-50---20-about---00-0-1-00-0-0-11-1-0utfZz-8-00&cl=CL1.31&d=39__123.1&gg=full).

Both wh and the ŋ characters are used in 42 editions of Te Pipiwharauoa from 1908-1912. This information was found in 1999 by a team who were transcribing and working on the Optical Critical Research for Te Pipiwharauoa and other Māori newspapers (T. Keegan, personal communication, November 11, 2019). From a personal interview with one of the team members, his understanding was that the ŋ character was known as a linguistic character from other international languages. However, he had never seen the wh character before and said, "I have a feeling they made this one by sawing the plates in half and binding them together" (T. Keegan, personal communication, November 11, 2019).

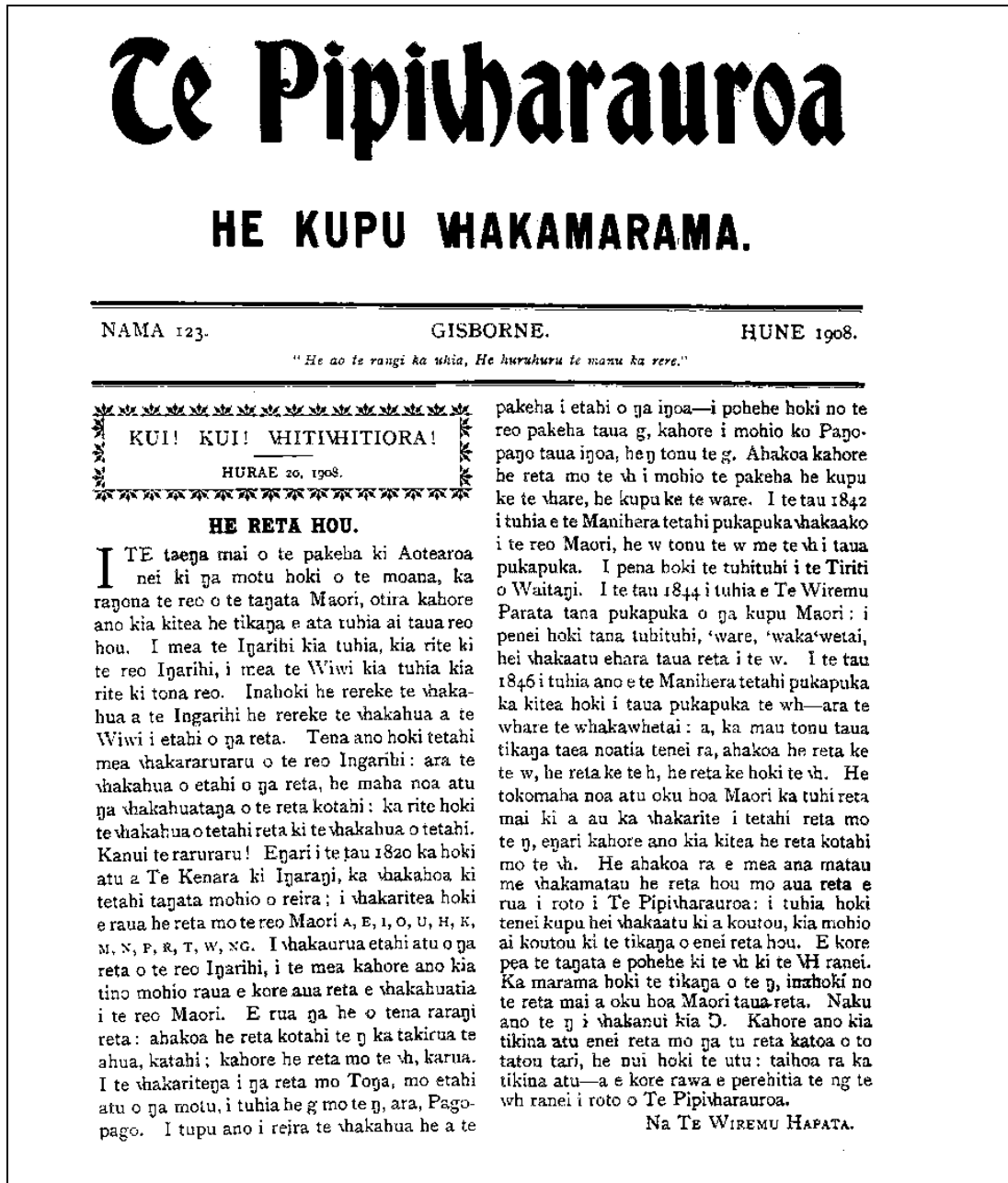
With this understanding it shows a unique design of Māori lettering from 1908. The wh character displays the creativity and ingenuity to create something that had possibly never been done before.

4.2 Background of ŋ and wh Characters

The ŋ character is called velar nasal. According to Oostendorp and Sebregts (2019) the velar is a place of articulation that is produced from the speech sounds between the palatal and uvular. The nasal is the sound created through the nasal passage with simultaneous oral closure and lowered velum (Oostendorp & Sebregts, 2019). Further explained by Styler (2007) who shares “The name itself is descriptive: It’s called a “velar nasal”, which lets you know that the tongue is pressed against the velum, and that air is escaping out your nose, instead of through your mouth” (p.01).

A letter titled ‘He Reta Hou’ was published on the front page in June 1908 of Te Pīpīwharaura (“Te Pīpīwharaura,” 1908). This letter from Te Wiremu Hapata shares his insights and perspectives on the ŋ and wh changes. Featured in Figure 49 displays the full letter from Hapata.

Figure 49: Full letter from Te Wiremu Hapata (Source: Te Pīpīwharaura, 1908)



Note: From Niupepa: Māori Newspapers, by Alexander Turnbull Library. (http://www.nzdl.org/cgi-bin/library?e=d-00000-00---off-Oniupepa--00-0---0-10-0--0---0direct-10--4-----0-11-11-en-50---20-about--00-0-1-00-0-11-1-0utfZz-8-00&cl=CL1.31&d=39__123.1&gg=full).

The letter starts with explaining the arrival of Pākehā and their response to hearing the Māori language but not seeing any written method. In his letter he explains how the Pākehā discussed the written method of Te Reo Māori. Hapata (1908) shared, “I mea te Ingarihi kia tuhia, kia rite ki te reo Ingarihi, i mea te Wiwi kia tuhia kia rite ki tona reo” (p.01). This translates to, “the English said write it like the English language, but the French said write it like their language”. Hapata (1908) further explains the difficulties and differences of pronunciation between the English and French languages. There is much confusion, Hapata (1908) states; “there are multiple meanings of letters where some are pronounced differently and also how the sounds of

some letters are the same, kanui te raruraru!” (p.01). Hapata exclaims there are lots of problems trying to write Te Reo Māori with the English and or French languages (Hapata, 1908).

The next part of the letter Hapata talks about the Māori and Tongan alphabet. Firstly, Hapata shares about a man called Te Kenara who in 1820 visited England. Te Kenara befriended a knowledgeable person who helped to organise letters for a Māori alphabet (Hapata, 1908). They added some letters from the English language because they did not know if those letters were used in Te Reo Māori. Hapata (1908) writes on “E rua nga he” (p.01) there were two problems with the letters of the alphabet. They realised that even though the ng represents one letter, the presence and or sound remains as one also. Likewise, there was no letter or character for the wh. The letter continues sharing about the Tongan alphabet and how the letter g represented the ng (Hapata, 1908). For example, the word pago-pago was pronounced pango-pango. Pākehā mispronounced names because they thought the letter g was from their language and not pronounced ng. Overall, there were confusions around the use of ng and how the letter g on its own may have created misunderstanding as well (Hapata, 1908).

Hapata (1908) writes about the use of the wh letters in three book examples from two Māori authors. The two authors, Manihera and Te Wiremu Parata implemented their own ways of using the wh letters. In 1842, a man called Manihera wrote a book about learning Te Reo Māori and he used the letter w for w and for wh in that book. According to Hapata (1908), this method was also used in the Treaty of Waitangi. In 1844, the second author, Te Wiremu Parata wrote a book on Māori words. Parata wrote the wh like this: ‘waka’wetai to show that it is not the letter w. Manihera wrote another book in 1846, only four years after his last book and in that book Manihera used the wh letters (Hapata, 1908).

The inspiration behind using the ŋ and the wh characters in Te Pipiwharauoa came from letters sent to Hapata (Hapata, 1908). The letters were from his friends requesting that he create their own letter for the ng. However, he had not seen a letter for the wh. Therefore, Hapata desired to experiment a new letter for those two characters in Te Pipiwharauoa. He knew that people might not understand the wh character. However, Hapata understood the meaning of the ŋ character due to the letters his friends sent him using that letter. Hapata also mentions that he will capitalise the ŋ with the letter G (Hapata, 1908).

The challenge Hapata faced with implementing the characters was money. Hapata (1908) explains, “Kahore ano kia tikina atu enei reta mo nga tu reta katoa o to tatou tari, he nui te utu” – “We have not adopted these letters throughout our office because it is too expensive to change” (p.01). However, money did not seem to be a barrier because they published 42 editions using the ŋ and wh characters for 4 years. The last words from Hapata (1908) were “taihoa ra ka tikina atu-a e kore rawa e perehitia te ng te wh ranei i roto o Te Pipiwharauoa” (p.01). In his words, Hapata declares to wait, they will get there and declares they will never publish the ng or the wh in Te Pipiwharauoa.

So it seems, the reasoning to use the ŋ and wh characters were proposed by the people. Previous authors tried to find ways to write the wh characters but did not seem to find the right fit and therefore resorted back to using wh. Hapata therefore experiments with the use of joining the wh letters together to create a new character. This was formed because the assumption is he understood the use of the ŋ character. The

demise of using these characters for the rest of the editions of Te Pīpīwharauroa could have come down to money or change in the editor, it is unknown.

4.3 Wh and ng Character Analysis

A minor study for this thesis was completed to see how often the wh and ŋ characters appeared. Other questions surfaced such as when did this start, end and why. Mentioned previously, the characters appeared in editions 123 of the year 1908 through to 165 in 1912. Therefore, to see what was happening in the editions previously and after, this study started at edition 120 and finished at 170. On every front page of each edition the masthead main, masthead subheading, display main, display subheading and body text were examined.

The study analysed in total 51 editions. The results show that the wh character was used the most. In the masthead main and masthead subheading the wh character was used 48 times for both headings. The wh character also featured 37 times in the display subheading and 42 times in the body text.

The ng character featured only 42 times in the body text. There were no ng characters in the masthead main, masthead subheading, display main and display subheading. This was due to the fact that the words used in those headings had no ng letters. However, beneath the display main was a quote with the word rangi. The ng letters in the word rangi did not include the ŋ character. This is shown in **Error! Reference source not found.** This quote is a different typeface compared to the others used in the newspaper. Therefore, restrictions at the time may have prevented using the ŋ character and it is possible that only one typeface was available for both the wh and ŋ characters.

The masthead main, masthead subheading and display main stayed consistent throughout. The only changes were the dates in the display main. But the typefaces used for all headings remained the same.

The editions 120, 121 and 122 show no signs of the wh and ng characters. The 123 edition is where the characters were first introduced.

From the 166 editions through to 170 the wh character was only featured in the masthead main and subheading. The body text went back to using regular letters. It is unknown why these changes were made. It seems to be that the editing team at the time decided to leave the masthead as is.

4.4 The Capitalised ŋ and wh Characters

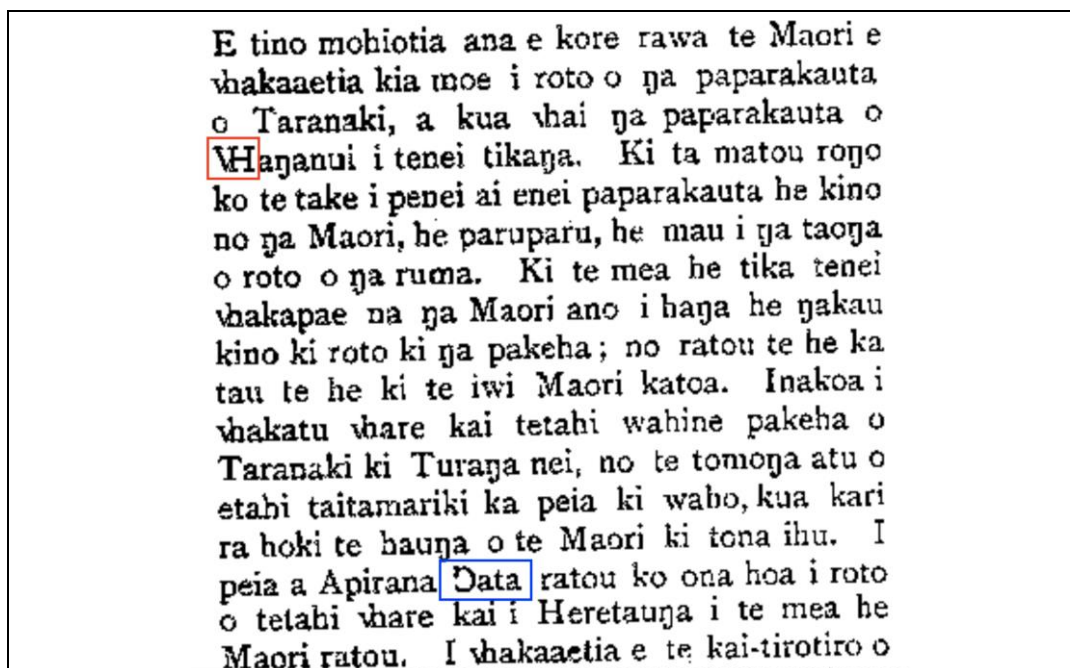
As mentioned in the previous Section 4.2, Hapata (1908) mentioned capitalising the ŋ with its own character. Discovered on the front page of the 126-edition dated in September 1908 the capital ŋ letter was found. Pictured in Figure 50 boxed in blue is this peculiar symbol that looks similar to an upside-down letter G. The capital letters for the wh character are also joined and are pictured in Figure 50 boxed in red. It seems that the letter W is halved but the letter H is not.

Hapata does not explain in detail about the capital ŋ. The character is unusual, it has an oval shape with a small high swash decorative stroke. There is no confirmation if these two characters were created by Hapata

or simply copied from another language. The WH character shows two letters joined together to make one character. The character has one apex and vertex, two stems and a cross stroke. It is highly possible that Hapata created the WH character.

The NG character featured 17 times and only in the body text from editions 120 through to 170. The WH character featured 14 times in the body text and 51 times in the masthead subheading. The rest of the body text throughout all pages of the papers remained consistent with the capital η and wh characters.

Figure 50: Capital NG and WH Characters (Source: Te Pipiwharauoa, 1908)



Note: From Niupepa: Māori Newspapers, by Alexander Turnbull Library. (http://www.nzdl.org/cgi-bin/library?e=d-00000-00---off-Oniupepa--00-0---0-10-0---0---0direct-10---4-----0-11-11-en-50---20-about---00-0-1-00-0-0-11-1-1outfZz-8-00&cl=CL1.31&d=39__123.1&gg=full).

4.5 Other Newspapers

Three Māori newspapers were publishing around the same time as Te Pipiwharauoa. Te Paki o Matariki 1909, Mareikura 1912 and Puke ki Hikurangi 1913. These specific papers were selected because they were publishing the same time when Te Pipiwharauoa was using the η and wh characters in 1908 to 1912. After examining all three newspapers there was no indications of the η and wh characters.

A second examination into three newspapers that published before 1908 were studied. The reason for selecting papers before 1908 was to see if a newspaper could have influenced Hapata's decision to use the characters. Matuhi 1906, Puke ki Hikurangi 1906 and Te Paki o Matariki 1907 also show no special characters. All three newspapers continued to use the ng and wh letters as per normal.

It seems to be that Te Pipiwharauoa was possibly the only Māori newspaper that used the η and wh characters during 1908-1912.

4.6 Conclusion

This small study offered new insights about two characters that have not been seen in any other newspaper. We analysed a study that looked into the purpose of these characters and how often they appeared. We found that these characters first appeared in 1908 and ended in 1912. The ŋ and wh characters in lower case and upper case featured in the masthead, display and body text. The reason for these letter characters was a response to the language not being pronounced properly by Pākehā. The ŋ character was familiar but the wh character was an experiment created by Te Wiremu Hapata.

This study contributes to answering RQ1.

4.6.1 Answering RQ1

RQ1: How has Māori typography evolved?

The ŋ and wh characters from this study are an example of innovative developments of Māori typography. The wh character in particular was an experiment created to bind two letters together to make one sound. The ŋ character was a familiar symbol however, it was used in Te Pipiwaharauoa for the purposes of joining the ng letters together which was not used by other Māori newspapers between the years 1908-1912.

The capitalised ŋ and wh characters were also new developments of its time.

5. PERCEPTIONS OF MĀORI TEXT

Chapter 3 provided a snapshot of the landscape of Māori typography use in early print in Aotearoa. This chapter describes an investigation into the perceptions of Māori text today derived from an interview process with 50 people. The results from the interviews gives insight into how Māori text is currently perceived, how often it is seen and where it is seen. More importantly, feedback from the interviews provide some considerations of what a Māori font should look like and why.

This investigation was necessary to help answer *RQ2: What are the perceived features of a Māori typeface?* And *RQ3: What advice is given for design guidance of Māori typography?*

5.1 Method

A semi-structured interview was undertaken for this study. The purpose was to gather insights into reader perceptions of Māori text use. Fifty participants from a diverse range of backgrounds participated in this interview.

This section will explain each component of the interview such as the participants, the procedure, the interview design and the ethical considerations.

5.1.1 Participants

The participants involved were from various backgrounds. They had different occupations, age groups, ethnicities and competencies in Te Reo Māori. The selection of participants included those who were and were not knowledgeable in design and also those who were and were not fluent in Te Reo Māori. We wanted to ensure that feedback from participants were from a variety of experiences and skills. To gain a fair reflection from the public was important but it was equally important to hear diverse thoughts and opinions.

Participants were selected through close contacts of the research team's own personal and professional networks. Participants were invited to take part in an interview through personal invitation by word of mouth, email and through social media.

5.1.2 Interview Procedure

Following kaupapa Māori practices, each interview started with a mihi and conversation. This practice was important to the researcher because its purpose was to create a comfortable, relaxed open space for the participant. Before interviews were conducted ethical consent was discussed and gained from participants. When consent was received the voice recording was initiated, with their approval. All interviews were orally recorded and field notes taken. Interviews ranged in time from 10 minutes to 60 minutes with an average of 14:17 minutes.

5.1.3 Interview Design

The interview was designed to explore three research insights:

Part 1: Demographic Information

Part 2: Participant understandings of Māori text

Part 3: Participant opinions of four different Māori text examples

This section will discuss in detail the three parts of the interview and will explain the relevance and purpose of each part.

5.1.3.1 Part 1: Demographic Information

The purpose for part one is to understand the background of each participant such as ethnicity, age, occupation, creative skills and level of fluency in Te Reo Māori. Other than demographic purposes, these questions help to understand what type of voice is being projected and what the skills are that our participants have that may influence their opinions. There were six questions and they are shown in Figure 51.

1. What is your ethnicity? Māori New Zealander/Pākehā Pacific Asian
2. If you are Māori what iwi are you from?
3. What is your occupation? Student Self Employed Creative Teacher Lawyer Doctor Business Accountant
4. Do you identify yourself as a creative? Carver weaver musician artist singer filmmaker Photographer
5. Age group 18-25 years 26-40 years 41-59 years 60years +
6. What is your level of fluency in Te Reo Māori? Not fluent basic conversational Highly Fluent 1 2 3 4 5

Figure 51: Part 1 Questions

5.1.3.2 Part 2: Participant understandings of Māori text

Part two considers the participants knowledge and understandings of Māori text. In particular, where is Māori text seen and how often. Part two reveals the thoughts and ideas from the participants about the features that they identify to be Māori. Part two is important for this study because it reveals insights into RQ2. There were six questions involved in part two, refer to Figure 52.

7. What do you know already about Māori text/fonts?				
Very little				A lot
1	2	3	4	5
8. How often do you see Māori text/fonts?				
Not much		sometimes		Always
1	2	3	4	5
9. Where do you see Māori text?				
Advertisements		Books	Newspapers	TV
Billboards	Social Media	Buses	Supermarkets	Movies
10. When you think about a Māori text or font, what features of letters do you think about?				
11. Do you think about the letters being:				
Very wide		wide		Neither
1	2	3	4	5
Very thin		thin		Neither
1	2	3	4	5
Very Tall		Tall		Neither
1	2	3	4	5
Very Short		Short		Neither
1	2	3	4	5
12. In the examples, which sentence looks like a Māori font to you.				

Figure 52: Part 2 Questions

The final section in part two consisted of three font examples. Each sentence was in Te Reo Māori. Each participant was shown the examples and then asked this question, “which one of these fonts look Māori to you?” Example A is a serif type style, example B is a sans-serif type style and lastly example C is a bold sans-serif type style, refer to Figure 53.

All three font examples were intentional. Example A in particular reflected the Didone style frequently used throughout old Māori newspapers. Therefore, example A was to see if participants identified and made connections with this typeface. Example B provided a contrast against the serif typeface to find out which of the two examples were perceived to be Māori. Example C, a sans-serif bold typeface was less

preferred in Māori newspapers therefore, this study would suggest a sans-serif bold typeface is relevant and recognised today.

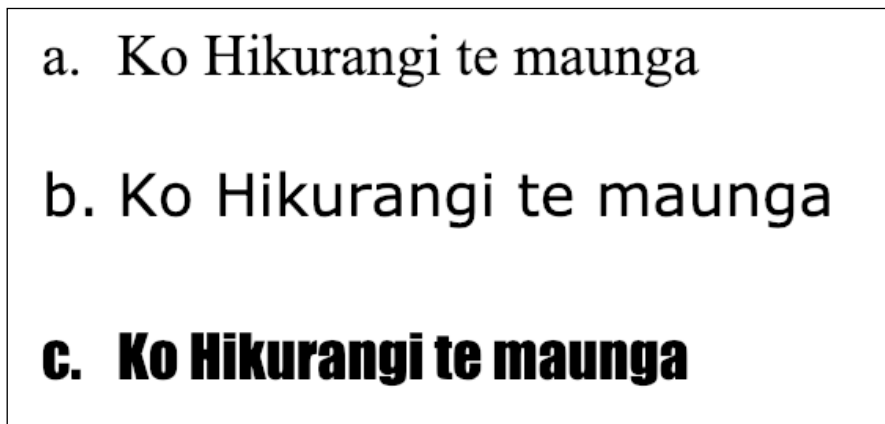


Figure 53: Font Examples

5.1.3.3 Part 3: Participant opinions of four different Māori text examples

Part three involved four examples of Māori text. Each example had the same phrase and the same questions. The phrase was, 'Kōrerotia Te Reo Māori', in English it means 'speak the Māori language'. This phrase guaranteed a mixture of letters, capitals and the inclusion of macrons.

The purpose of part three sought to explore which typefaces were recognised to be Māori. Furthermore what particular features of those typefaces looked Māori. Part 3 intentionally connected the results from the Niupepa Māori and tested if the results were relevant to these participants. The results from this section will contribute to RQ2 and RQ3.

The first example pictured in Figure 54 is a serif font called Garamond. This font was used in the 2018 Te Wiki o Te Reo Māori campaign organised by Te Taura Whiri I Te Reo Māori- The Māori language Commission. This typeface was selected for this study to see if participants were familiar with this font from the campaign and also from Māori newspapers. As discovered in Chapter 3 of this thesis, serif typefaces were frequently used in the Māori newspapers. Therefore, the Garamond font was applied to this study to indicate if serif features were recognised to be Māori.



Figure 54: Garamond Font Example 1

The second example pictured in Figure 55 is a decorative font made by Joseph Churchward, a famous New Zealand typographer (Akeli, 2010). Churchward designed this font and named it Māori. Therefore, this example was used to see if participants recognised this style of typography to be Māori or not. Churchward's attempt at a Māori typeface was selected to add diversity and controversy because it obviously includes Māori motifs, but as discussed in Chapter 0, there are questions around it qualifying to be a Māori typeface.



Figure 55: Māori Font Example 2

The third example pictured in Figure 56 is a font called Revista. This font was used because the letter features are similar to the Didone style which reflects the text used in Niupepa Māori and painted text on wharehenui. Therefore, Revista was used as an example to see if participants connected and identified the Didone and serif features of extreme weight, thick and thin strokes to be Māori



Figure 56: Revista Font Example 3

Finally, the last example pictured in Figure 57 is a font called Whakarare designed by Johnson Witehira (Witehira & Trapani, 2015). Witehira of Māori descent designed Whakarare with te ao Māori and tikanga Māori in mind which means that he considered things Māori such as culture, customs and narrative to inform the way in which he designed Whakarare. He was inspired by a Māori carving pattern called Whakarare. This typeface was used in this study to see if participants could identify this style to be Māori and if the features of the long, thin, negative and positive spaces could be used as a Māori style of typography. Furthermore, this typeface added a contemporary outlook compared to others, which was important to see if this style could be considered as a modern style Māori typeface.

The final part of this study involved one more question which is shown in Figure 59. The question was, which of these texts look or feel more Māori to? The same phrase, “Kōrerotia Te Reo Māori” was given to the participant but this time the text was written with double vowel. The example was selected from their highest-ranking font from the four font examples in part 3. Each participant was shown one example with macrons and the other with double vowel but in the same font. For instance, if the Whakarare example was the highest ranked example for P12 then a double vowel example of the Whakarare font was shown to the participant as shown in Figure 59.



Figure 59: Macron vs Double Vowel

5.1.4 Ethical Considerations

An important part before every interview was the ethics and consent procedure. The ethics outlined the purpose of the study, the duration of the interview, what happens with the collected information and who is responsible. Also, the participant had the right to withdraw from the interview at any time. Each participant had time to read and sign the form before the interview commenced. The ethics letter of approval can be found in the Appendix.

5.2 Results

As explained in Section 5.1.3, the interview was in three parts:

Part 1: Demographic Information

Part 2: Participant understandings of Māori text

Part 3: Participant opinions of four different Māori text examples

This section will explain and show the results from each part.

5.2.1 Part 1: Demographic Information

This section contains five demographic questions and a question regarding fluency in Te Reo Māori. Each question is followed with the results and a graph.

Throughout the next few sections there are comments added from the participants. Their comments are identified by the letter 'P' and a number, for example P38. The number represents a specific participant where each participant was numbered from 1 to 50 in order of their interview.

A table is available in the Appendix showing the demographic information of all participants.

5.2.1.1 What is your ethnicity?

In Figure 60 the ethnicity results show the following. There were 39 participants of Māori descent, 16 were New Zealand Pākehā, 4 Pacific and 1 other who was Scottish. There were 10 participants who selected more than one ethnicity. There were 7 out of the 10 who identified as both Māori and New Zealand Pākehā. Overall, it is clear that 78% of the participants were Māori.

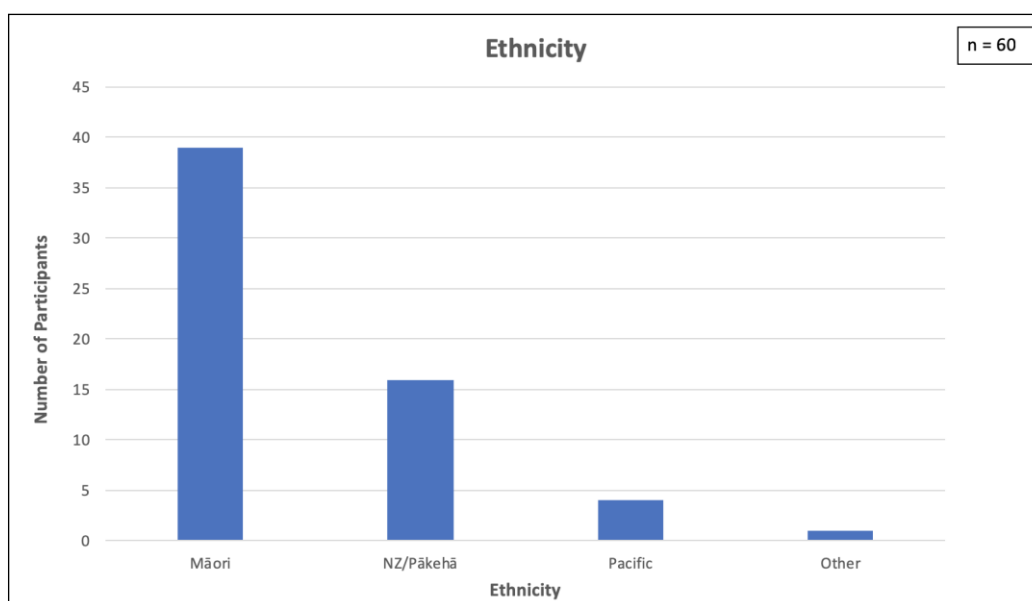


Figure 60: Graph Of Ethnicity

5.2.1.2 What iwi are you from?

All Māori participants were asked what iwi are you from? The majority selected multiple iwi. Every iwi was then categorised according to their region and seven regions were identified.

The results shown in Figure 61 show that 32 participants came from Te Tairāwhiti, 9 from Te Taitokerau, 20 from Te Tai Hauāuru, 3 from Te Upoko o Te Ika, 22 from Waiāriki, 3 from Te Matau a Māui and 8 from Te Waipounamu.

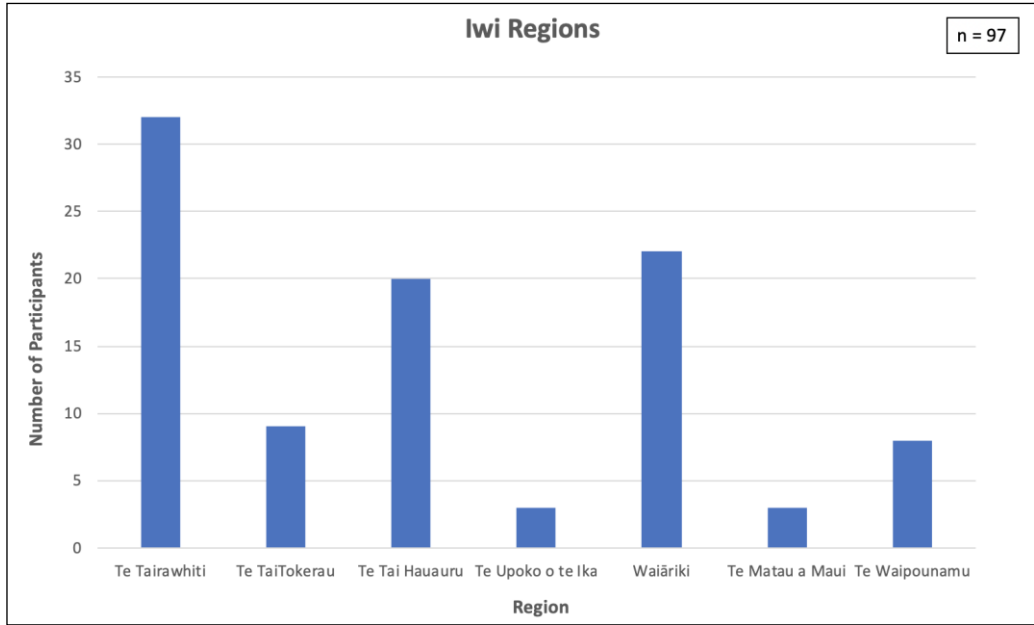


Figure 61: Graph Of The Iwi Regions

5.2.1.3 What is your occupation?

In Figure 62 the results show 11 participants were students, 8 worked in the community such as social workers and youth workers and 6 were graphic designers. There were 11 participants who had other occupations not included on the list. A variety of participants worked in other fields such as; three self-employed, three teachers, two retired, two policy advisors and two researchers. Five participants were lecturers and four were managers. There were three participants who identified themselves as creatives which means that their role or their work is in a creative field that combines many elements such as graphics, art, music and or, design.

There were nine participants who worked more than one occupation. One participant P23 selected three occupations such as, a creative, teacher and a community worker.

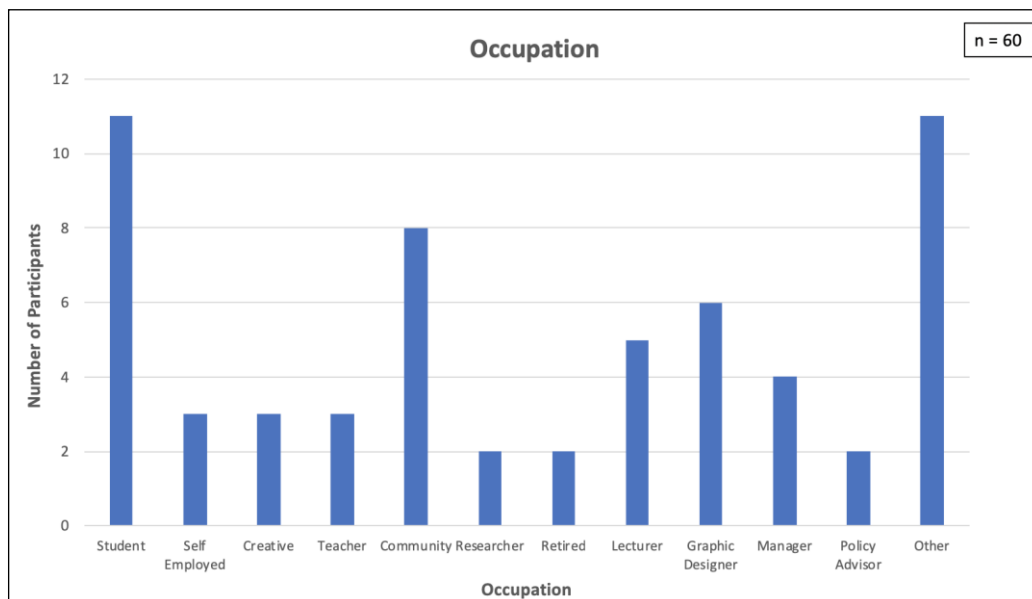


Figure 62: Graph About Occupation

5.2.1.4 Do you identify yourself a creative?

The majority of participants considered themselves creative and often choose more than one as shown in Figure 63. The results show that eleven participants were artists who enjoyed painting or drawing, seven enjoyed graphic design, two were innovators who enjoyed being creative in business, four photographers and the three older participants enjoyed arts and crafts such as knitting. The other category represented engaging in creative activities such as motion graphics, written text, oral text, logical thinking, sculpture, Māori performance, carpentry, gardening, food, cooking, rongoā, song writing, creative dance and puzzles.

A total of nine participants did not identify themselves as a creative person and therefore did not select any creative activity. Contrary to that, there were 29 participants who selected more than one activity.

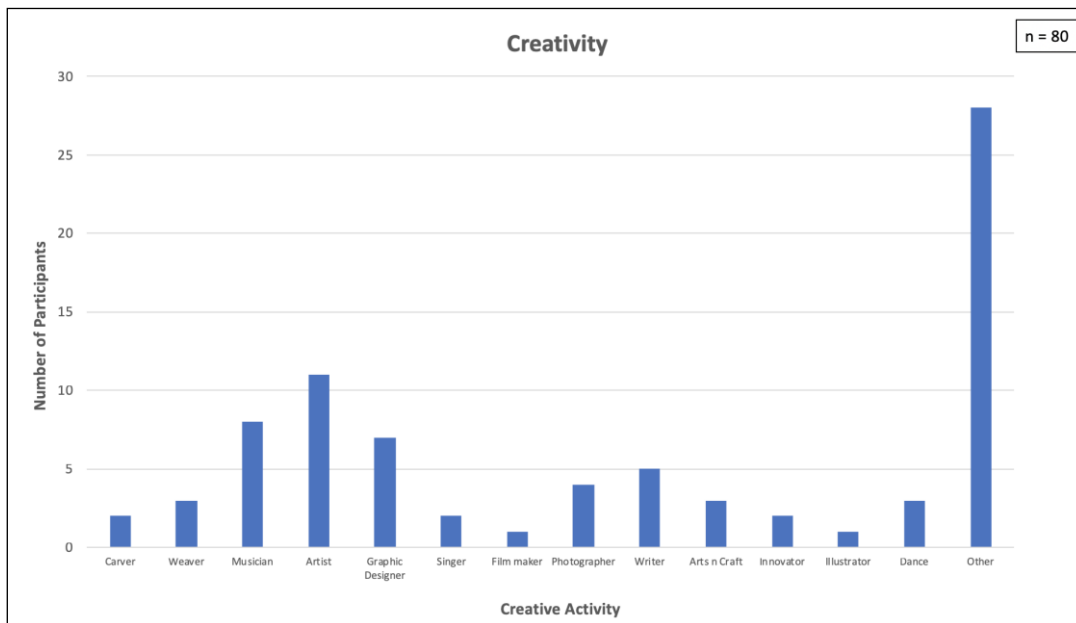


Figure 63: Graph Of Participants Creativity

5.2.1.5 How old are you?

The age groups of the participants were from 18years to 60 plus years. The results show in Figure 64 that 13 participants were aged 18-25, 25 participants were aged 26-40, 9 participants were aged 41-59 and 3 were aged over 60.

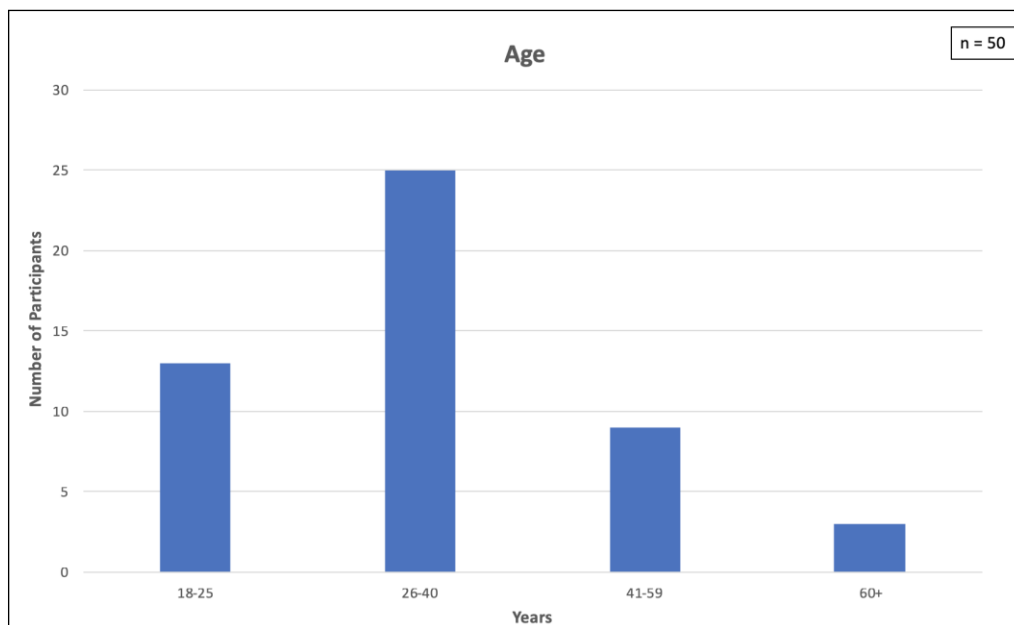


Figure 64: Graph Showing Age Groups Of Participants

5.2.1.6 What is your level of fluency in Te Reo Māori?

Each participant was asked to rank their level of fluency in Te Reo Māori from not fluent to fluent.

The results show in Figure 65 that 9 participants were not fluent in Te Reo Māori, 11 participants had some level of understanding, 3 participants had a basic level of understanding, 17 participants were conversational in Te Reo Māori, 9 participants were very confident and only three participants were fluent.

There were two participants who ranked their level twice. For example, P44 and P39 selected two options, not fluent and had some level of understanding Te Reo Māori. They were unsure of where to place their level of fluency therefore, selected two options.

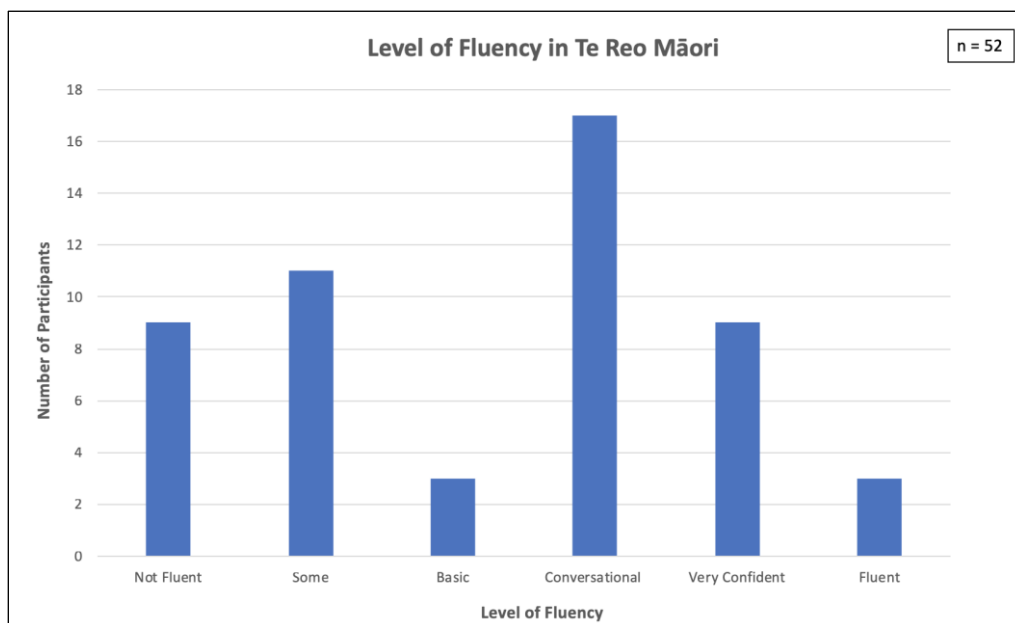


Figure 65: Graph Of The Level Of Fluency In Te Reo Māori

5.2.2 Part 2: Participant Understandings Of Māori Text

Part 2 included six questions pertaining to the participants knowledge around Māori text. Results from each question are explained and accompanied with a graph.

5.2.2.1 What do you already know about Māori text?

Participants were asked to rank what they know about Māori text from poor to excellent.

In Figure 66, the results show that 19 participants ranked their knowledge as poor, 15 participants knowledge was average, 13 participants ranked as satisfactory and only 1 participant had excellent knowledge about Māori text. That one participant was P20 an elderly retired Māori woman. She added in her comments, “I see Māori text advertised on billboards and I remember it from old letters and manuscripts. It was always readable and bold”.

There was one participant who did not answer this question because they found it difficult to answer. There was confusion for this one participant to understand what Māori text is when there is no example of what Māori text particularly looks like. One other participant selected two answers, both average and satisfactory. This person was unsure of their answer therefore chose two options.

P8, a Māori middle-aged graphic designer commented saying “I have seen a few typefaces but not many around reading or the sounds of Māori words... there’s not much around linguistic design”. P8 ranked his knowledge as satisfactory. Another comment from P50 who ranked his knowledge about Māori text as poor said, “language was shown through carving and different styles and techniques, each hapū had different stories and styles. Our language was always spoken before written”.

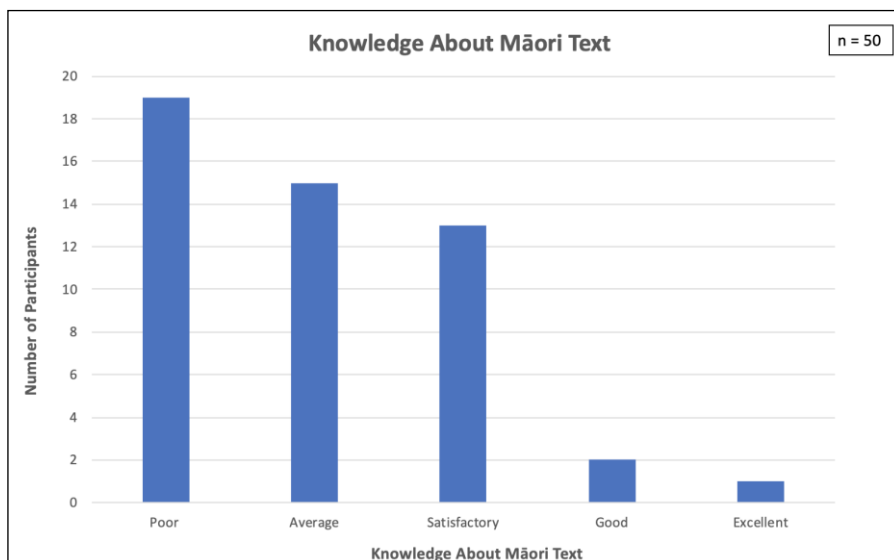


Figure 66: Graph About Participants Knowledge Of Māori Text

5.2.2.2 How often do you see Māori text?

For this question each participant needed to rank how often they saw Māori text from never to always. This question took some prompting for some participants because they could not think about the places where they see Māori text. In Figure 67 the results show that 6 participants never saw Māori text, 10 saw it less often, 15 participants saw Māori text sometimes, 9 often saw Māori text and 10 always.

P48 a Pākehā creative mentioned, “I see attempts, but it feels token”, another comment from P6 a Pacific photographer said, “I see misappropriation of Māori text all the time”. This would have created an interesting discussion but it is out of the scope of this particular research project.

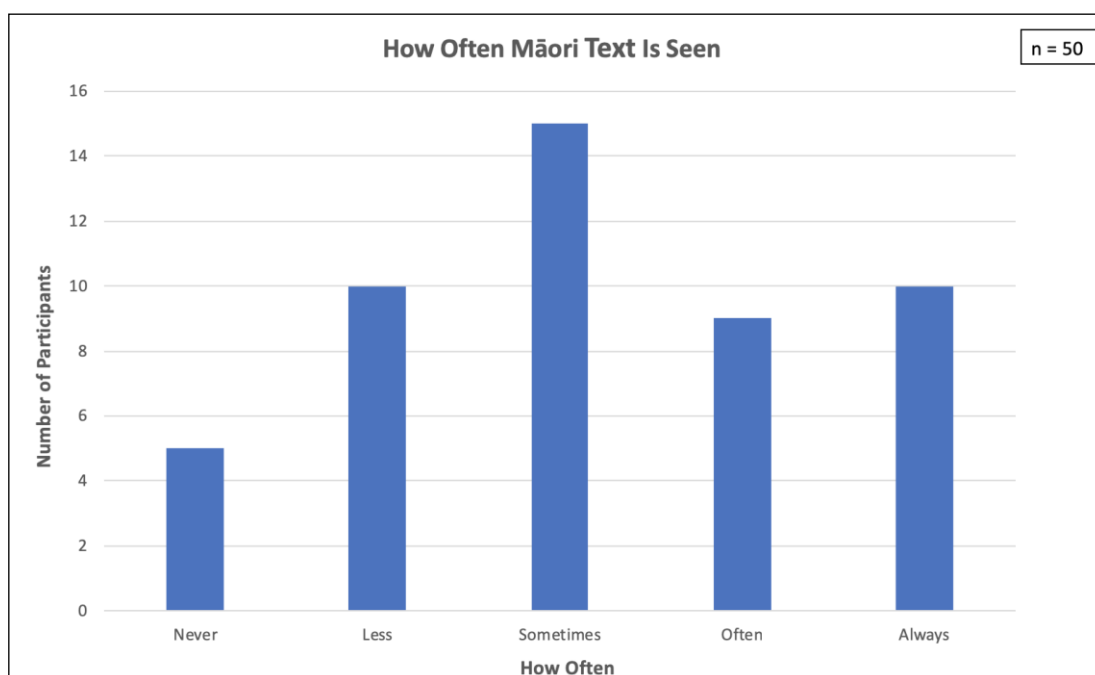


Figure 67: Graph Of How Often Māori Text Is Seen

5.2.2.3 Where do you see Māori text?

Following on from the previous question, the participants were then asked where they see Māori text? It is clear that participants commonly saw Māori text online through social media, on signage and on television which was mostly on Māori Television. The results in Figure 68 show that, 34 participants saw Māori text online and social media, 21 participants saw Māori text on signage and 20 on mainstream television. Māori text was also seen by 11 participants on books such as Huia books, ten at their mahi or workplaces, nine at supermarkets, eight at marae and on wharenuī, eight on advertisements and seven on Māori Television. Other places that fewer participants saw Māori text were at places like schools and universities. The following number of participants saw Māori text at the following; Six at universities, five on clothing, four at schools, four on billboards, four through Māori businesses, two at their own homes and one on newspapers.

Four participants commented on a few branding logos from Māori businesses such as Te Wānanga o Aotearoa, Waikato Tainui, Hine, Taputapu and Pipi mā.

Many participants selected more than one place; the results show that there are 154 total instances in which Māori text is seen.

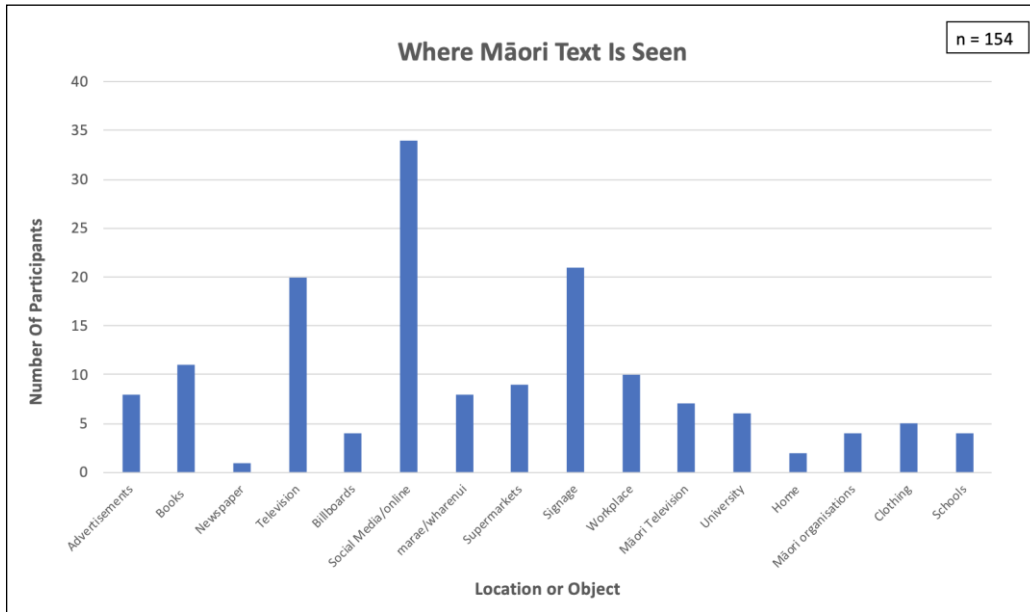


Figure 68: Graph Of Location Where Māori Text Is Seen

A closer look shows that participants see Māori text in more than one place. From the results in Figure 68 the data was counted again to find out exactly how many instances there were of the places environments Māori text is seen. Instances in this context refers to the number of locations or objects. There were 7 participants who only saw Māori text in one environment, 11 in two environments, 14 participants in three environments, 11 in four environments, 6 in five environments and 1 participant saw Māori text in eight environments. The results are shown in Figure 69.

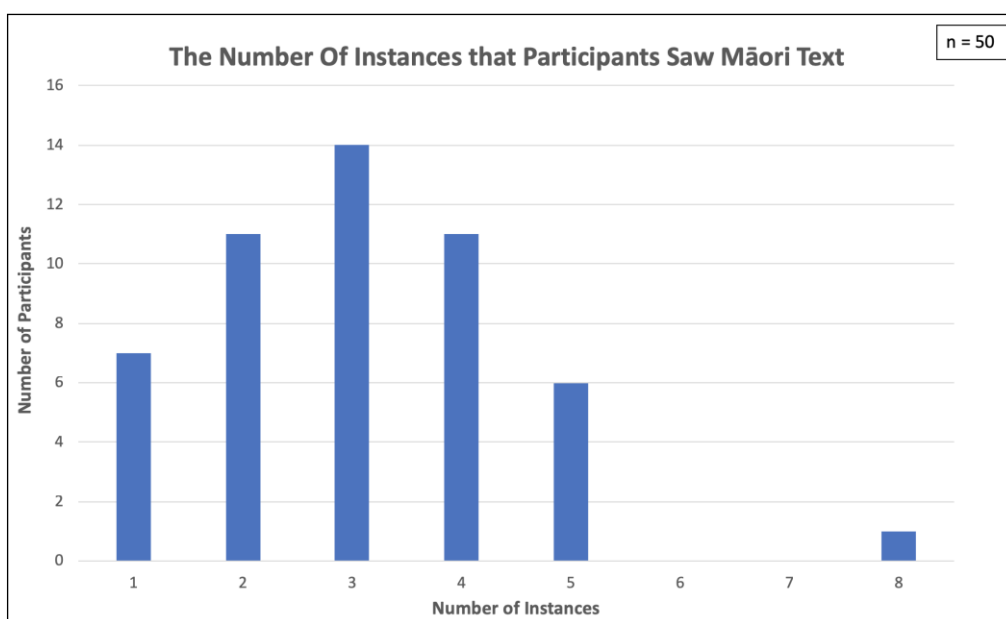


Figure 69: Graph Of The Number Of Places Where Participants See Māori Text

5.2.2.4 What features of the letters do you think about?

In this part, participants were asked “when you think about a Māori text, what features of the letters do you think about?”

The common features that the participants identified as Māori text are shown in Figure 70. The results show that 29 participants think that Māori text features are bold, 6 participants selected short features, 6 participants selected thick features and another 6 participants selected thin features. There were three participants who think Māori text has slanted features, another three who selected strong features and another three elected sans-serif features. Lastly, there were five participants who said that serifs reflected Māori text.

Participants commented further about the features and there were some commonalities. For example, three participants commented about the creativity and how Māori text should have creative features. Four participants commented on the use of koru and symbolism. Finally, readability was also important to two participants.

P31 commented on the link between lettering and cultures. This participant said that “Hawaiian lettering is more flowy wavy compared to Māori which is stronger and bolder”. P6 mentioned that Māori text should be “reflective of landscape, whenua and taiao”.

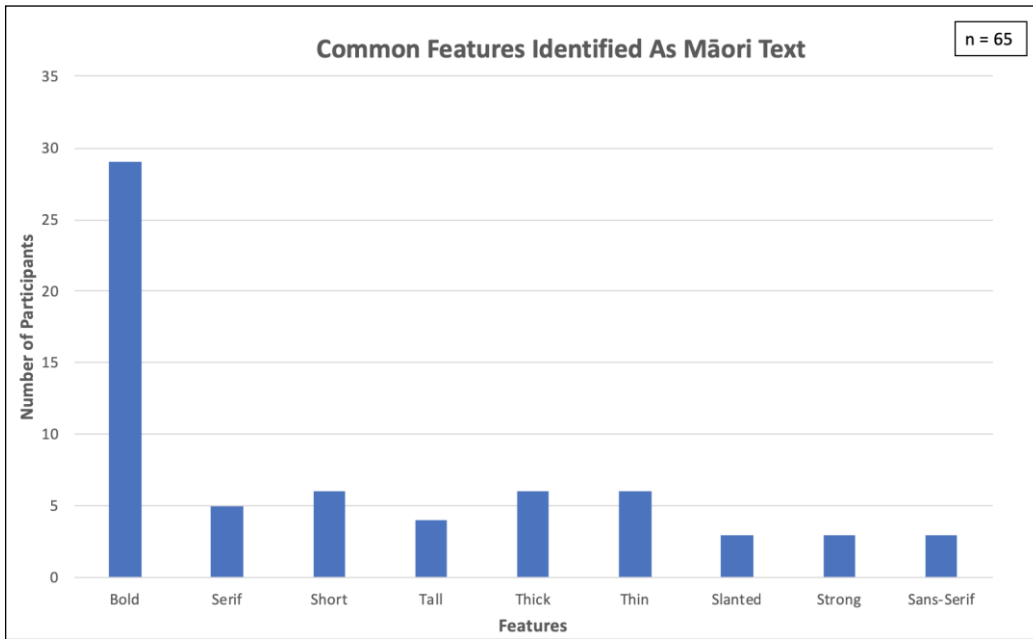


Figure 70: Graph Showing The Common Features Identified As Māori Text

5.2.2.5 Do you think about the letters being....?

Participants were asked about the width and height of the letters. For an example they were asked one question which was, “Do you think about the letters being very wide, wide or neither?” The participants were asked to then rank each feature from one through to five. There were four features involved in this part which were wide, thin, tall and short. The results for each feature are discussed in this section.

Even though there were 50 participants involved in this study, there were two participants who did not answer this question therefore, there are only 48 responses for each feature.

The results show in Figure 71 that 2 participants answered with very wide, 3 kind of wide, 20 wide, 4 not so wide and 19 neither.

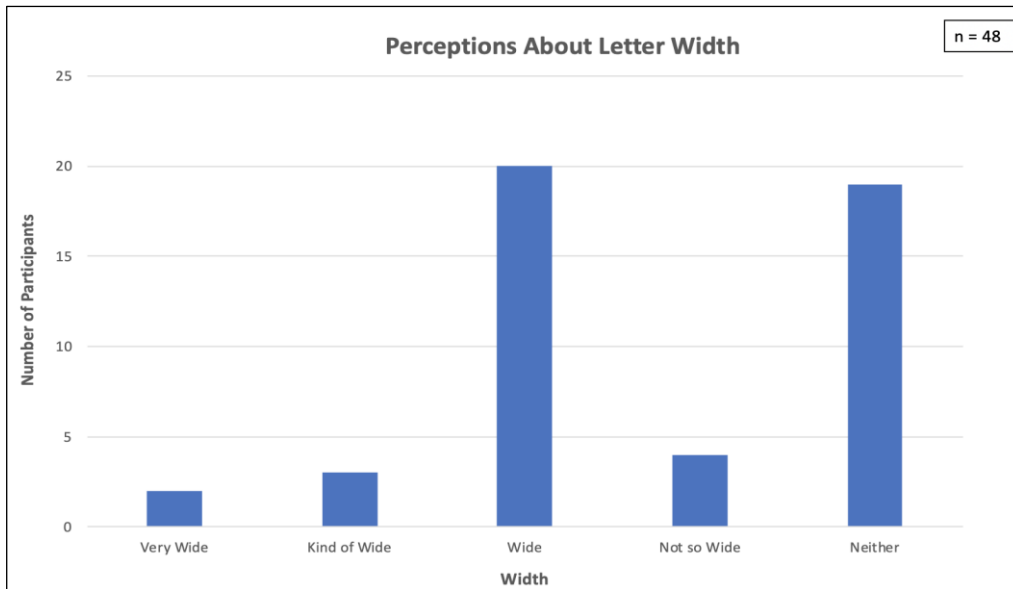


Figure 71: Graph Showing Participants Perceptions Of Letter Width

The results show in Figure 72 that 4 participants responded with ‘very thin’, 3 with ‘kind of thin’, 17 with ‘thin’, 2 with ‘not so thin’ and 22 with ‘neither’.

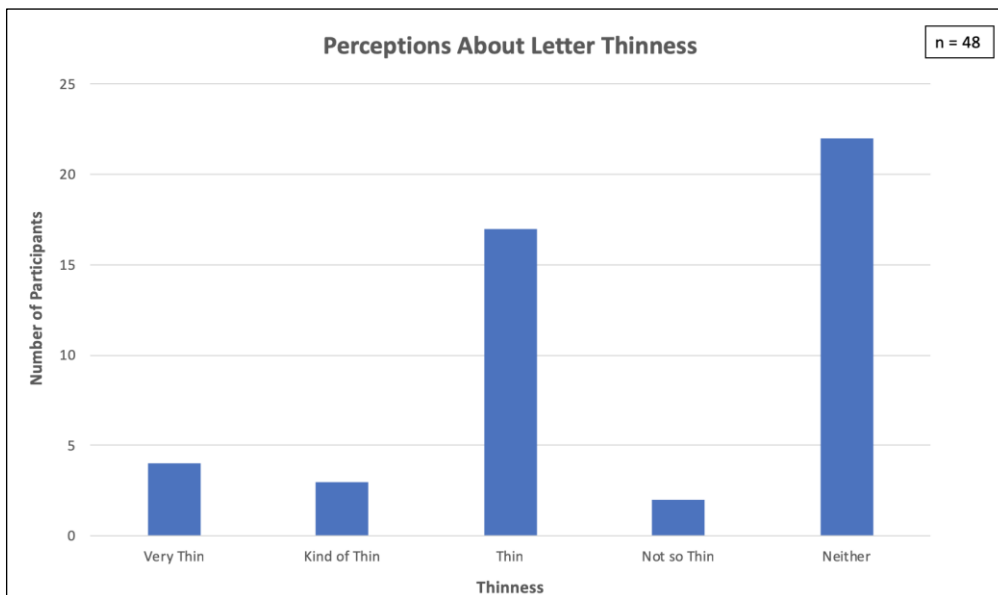


Figure 72: Graph Showing Participants Perceptions Of Letter Thinness

Figure 73 shows the results from participants. 1 participant responded with “very tall”, 4 responded with “kind of tall”, 17 with ‘tall’, 5 with ‘not so tall’ and 21 with ‘neither’.

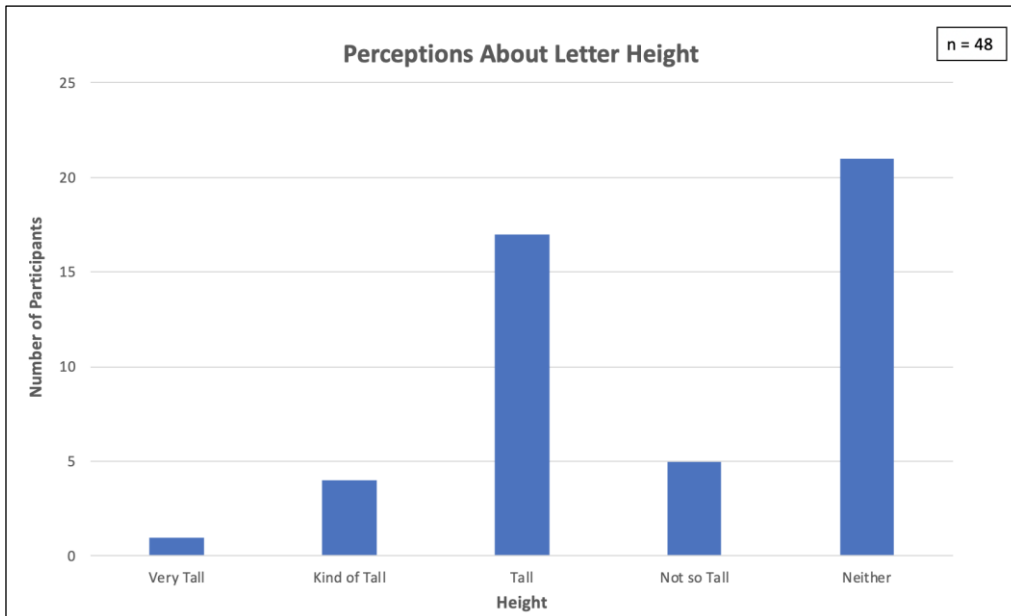


Figure 73: Graph Showing Participants Perceptions Of Letter Height

In Figure 74 the results show that no participants thought about the letters as being ‘very short’ or ‘kind of short’. However, 11 participants answered with ‘short’, 8 with ‘not so short’ and 33 with ‘neither’.

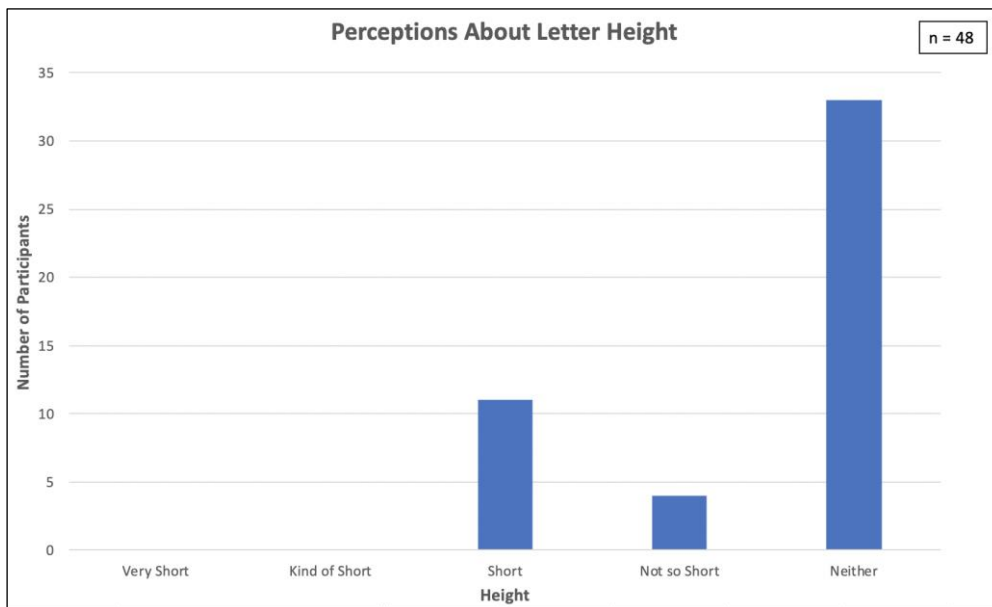


Figure 74: Graph Showing Perceptions Of Letter Height

Overall, there were mixed responses to this question, some participants saying that letters are ‘wide’, ‘tall and thin’, but then more participants answered with ‘neither’. There were 19 participants who answered neither very wide or wide, 22 participants answered with neither very tall or tall and 21 participants answering with neither very thin or thin and 33 participants answering with neither very short nor short. A

wider snap shot of all the results from all four features are pictured in Figure 75. It is clear that out of all four features there is a common answer. Māori letter features are perceived as being neither ‘very short’ nor ‘kind of short’.

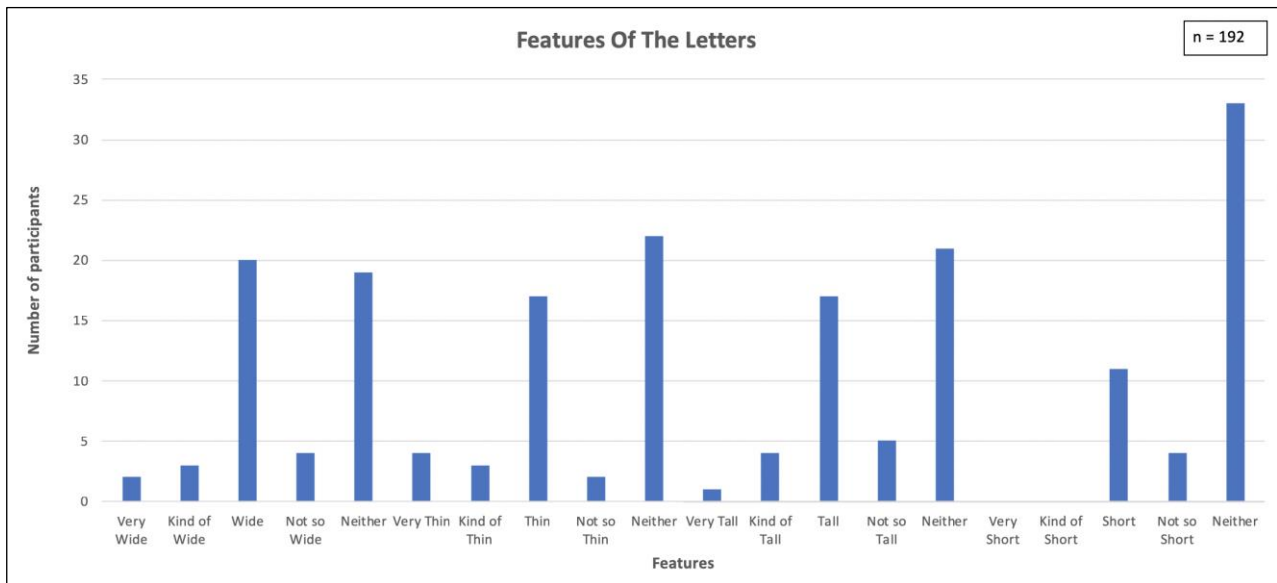


Figure 75: Features of the letters

5.2.2.6 Which one of these fonts look Māori to you?

In the last part of this section, each participant was shown three examples of fonts. Example a- Serif typeface, example b- Sans-serif typeface and example c- Sans-serif bold. The examples are shown in Figure 76.

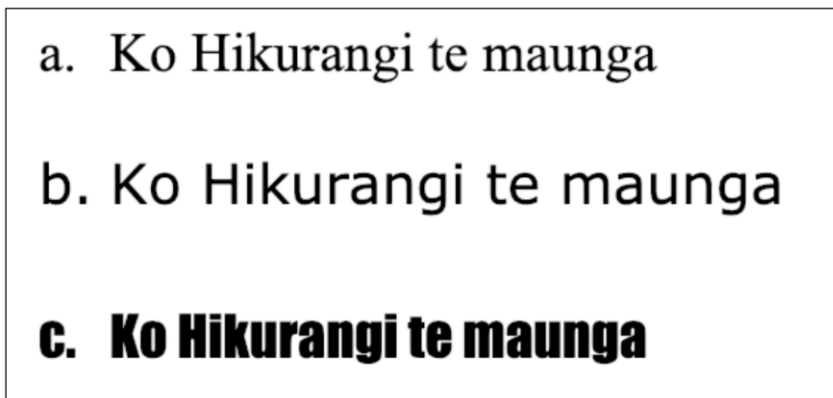


Figure 76: Font Examples

Participants were asked, “which one of these fonts look Māori to you?” There were four participants that did not connect with any of the three fonts and so they selected none. But there were two participants who selected all three fonts.

The results show that in Figure 77 a total of 22 participants selected example A, the serif font. Exactly 14 participants selected example B, the sans serif font and 14 participants selected example C the sans-serif bold font.

Several of the participants made their choice due to familiarity, most commonly seen and readability. Others selected their choice from elimination and picked first the examples that did not look Māori. For instance, P32 selected example B based on the fact that example A and example C looked less Māori.

Participants selected example A due to the readability and how often they have seen Māori text written in this way. In addition, example A was often seen in books, on signage or was noticeably seen over time. P8 named example A, “a common default font”, six other participants commented on the same thing and how it is “commonly seen”.

For example B, six participants (P2, P18, P20, P22, P26, & P49) commented on how easy it was to read. P2 said, “example A has clean lines, it is easy to read and it’s easy on the eye”. Also, from P28, “I like example A because it is simple and is nothing fancy”. P49 said that the font looked “less European and had less flicks”.

Example C was chosen because it was bold, and it stood out especially to nine participants (P1, P3, P6, P7, P16, P17, P29, P30, P35) who commented on its boldness. P29 commented on this example saying, “I associate Māori font with bold lettering” and P16 said that it “reflects Māori”. Signage had an influence, from P43 who said, “it has a modernized feel and is commonly seen on signage”.

Four participants (P4, P14, P38, P44) could not identify any of the fonts to be Māori; they simply did not connect with any of them. In particular P14 said “I don't associate with any of the fonts being Māori. They feel old”.

The two participants who selected all three fonts selected all three because of different reasons. P23 said “I choose all of them for different reasons. Example a has curly bits, example b is a familiar font that I’ve seen, and example c is bolder, and I relate it to signage”. P30 shared that “it depends on the context, but examples a and b aren’t too groupie and example c is bold, stands out and is more together”.

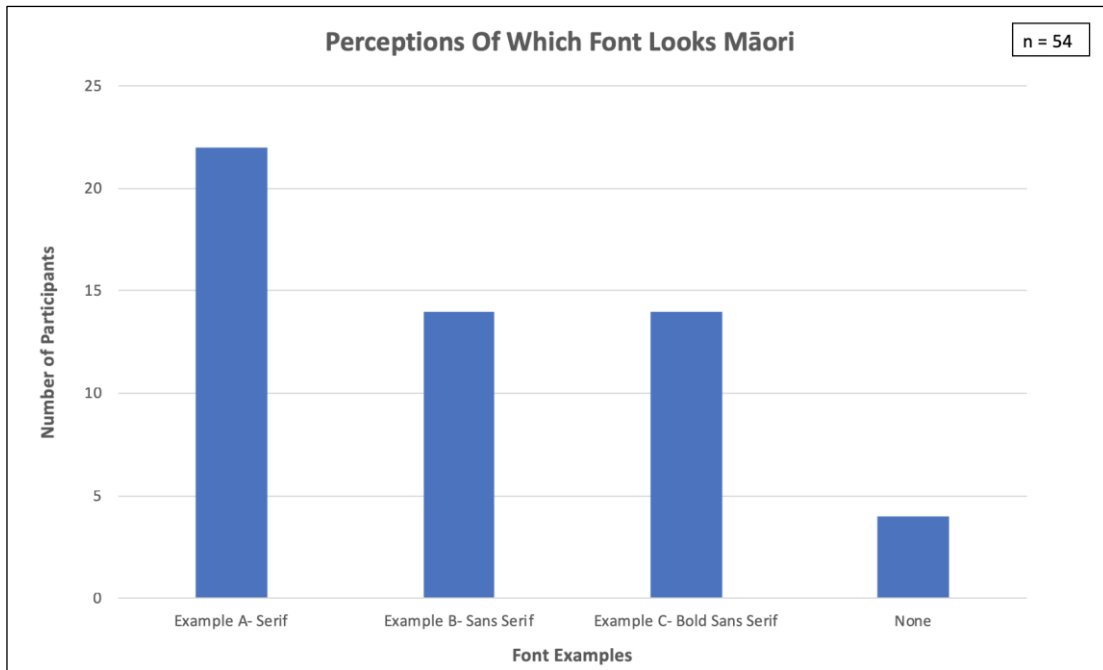


Figure 77: Graph Showing The Participants Perceptions Of Which Font Looks Māori

5.2.3 Part 3: Participant Opinions of Four Different Font Examples

In part three of this research there are four different font examples, (refer to the Method section). See Figure 54 through to Figure 57. The participants were asked two questions and they were the same two questions for each example. The questions were:

Question 1: Does this font look and feel Māori to you?

Question 2: If yes, what features make it look Māori to you?

Each example is followed with the results and two graphs.

5.2.3.1 Example 1- Garamond Font

The first example was a serif font called Garamond, featured in Figure 78. It is clear from the results in Figure 80 that there are 3 participants who said “no this font does not look Māori”, 6 participants said it is poor, 12 said average, 1 said satisfactory, 21 said good whilst 1 said great and 6 said yes. Overall, in total 28 participants (over half) said it was above satisfactory.



Figure 78: Garamond Font Example 1

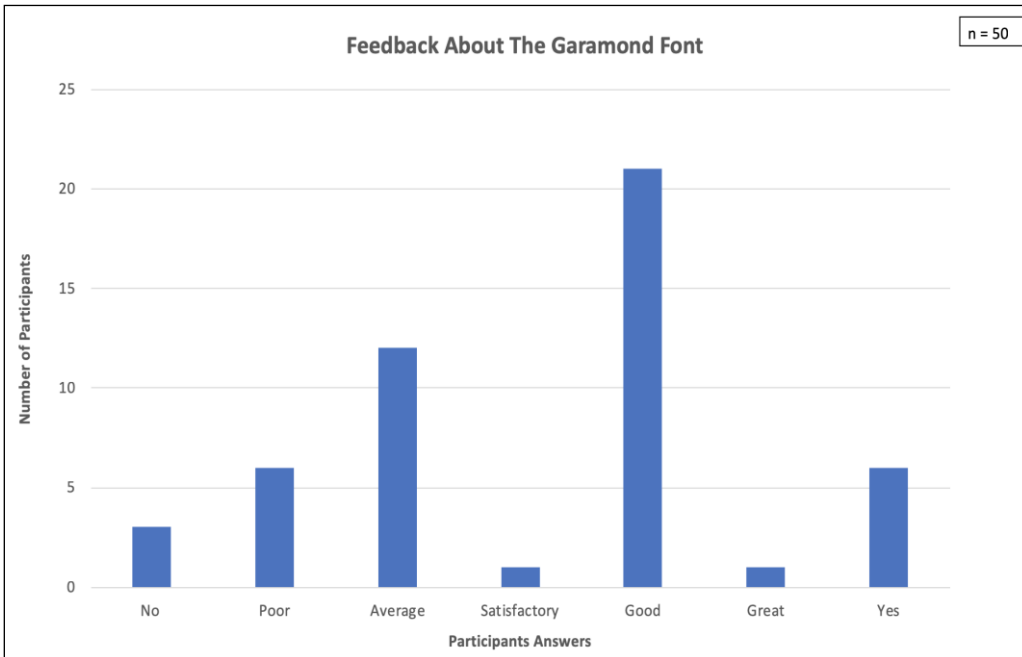


Figure 79: Graph Showing Participants Feedback About The Garamond Font

Participants considered a few of the features such as macrons, readability, flow of letters and serifs as part of their reasoning. In Figure 80, 12 participants recognised the macrons, 13 participants mentioned the serifs, 7 participants commented on the flow of the letters and 3 identified Garamond to be traditional. Other participants felt it was an English, colonial style and associated it with Times New Roman therefore already associated the font as non-Māori.

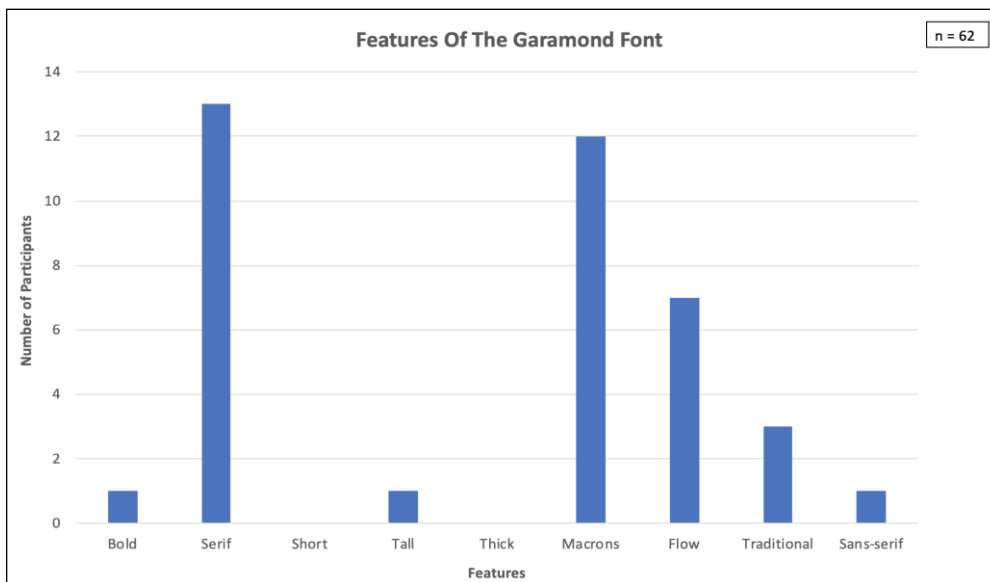


Figure 80: Graph About The Features Of The Garamond Font

Eight participants mentioned the commonality and familiarity of this font. It was a font that participants have seen often, it is traditional, from the past and it seemed to be a 'default' font. P37 commented "it is a

common font used on signage”. Two participants commented on the readability and how the font was easy to read and to understand and one mentioned the breathing space between letters.

5.2.3.2 Example 2- Māori Font by Churchward

The second example, a decorative font called Māori, designed by a New Zealand typographer, Joseph Churchward featured again in Figure 81. The results show in Figure 82 that 6 participants said no, 1 said that the font is poor, 8 thought it was average, 11 were satisfied, 5 said it was good and 18 said yes. Furthermore, 26 participants in total thought it was satisfactory and below whilst 23 participants said that it was above satisfactory.



Figure 81: Māori Font Example 2

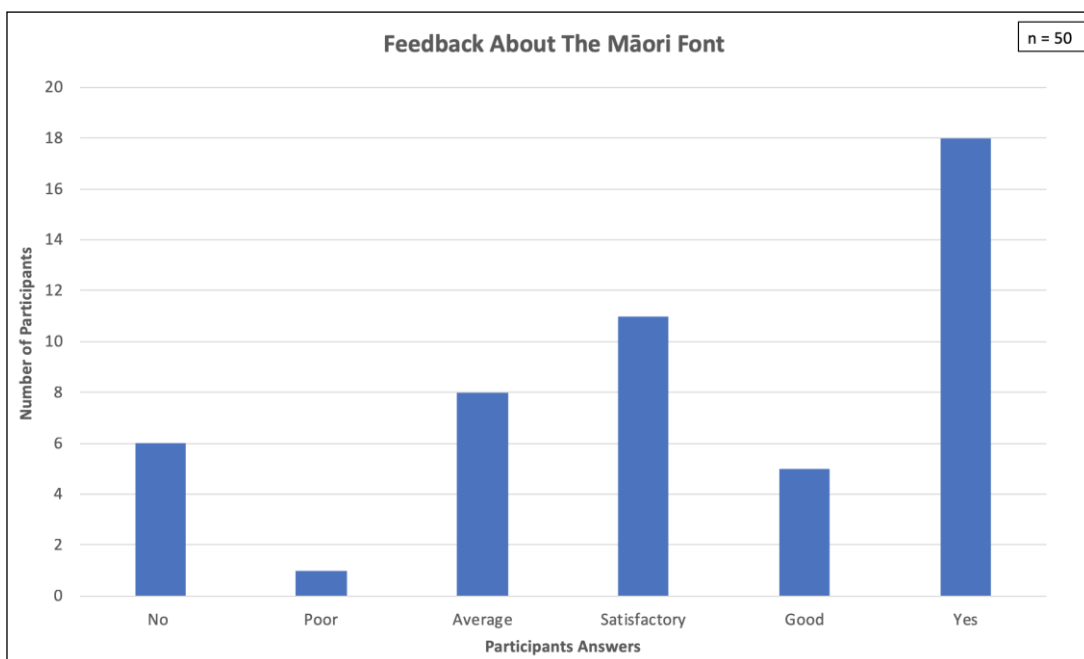


Figure 82: Graph Showing Participants Feedback About The Font By Churchward

The letter feature that looked Māori was the koru. In Figure 83, 20 participants identified the koru as a dominant theme that made it look Māori. Six participants commented how hard it was to read, three identified it as decorative and three mentioned the boldness of the letters.

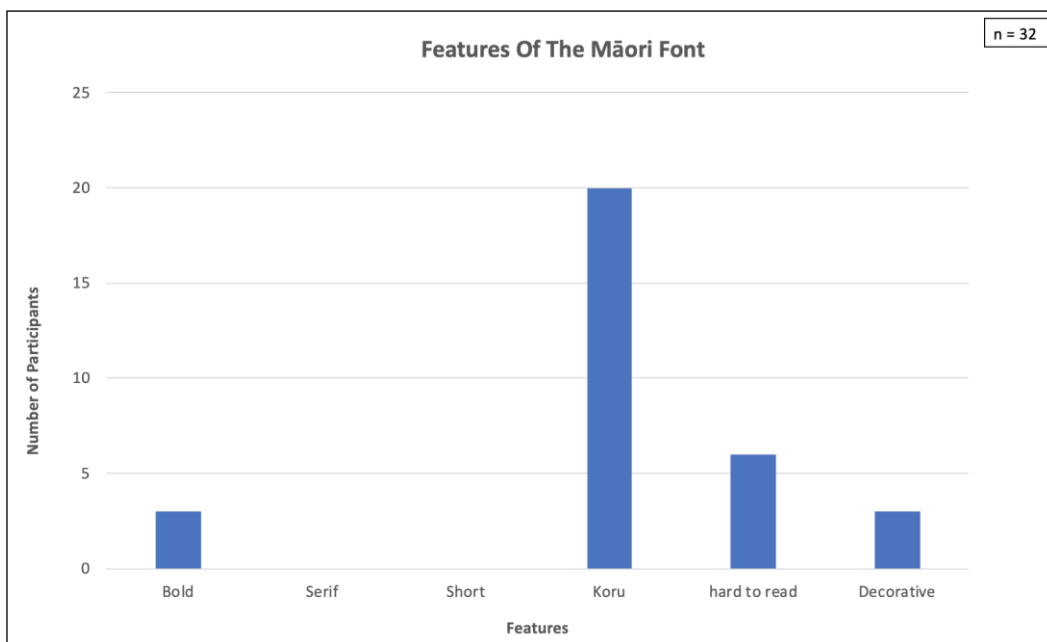


Figure 83: Graph About The Features Of The Font By Churchward

Eight participants said similar comments about how it looks Māori, but they do not associate or connect with it being Māori. P4 commented, “it's trying to be Māori, it has distinction that it's Māori but it's not one that I like”, P48 “it does look Māori, but it doesn't feel right - taken a motif out of context”.

5.2.3.3 Example 3- Revista Font

The third font example, Revista is shown in Figure 84. The results in Figure 85 show that 6 participants said no, 15 said poor, 1 participant selected average, 12 were satisfied, 13 said good, 1 great and 2 said “yes this does look like a Māori font”. Overall, in total 22 participants were below satisfactory.



Figure 84: Revista Font Example 3

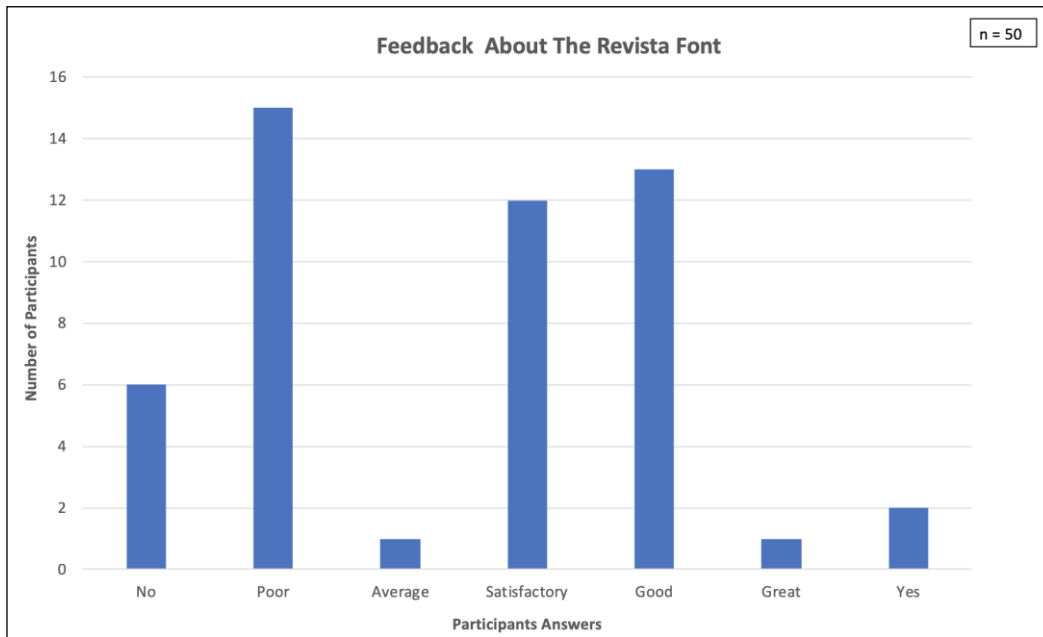


Figure 85: Graph Of Participants Feedback About The Revista Font

The features of the letters that stood out to the participants are clearly shown in Figure 85. Ten participants identified bold to be a feature they liked, six participants commented on the thickness, five on the macrons and serifs, four on the capitalised letters and three on the thin letters.

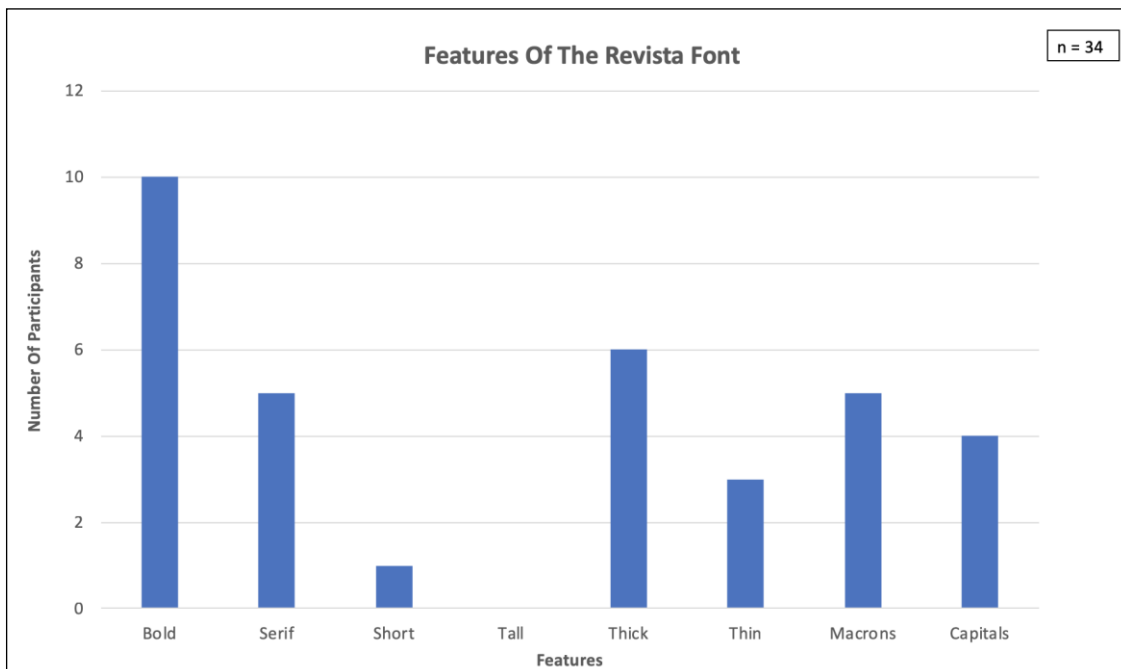


Figure 86: Graph About The Features Of The Revista Font

Three participants P3, P46 and P50 said that the font was too abrupt, it was “shouty and too loud”. For P6 a Pacific photographer likened the font to a building type structure, “it reminds me of pou, like a solid structure” she said.

P15, “this font has a traditional style like the names on chest of tīpuna. It has a good sense of Māoriness.”

5.2.3.4 Example 4- Whakarare Font

The fourth and final example, the Whakarare font by Johnson Witehira is shown in Figure 57. There were strong responses to this font. In Figure 88, the results show that 14 participants said no, 5 said poor, 1 said average, 2 were satisfied with this font, 2 said it was good, 15 great and 10 yes. The results in the graph show a slope from no then a rise up towards a yes. Therefore, 20 participants responses in total were below satisfactory, whilst 27 participants in total were above satisfactory. More participants were pleased that this font looked Māori.



Figure 87: Whakarare Font Example 4

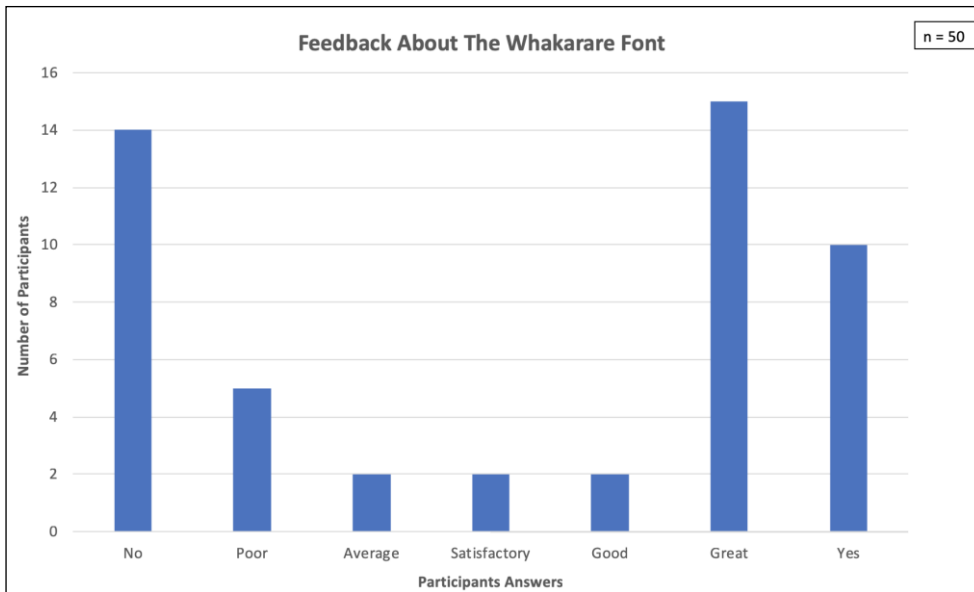


Figure 88: Graph Showing Feedback About The Whakarare Font

At least half of the participants liked this font, the other half did not. Participants who did not like the font commented on certain features. P27 and P41 commented about how the font looked like zebra stripes and a similar comment from P46 who said, “the font looks like a barcode”. Figure 89 shows an outstanding number of 16 participants who all commented about how difficult it was to read the font. Four participants mentioned how the font looked stretched, therefore it was hard to read. Eight participants liked the flow, six mentioned the length and how tall it is, and four participants mentioned how the letters are thin.

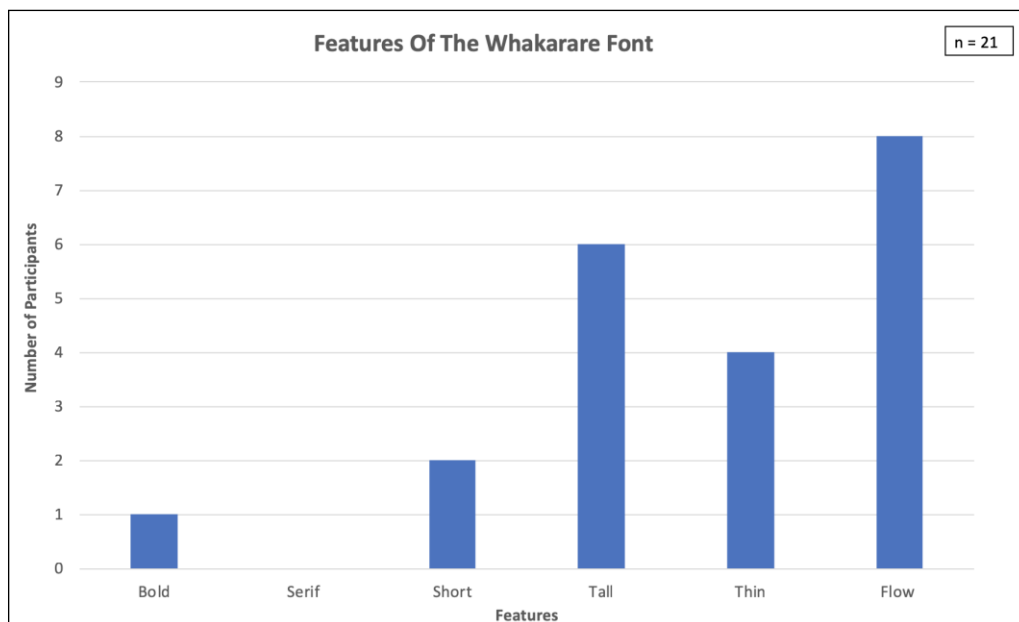


Figure 89: Graph About The Features Of The Whakarare Font

Common themes emerged from this font such as carving styles, flow of the letters and readability. Eight participants in particular commented on the carving like features, especially for P9 a Māori graphic designer who mentioned “the font has a chisel feel, a Māori feel” and P22 who said, “it looks like carving, the haehae pattern”.

5.2.3.5 Orthography - Macrons or Double Vowel

Finally, the last section of this study considered if the participants preferred macrons or double vowels. Each participant was shown another example of the font they liked most. This example had double vowels instead of the macrons. The participants were presented with the same phrase with the same font. They were asked “which of these two texts look and feel more Māori to you?”

In Figure 90, 36 participants selected macrons and 17 participants selected double vowels. Macrons seemed to look and feel more Māori and for various reasons such as, personal preference, readability, visual appearance and commonality. Five participants grew up with macrons and another five commented on how it was common to see and use. For example, P46 an older Pākehā female said “simply I use macrons and I see it daily. I don't see double vowels daily”. For some participants macrons seem to look better, double vowels seem to look displeasing. From P15 they suggest that, “Double vowel is not only aesthetically displeasing it is confusing. The macron suggests having a stress whereas double vowel pressures to stress onomatopoeic and roundness”. There were other participants who thought differently such as P17 a young Māori student said, “double vowels feel more Māori” and P24 a middle-aged well knowledge person in Te Reo Māori said, “double of vowels reads more like it feels”.

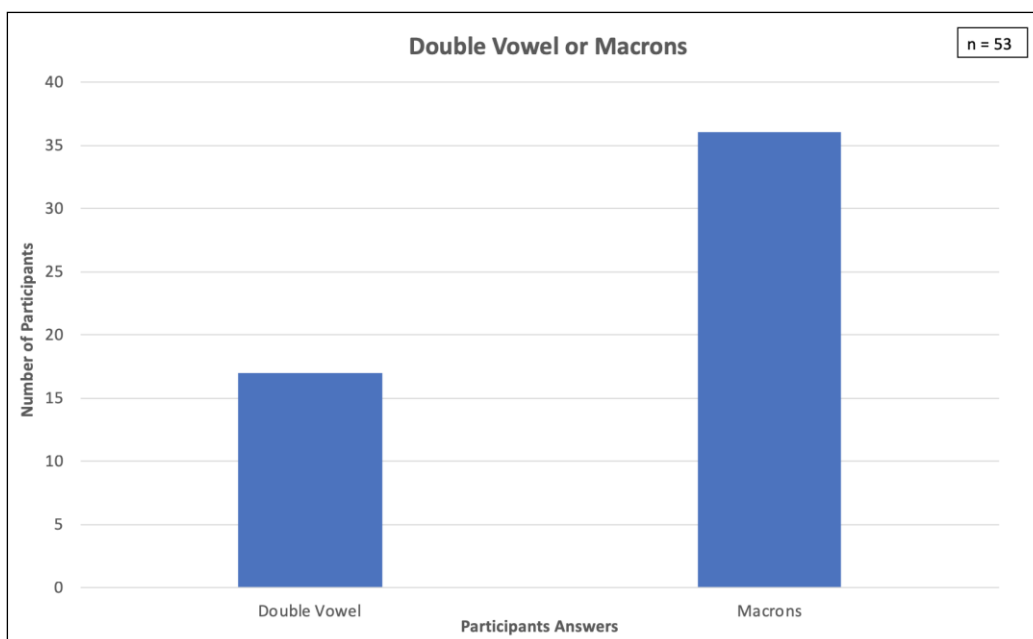


Figure 90: Graph Showing The Results Of Macrons or Double Vowel

5.3 Discussion

Here we discuss the results and consider what all of the information and findings mean.

The ethnicity of all the participants from Figure 60 show that a large proportion (78%) of the participants were Māori. Therefore, there is a strong Māori voice throughout this study.

Many of the participants have come from Rotorua and the East and West Coasts of the North Island in Aotearoa. Only a few came from the Far North, Wellington, Hawkes Bay and the South Island. This means that there is a strong voice from those living central and coastal in the North Island.

In Figure 62, the occupation graph, it shows that there were no expertise knowledge or skills in Māori typography. Six were graphic designers but no typographers. The results show that the participants worked regular jobs with no specific attention to Māori typography except for one graphic designer who worked on a typography project for his workplace and one lecturer who was passionate about typography.

The majority of participants were creative in many activities. Creativity for many participants was a hobby and not part of their job. Six were paid creatives such as the graphic designers and motion graphic designers.

The age demographic shows that 38 participants were aged from 18-40. More of the participants were aged under 40 years old and less were aged over 41 years. Only 12 participants were aged over 41 years old. This means that there is a clear voice from a younger generation.

Many participants were conversational in Te Reo Māori. Only a handful were fluent in Te Reo Māori. This meant that many participants were unlikely to read a significant amount of Māori language texts.

The majority of participants knew very little about Māori text. With limited knowledge about Māori text, we assume that their perceptions came from what they have seen and not about what they know. Those that knew something remembered that their early contact with Māori text was from school, reading letters and old books. P3 a Māori student said, “I remember at school when we had to read old letters from Tā Api and Te Rangi Hiroa and old whakapapa books that had different styles of writing and old font styles of reo too”.

Precisely 34 participants frequently saw Māori text and 16 participants saw Māori text less often. Therefore, Māori text was seen more often than not.

Online and social media were common hubs where participants saw Māori text. Also, signage and television were popular sites too. Consequently, these places and sites have in some way influenced participants perceptions of Māori text. Their opinions are based on what they have seen.

The comments about signage in towns said that there is a bilingual shift occurring. P3 has seen and she commented that, “spaces are moving into bilingual” meaning that there is more Te Reo Māori being noticed in different spaces. Place names and welcome signs are becoming more recognised for Māori text especially in cities such as Gisborne and Rotorua who have a greater visual exposure of Māori signage as mentioned by P3, P24 and P43. Bilingual signage is being recognised in towns, universities, schools, business

organisations and at workplaces. Participants can also see the increase of Māori inspired branding and logos through Māori businesses and iwi.

The Gisborne District Council has created bilingual road signage since the Te Reo Māori me ona Tikanga Policy was adopted in 2014 (Gisborne District Council, 2018). The Gisborne District Council were the first council in New Zealand to formally adopt a bilingual policy (Gisborne District Council, 2018). There are 49% Māori residing within the Gisborne region therefore, Te Reo Māori is key to communicate within the communities (Gisborne District Council, 2018). Since 2014 when the Gisborne District Council adopted the bilingual policy, all council signs including road signs converted to bilingual signage (Gisborne District Council, 2018).

There are two examples in Figure 91. The Te Tāhuna o Midway sign located on the side of the road by the beach and the Tūranganui a Kiwa sign located on the side of the road as you enter the city of Gisborne.



Figure 91: Gisborne Signage (Source: Kennedy, 2019)

The Midway beach sign shows Te Reo Māori and English text, of same size and both are of the same typeface just different colours. The typeface style is slender, sans-serif and rounded. This example shows that Māori text on signage can be thin and can work with the English translation.

The other example, the welcome sign into Gisborne, Tūranganui a Kiwa is a conventional, classic city sign. The sans-serif bold, wide kerning text expresses a strong, easy to read text. In this example there is no English, no decorative styling just simply a plain, and recognisable, direct typeface style. There is also no macron on the letter u which is technically incorrect. The simplicity of the typeface shows an example of a bold font without the English translation and how it can work well.

The typefaces used in both examples seem to be the same except, one is thin and the other is bold. The sans-serif feature in both examples demonstrates a less traditional presence and the roundness of the letters creates a softness that is inviting.

These are two examples of Māori text that are commonly seen by the public. The city entrance sign is used for most cities therefore, this style of typeface is seen often. The participants have also mentioned city signage is a common place to see Māori text.

Māori text is being recognised in many spaces. There are multiple places that people see Māori text; online, television, businesses, branding and signage. However, it is important to note that six participants do not see Māori text anywhere, therefore, Māori text is not visible or obvious to all.

A second graph was added to count how many environments participants saw Māori text. The results show that 43 participants saw Māori text in multiple places not just one. For example, P1 identified Māori text in three different places/environments such as, social media, University, home and at Māori organisations. These findings show that there are many instances in one day in which Māori text is visible. Therefore, 43 participants see Māori text frequently, especially the six participants who see Māori text in five different places. This means Māori text is seen in many typeface styles.

Bold was a common feature that 29 participants associated with Māori text. This could be influenced by what is written on signs or used in logos. To some participants bold represented strength which they associated with Māori culture. A comment shared by P50, a young Māori and Pacific policy advisor, was, “I’ve noticed that they portrayed different traits in the style of writing or logos for example rigid capitalised (staunch).” He suggested the characteristics and lettering used in iwi branding reflected that iwi. For example, pictured in Figure 92 is the logo for the iwi Waikato Tainui (Tainui, 2019). The lettering is wide and bold, according to P50, this style reflects a strong iwi. This means that participants were recognising the features of letters and reflecting them back to how they relate to either the word, people and/or the organisation.

Figure 92: Waikato Tainui Logo (Source: Tainui, 2019)



Note: From Waikato Tainui Archives, by Waikato Tainui, n.d. (<https://tainuiarchives.recollect.co.nz/>).

Copyright by Waikato Tainui.

Participants often connected features of letters to something of cultural significance or to things in the environment such as water i.e. curves in the letters resembled water, flow and fluidity.

Furthermore, it seems that Māori text is wide, not short and neither thin nor tall. This means that a bold wide font are the most common features perceived as Māori text.

The Didone serif typeface was trialled to see if there were connections back to old Māori newspapers and if participants perceived this style of typeface as Māori. Out of the three examples, more participants selected example A the Didone typeface because it was familiar, commonly seen and traditional. P14 said,

“example A is a normal font used for most Māori signage i.e. Times New Roman”. Other participants viewed it as a default font or suggested Māori text is always written in this way. There were a few comments that linked back to old Māori newspapers, from P9 who said, “it has a 19th century feel to it” and from P45 suggesting, “it was used more for reading purposes in newspapers”.

There were 14 participants who selected both example B the sans-serif typeface and example C the sans-serif bold typeface. Participants connected with the simplicity and readability of example b and the boldness of example c. There were eight participants who made their choices based on commonly seeing the typeface and their choices were across all three examples.

Lastly, in part two the participants selected the serif font as a font that looked Māori to them which seemed to contradict the preferences just discussed. Several participants saw serifs as an old style of Māori text. The serif font was popular due to familiarity and readability. Readability was important. If the participant could not read the font then it had no value. Overall, familiarity and readability were ranked as more important features.

The Garamond font indicated that tradition, readability and flow of the letters were recognised to be Māori. Many participants commonly saw Māori text in this style of typeface before. P16 mentioned “this was used regularly in Māori literature in books like Te Kākano and it seems older and authentic”. Although this typeface resembled the past, a comment from P18 suggests it is irrelevant “this goes back to the past, it is not a modern font, not for today”.

The serifs in the Garamond font made participants think of a traditional old style of Māori text however, there were five participants who said that the serifs did not look or feel Māori, in fact their comments said that the serifs make the text look like old English and like the romans. P7 said that, “it seems plain, feels mainstream, it’s not bold and it’s not a common text and overall it doesn't feel Māori”.

Previously discussed in 5.1.3.3, the Garamond font was selected for this study to see if participants were familiar with this font from the Te Wiki o Te Reo Māori campaign and or from Māori newspapers. There were two participants who commented on the following, P3 said, “It looks like Te Taura Whiri examples and looks like a normal font that I see every day” and P18 who said, “It feels colonial and it reminds me of the Niupepa Māori, back to the past therefore, it’s not a modern font for today”. The rest of the participants did not make the same connection.

The Churchward font was used in this study to add diversity. Its decorative nature would either connect or disconnect with the participants. The feedback from the participants say that using a cultural motif out of context does not work well and whilst it may look Māori, this font does not ‘feel’ Māori. Two participants strongly responded and stated how inappropriate and cheap this typeface is. P3 said “it is tacky, commonly used and it's not appropriate”, “it's been done to make it Māori, it's not authentic, it's token!” said by P34.

The Churchward font was controversial for many participants because, whilst the features of the font obviously looked Māori the participants struggled with aligning it to a Māori feel. Even though 18 participants stated a strong “yes”, there were 6 participants of 18 who were displeased with the font. The 6 participants were in turmoil because the font obviously had Māori features such as the koru, hence they

choose 'yes' but, in their opinion, it was not a Māori font. P14 a Māori middle-aged manager said, "this font wouldn't be my first preference it's way too much" and P41 a mature lecturer said "it's trying too hard, I'm Māori to the point it's hard to read. This is not a good typeface especially the koru shapes off the serifs, this is not good".

Whilst those 6 participants disagreed, the remaining 12 participants agreed, and their comments were very different. P22 a middle-aged creative teacher said, "it feels more Māori, it's natural, arty and has a kowhaiwhai reference" and P46 an older Pākehā said, "in an artistic way, yes. This is an arty creative font and reminds me of rural areas".

The Revista font reflected a similar Didone style of fonts that were used in the Niupepa Māori, as the results show in Chapter 3. Explained in Section 5.1.3.3, this font was used in this study to see if participants identified any of the serif features to be Māori. Only one participant mentioned the Didone features, P48 a Pākehā creative teacher said, "It has a Didone feel, sharp angles, feels fashiony and some aspects fit but it has too much precision". There was one other participant who said that this font had a good sense of Māoriness and interestingly made a connection back to carved names on the chests of tīpuna. Therefore, there was some connection back to carved examples in whareniui. However, no other participants commented or made connections with this font from the Niupepa Māori.

The thick and thin lines of the Revista font reflected pou and whareniui like structures. However, the typeface was too bold, too thick and also written in capitals which did not connect well with participants. P12 strongly said "it is too big; all caps and it seems too bold. I wouldn't associate Māori with this, it is in your face".

Altogether, there were 22 participants who said that the Revista font was average, poor and overall a "no". Whilst the remaining 28 participants said it was satisfactory, good, great and overall a "yes". Almost a half split from poor to good. This means that overall more participants connected with this font than those who did not.

Last but not least, the Whakarare font suggests the carving inspired features are culturally appropriate however, it was hard to read. The Whakarare font was used in this study because of its narrative and is identified as a modern Māori typeface. There were two participants who commented about the modern feel of the Whakarare font, P3 a Māori student said, "it has a retro feel, it's connected, compliments well and it has a contemporary modern Māori feel about it" whilst P16 a Māori graphic designer said, "it has a modern Māori feel. It's definitely a title heading. Looks organised".

Whilst there were two participants who commented on how modern the Whakarare font was, there were other comments about how the features represented Māori culture well. There were 17 participants who likened the typeface features to things Māori such as; tā moko, taiaha, whakairo, toi Māori, whare and pou. Participants were not so familiar with the whakarare carving pattern, but one participant mentioned the haehae pattern. Overall, the features of this typeface connect well to things Māori.

Furthermore, comments about the Whakarare font suggested that, "the thin lettering represented a taiaha, it really looks Māori and feels Māori" from P11. It seemed to be that the thin and tall features also made this

typeface hard to read. P4 mentioned that “it hurts my eyes; it is not easy or clear because of the horizontalness of it”. Overall readability is important.

Overall, 27 participants said that the Whakarare font was “good”, “great” and definitely a “yes”, whilst 2 were satisfactory and 21 said it was “poor”, “average” and overall a “definite no”. This means that more participants agreed that this font looked Māori compared to those who disagreed.

Flow was a common theme in both the Garamond and the Whakarare examples. Fifteen participants spoke about the curves and the movement of the letters. The curves in the letters made the text seem organic and natural. P15 commented saying “it has a curvilinear shape to it, a roundness like tukutuku”, referring to the Garamond font. A comment referring to the Whakarare typeface from P34 said, “it has a fluid feel, like wai” and three other participants felt the same way too.

Frequently participants reflected features of letters to something of Māori cultural significance. For example, the flicks in the letters or how thin and thick the letters were. Here is an in-depth comment from P41 “little flicks with the letters 'a' and 't' and the proportion of the thin and thick, fat face and heavy stress of the letters resemble palisades up rights, constructed of Marae.” This is saying that viewers try to link and reflect every component and feature to things Māori. This is important to consider.

Macrons were preferred rather than the double vowel because they are easier to read, more visually pleasing and with modern technology such as television macrons are used therefore, it is more common to see. The macron is preferred over the double vowel. Macrons were identified to be Māori, but a consideration was that macrons need to work well with the letters. Overall it came down to how the text looked and most preferred the macrons because it fitted well and was aesthetically pleasing.

5.3.1 Challenges

There were a few limitations with this study such as finding the right mix of participants, allowing enough time, keeping on time and selecting the right venue. This section will talk about these considerations.

To find non-Māori participants and participants aged over 60 years was difficult. To overcome this challenge, people outside of the close contacts were considered.

One mindful consideration was allowing enough time for each interview. Each interview took between 10 minutes to 60 minutes depending on the depth of conversation. Therefore, I allowed one hour to ensure there was enough time with a 20 minutes break in between for travel and to rest.

At times, explaining or asking the participants about features of Māori text was difficult because of the lack of knowledge and information about this topic. In one interview for example, the participant could not answer “what does a Māori font look like to you?” He did not know what a Māori text or font looked like. Therefore, he could not think of any examples.

Some participants talked about irrelevant topics which was difficult to manage. Time management was an issue as there were often multiple interviews scheduled consecutively.

One last limitation through the interview process was background noise. Some interviews were held in a café or were on the marae. Unfortunately, at those locations background noise was difficult because it was hard to concentrate, hard to listen and to stay focused. This would be a recommendation for future researchers and research projects. That more time be allocated to interviews and that more appropriate interview spaces be identified

5.4 Conclusion

This chapter provided an outlook on the perceptions of Māori text. We interviewed 50 participants of different ages, occupations, backgrounds and level of fluency in Te Reo Māori. We found that the majority of participants did not know what Māori typography was. Most participants had never heard or thought about Māori typography, Māori fonts or features of Māori text before. Therefore, the key places and objects of where participants saw Māori text had influenced their ideas and opinions on Māori text. We also discovered that cultural elements, tradition, readability, fluidity and macrons were recognisable features that participants connected to being Māori.

The findings from this study contributed to answering RQ2 and RQ3.

5.4.1 Answering RQ2

RQ2: What are the perceived features of a Māori typeface?

We discovered that participants likened wide, bold features, not short and neither thin nor tall features to be Māori. For many participants the features of letters or the feeling of the text needed to coincide with Māori culture and the environment. For example flicks in letters and the space between letters resembled water. Bold and wide features were preferred because participants associated those features with being strong and staunch which reflected iwi and Māori culture well. The traditional serif typeface also resonated well with participants because it connected them to a traditional form of Māori text which connected them to old newspapers.

Comments from Participants suggest what a Māori typeface is not. It is not a thin small typeface. It is not a curly decorative font nor is it a Blackletter typeface either.

Participants suggest a mixture of traditional and modern features would provide a good Māori typeface. A mix of features from the Garamond font and the Whakarare font as an example. Both fonts together would combine traditional serifs, a traditional Māori narrative with modern flicks, thickness and connectedness of the letters.

5.4.2 Answering RQ3

RQ3: What advice is given for design guidance of Māori typography?

Māori motifs are important and should be considered however, motifs must be used appropriately and fittingly. There are ways to show Māori features without being obvious, for example a koru is not the only Māori motif to use, there are other symbols and narratives to draw from.

Readability is also important to consider. We found that if the typeface was hard to read, then the participants could not make a connection with the typeface. Our results also showed that macrons were preferred and should be placed well with letters.

The feedback from participants show that a Māori typeface should not only “look” Māori but “feel” Māori. Therefore, a modern, readable font that reflects Māori culture and the environment is suggested.

Overall, participants suggest that letters should carry some visual weight, should consider traditional features such as serifs, letters to be perceivably tall and should have visual width and space.

5.4.3 Recommendations

To extend this study, consideration of inappropriate use and design of Māori text would be useful. This could take the form of a similar study method using more discussion and research around the misappropriation of Māori text in public settings. This discussion will help to understand what is not appropriate and why.

Further research should concentrate on bilingual signage in towns and cities in New Zealand. The results from a study like this would help to better understand what typeface styles are commonly used on bilingual signage, are they effective and do they look Māori? Also, do the typefaces on bilingual signage communicate Te Reo Māori successfully and or unsuccessfully?

6. CONCLUSION

The purpose of this thesis was to study Māori typography. In particular, it sought to pick out certain fundamentals such as; the developments, the perceptions and design guidance for Māori typefaces. This research is important because it will inform what the visual identity of Te Reo Māori can look like. The findings from this research will contribute to Māori design and in particular typography.

Two studies were conducted. The first was an investigation into Māori newspapers from the 19th and 20th century to examine the typographic elements. This study provided insights into the styles of typefaces used, the unique typefaces and a glimpse into early print of Māori text. The second study was an interview with 50 participants to collate their perceptions of Māori text. This investigation assisted with understanding what typeface features were perceived to be Māori and what should be taken into consideration when creating a typeface.

The outcomes across all of the chapters show that the serif typeface classification is a prominent typeface style used for communication to Māori readers. Māori used serifs in early examples of lettering (see Chapter 2), serifs featured throughout Māori newspapers (see Chapter 3) and serif lettering reminded participants of early Māori print text (see Chapter 5). Overall, the theme of serifs and in particular the style of Didone typefaces has seeped through the history of Māori typography from early art forms such as painted text, through to Māori newspapers and is also recognised today.

This chapter will conclude and summarise the answers to the research questions one, two and three. Insights about the research hypothesis will follow and a section on future work and final words will conclude this chapter.

6.1 Answers to the Research Questions

Three research questions were proposed to help navigate this topic of Māori typography. The research questions were:

RQ1: How has Māori typography evolved?

RQ2: What are the perceived features of a Māori typeface?

RQ3: What advice is given for design guidance of Māori typography?

Each of these questions were answered throughout this thesis and both studies were aimed to deliver particular outcomes. These are the key findings related to each of the research questions and the various chapters of this thesis that contribute to answering these research questions.

6.1.1 Research Question 1

RQ1: How has Māori typography evolved?

The studies in Chapters 2, 3 and 4 set out to answer research question one.

In Chapter 2, indigenous typography, early examples of Māori typography and modern Māori typography were explored. The research has shown how Māori typography has evolved from moko symbols drawn on the Treaty of Waitangi to the encounter and influence of Pākehā lettering. Māori typography further developed where Māori used Didone typefaces to paint text onto whareniui, carve into pou, tattoo on skin and print in newspapers.

Māori typography overtime developed from Didone typefaces to typefaces that resembled Māori culture. In Chapter 2, typography experts like Witehira and Sowersby designed typefaces with Māori narratives in mind. The Whakarare and Pure Pākati typefaces show two cultural typefaces that reflect Māori carving, Māori narratives and Māori design. The contemporary approach moved away from the traditional Didone typeface. Instead, the Whakarare typeface resembled a carving pattern that had elongated strokes showing features of a carving pattern. The Pure Pākati typeface displayed a wooden textured sans-serif text with three prominent notches that represented an old Māori navigational story. These two typefaces show a contemporary development of Māori typography.

In Chapter 3, 21 Māori newspapers from 1842 were analysed to understand one of the earliest accounts of Māori printed text. The results show that Didone typefaces were commonly used. Didone was consistently used throughout the masthead, display and the body text. Witehira (2019) suggests how the influence of biblical texts and newspapers of the time may have influenced Māori to use Didone typefaces.

In Chapter 4, two unique letter characters were found in the 1908 Te Pīpīwharau newspaper. The two new letter characters combined the ‘ng’ letters together and the ‘wh’ letters together. These two characters were not found in any other Māori newspaper printed at that time. This discovery shows an early account of innovative developments in Māori typography.

In general, therefore, the research and results show that Māori typography has evolved from drawing symbols of moko to using Didone typefaces and through to the invention of new letter characters. Additionally, Māori typography has further developed with modern designs of Māori typefaces created from the influences of Māori narratives and Māori design.

6.1.2 Research Question 2

RQ2: What are the perceived features of a Māori typeface?

The purpose of Chapter 5 was to answer research question two. The study in Chapter 5 consisted of an interview with 50 participants to understand their ideas and perceptions of Māori typography.

We found that the perceived ideas about Māori text came from certain places where participants regularly saw Māori text. Participants commonly saw Māori text on signage, television, branding, social media and at workplaces. Their perceptions were based on what they had seen rather than their knowledge about Māori typography. For most participants their knowledge of Māori typefaces was minimal. For other participants their perceptions came from remembering old examples of Māori text such as text books, newspapers and old letters.

Serif lettering was mentioned many times by participants and was recognised as Māori text. Participants referred serif typefaces to old Māori text books, old newspapers and was seen as a default font that was used often for Māori text. Even though serifs reminded participants of old Māori text, the serifs represented an old European era.

The study has shown that tails, arcs of stems, visual width and visual weight connected well with participants. The tails and arcs of stems resembled fluidity and wai. The visual weight represented being strong and staunch which participants likened to characteristics of iwi and Māori culture. The visual width allowed space between letters which participants suggested was important for good readability.

6.1.3 Research Question 3

RQ3: What advice is given for design guidance of Māori typography?

Research in Chapters 2 and 5 contributed to answer research question three.

Firstly Chapter 2 suggests not to use Māori motifs inappropriately. Witehira (2015) expresses the importance of using Māori motifs correctly and to consider the meanings behind Māori motifs. Participants commented about the koru being overused in the Māori font by Churchward. The Māori font obviously looked Māori but it did not feel Māori.

To avoid using stereo typical Māori motifs in typefaces, Witehira's (2015) design process suggests a few key Māori elements and components. These components reflect a Māori approach to a design process and should be something to consider when designing Māori typefaces. When creating the Whakarare typeface (2015), Witehira was intentional about incorporating a tātai manawa element. Witehira (2015) describes the tātai manawa as the heart pulse, a natural rhythm through the positive and negative spaces of a typeface. Witehira (2015) also states that whakapapa Māori, toi Māori and Māori typographic development were key components that drove the design process when he created the Whakarare typeface.

Likewise, Sowersby used a similar design considerations in his approach to designing the Pure Pākati typeface. Firstly, Sowersby was intentional about using Māori designers and creatives in his design team. The team sat in hui and wānanga to draw on the Pākehā and Māori design history. The word pākati resembled the three notches from the Māori navigation story of Toi and Whātonga. The typeface was then hand crafted using the art of whakairo rākau. The project overall encompassed the word whānau as they saw this as the essence of a New Zealand identity.

The design processes for both the Whakarare and Pure Pākati typefaces show an organic analogue approach rather than digital. In the context of this research an organic analogue approach means a hands-on and a natural method is taken. Inspiration from toi Māori is also recommended which makes sense since toi Māori is all done by hand i.e. carving, painting, weaving and tattooing.

Keywords and feedback from participants in our study presented in Chapter 5 suggested organic, connection, Māori motifs and respectful of culture.

In summary, from the feedback from participants and Witehira’s suggestions we believe the following recommendations provide process guidance for designers during the development of Māori typefaces:

Table 8: Suggestions For Design Guidance

R1	Organic visual properties	Hand crafted and a natural process
R2	Whānau approach	A collective approach to the design process
R3	Whakapapa Māori	To use Māori genealogy
R4	Toi Māori	To use Māori art, patterns and designs
R5	Māori typographic development	Draw on the history of Māori typography
R6	Tātai Manawa	Create a heart pulse and a natural rhythm
R7	Māori representation	Final approval from Māori experts or kaumatua to ensure there are no offenses made

We believe that consideration of these recommendations when developing Māori typefaces will assist designers to develop appropriate typefaces for the future of Te Reo Māori.

6.2 Research Hypothesis

The research hypothesis of this thesis states:

Design guidance for developing Māori typefaces is required.

The research and findings throughout this thesis reveal that to date there has been a non-collective approach to developing Māori typography.

The study of Māori newspapers in Chapter 3 shows individual Māori newspapers with the use of different typefaces. Each Māori newspaper used their own fonts, typically Didone typefaces and Blackletter but there was no identifiable reason for typeface selection that was driven by the Māori audience or content. This shows that design guidance was not developed through this time of printing newspapers.

Chapter 4 showed two unique letter characters specific to Te Reo Māori. However, these two characters were not used by other newspapers and was not further developed. The lack of advancement of these uniquely Māori glyphs confirms that design guidance and design development is needed for Māori typefaces.

To date there have been no guidelines for the development of typography for Māori readers and therefore no collective direction or vision when creating Māori typefaces. Therefore, design guidance and more so a collective vision for Māori typefaces is required.

In summary, we believe the following recommendations provide visual design guidance for designers during the development of Māori typefaces. When designing or selecting a typeface for a Māori context, designers should consider the following features of the typeface to ensure appropriate user perceptions:

Table 9: Considerations of Typeface Features

R1	Letters should carry some visual weight	Wide letters that are perhaps bold or medium in weight
R2	Letters should carry some considerations of traditional tools	Serif typefaces, or letters with features of cursive writing
R3	Letters should be perceivably tall	Typefaces that have clear ascenders and descenders
R4	Letters should have visual width	Letters that combine generous visual negative and positive space

We believe that consideration of these visual design recommendations when developing Māori typefaces will assist designers to develop appropriate typefaces for the future of Te Reo Māori.

6.3 Future Work

The final part of this chapter suggests the considerations for future work on-going from this thesis. There are many options however this section mentions a few that will be discussed in detail.

Limited research was identified that discussed historical toi Māori practices. For example, more research on Māori text used within whareniui will be beneficial to understand the typefaces that were used. Within certain whareniui whakairo are erected with names of tīpuna etched onto their chests, also text weaved through tukutuku panels, painted text on panels and also text written on photos of those who have passed. A study across a number of whareniui from different regions and iwi will provide the awareness about certain typefaces once used. Also, additional knowledge about the similarities and dissimilarities between regions and understanding about what typefaces were preferred will help to understand more of the origins of Māori typography. An overview of typefaces used in old traditional marae compared to typefaces used in contemporary suburban marae will provide interesting insights and comparisons as well.

Similarly, historical investigations into the decisions and practices that influenced the Māori newspapers would be beneficial. In Section 3.5.2 we recommend a need for more insight around early Māori typography and comparing Māori newspapers to non-Māori newspapers to understand what typefaces were

used and if Māori newspapers were unique. Also, insight into the editors and the letterpress technology of the time would provide more clarity around the typefaces used. Further research should be done to investigate the ŋ and wh characters that were used in Te Pīpīwharaura 1908. This study would help to understand why it stopped and should Te Reo Māori be formally written in this way today. What would it look like if Te Reo Māori was written today using the ŋ for ng and the joined wh letters for wh.

Future research should concentrate on the use of macrons and double vowels. This research on the use of macrons and double vowels in Te Reo Māori will confirm which of the two features look and feel more Māori. Additional insights about how one or both features fit within the design of a Māori typeface would be valuable and to take in the considerations necessary. For example, should a criteria be established when designing macrons into a Māori typeface. Is there a certain measurement, the width and length of a macron and the space between the letter and the placement of the macron?

In Section 5.4.3 we recommended potential future study on the perceptions of Māori text that would further contextualise and extend our findings here. These recommendations were distribution of age groups, young and old as well as ethnicity distribution of non-Māori and Māori participants. These suggestions will provide increased possibility for feedback from specific groups of people and comparisons between them all.

6.4 Final Words

This study first started with the title ‘communicating Te Reo Māori through typography’. The ambition originally was to understand how best Te Reo Māori can be shown, represented and easily taught through typography. The desire was to explore the best functions of typography, to create an attractive Māori typeface that would help people learn Te Reo Māori. Resources on Māori typography were limited and a struggle to come by. Consequently, the scope of this topic became wider in order to find good content about communicating Te Reo Māori through typography. This indicated that a pivot in direction was necessary.

Resources on Māori typography were limited and a struggle to come by. The scope of this topic became wider in search to find good content about communicating Te Reo Māori through typography. This indicated that a pivot in direction was necessary.

The question was reduced to then ask, what is Māori typography? When did it start? And what does it look like? This is a unique topic with limited resources, however, these questions ensured a foundational structure to explore Māori typography.

The value of this study has ensured that more understanding and knowledge is injected into the Māori typography narrative, a book which has many blank pages to fill. Through this study it has highlighted the importance to determine the visual identity of Te Reo Māori. With this understanding it allows an indigenous language to be recognised, acknowledged and represented. The findings from this research can also provide information for other indigenous languages who might be on a similar journey.

My vision has expanded throughout this journey. I started with the intention to understand what fonts I should consider for my Taputapu products. However, this research made me see the bigger picture. This

research will create a foundation of the visual identity of Te Reo Māori, what it can look like, or should look like and what to consider. I realised how important this is for te ao Māori and what this research can mean for the future.

The opportunity lies with the ideas to create appropriate Māori typefaces that represents not only the language itself but the people, culture, the land and the stories.

From here my business Taputapu will continue to produce quality Te Reo Māori homeware products with the understanding now of what typefaces to use and or create. The journey through this research means that our products will have more meaning. I aim to create an excellent standard of Māori design in all that I do.

From here, the journey does not end, the conversation should continue about the appropriate visual representation of Te Reo Māori, what is appropriate and best reflective of Māori. This is a small piece to a bigger puzzle.

GLOSSARY

Table 10: Glossary (Source: Moorfield, 2003)

Aotearoa	Land of the long white cloud. New Zealand
Awhi	Support, care
Haehae	Dog tooth pattern in carving
Hui	Meeting
Iwi	Tribe or extended kinship group
Kāinga	Home, village or settlement
Kākaho	Culm, stem of toetoe. Used for lining the walls of buildings
Karakia	A prayer or chant
Karanga	To call, call out or summon
Kaupapa	Māori approach, Māori topic
Kīngitanga	Māori King movement
Kīwaha	Colloquial saying
Koru	Spiral motif
Kōwhaiwhai	Pattern scroll ornament
Maihi	The facing boards on the gable of a house
Mana	Prestige
Marae	The complex of buildings surrounding the whareniui
Moko	Māori tattooing designs

Pākati	Fine dog's tooth pattern in carving
Pākehā	English, foreign
Pepeha	Tribal saying or tribal motto
Pihikete	Biscuit
Poupou or pou	Wall-pillar
Rauru	Spiral form of carving
Tā moko	Traditional tattooing
Tapu	Sacred
Tātai Manawa	Heart Pulse
Tauparapara	An incantation to begin a speech
Tautoko	Support
Te Ika a Maui	The North Island
Te Reo Māori	The Māori language
Te Taiao	The environment, world, earth or nature
Te Waipounamu	The South Island
Tikanga	Correct procedure or custom
Toi Māori	Māori art
Tukutuku	Ornamental lattice work
Wai	Water

Wairuatanga

Spirituality

Wānanga

Place of learning

Whakapapa

Genealogy

Whakarare

A carving pattern

Whakatauki

A proverb or significant saying

Waiata

A song

Whānau

Family

Whare or Wharenui

Ancestral meeting house

Whenua

Land

APPENDIX

**Faculty of Computing and
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7 December 2018

Nikki Kennedy
C/- Department of Computer Science
THE UNIVERSITY OF WAIKATO

Dear Nikki

Request for approval to conduct a user study with human participants

On the basis of the information you have provided on the FCMS Preliminary Ethics Application Form relating to your research "Perceptions of Māori typographic design and use", the committee has given you approval to proceed with your proposed study.

We wish you well with your research.



Mark Apperley
Human Research Ethics Committee
Faculty of Computing and Mathematical Sciences

Figure 93: Ethics Letter of Approval

Table 11: Participants Demographics

participant#	Age	Gender	Ethnicity
P1	18-25	F	Māori
P2	18-25	F	Māori
P3	18-25	F	Māori
P4	26-40	M	Māori
P5	18-25	M	Māori
P6	26-40	F	Pacific
P7	26-40	F	Māori
P8	26-40	M	Māori
P9	26-40	M	Māori
P10	18-25	M	Māori/Pākehā
P11	26-40	F	Māori
P12	26-40	M	Māori
P13	18-25	F	Māori
P14	26-40	F	Māori
P15	41-59	M	Māori
P16	41-59	M	Māori
P17	18-25	F	Māori
P18	18-25	M	Māori
P19	41-59	F	Māori
P20	60+	F	Māori
P21	41-59	F	Māori
P22	26-40	M	Māori/Pākehā
P23	26-40	M	Pākehā/Other
P24	26-40	F	Māori
P25	26-40	F	Māori
P26	26-40	F	Māori
P27	41-59	F	Māori
P28	26-40	F	Māori
P29	26-40	M	Māori
P30	18-25	M	Pacific
P31	18-25	M	Māori
P32	26-40	F	Māori
P33	60+	F	Māori
P34	26-40	M	Māori/Pacific
P35	26-40	M	Māori
P36	26-40	F	Pākehā
P37	26-40	M	Māori/Pākehā
P38	41-59	F	Māori
P39	18-25	M	Pākehā
P40	26-40	M	Pākehā
P41	41-59	M	Māori/Pākehā
P42	26-40	F	Pākehā
P43	18-25	F	Pākehā
P44	41-59	M	Māori/Pākehā
P45	60+	F	Pākehā
P46	41-59	F	Pākehā
P47	26-40	M	Māori/Pākehā
P48	26-40	M	Pākehā
P49	26-40	F	Māori/Pākehā
P50	18-25	M	Māori/Pacific

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