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Rhetoric of Typography: Cross-Cultural Perceptions of Typefaces for Technical and Visual Communication

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Rhetoric of Typography: Cross-Cultural Perceptions of Typefaces for Technical and Visual

Communication

By

Michael E. Peterson

A Thesis Submitted in Partial Fulfillment of the

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April 2017

Rhetoric of Typography: Cross-Cultural Perceptions of Typefaces for Technical and Visual Communication

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ABSTRACT

Title Rhetoric of Typography: Cross-Cultural Perceptions of Typefaces for Technical and Visual Communication

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Since the early 2000s, scholars have been conducting research to determine whether typefaces influence a reader's response to a document. Some areas of research have included the role of gender, age, or other demographics on typeface perception. However, the role of culture in academic discourse on the rhetoric of typography has been largely underexplored, and this is concerning given the ease with which technical documents can be delivered to cultures around the world with a couple of clicks on a computer.

I developed my research topic to explore whether Koreans perceive typefaces differently from non-Koreans and to discover what typefaces may have the greatest cross-cultural appeal. To conduct the study, I developed a questionnaire and administered it to a group of Koreans and non-Koreans, and then I analyzed the data using both descriptive and inferential statistics. The two groups rated typical or more common typefaces, such as old style or neo grotesque typefaces similarly. However, they also rated unusual or unique typefaces such as slab serif and geometric sans serif typefaces differently. The findings, while not entirely conclusive, do indicate that different cultural groups may tend to perceive stylized typefaces differently from one another and that common old style and neo grotesque typefaces tend to be safe choices.

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INTRODUCTION

The development of desktop publishing gave technical writers the freedom to manipulate text by using a variety of typefaces and layout options. This change marked the beginning of a great shift in technical communication in that document design moved from the realm of professional designers to that of non-designers, and with this change comes an increased need for technical communicators to understand visual rhetoric.

Brumberger (2003b), Kostelnick (1990), and Mackiewicz (2004) have stressed the importance of the rhetorical role of typography and typeface selection. Studies in typography have included examinations into typeface personality (Brumberger 2003a; Mackiewicz and Moeller 2004; Mackiewicz 2004), ethos (Brumberger 2004), emotion (Amare and Manning 2012), and even taste (Velasco, Woods, Hyndman, and Spence 2015). The overarching goal has been to determine whether typefaces influence a reader's response to a document.

Purpose Statement

Research on typefaces has been geared primarily toward gaining an understanding of whether or why people perceive typefaces differently. And while researchers (Amare and Manning 2012; Brumberger 2003a; Brumberger 2004; Mackiewicz and Moeller 2004; Mackiewicz 2004; Velasco, Woods, Hyndman, and Spence 2015) have included gender, age, or other demographics in their studies on typeface perception, the role of culture has been largely underexplored. This underrepresentation of culture in typography studies is a bit concerning because we live in an age that allows our documents to be available around the world in an instant. But equally important is the role of culture for documentation intended for American audiences, given that there has been a great change in demographics in the United States since the second half of the last century and businesses need to be mindful to accommodate for co-cultural audiences (Ihator 2001).

My goal in my thesis project is to exam cultural perceptions of typefaces. Through this study, I want to discover whether culture affects the way people perceive typefaces so that my readers can better understand the effects of type choices and thus improve the effectiveness of their documents, which will better serve the needs of their audiences.

Research Question

This project can be seen as a continuation of the work in the fields of visual and technical communication. Through my research, I am asking the following:

> Do people who were raised in South Korea and people who were not raised in South Korea perceive typefaces differently?

Answering this question will contribute to understanding whether culture influences people's perception of typefaces and will open opportunities to further explore the role of culture in the rhetoric of typography.

Literature Review

Type creates a sense of meaning beyond that of the semantic message of the text. Typeface personality develops through letter shapes and through associative histories and typeface familiarity. These frames of reference can help us understand how cultural influences may affect audience perception of typefaces.

On Meaning and Personality of Type

On a printed page, poster, or product label, words can be dressed in different ways to affect how a reader responds to them. For example, swirling script type on a movie poster may evoke images of classic romance movies, whereas oblique, bold type may say action-spy movie. These are subconscious reactions to the type, and this phenomenon is quite real because typefaces "serve more as carriers of connotative meaning (i.e., attitudes and emotional feelings) than denotative meaning (factual information)" (Tannenbaum, Jacobson, and Norris 1964, p.65).

This idea of type creating meaning in and of itself is important in terms of forming an appropriate visual aesthetic for a document. Stöckl (2005) and van Leeuwen (2006) explored semiotics or meaning-making of typography and have determined that type is both a mode and medium of visual communication as it fulfills the three Hallidayian metafunctions—the ideational, interpersonal, and textual.

The ideational metafunction of typography refers to the representation of meanings, actions, and ideas to reinforce the message, and this is often done graphically, like presenting the word

"chocolate" in a typeface that resembles chocolate bars. The interpersonal metafunction refers to the typeface's ability to communicate between the writer and audience. One of the newer manifestations of the interpersonal metafunction is the emoticon, which graphically communicates the writer's emotion to an audience. The textual metafunction of type refers to elements such as bullet points and drop caps that give a block of text structure and give readers an understanding of a document's organization.

To illustrate how type fulfills these metafunctions, van Leeuwen (2006) used an excerpt from a real estate brochure (reproduced in Figure 1). He said that the bold and colored headline is an ideational metafunction of typography

We let and manage properties in the following areas:

Abby Wood	Greenwich	Plumstead
Blackheath	Grove Park	Rotherhithe
Brockley	Kidbrooke	Shooters Hill
Catford	Ladywell	Surrey Quays
Charlton	Lee	Sydenham
Crofton Park	Lewisham	St. Johns
Deptford	Maze Hill	Telegraph Hill

Figure 1.   Excerpt from a Real Estate Brochure

Recreated from Figure 14 in "Towards a Semiotics of Typography"

(van Leeuwen 2006, 153)

in that "the company is constructing a representation of itself" (p. 153) through the boldness and obliqueness of the type. The headline also reveals the interpersonal metafunction of type in that "the company is also addressing potential clients in a certain way" (p. 153). The use of a sloping font evokes a sense of humanness in that it is structured on handwriting rather than appearing rigid and mechanical. Textually, the type treatments for the headline and the type treatments for the list organize the page.

The metafunctions I will be focusing on most closely for my topic on rhetoric in relation to cultural perceptions are 1) the ideational metafunction since it can be used to reinforce meaning

graphically through distinct typefaces or custom display faces and 2) the interpersonal metafunction since it is based on writer-audience perception.

To discover how meaning-making is created in type, it seems appropriate to start by looking at the structure of the glyphs that make up the typeface. Under the umbrella term "anatomy," many researchers and writers (Cullen 2012; Lupton 2010; Mackiewicz 2005; Strizver 2013) described stroke contrast, counters, axes, serif bracketing, and other details that give a typeface its distinctive characteristics, which ultimately create the type's "personality," a term commonly used to describe the emotive response or mood created by a typeface. Figure 2 includes some of the common features discussed in relation to typeface anatomy.
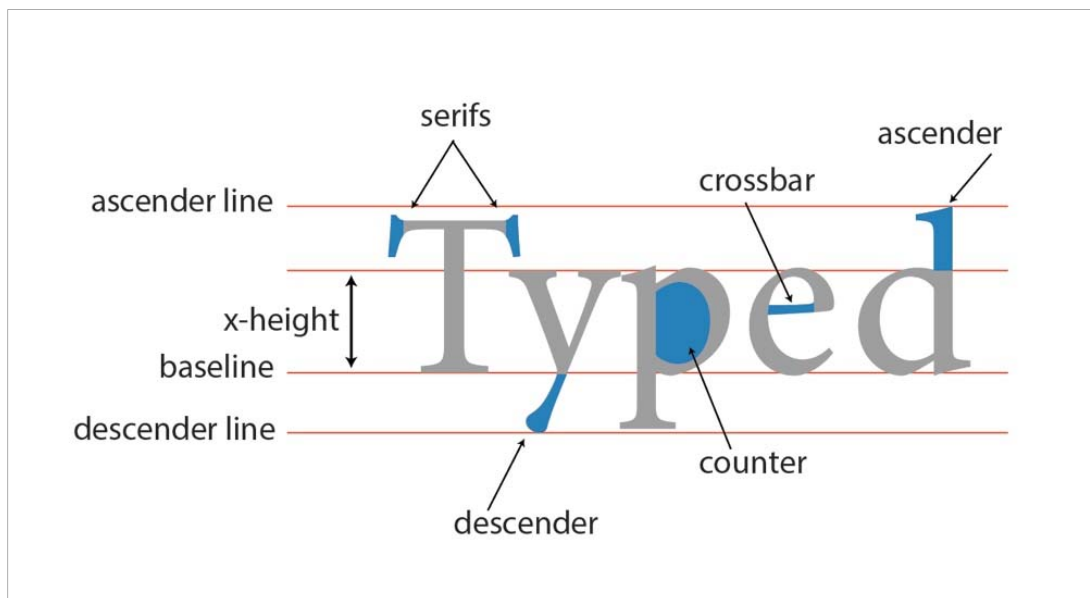
Figure 2.   Basic Anatomical Features of a Typeface

Van Leeuwen (2006) developed a system to analyze the features of text forms to create meaning. The level of detail is nothing short of impressive. The first-level categories are divided based on eight basic characteristic features, and these are further broken down into two or more second or third levels. When taken all together, letterforms in this system can be analyzed based on 27 typographic features. For the real estate example in Figure 1, van Leeuwen used his system to determine that the company presents itself personally but assertively as well; for example, the heading is sloping, a bit rounded, and a little irregular. These features give the impression of a human sense rather than a mechanical one. However, since it is set in a bold weight, the company is being assertive.

Mackiewicz (2005) also used letter-shape analysis to determine what anatomic features influence a reader's perception of typeface's personality. She analyzed five letterforms—uppercase *J* and lowercase *a*, *g*, *e*, and *n*. She chose these letters because she determined they show the most distinct differences from one typeface to another; for example, these letters best represent differences between a two-story and single-story *a* or *g,* the difference in the angular stroke of the crossbar on the letter *e,* and the display (or lack of display) of serifs in the lowercase *n*. She focused on two personality attributes—professionalism and friendliness; however, in analyzing the properties of what makes a typeface professional, she anticipated difficulties because "a professional tone is created by neutrality or a lack of distinction rather than any particular anatomical features" (300). Strizver's (2013) take on this subject is quite similar. According to her, body text typefaces—that is "professional" typefaces—"emphasize legibility and therefore are more subtle in design, with personalities that tend to whisper rather than shout" (65).

In spite of the difficulties, Mackiewicz (2005) did create an analytic method that technical communicators can use to make type decisions based not on intuition but on a theoretical understanding of letterforms. Some of the characteristics that indicate that a typeface has a friendly personality include letters with rounded terminals and broken construction—that is, letters that have discontiguous strokes. In relation to specific characteristics of particular letters, they include an oblique crossbar on the letter *e*, a single-story *a* and *g*, and an uppercase *J* that dips below the baseline (312). The typeface in the headline in Figure 1 has three of the six "friendly" features and could then be considered a somewhat friendly typeface, a conclusion that is consistent with van Leeuwen's assessment to a certain extent.

In another study, Caldwell (2014) also showed a link between people's perception of typefaces and glyph shapes. In his study, he selected and categorized Japanese typefaces based on character shape, roundness of the corners or terminals, irregularities in stokes or squares, and other design characteristics—features not too different from those used and analyzed by van Leeuwen (2006) and Mackiewicz (2005). Using a questionnaire, he measured the emotive response of native and non-native English speakers and didn't find any statistically significant differences when analyzing the emotive responses to Japanese typefaces. The findings did show consistency in aesthetic responses, and these findings conceptually match the conclusions in the van

Leeuwen (2006) and Mackiewicz (2005) studies; that is, rounded corners and terminals, for example, tend to be interpreted as friendly. On the most basic level, this shows that letter shape conveys the interpersonal and ideational metafunctions and that rhetorical approaches can be informed by considering the semiotic features of a typeface.

However, analyzing letterforms isolated from a larger cultural context does have its shortcomings. Spitzmüller (2012) criticized van Leeuwen's (2006) and Stöckl's (2005) studies in the semiotics of typography, saying that their approach categorized only the visual-graphic features, ignoring the social aspect of type. Mackiewicz (2005), on the other hand, acknowledged that her "method of analysis cannot account for a typeface's history of use" (313), and Caldwell (2014) also contended that "only after this initial value-neutral response do more specific cultural or contextual factors come into effect" (3). Both historical use and context are important ideas that need to be explored in understanding people's perceptions of typefaces.

Early in her article, Mackiewicz (2005) pointed out that people associate certain typeface designs with certain situations, calligraphic with invitations and copperplate with engraving, for example, and based on these associations, those typefaces tend to be interpreted to have a somewhat formal personality (293). Mackiewicz and Moeller (2004) also reported that respondents rated Times New Roman the highest on the professional attribute. The respondents generally said that the typeface is very commonly used. Mackiewicz and Moeller then concluded that familiarity contributed to how the respondents rated particular typefaces and that the commonness of Times New Roman in professional documents led the respondents to associate it with professionalism. The idea of associative or historical use of typefaces is significant and appears throughout the literature dedicated to typeface selection and personality (Bringhurst 2012; Brumberger 2003a; Cullen 2012; and Strizver 2013), and this just might be the key to understanding typeface perception in general and to making a case for studying typography in a cross-cultural context for technical communication.

Historical Use, Associations, and Perceptions
The link between historical events and type usage goes back to the origins of Western printing when Guttenberg developed the first blackletter typeface, a Fraktur-style typeface based on the letterforms

used by monastic scribes (Loxley 2004). This intentional move to make his printed work look similar to a handwritten manuscript can be seen as Guttenberg's attempt to maintain the visual conventions of printed material. Since the typeface was developed and used to mimic handwriting, it says something about Guttenberg's sense of aesthetics and his understanding of the expectations of the intended audience, so this could be seen as an example of the interpersonal metafunction in action as well as a function of visual rhetoric. In the following example, I will further explore the ideational and interpersonal metafunctions of type in the context of European design.

Russian Constructivism and related movements, such as De Stijl, spread throughout Europe in the late 1910s and 1920s as a reaction to the social disorder created by World War I as well as a rejection of the opulence of the overthrown Czarist monarchy. It was an attempt to simplify the visual landscape and create order from chaos, which meant a heavier reliance on white space, simpler structures, and grotesque (sans serif) typefaces (Hollis 2006; Loxley 2004). This functional and simplified approach to design and typography influenced the growth of the Bauhaus in Germany. However, in the 1930s with the rise of fascism and a desire to recapture the spirit of the German people, the Bauhaus ideals were rejected as non-German, and the grotesque faces that were a defining feature of the school were replaced by the decorative and more traditionally "German-looking" blackletter typeface, Fette Fraktur (Figure 3), which was developed around 1850 (Bringhurst 2012) as a typeface for bulletins and advertisements.

Figure 3.   Fette Fraktur Specimen

Interestingly enough, however, in early 1941, "a decree outlawed blackletter as a Jewish innovation into the printing trade" (Loxley 2004). Essentially a typeface that was developed eighty or so years before the rise of Nazis and that was later rejected by Nazis is rarely used today because, as Mackiewicz (2004) notes, people still tend to associate it with its short history of Nazi usage. Indeed the emotional power of association is quite strong.

This example of type trends in Europe highlights a number of key ideas related to how sociocultural associations influence people's perceptions of and reactions to type and how type usage can serve an interpersonal metafunction in that designers were making statements, communicating personal views through design and typeface selection. But it also shows how type was fulfilling the ideational metafunction in that the graphic design of the type also conveyed a sense of meaning:

- Type was simplified because ornate faces were associated with opulence and chaos.

- The simplified type was later rejected because it was associated with non-German ideals.

- Fette Fraktur is now rarely used because it is associated with Nazism.

So, to revisit the Mackiewicz (2005) study on anatomy and personality introduced in the last section, I suggest that historical and cultural associations might also play a role alongside anatomy in determining how an audience perceives a typeface's personality.

A Study into Cross-Cultural Perceptions of Typefaces

In the literature review, I have supplemented Stöckl's (2005) and van Leeuwen's (2006) idea of typefaces having semiotic functions, but instead of focusing entirely on visual-graphic features, I have tried to show that interpersonal and ideational metafunctions can also develop through a common history or associative connections in cultural experiences. Knowing that type has connotative meaning gives technical and visual communication professionals a greater rhetorical understanding when developing documentation to share across cultures or even in co-cultural environments such as those that exist throughout the United States.

Research shows there are differences of typeface perceptions based on gender, historical use, and exposure (Bringhurst 2012; Brumberger 2003a; Cullen 2012; Mackiewicz and Moeller 2004; and Strizver 2013). I am expanding this research by examining the effect of culture on people's perceptions of typefaces. The goal is to identify any differences in how people from different cultures may perceive a set of typefaces and determine which typefaces have a greater cross-cultural appeal so that technical and visual communicators can make informed decisions when setting text for multicultural audiences.

Questionnaire

To measure how culture may affect a person's perception of typefaces, I followed on the

methodologies of Brumberger (2003a; 2003b; 2004), Caldwell (2014), Mackiewicz and Moeller (2004),

Mackiewicz (2007) and others by developing a questionnaire to ask a culturally diverse audience to

rate a series of typefaces based on a set of characteristics. Each researcher, however, took a

different approach.

Caldwell (2014) presented 26 type samples and asked participants to select 3 out of

12 emotions that best described the participants' responses to the typefaces. His approach was a

mirror of the one used by Amare and Manning (2012) who used 36 typefaces and the same 12

emotions. Brumberger (2003a) measured the personality of a typeface by presenting text set in 15

typefaces and asking participants to rate the text on 20 personality traits on a non-pairing 7-point

scale. She used the same scale and 20 traits in another study (2003b) but limited the typefaces to just

3. Mackiewicz and Moeller (2004) used a 7-point rating scale like Brumberger did and had her

participants rate 15 typefaces on 10 personality traits. Mackiewicz (2007) used a similarly styled

7-point Likert scale for participants to rate 10 typefaces on 4 attributes. Velasco, Woods, Hyndman,

and Spence (2015) had participants drag and drop twelve typefaces into 4 scales based on 4 taste

attributes.

For my questionnaire, I opted to use a rating scale similar to the one used by Brumberger

(2003a; 2003b) and Mackiewicz and Moeller (2004), but with a slight modification; I used a bipolar

semantic differential scale. Brumberger (2003a) thought a bipolar semantic differential scale

potentially problematic because even if terms "appear to represent opposite extremes of a particular

attribute, it is difficult to ascertain whether they are universally viewed as opposites" (210).

However, I don't see this as a potential problem but rather as a strength. A non-pairing scale

can be limiting because rating a single attribute may subtlety imply a higher rating on some unnamed

or imagined attribute. For example, if a participant were required to rate a typeface from 1 to 7 based

on how professional it appears, where a low number indicates the least professional, then a low score

may indicate that a typeface isn't professional, but it leaves the reader wondering what the

participants did think of the typeface: Was it funny or amateurish or pretty or something else? By

pairing attributes on a semantic differential scale, I provided the participants with a more limited

measuring tool to rate their attitudes and preferences as a degree of attribute A or attribute B with an opportunity to also be neutral.

The traits I measured were a mix of those that have appeared in the studies mentioned above in addition to some of my own:

- professional/amateurish,

- unique/common,

- contemporary/old fashion,

- legible/illegible, and

- friendly/unfriendly.

Brumberger (2003a) included *professional* and *friendly* in her study. Mackiewicz and Moeller (2004) also used those two terms in their study in addition to *contemporary*. I included those traits in my study and paired them with attributes I saw as the most appropriate opposites. The legibility of a typeface, which I see as one of the most important attributes of a typeface, was conspicuously absent from other studies; thus, I included it and its opposite, even though legibility is one of the least likely attributes affected by cultural perceptions. On this matter, I should note that Mackiewicz (2007) did ask participants to rate how comfortable it was to read the text in different typefaces, which is a related idea to legibility. Mackiewicz and Moeller (2004) had terms like *artistic*, *individual*, *dramatic*, and *futuristic*. For the sake of simplicity and to avoid an overly long questionnaire, I lumped these traits into *unique* and paired it with *common*.

My presentation of the typefaces also differed slightly from those used in previous studies. Brumberger (2003a) and Mackiewicz and Moeller (2004), for example, set a row of uppercase letters, lowercase letters, and numerals along with "The quick brown fox jumps over the lazy dog." While this provided participants a basic feel for a typeface in that all the letters and numbers are represented, I saw it as limiting because the type is removed from the paragraph format in which it generally appears in the context of a document. To complement the approaches in previous studies, I included a block of lorem ipsum text in addition to a row of numerals and other commonly used glyphs, and to ensure that all the lowercase letters were included in the type sample, I used "The quick brown fox jumps over the lazy dog."

A sample typeface specimen and the bipolar matrix to measure the typefaces on five traits appear in Figure 4.

Look at the following type sample.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed nec bibendum justo, ultricies egestas nibh. Vestibulum non facilisis nisl, at malesuada tellus. In volutpat magna eget nisl accumsan, ac commodo lectus auctor. Curabitur ornare arcu sit amet risus aliquam, eu auctor sem ultrices. Aenean cursus purus eget pharetra commodo. Quisque a odio eleifend, rutrum ante vel, ullamcorper mauris.

1234567890!@#$%^&*()_+

The quick brown fox jumps over the lazy dog.

Please rate the typeface on the following traits.

				neutral				
professional	O	O	O	O	O	O	O	amateurish
unique	O	O	O	O	O	O	O	common
contemporary	O	O	O	O	O	O	O	old fashion
legible	O	O	O	O	O	O	O	illegible
friendly	O	O	O	O	O	O	O	unfriendly

Figure 4.   Screen Shot of a Type Sample and Semantic Differential Scale

Typeface Selection

In previous studies based on questionnaires, the number and types of typefaces varied quite considerably. For example, Brumberger (2003b, 2004) used 3 common typefaces—Arial, Bauhaus Md BT, and Black Chancery—but then opted to use 15 typefaces in another study (2003a). Similarly, Mackiewicz and Moeller (2004) used 15 common typefaces for their study, and Velasco, Woods, Hyndman, and Spence (2015) used 2 common typefaces—Arial and Arial Bold—and 10 typefaces custom designed for their study. For my study, I limited the number of typefaces to 8, which gave me some flexibility but was not too taxing or time consuming for the participants filling in the questionnaire.

However, selecting 8 typefaces from the tens of thousands available wasn't an easy task. To hone in on a selection, I focused on typefaces designed for body text since this is the context in which most type is set. To maintain some degree of variation but keep things manageable, I evenly split the design styles between serif and sans serif type. Given the nature of my study, it was important to include the roman letters of at least 2 Korean typefaces—1 serif and 1 sans serif—to see whether the letter shapes and spacing used in the roman characters would be perceived differently by Koreans, who are accustomed to seeing these typefaces, and non-Koreans, who may not have had similar exposure. I chose variations on Batang and Gulim, two Korean typefaces that come standard with Windows and have widespread use in Korea, especially in documents produced by government offices. I decided to use Batang Che and Gulim Che in particular because they were designed specifically to distribute space of Hangul letter blocks evenly. At the same time, however, these spacing proportions for the Hangul letter blocks are also included in the kerning tables for the roman character set, and they amplify some of the unusual characteristics of the typefaces. Figure 5 highlights some of the issues with Batang Che. With the word *studio*, for example, there is a considerable amount of extra space in the *t-u* pairing in comparison to the *u-d* pairing. These unusual kerning issues are present throughout most of the letter pairings as can be seen in *filled*, *with*, *the*, *rich*, and *roses*; even the terminal punctuation has too much space before it. The unevenness of the letters, which appears in many roman character sets for Hangul typefaces, may affect how an observer perceives these typefaces, especially if the observer isn't used to seeing letters presented in this way.

Batang Che
The studio was filled with
the rich odor of roses.

Figure 5. **Focus on Batang Che**

For the remaining six typefaces, I selected a mix of those that come standard with Windows and those that are available in Adobe TypeKit. I wanted to choose familiar typefaces, but I also wanted to be a bit mindful of selecting well-designed typefaces. Therefore, instead of using Windows' Times New Roman, which Brumberger (2003b), Mackiewicz and Moeller (2004), and Mackiewicz (2007), used in their studies, I opted for Minion Pro, a professional-grade old style typeface commonly used in books and the Adobe InDesign default.

To create some contrast, I wanted to include a slab serif since slab serifs are quite distinct. Manning (2012) included Rockwell in his study, but Rockwell has no bracketing and its stems and serifs are evenly weighted, which make it inappropriate for body text. Instead, I selected Clarendon URW since, unlike Rockwell, it has brackets, curved bowls, and high contrast, which make it more suitable for short stretches of body text. However, since the regular weight of Clarendon URW Medium is too heavy to use in body text, I used Clarendon URW Light.

For my third choice, I followed Brumberger (2003b) and Mackiewicz and Moeller (2004). They both included Courier New, a monospaced slab serif often used for screenplays and sometimes used in coding environments. I thought it would add a nice sense of variety and contrast to the other type samples, and given the ubiquity of Courier New, it would certainly be familiar to the participants.

For sans serif typefaces, I first chose Myriad Pro, the default in Adobe Illustrator and other applications and the official typeface of Apple, Inc. Surprisingly, Myriad Pro did not appear in any of the studies in my research. I say surprising because, having been adapted as the Latin characters of certain Chinese, Japanese, Arabic, and Hebrew typefaces, Myriad Pro has a global audience. This global reach is why I included it in my study.

I also chose Aktiv Grotesk, a neo-grotesque typeface similar to Arial and Helvetica, either of which was used by Brumberger (2003a; 2003b; 2004), Mackiewicz and Moeller (2004), Mackiewicz (2007), Manning (2012), and Velasco, Woods, Hyndman, and Spence (2015). Aktiv Grotesk is a newer interpretation of both Arial and Helvetica, and I selected it over the other two because the design team has ambitious plans of supporting over 130 different scripts (Dalton Maag 2016), which would make this a true international typeface and thus something worth including in a study on cross-cultural perceptions of typefaces. Like with Clarendon URW, the regular weight was a bit heavy, so I opted to use a lighter weight.

To create a greater sense of difference among the type samples, I decided on Futura PT for the third sample. Its geometric proportions and distinct lowercase *j* are significantly different from the other typefaces, but it can still be used to set body text, albeit in short bursts as the features that give Futura its unique character would also make it hard on the eyes for extended reading. Including Futura has precedence as Manning (2012) and Mackiewicz (2007) used it in their studies.

Samples of the eight typefaces used in the questionnaire are in Figure 6.

Figure 6.   The Eight Typefaces Used in the Study

Summary

Today, technical writers often produce documents for multicultural audiences. In developing documentation for these audiences, the technical writer needs to expand his or her understanding of the rhetorical role that typefaces play in document design. In particular, there is a need to understand

the role of culture in the audience's perception of the typefaces. In my study in cross-cultural perceptions of typefaces, I intend to examine the following three claims:

- People who were raised primarily in Korea generally perceive typefaces differently than people who were not raised in Korea.
- Common typefaces used in professional contexts will be perceived the same way by both Koreans and non-Koreans.
- Typefaces mainly used in Korea are perceived differently by Koreans and non-Koreans who were not raised in Korea.

To test all three claims, I administered a questionnaire to two groups: one made up of people who were primarily raised in Korea and another composed of those who were not. The questionnaire included a series of typefaces and prompts that allowed the participants to share their opinions about the typefaces, and thus provided the data necessary to address the three research claims.

The typeface selection was the key part to this study. In general, all the typefaces can contribute to determining whether Koreans and non-Koreans perceive typefaces differently. However, the primary typefaces I selected to determine this were Clarendon URW and Futura PT, which have a rather strong presence on the page and thus not typically used to set long stretches of body text. Also included in this group was Courier New, which also calls a great deal of attention to itself due to it being a monospaced typeface. My assumption was that the unfamiliarity or atypicality of these typefaces may prompt different responses from Koreans and non-Koreans.

In contrast, by including Minion Pro and Aktiv Grotesk, I attempted to replicate previous studies (Brumberger 2003b; Mackiewicz and Moeller 2004) that show that people generally perceive old style and neo grotesque typefaces as professional, regardless of differences in demographics. My assumption was that these typefaces and the ubiquitous Myriad Pro would be rated similarly by both Koreans and non-Koreans and be an indication that these typefaces have a general appeal across cultures.

Finally, by including Batang Che and Gulim Che, two typefaces mainly found in Korea, I would be able to determine whether typefaces mainly found in Korea were perceived differently by people who were not raised in Korea.

RESEARCH METHODOLOGY

Participants

I used a convenience sample, contacting 85 individuals from my professional life—19 staff members of the International Information and Networking Centre for Intangible Cultural Heritage in the Asia-Pacific Region under the auspices of UNESCO (ICHCAP), which is located in South Korea, and 66 connections on LinkedIn, the online professional social networking service.

I notified the participants about the study with an IRB-approved letter, which I sent via 3 electronic media channels. I contacted the ICHCAP staff members through the organization's internal messenger service. Through e-mail, I contacted 36 of my LinkedIn connections for whom I had direct email addresses and used LinkedIn's messenger service to individually message the remaining 30 invitees for whom I had no direct contact information.

All participants received the first invitation notice (Appendix A: First Invitation Notice) on March 10 and a reminder message (Appendix B: Reminder Notice) on March 28, 2016. The invitation explicitly stated that their participation was voluntary. I also informed them of the one-month duration of the survey, which ended on April 10, 2016, and the minimal risks involved with their participation.

The link for the survey was generated by the online service I was using. It was a non-secure link, which means anyone with the link could feasibly take the survey as many times as they would like. However, based on the data collected, it doesn't appear as though anyone took the survey more than once.

The Questionnaire

My research project included a two-part questionnaire administered to participants in an online environment. The first part of the questionnaire collected demographic information, and the second half obtained the participants' opinions on eight typefaces based on five rating scales. For reference, the full questionnaire is in Appendix C: Questionnaire Administered for Study.

Questionnaire Part 1: Demographics

In the first part of the questionnaire, my primary goal was to record the cultural environment in which the participants were raised. In addition, I wanted to find out whether the participants lived in Korea for

an extended period because such information could be relevant in discussions on cultural influence. Furthermore, because there were both native and non-native English speakers as participants, it was also important to ensure that language wasn't an obstacle in completing the questionnaire.

To standardize all the responses, the questions in the first part were closed-ended, with either multiple choice options or a pull down menu, depending on the question.

Questionnaire Part 2: Rating the Typefaces

For the second part of the questionnaire, participants were provided with a series of eight type samples and asked to rate the samples on a bipolar matrix like the one in Figure 4. The type samples were set to 14/16 (except for Futura PT, which was increased to 16/18 to compensate for its small x-height) with optical margin alignment and the default kerning. However, to ensure compatibility on different machines, all the type samples were exported as high-quality, 72 dpi .jpg files and embedded in the question prompts. Therefore, the physical size of the .jpg files varied depending on the user's screen size, so the effective point size for the type may have appeared a little smaller on smaller screens.

Data Analysis

The output included the participants' responses, from 1 to 7, similar to the output of a Likert scale. In this case, the neutral position on the semantic differential scale had a score of 4. So, for example, any typeface with a score of 5 on the professional/amateurish scale would lean toward the amateurish side, and a score of 3 would be an equal opposite on the professional side. In analyzing the data, I found it useful to subtract 4 from all the responses; thus a score of 0 would be neutral, and scores of -1 and 1 would be professional and amateurish, respectively. Readers should not interpret negative and positive numbers as negative and positive values but rather as position indicators leaning on one side or the other side of neutral.

In my analyses, I rely primarily on descriptive statistics. Using Microsoft Excel, I calculated the mean values that Koreans and non-Koreans assigned to the different type samples. I also calculated confidence intervals (95%) indicated by error bars on the graphical data.

As a supplement to my main analyses, I used SPSS to run a series of *t*-Tests. However, since running multiple hypotheses tests over a single set of data could result in type-1 errors or false discoveries, the inferential statistics should not be considered conclusive. All the core findings in my results are based on the descriptive statistics, not the inferential statistics.

RESULTS

Analyses of the collected data revealed general unifying trends for certain typefaces and some measureable differences between Koreans and non-Koreans.

Participants

The 85 invitations I sent resulted in 52 participants who filled in the questionnaire—a 61 percent response rate. However, 6 questionnaires were not fully completed. Of these, 4 were more than half incomplete, and thus I excluded them in the analyses; 2 were missing answers for just 1 question each and are included since the missed answers could have been a result of user error or a technical glitch.

The 48 participants included in the study were all adults aged between 26 and 62 (M = 36.2). There were 23 female participants (48 percent) with a mean age of 34.2 and 25 male participants (52 percent) with a mean age of 38.3. They were born and raised primarily in

- South Korea (17: 4 males and 13 females),
- the United States (17: 11 males and 6 females),
- Canada (8: 5 males and 3 females),
- China (1: male),
- France (1: female),
- India (1: male),
- Japan (1: male),
- Malaysia (1: male), and
- the United Kingdom (1: male).

Just over half of these participants (28) lived for more than a year in Korea in the past 5 years, which may seem high, but not unusual given that 17 of the participants were Korean and have lived in Korea most of their lives. Of the 31 non-Korean participants, 11 lived for at least a year in Korea in the past 5 years.

Rating the Typeface Attributes

In this section, I introduce how the participants perceived the eight typefaces according to the five attribute pairings in the questionnaire. The descriptive findings are based on the average or mean

response rates of the participants. Following on the conventions of other studies (Brumberger 2003b; Mackiewicz and Moeller 2004), I plotted the results using bar graphs. The end point of a bar indicates the mean rating, but the length of the bar is not important in and of itself. I also included the (95%) confidence levels, as represented by the error bars in the graphs, to better show the implication or importance of these ratings.

For results that have non-overlapping error bars, I included the *p*-values from the *t*-Tests to indicate statistical significance. However, running *t*-Tests over so many variables at once may lead to type-1 errors or false positives; thus, the *p*-values should not be considered conclusive of statistical significance.

Professional/Amateurish Attributes

The data show that Koreans and non-Koreans tended to have similar opinions about what is or isn't a professional-looking typeface. (See Figure 7.)
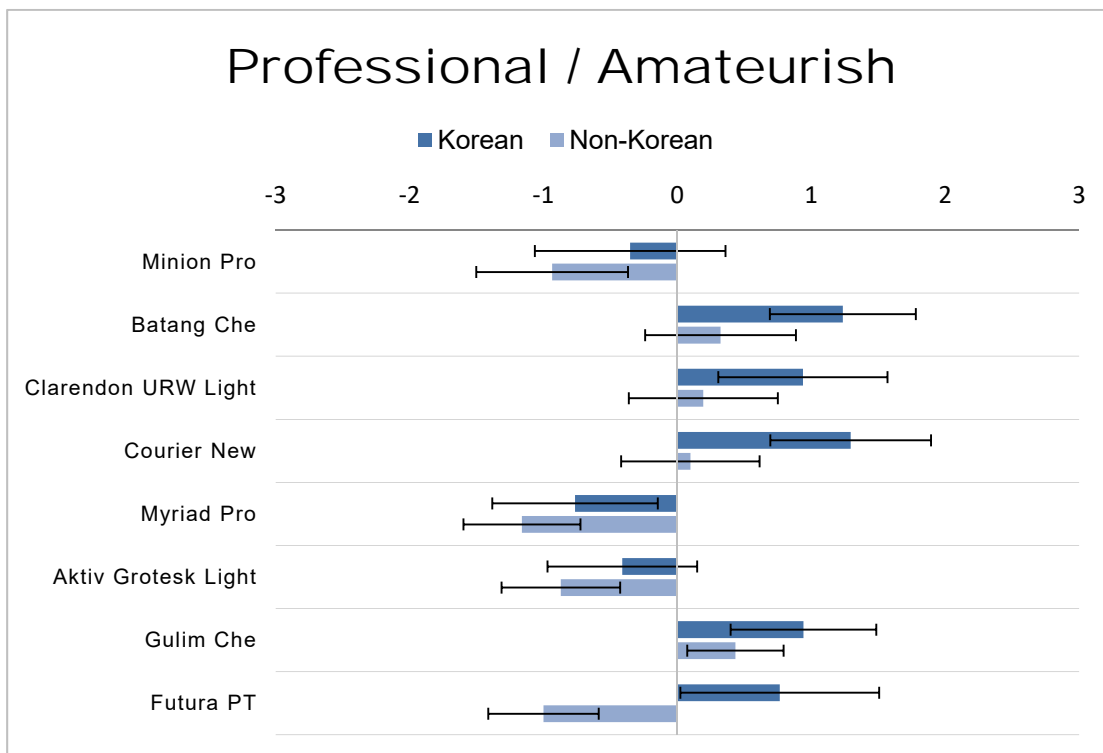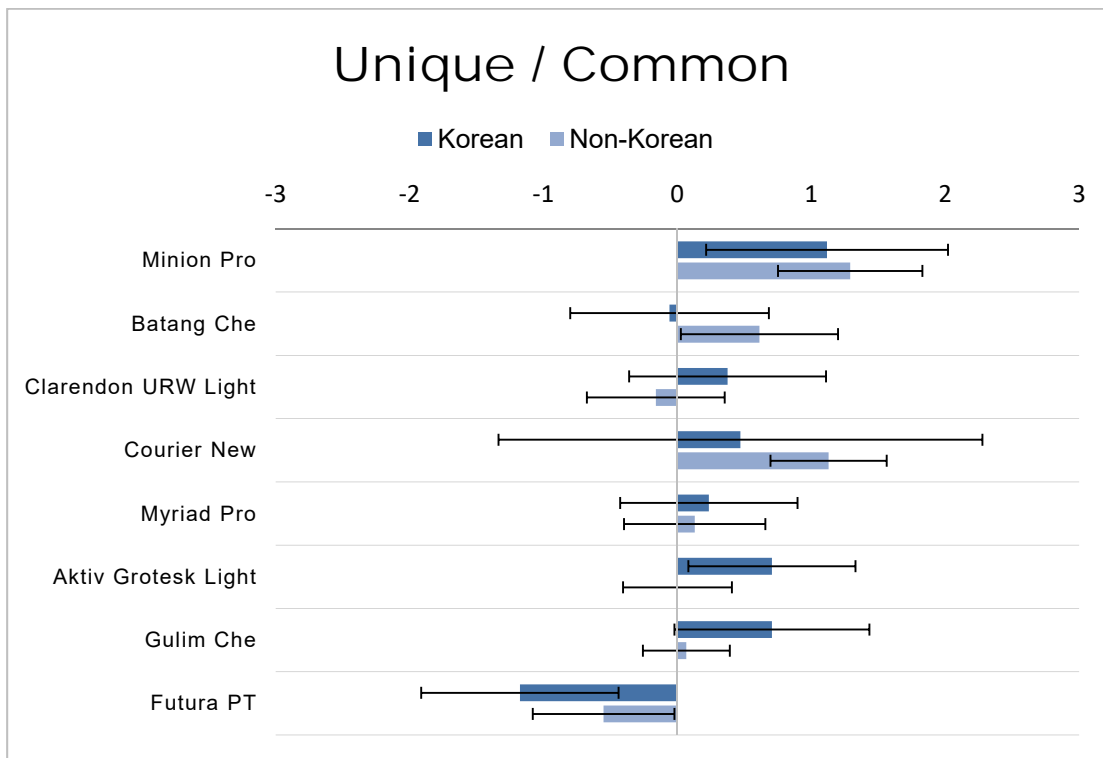

Figure 7.   Korean and Non-Korean Perceptions Based on the Professional/Amateurish Attributes

Both groups perceived Minion Pro, Myriad Pro, and Aktiv Grotesk Light as professional typefaces. They also shared similar opinions on Batang Che, Clarendon URW Light, Courier New, and Gulim Che, generally seeing the typefaces as amateurish, albeit to varying degrees. Of typefaces on which both groups shared similar opinions, only Courier New showed variance indicative that there may statistically significant difference (p = .007) in the mean scores for Koreans (M = 1.29) and non-Koreans (M = 0.10). The only typeface on which Koreans and non-Koreans were obviously split was Futura PT, with Koreans rating it on the amateurish side (M = 0.77) and non-Koreans rating it on the professional side (M = −1.00). The confidence intervals do not overlap, and the difference in the means is statistically significant (p = .000), indicating a result to examine a more closely.

Unique/Common Attributes

Like with the professional/amateurish attributes, both Koreans and non-Koreans tended to rate the typefaces similarly on the unique/common attributes, with the typefaces tending to be seen as common, overall. Figure 8 shows that all the error bars overlap for all the typefaces. However, there are some results to highlight—namely, in relation to Futura PT and Courier New.

Futura PT was the only typeface with mean scores on the side of unique, and the difference between the mean ratings by Koreans (M = −1.18) and non-Koreans (M = −0.55) is not statistically significant (p = .176), given the variance in the data. The rating of Courier New is noteworthy because while the mean ratings are similar for both Koreans (M = 0.47) and non-Koreans (M = 1.13), the responses of Koreans show a much wider range of variance.

Figure 8.   Korean and Non-Korean Perceptions Based on the Unique/Common Attributes

Contemporary/Old Fashion Attributes

For the contemporary and old fashion attributes, Koreans and non-Koreans differed in rating three

typefaces—Minion Pro, Clarendon URW Light, and Aktiv Grotesk Light. (See Figure 9.)
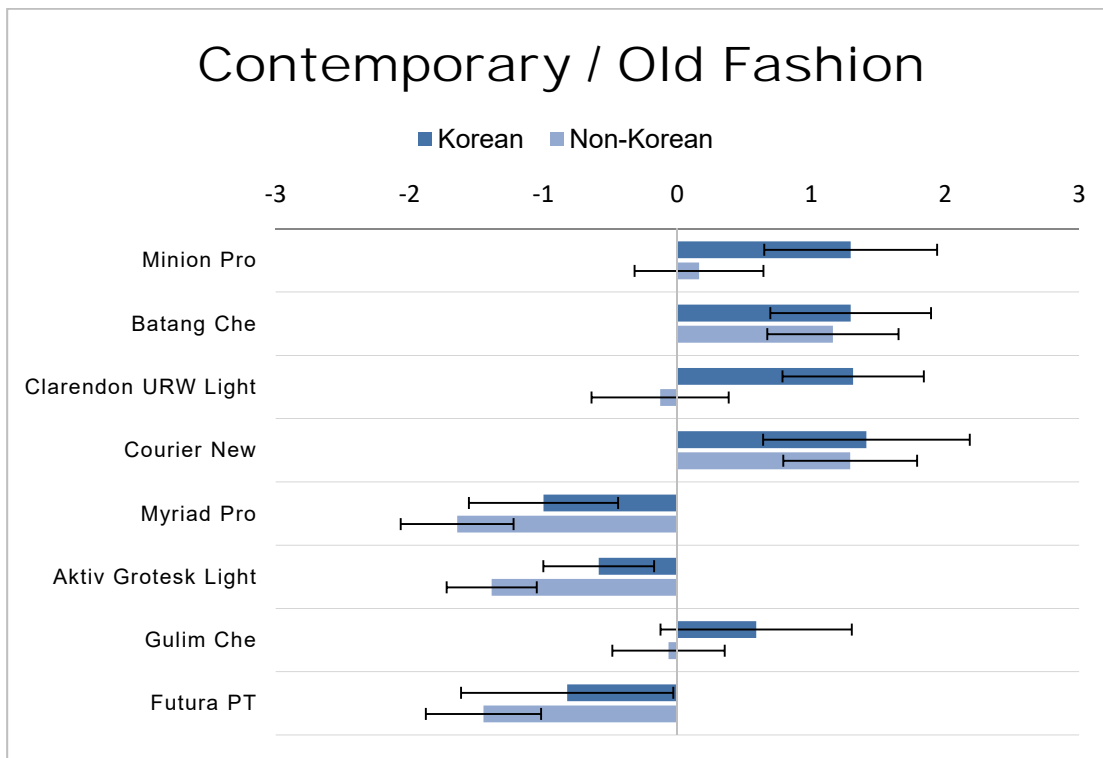
Figure 9.   Korean and Non-Korean Perceptions Based on the Contemporary/Old Fashion Attributes

Koreans and non-Koreans rated Minion Pro as old fashioned, but Koreans were more likely to rate it higher on the old fashioned side (M = 1.18 versus M = 0.55.) While the difference of about a half point in the means seems minor, the difference is statistically significant (p = .008.) Clarendon URW Light is the only serif typeface with a mean rating on the contemporary side. Although Koreans saw Clarendon URW as old fashioned (M = 1.31), non-Koreans, as a group, rated as a contemporary typeface (M = −0.13). The difference is statistically significant (p = .001). Aktiv Grotesk Light showed a distinct difference in Koreans' and non-Koreans' perceptions. While both groups saw it as a contemporary typeface, non-Koreans (M = −1.39) rated it higher than Koreans (M = −0.59) did, a statistically significant difference (p = .006).

Gulim Che was the only sans serif typeface with a mean score on the old fashion side (Koreans M = 0.59 and non-Koreans M = −0.07, which is only marginally on the contemporary side). In fact, 6 of the 30 non-Koreans that rated this typeface indicated that they perceived it to be contemporary. The majority of non-Koreans rated it old fashioned.

Legible/Illegible Attributes

On the legible-illegible attribute, Koreans and non-Koreans were quite divided on four typefaces—

Batang Che, Clarendon URW Light, Courier New, and Futura PT. Koreans considered all four

typefaces less legible than did non-Koreans. Figure 10 shows just how divided the two groups were

on just these typefaces.
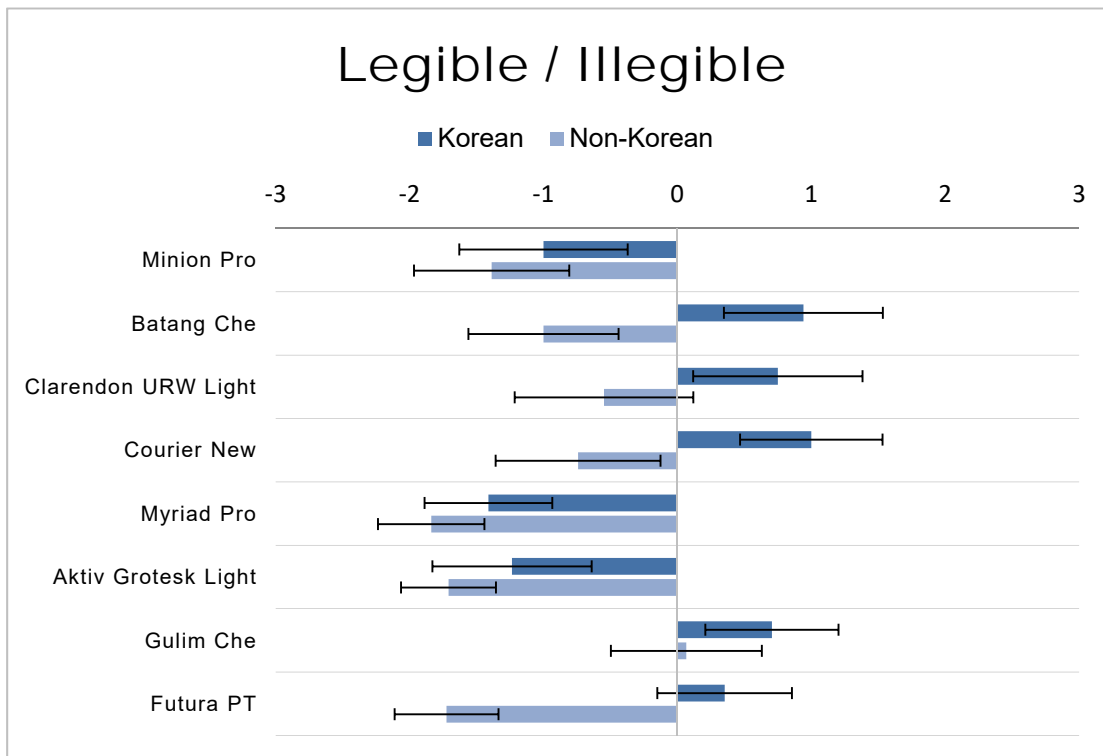
Figure 10. Korean and Non-Korean Perceptions Based on the Legible/Illegible Attributes

Koreans rated the following typefaces as illegible: Batang Che (M = 0.94), Clarendon URW Light

(M = 0.75), Courier New (M = 1.00), and Futura PT (M = 0.35). Non-Koreans, on the other hand, rated

the same typefaces as legible: Batang Che (M = −1.00), Clarendon URW Light (M = −0.55), Courier

New (M = −0.74), and Futura PT (M = −1.03). Differences in the mean scores were statistically

significant: Batang Che (p = .000), Courier New (p = .000), Futura PT (p = .000), and

Clarendon URW Light (p = .018).

Friendly/Unfriendly Attributes

Both Korean and non-Koreans generally rated the typefaces similarly on the friendly/unfriendly

attributes. The only exception was with Clarendon URW Light, on which the two groups were divided.

Koreans rated the typeface as unfriendly (M = 1.00) while non-Koreans rated it as friendly (M = -0.52), a statistically significant difference (p = .001). The results for Futura PT indicate considerable variance (non-overlapping error bars). Koreans (M = 0.35) and non-Koreans (M = 0.92) both see the typeface as friendly, albeit to different degrees; however, the difference is not statistically significant (p = .179).
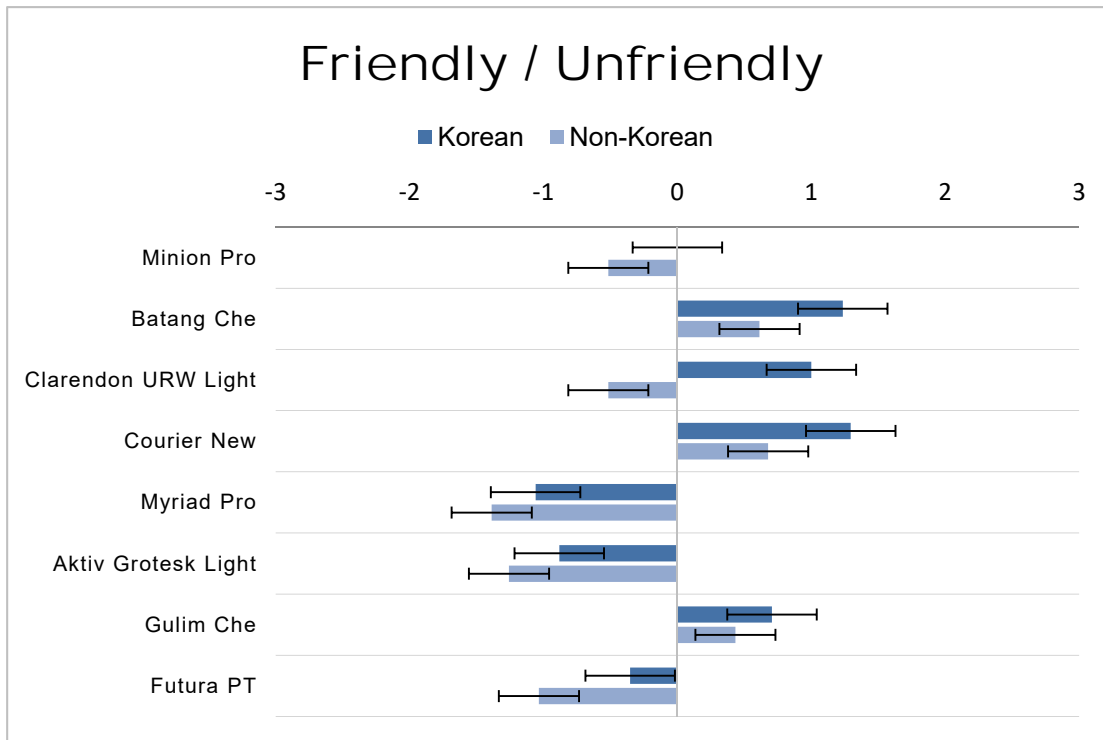
Figure 11. Korean and Non-Korean Perceptions Based on the Friendly/Unfriendly Attributes

DISCUSSION

My goal in starting this project was to determine whether culture influences the way people perceive typefaces. In short, I sought to discover whether the following were true:

- People who were raised primarily in Korea generally perceive typefaces differently than people who were not raised in Korea.

- Commonly used typefaces in professional contexts are perceived similarly by both Koreans and non-Koreans.

- Typefaces mainly found in Korea are perceived differently by people who were not raised in Korea.

The collected data generally support the three claims, but there were some contradictions in the findings. While some conclusions can be drawn from this study, further research into cultural perceptions of typefaces is warranted.

Testing the Two Groups' General Perceptions of Typefaces

The typefaces included to test for differences in general perception differences— Clarendon URW Light, Futura PT, and Courier New—showed that, depending on the attribute being measured, there were some differences in the perceptions of Koreans and non-Koreans.

Clarendon URW Light

For Clarendon URW Light, Koreans and non-Koreans differed significantly in their responses on the contemporary-old fashion, legibility-illegibility, and friendly-unfriendly attribute scales. Koreans rated Clarendon URW Light as old fashion, illegible, and friendly while non-Koreans rated it as contemporary, legible, and unfriendly. However, the two cultural groups did rate the typeface as amateurish and common. This suggests that while the two cultural groups do perceive the typefaces differently as a whole, some attributes may be more or less strongly interpreted.

On the contemporary-old fashion scale, Koreans rated Clarendon URW Light as old fashion ($M = 1.313$), and non-Koreans rated it as contemporary ($M = -2.992$), a statistically significant difference ($p = .001$). Similarly, on the legible-illegible scale, Koreans rated the typefaces as illegible ($M = 0.750$), but non-Koreans rated it as legible ($M = -0.548$), again, a statistically significant

difference ($p =.008$). On the final attribute scale for which there was statistically significant difference ($p =.001$)—the friendly-unfriendly attribute—the two groups were quite split, with Koreans seeing the typeface as unfriendly ($M = 1.000$) and non-Koreans as friendly ($M = -0.516$).

On the professional-amateurish scale, both Koreans and non-Koreans tended to rate it as amateurish ($M = 0.938$ and $M = 0.194$, respectively). On the unique-common attribute scale, the two groups had marginally different mean scores with Koreans at $M = 0.375$ and non-Koreans at $M = -0.161$. However, since there was so much variance in their responses (Figure 8), any difference on this attribute scale is not statistically significant ($p = .735$). Therefore, on the professional-amateurish and unique-common attributes, I am comfortable saying that there is relatively little difference in the way the two groups perceived the typeface.

The results for some of the attributes for Clarendon URW Light are surprising when we look at it through the lens of Mackiewicz's (2005) five-letterform analysis. While my study was not set up to directly compare results to Mackiewicz's findings, comparing my results to her analysis of what makes a typeface "friendly" is useful. But before getting to that, it is important first to highlight some of the differences in our studies. One of the most obvious differences is that she paired the professional attribute against the friendly attribute, a dichotomy that I don't agree with since it is possible to be both professional and friendly. Although our studies are different in both approach and premises, it is curious to see that Koreans and non-Koreans saw Clarendon URW Light as amateurish because Clarendon URW Light has all eight of the features that Mackiewicz showed were more likely to be associated with a professional personality:

- Moderate weight
- Moderate thick-to-thin transition
- Balanced straight-edge and rounded terminals
- Moderate x-height to cap-height ratio
- Uppercase *J* that sits on the baseline
- Horizontal crossbar on the *e* letterform
- Double-story *a* letterform
- Double-story *g* letterform (p. 312)

So in spite of Clarendon URW Light having all the professional attributes, cross-culturally, the participants found that the typeface looked amateurish. In a similar way, the typeface has none of the six features that should contribute to people seeing it as having a friendly personality (312), but non-Koreans saw it as friendly. This finding supports my earlier statement about professional and friendly not being mutually exclusive, and it is also an indication that people of different cultural backgrounds interpret the friendliness of a typeface differently.

Futura PT

As with Clarendon URW Light, the similarities and differences in which Koreans and non-Koreans perceive Futura PT depended entirely on the attribute being measured. There were no statistically significant differences in the way Koreans and non-Koreans rated Futura PT on the unique-common, contemporary-old fashion, and friendly-unfriendly attribute scales, with both groups perceiving the typeface as unique, contemporary, and friendly. However, on the other two attribute scales—professional-amateurish and legible-illegible—there were marked differences in opinions, with Koreans rating it as amateurish and illegible and non-Koreans as professional and legible. Again, these findings suggest that there are genuine differences in the way the two cultural groups perceived the typeface.

Koreans rated Futura PT as amateurish (M = 0.765) while non-Koreans rated the typeface as professional (M = −1.000). The results were statistically significant (p = .000). Figure 7 shows just how dramatically divided the two groups were on this typeface, especially in comparison to how the other typefaces were rated on these attributes. While Futura PT has some features that Mackiewicz characterizes as friendly—single-story *a* and *g*, for example—and the participants tended to agree that the typeface appears friendly, the perception of what makes a typeface look professional seems to be different for the two cultural groups. Knowing that the professional-amateurish attribute is interpreted differently by different cultural groups can help with selecting typefaces for a document.

On the other attribute on which there were different ratings—the legible-illegible attribute—the difference was just as much of a statistically significant divide (p = .000). Koreans rated the typeface as illegible (M = 0.353) and non-Koreans as legible (M = −1.724). This is one of the more important

findings, so I have included a larger discussion on it in the Unusual Letter Shapes and Legibility section (page 32).

Courier New

The results on Courier New were mixed, but to a lesser degree than the results for the other typefaces in this testing area. Overall both cultural groups rated Courier New as amateurish, common, old fashion, and unfriendly. In relation to the professional-amateurish attribute, while both groups found it to be amateurish, Koreans (M = 1.294) rated it more amateurish than non-Koreans (M = 0.097) did (p = .007).

Furthermore, the difference in the legible-illegible attribute was, again in this case, statistically significant (p = .000) with Koreans rating it illegible (M = 1.000) and non-Koreans as legible (M = -0.742). This finding is of interest, and I further explore it in the Unusual Letter Shapes and Legibility subsection (page 32).

Testing the Two Groups' Perceptions of Typefaces Commonly Used in Professional Contexts

As predicted, Minion Pro and Aktiv Grotesk Light fared similarly to how old style and neo grotesque typefaces did in other studies (Brumberger 2004; Mackiewicz and Moeller 2004) in that they were both seen as professional, common, and legible. Myriad Pro was also universally rated as professional, common, contemporary, legible, and friendly. Overall, my original claim that commonly used typefaces in professional contexts are perceived similarly by both Koreans and non-Koreans was supported for all three typefaces in this testing group. On some of the attributes being rated, there were some differences in the degree with which the groups rated the typefaces. However, since both cultural groups rated the typefaces similarly, the degree of difference, while slightly interesting, doesn't really contribute much to the conversation. Thus, the subsections below on each of the typefaces are quite short, and while I do include the differences mean ratings where applicable, I provide few comments about these differences.

Minion Pro

Koreans and non-Koreans rated Minion Pro similarly as professional, common, old fashion, legible, and friendly.

The results on Minion Pro indicate that, cross-culturally between Koreans and non-Koreans, there is relatively little difference in people's perception of the typeface. However, in relation to the contemporary-old fashion attribute, while both groups rated it as old fashion, Koreans' mean rating (M = 1.294) was higher than the rating given by non-Koreans (M = 0.161), a statistically significant difference (p = .008).

Aktiv Grotesk Light

Aktiv Grotesk Light, like Minion Pro, was rated similarly by Koreans and non-Koreans, with both groups rating it as professional, common, contemporary, legible, and friendly, which also supports my original claim. While Koreans and non-Koreans rated the typeface as contemporary, their mean ratings varied. Koreans rated it as less contemporary (M = −0.588) than non-Koreans (M = −1.387), a statistically significant result (p = .006).

Myriad Pro

Given the ubiquity of Myriad Pro as well as the different language options available in this typeface, I felt that it deserved to be in a study on cross-cultural perceptions typeface. As predicted, this globally pervasive typeface has many of the characteristics a technical communicator would want in a typeface, regardless of the audience's cultural background. Both Koreans and non-Koreas see it as professional, common, contemporary, legible, and friendly with very little variation and no statistically significant differences in the mean ratings. Myriad Pro seems like an all-around safe choice for cross-cultural documentation, including many bilingual projects that require non-roman glyphs.

Testing the Groups' Perceptions of Typefaces Mainly Found in Korea

Batang Che and Gulim Che, the two typefaces included to test the two groups' perceptions of typefaces that are not typically found outside Korea, yielded contradictory results. In the case of Batang Che, Koreans and non-Koreans differed in their ratings of some attributes, but in relation to

Gulim Che, both Koreans and non-Koreans perceived the typeface similarly on all the attributes measured.

Batang Che

Both cultural groups rated Batang Che as amateurish, common, old fashion, and unfriendly. While Koreans and non-Koreans rated Batang Che as amateurish, the degree with which they rated it differed, with Koreans (M = 1.235) rating it as more amateurish than non-Koreans (M = 0.323) did (p = .044). However, they are both on the same side of the scale and the difference in mean ratings is not large.

On the legible-illegible scale, however, the two groups rated the typeface quite differently. Interestingly, Koreans, who have had more exposure to the typeface, rated it as illegible (M = 0.941), and non-Koreans, who likely have not had the same kind of exposure, rated it as legible (M = −1.000), a statistically significant difference (p = .000) between the two groups' mean ratings. Again, this finding is of interest, and I further explore it in the Unusual Letter Shapes and Legibility section (page 32).

Gulim Che

In contrast to Batang Che, Gulim Che was rated similarly on all five attributes, regardless of whether the individuals were Korean or non-Koreans. Both groups rated Gulim Che as amateurish, common, old fashion, illegible, and unfriendly. The results in relation to this typeface do not support my claim that typefaces that are mainly found in Korea will be perceived differently by Koreans and non-Koreans.

Conclusion

While the three claims of this study cannot be fully supported, sufficient evidence indicates that the two groups differ in their perceptions of the typefaces. These differences should be further explored in future studies.

Unusual Letter Shapes and Legibility

Of all the attributes measured in the study, Koreans' and non-Koreans' mean ratings differed most on the legibility-illegibility attribute for Batang Che, Clarendon URW Light, Courier New, and Futura PT. This is a rather useful finding in the study.

The first thing that stands out is that 3 out of the 4 serif typefaces in the study were rated illegible by Koreans but not by non-Koreans. While the 3 typefaces—Batang Che, Clarendon URW Light, and Courier New—are quite different from one another structurally, they share a commonality in that they call more attention to themselves than a typeface like Minion Pro or Times New Roman does. Courier New is a monospaced slab serif with no stroke contrast and appears very rigid and machine like, which makes sense since it was designed off the golf ball of an IBM Selectric typewriter (fbcontrib 2005). Clarendon URW Light differs in that it has a slight vertical stress, moderate stroke contrast, generous x-height, bracketed serifs, decorative curls, ball terminals, and short extenders. Batang Che differs from both Clarendon URW Light and Courier New in that it was optimized for a non-English alphabet, Hangul to be specific. Consequently, the spacing for roman letters has unique kerning issues that are not found in the other typefaces. Like Clarendon URW Light, Batang Che has bracketed serifs, vertical stress, and contrast, but the strokes on Batang Che are also quite thin, even in the thickest parts, which makes its typographic color lighter on the page. Since all three typefaces are quite stylized in comparison to Minion Pro, which is stylistically neutral, it may be the case that more decorative typefaces are more difficult for people to decipher if they were raised in environments in which roman letters are not mainly used. This idea isn't farfetched, as Jan White (2003) observed that "Readers are most comfortable with what they are used to" (p. 94), but this wouldn't necessarily account for Batang Che, which is a Korean typeface and often used in Korea.

In a similar vein, Futura PT, with its sharp joins, low contrast, high ascenders, symmetry, and unique lowercase *j*, is quite different from Aktiv Grotesk Light and Myriad Pro. (Gulim Che is not included in the discussion because both Koreans and non-Koreans rated it as an illegible typeface.) Futura PT's design has a rather strong presence whereas Aktiv Grotesk Light and Myriad Pro seem to blend into a document, almost avoiding any notice. Aktiv Grotesk Light and Myriad Pro are beautifully designed typefaces, but they don't command as much attention from readers as Futura PT does.

Based on the observations related to these typefaces, it appears that typefaces that call for more attention are largely seen as illegible by Koreans, but not by non-Koreans. However, this result may not be related to cultural differences but perhaps to language fluency since the atypical letter shapes may take more time for non-native English speakers to decipher. This is a topic to explore in a future study on language fluency and letter shapes.

Additional Studies

Based on the findings in this study and the studies mentioned in the discussion above, old style and neo grotesque typefaces are probably safe choices for technical documentation in general and for documentation intended for cross-cultural audiences. Aktiv Grotesk Light, Minion Pro, Helvetica, Arial, and Times New Roman have all fared similarly. To further test this, I would propose a study dedicated to other typefaces in these styles. For old style, these could include Bembo, Garamond, Goudy Old Style, or Sabon, and for neo grotesque typefaces, good choices to study may be FF Bau, Folio, or Univers. At the same time, given the cross-cultural appeal of Myriad Pro, I would also propose to expand studies to include humanist sans serif typefaces, such as Frutiger and Gill Sans.

In addition, as mentioned, the findings related to the more noticeable or attention-seeking typefaces in this study—namely, Clarendon URW Light, Futura PT, Courier New, and Batang Che— indicate that another cross-cultural study dedicated to display typefaces may yield noteworthy results.

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APPENDIX A: FIRST INVITATION NOTICE

Initial Text Sent to ICHCAP Staff via Messenger Service

Dear colleagues,

As some of you know, I've been studying typefaces and people's perceptions of typefaces as part of my master's thesis. I'm currently collecting data anonymously in the form of a short online survey so I can learn how people from different cultural backgrounds perceive different type samples. The link to the survey is https://www.link.org, and your voluntary participation is greatly appreciated. The survey will be available for one month, closing on 10 April 2016.

I thank you in advance for participating. If you have any questions or concerns please feel free to ask.

Michael

Initial Text Sent to Contacts via E-mail

Dear ___,

I hope this letter finds you well.

As part of my master's thesis, I've been studying typefaces and people's perceptions of typefaces. I'm currently collecting data anonymously in the form of a short online survey so I can learn how people from different cultural backgrounds perceive different type samples. The link to the survey is https://www.link.org, and your voluntary participation is greatly appreciated. The survey will be available for one month, closing on 10 April 2016.

I thank you in advance for participating. If you have any questions or concerns please feel free to ask.

Michael

APPENDIX B: REMINDER NOTICE

Follow-up Text Sent to ICHCAP Staff via Messenger Service

Dear colleagues,

Two weeks ago, I sent a message concerning a short online survey about cultural perceptions as they relate to typefaces. This is just a reminder to let you know that the survey is still available at https://www.link.org. Again, I would like to say that I appreciate your voluntary participation. The survey will close on 10 April 2016.

I thank you in advance for participating. If you have any questions or concerns please feel free to ask.

Michael

Reminder Text Sent to Contacts via E-mail

Dear ___,

Two weeks ago, I sent a message concerning a short online survey about cultural perceptions as they relate to typefaces. This is just a reminder to let you know that the survey is still available at https://www.link.org. Again, I would like to say that I appreciate your voluntary participation. The survey will close at 23:59 KST on 10 April 2016.

I thank you in advance for participating. If you have any questions or concerns please feel free to ask.

Michael

APPENDIX C: QUESTIONNAIRE ADMINISTERED FOR STUDY

C.1   Online/Anonymous Survey Consent

You are requested to participate in research supervised by Michael Peterson on cultural perceptions of typefaces. This survey should take about 7 to 10 minutes to complete. The goal of this survey is to understand whether cultural factors may influence how people perceive typefaces, and you will be asked to answer questions about that topic. If you have any questions about the research, please contact Michael Peterson at michael.peterson-2@mnsu.edu.

Participation is voluntary. You have the option not to respond to any of the questions. You may stop taking the survey at any time by closing your web browser. Participation or nonparticipation will not impact your relationship with Minnesota State University, Mankato.

If you have questions about the treatment of human participants and Minnesota State University, Mankato, contact the IRB Administrator, Dr. Barry Ries, at +01 507-389-1242 or barry.ries@mnsu.edu.

Responses will be anonymous. However, whenever one works with online technology there is always the risk of compromising privacy, confidentiality, and/or anonymity. If you would like more information about the specific privacy and anonymity risks posed by online surveys, please contact the Minnesota State University, Mankato Information and Technology Services Help Desk (507-389-6654) and ask to speak to the Information Security Manager.

The risks of participating are no more than are experienced in daily life. There are no direct benefits for participating. Society might benefit by the increased understanding into whether culture may play a role in the way an individual may perceive typefaces.

Submitting the completed survey will indicate your informed consent to participate and indicate your assurance that you are at least 18 years of age.

Please print a copy of this page for your future reference.

MSU IRBNet ID#
Date of MSU IRB approval:

   ☐   I wish to continue with the survey.
   ☐   I prefer not to participate.

D1.   What year were you born?
        _____

D2.   What is your gender?
        ☐   Male
        ☐   Female

D3.   In what country were you primarily raised?
        _____

D4a.   In the past five years, have you lived for more than one year in Korea?
        ☐   **Yes**
        ☐   **No**

D4a1.   How long did/have you lived in Korea?
        ☐   **More than 1 year up to and including 2 years**
        ☐   **More than 2 years up to and including 3 years**
        ☐   **More than 3 years up to and including 4 years**
        ☐   **More than 4 years up to and including 5 years**
        ☐   **More than 5 years**

D5.   How would you rate your English proficiency?
        ☐   Beginner
        ☐   Intermediate
        ☐   Advanced
        ☐   Fluent
        ☐   Native

D6.   What is the highest level of education you have completed?
        ☐   Less than High School
        ☐   High School / GED
        ☐   Some College / University
        ☐   2-year College Degree
        ☐   4-year University Degree
        ☐   Master's Degree
        ☐   Doctoral Degree
        ☐   Professional Degree (JD, MD)

D7.   Do you have a professional or academic background in typography and design?
        ☐   Yes
        ☐   No

T.1 Look at the following type sample.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed nec bibendum justo, ultricies egestas nibh. Vestibulum non facilisis nisl, at malesuada tellus. In volutpat magna eget nisl accumsan, ac commodo lectus auctor. Curabitur ornare arcu sit amet risus aliquam, eu auctor sem ultrices. Aenean cursus purus eget pharetra commodo. Quisque a odio eleifend, rutrum ante vel, ullamcorper mauris.

1234567890!@#$%^&*()_+

The quick brown fox jumps over the lazy dog.

Please rate the typeface on the following traits.

	neutral							
professional	○	○	○	○	○	○	○	amateurish
unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly

T.2　　Look at the following type sample.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed nec bibendum justo, ultricies egestas nibh. Vestibulum non facilisis nisl, at malesuada tellus. In volutpat magna eget nisl accumsan, ac commodo lectus auctor. Curabitur ornare arcu sit amet risus aliquam, eu auctor sem ultrices. Aenean cursus purus eget pharetra commodo. Quisque a odio eleifend, rutrum ante vel, ullamcorper mauris.

1234567890!@#$%^&*()_+

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	neutral							
professional	○	○	○	○	○	○	○	amateurish
unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly

T.3   Look at the following type sample.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed nec bibendum justo, ultricies egestas nibh. Vestibulum non facilisis nisl, at malesuada tellus. In volutpat magna eget nisl accumsan, ac commodo lectus auctor. Curabitur ornare arcu sit amet risus aliquam, eu auctor sem ultrices. Aenean cursus purus eget pharetra commodo. Quisque a odio eleifend, rutrum ante vel, ullamcorper mauris.

1234567890!@#$%^&*()_+

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	neutral							
professional	○	○	○	○	○	○	○	amateurish
unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly

T.4   Look at the following type sample.

```
Lorem ipsum dolor sit amet,
consectetur adipiscing elit. Sed nec
bibendum justo, ultricies egestas
nibh. Vestibulum non facilisis nisl,
at malesuada tellus. In volutpat magna
eget nisl accumsan, ac commodo lectus
auctor. Curabitur ornare arcu sit amet
risus aliquam, eu auctor sem ultrices.
Aenean cursus purus eget pharetra
commodo. Quisque a odio eleifend,
rutrum ante vel, ullamcorper mauris.

1234567890!@#$%^&*()_+

The quick brown fox jumps over the
lazy dog.
```

Please rate the typeface on the following traits.

	neutral							
professional	○	○	○	○	○	○	○	amateurish
unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly

T.5   Look at the following type sample.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed nec bibendum justo, ultricies egestas nibh. Vestibulum non facilisis nisl, at malesuada tellus. In volutpat magna eget nisl accumsan, ac commodo lectus auctor. Curabitur ornare arcu sit amet risus aliquam, eu auctor sem ultrices. Aenean cursus purus eget pharetra commodo. Quisque a odio eleifend, rutrum ante vel, ullamcorper mauris.

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	neutral							
professional	○	○	○	○	○	○	○	amateurish
unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly

T.6   Look at the following type sample.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed nec bibendum justo, ultricies egestas nibh. Vestibulum non facilisis nisl, at malesuada tellus. In volutpat magna eget nisl accumsan, ac commodo lectus auctor. Curabitur ornare arcu sit amet risus aliquam, eu auctor sem ultrices. Aenean cursus purus eget pharetra commodo. Quisque a odio eleifend, rutrum ante vel, ullamcorper mauris.

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unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly

T.7   Look at the following type sample.

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	neutral							
professional	○	○	○	○	○	○	○	amateurish
unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly

T.8   Look at the following type sample.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed nec bibendum justo, ultricies egestas nibh. Vestibulum non facilisis nisl, at malesuada tellus. In volutpat magna eget nisl accumsan, ac commodo lectus auctor. Curabitur ornare arcu sit amet risus aliquam, eu auctor sem ultrices. Aenean cursus purus eget pharetra commodo. Quisque a odio eleifend, rutrum ante vel, ullamcorper mauris.

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unique	○	○	○	○	○	○	○	common
contemporary	○	○	○	○	○	○	○	old fashion
legible	○	○	○	○	○	○	○	illegible
friendly	○	○	○	○	○	○	○	unfriendly