Why People Perceive Typefaces to Have Different Personalities

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Abstract

Although recent studies have demonstrated that people perceive different typefaces, such as Times New Roman, to have different personalities, or tones, many technical communicators continue to select typefaces based on intuition rather than carefully matching typeface personality to the rhetorical effect they intend for their document. These studies and earlier ones have analyzed quantitative data, such as people's ratings of different typefaces on different personality attributes. These studies have not addressed why people rate typefaces differently across personality attributes. In this paper, we report findings from a survey that gathered both quantitative and qualitative data. We asked writing students to rate 15 typefaces on 10 personality attributes (e.g., "artistic") using 1-7 Likert scales. We also gathered qualitative data by soliciting written comments about the typeface ratings. We posed two research questions: 1) What personalities do different typefaces have, according to participants' assessments? and 2) How do participants explain their ratings of typeface personality, i.e., why do they assess particular typefaces to have particular personalities? It is hoped that this study, combined with future research on the anatomical features of typefaces, will help technical communicators analyze typefaces so that they can make informed decisions when choosing typefaces for their documents.

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1. The value of analyzing typeface personality

In considering the design of their documents, technical communicators must consider typeface, a task that is not always easy. As Craig and Bevington write, "The difference between one typeface and another is often very subtle, no more than a slight modification in the shape ..." [1, p.14]. Choosing a typeface carefully is important because typefaces contribute to the visual, as opposed to the verbal, language of documents through the different "personalities," or tones, that they convey [2-5]. As

Strizver writes, "Every typeface has a different personality, and the ability to convey different feelings and moods ... [Typefaces] can evoke strength, elegance, agitation, silliness, friendliness, scariness, and other moods" [6, p.43]. Craig and Bevington agree, writing that "typefaces have personalities and convey different moods. While a single, well-drawn typeface can be utilized for a variety of jobs, there are occasions when specific projects seem to dictate a particular typeface ..." [1, p.98]. Therefore, when selecting typefaces, technical communicators should consider the extent to which typefaces contribute to and reinforce the rhetorical effects that they intend for their documents.

Unfortunately, as Brumberger notes, technical communicators may "make design decisions based on personal preference, intuition, or even the fact that 'that's what the company has always used" [7, p.17-18]. Like Brumberger, we contend that technical communicators can and should make decisions about typography, especially typeface personality, that are research-driven. In this paper, we analyze participants' ratings of typefaces for different personality attributes and investigate why participants rated typefaces high or low on particular personality attributes. We carried out this research to lay a foundation for other research to follow, which will help technical communicators match typefaces to the tone they intend for their documents.

One important way to categorize typefaces and, consequently, to understand typeface personality, is to distinguish between text typefaces and display typefaces. Figure 1 shows how the personality conveyed by a text typeface, a typeface designed for readability over long stretches of text, and a display typeface, a typeface designed to attract attention, such as in advertisements, can differ substantially.

As Figure 1 shows, text typefaces like Palatino Linotype are more likely to be seen in technical and other professional documents because they can be read over stretches of text in common point sizes, such as 12-point type. In contrast, it is often difficult to read long stretches of text that are printed in display typefaces like Jokerman [1, pp.18, 28].

Typeface Category	Typeface Name	Example
Text	Palatino Linotype	The quick brown fox jumps over the lazy dog.
Display	Jokerman	The quick brown fox Jumps over the lazy dog.

Figure 1. Text and display typefaces.

Toward the goal of helping technical communicators match a typeface to the tone they intend, we assessed the personalities of 15 typefaces, according to the assessments of writing students. We followed the lead of Brumberger [2-3] and selected for our study "typefaces to represent a range of physical characteristics" [2, p.210]. However, we focused our study on text typefaces (e.g., Helvetica) and other typefaces that are not easily classified as either text or display typefaces (e.g., Souvenir). We focused the study in this way because technical writers are more likely to use such typefaces in technical documents than they are typefaces (e.g., Jokerman) that can easily be classified as display typefaces. Our goal led us to two research questions:

- 1. What personality attributes do various typefaces convey, according to participants' ratings?
- 2. Why do participants assess typefaces to convey particular personalities? i.e., how do participants explain their ratings?

By investigating these research questions, we hope to advance the understanding of why different typefaces convey different personalities and, in later research, to connect participants' ratings and explanations to typefaces' anatomical features.

2. Previous research on typeface personality

Little empirical research has been carried out on typeface personality, with the exception of some older studies suggesting that people differentiate among typefaces and the personalities that they convey [e.g., 8-11]. Recent research solidly demonstrates that people make such distinctions. Brumberger examined people's perceptions of typefaces and texts in order to examine the appropriateness for and impact of typefaces on texts [2]. Mackiewicz analyzed technical writing students' perceptions of typefaces [4] and suggested some guidelines

for technical writing instructors who are introducing their students to typography [4-5]. Beyond these studies, little has been said about typeface personality, even in books about typography that are intended to initiate newcomers to the profession or to inspire professional designers. Indeed, the little these books convey about typeface personality tends toward vague characterizations of a few typefaces. For example, Earls writes that the typeface Lithium has a "modern, technological, electronic style, while retaining a humane sensibility" [12, p.41]. Gale writes that the typeface Zero "was based on the prestructured rhythms of music" [13, p.91]. Neither author explains why the typeface conveys these qualities.

This study, using quantitative and qualitative research, examines the personality attributes people assign to typefaces and their reasons for assigning those attributes to different typefaces. This research grounds a future study that will connect participants' assessments of typefaces to typefaces' anatomical features, or physical characteristics, such as the thickness of their letterforms.

3. Methodology of the study

We surveyed 38 students who were enrolled in two freshman composition classes and 25 students who were enrolled in two upper-division, technical writing classes. None of the students had received any specific training in typography or typeface personality, although the upper-division students had received 10 weeks of instruction in reading and writing technical documents. We asked the participants to assess the personalities of 15 typefaces that represent typefaces that are easy to classify as either text or display typefaces as well as typefaces that are more difficult to classify. The typefaces are listed and exemplified in Figure 2.

Text- Display Continuum	Typeface	Example
Testilika	Times New Roman	The quick brown fox jumps over the lazy dog.
	Helvetica	The quick brown fox jumps over the lazy dog.
	Century Schoolbook	The quick brown fox jumps over the lazy dog.
	Verdana	The quick brown fox jumps over the lazy dog.
	Courier New	The quick brown fox jumps over the lazy dog.
	Lucida Console	The quick brown fox jumps over the lazy dog.
	Bodini	The quick brown fox jumps over the lazy dog.
	Souvenir	The quick brown fox jumps over the lazy dog.
	Maiandra	The quick brown fox jumps over the lazy dog.
	Poor Richard	The quick brown fox jumps over the lazy dog.
	Brittanic Bold	The quick brown fox jumps over the lazy dog.
	Comic Sans	The quick brown fox jumps over the lazy dog.
	Copperplate Gothic	THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.
	Bradley Hand	The quick brown fox jumps over the lazy dog.
Display-like	Script .	The quick brown fox jumps over the lazy dog.

Figure 2. The 15 typefaces presented in the survey.

Figure 2 lists the 15 typefaces that we presented to participants in the survey. In Figure 2, we list the typefaces from those we more strongly consider to be text typefaces to those we more strongly consider to be display typefaces. It is important to note that typographers and other professional designers might disagree with us and among themselves as to the proper ordering of the typefaces in the text-to-display continuum we have created in Figure 2. However, it is also important to note that our purposes in Figure 2 are twofold. We seek to approximate a text-to-display continuum, not to make any strong claims about

the degree to which any one typeface should be considered text- or display-like. Also, we want to suggest that bifurcating text and display typefaces into two complementary categories is impossible.

As Figure 3 shows, for each of the 15 typefaces on the survey, we presented both the lowercase and uppercase alphabets, numerals, and the sentence "The quick brown fox jumps over the lazy dog" in 12-point type. Our method here closely follows Brumberger [2].

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

abcdefghijklmnopqrstuvwxyz

1234567890

The quick brown fox jumps over the lazy dog.

Figure 3. An example of a typeface as presented on the survey.

We asked participants to rate the 15 typefaces on 10 attributes of typeface personality (e.g., professional and technical) on 7-point Likert, or semantic differential, scales (see [2] and [4-5] for a history of typography studies that have employed semantic differential scales). By using this method, we were able to ask participants to rate the extent to which an adjective like "technical" characterizes a particular typeface. Figure 4 shows an example of a Likert scale used in our survey.

To triangulate our study and, more importantly, to gain insight into why participants assigned particular ratings to particular typefaces, we gathered qualitative data as well: written comments explaining typeface ratings. That is, we asked participants to explain their highest and lowest ratings, to discuss the sorts of documents in which they would expect to see each typeface, and to discuss the sorts

of documents in which they might use each typeface. To help participants discuss where they would expect to see the typefaces and how they might use the typefaces, we provided them with a list of document genres that included billboard advertisements, business letters, instruction manuals, newspapers, greeting cards, web sites, and computer manuals.

4. Ratings of the 15 typefaces on personality attributes

In this section, we discuss the highest and lowest mean ratings of the 15 typefaces on the 10 personality attributes (see Figure 5) and discuss participants' comments about their ratings.

	Not at all		Somewhat			Very		
Technical	1	2	3	4	5:		6	7.

Figure 4. An example of a Likert scale as presented on the survey.

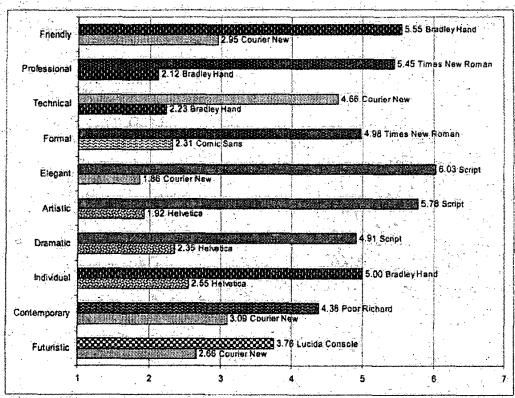


Figure 5. High and Low Mean Ratings for Typeface Personality Attributes

4.1. Friendly attribute

Technical communicators may want to convey a friendly tone in their documents; thus, we analyzed participants' assessments of the 15 typefaces on this personality attribute. As Figure 5 indicates, a typeface that mimics print handwriting, Bradley Hand, received a high mean rating on the friendly attribute (5.55). This mean rating contrasts sharply with Bradley Hand's low mean ratings on the professional (2.12) and technical (2.23) attributes. It seems that the friendly personality of this typeface suppresses any technical or professional tone it could convey. Similarly, Comic Sans, another typeface that mimics print handwriting, was rated second-highest (5.52) on the friendly attribute, but rated low on the professional attribute (2.30). Participants' comments suggest that they saw these typefaces as useful for friendly letters, instant messaging, and email. Their comments also suggest that because the Bradley Hand and Comic Sans resemble print handwriting, the typefaces are "casual," "less serious," and, therefore, "not good for professional writing."

Courier New, a typeface that mimics the output of a typewriter, received the lowest mean rating on the friendly attribute (2.95). Thus, the high and low mean ratings for

the friendly attribute demonstrate that mimicking typefaces can convey quite different personalities, depending of the writing tools they invoke. Simulated print handwriting will contribute a quite different rhetorical effect than simulated typewriter copy will. In future research, we will investigate the anatomical features of these friendly typefaces to gauge the extent to which non-mimicking typefaces can generate a friendly tone.

4.2. Professional attribute

The findings for the professional attribute are likely of great interest to technical communicators, who often want their documents to convey professionalism. Times New Roman, a widely-used serif typeface, received the highest mean ratings on the professional attribute (5.45). Participants' familiarity with the typeface could have contributed to its high mean rating on this attribute. One participant, for example, wrote that Times New Roman is a "common, everyday typeface." Another wrote that "everyone uses this font." Such comments suggest that participants' experience with this typeface in professional settings contributed to their high mean rating of it.

As noted above, Bradley Hand, which mimics print handwriting, received the lowest mean rating on this attribute, but it was followed closely by the two other typefaces that mimic handwriting: Comic Sans (2.30) and Script (2.74). Participants' written comments about Bradley Hand focus on the anatomical features of the typeface. For example, participants wrote the following about Bradley Hand:

- "not at all professional—to [sic] cute"
- "sloppy and unprofessional"
- · "too fancy for professional documents"
- "too lazy to be professional"
- "not good for professional documents, too relaxed"

Such comments show that people easily evaluate and then label typefaces with a variety of adjectives (e.g., "lazy"). However, such comments do not point to specific features of typeface anatomy or prior experience with the typeface to explain such evaluations. Thus, it seems that people would benefit from simple guidelines that would help them analyze typefaces so that they could match a particular typeface to an intended rhetorical effect for their document. Our future research will connect participants' assessments to typefaces' anatomical features so that technical communicators can select typefaces by using analysis rather than intuition.

4.3. Technical attribute

As Figure 5 shows, Courier New received the highest mean rating on this attribute (4.66), a quite moderate mean rating on a 1-7 Likert scale. This result could suggest that the 15 typefaces in this study are not strongly associated with technology or do not have the anatomical features that help to create a more salient technical tone.

Students' ratings of typefaces for the technical attribute are complicated further by the fact that upper-division students' and freshman students' ratings revealed noticeable differences. Upper-division students gave the highest ratings to the following typefaces

- 1. Helvetica (mean = 4.88)
- 2. Courier New (mean = 4.84)
- 3. Times New Roman (mean = 4.80)

Freshman students' ratings on the technical attribute were lower than upper-division students' for all typefaces; they gave the following typefaces the highest ratings:

- 1. Courier New (mean = 4.54)
- 2. Century Schoolbook (mean = 4.18)
- 3. Lucida Console (mean = 4.15)
- 4. Helyetica (mean = 4.13)

Thus, their mean rating for Helvetica contrasts with upperdivision students' rating of that popular and widely-used typeface. Also, freshman students' rating for Times New Roman was considerably lower (mean = 3.89) than upperdivision students' rating of the typeface. One reason that upper-division students rated Helvetica so highly on the technical attribute may be that they, having more experience with professional online documents, associated it with type that they see online, such as on webpages. Helvetica is the most popular typeface for online text, along with other sans serif typefaces like Arial, Verdana, and Gill Sans [14, 15, p.409].

The comments of upper-division students suggest they perceived Courier New similarly, associating it with computers; one participant wrote that Courier New resembles "Main body text in reports for my CS courses." Another wrote, "I felt this was a very technical font based on my computer experience." Even though some participants associated Courier New to computers, participants' comments clearly show that they realized Courier New simulates a typewriter. Their comments, though, do not indicate that they saw Courier New's status as a typeface that mimics outdated technology as a reason to avoid it in professional writing. For example, one participant wrote, "reminds me of a typewriter" but indicated that he would use it in "business letters and reports." It is likely, however, many people would disagree with the upper-division students' assessments of Courier New. One study found that Courier, another typewritermimicking typeface, is thought to be used by "older administrative staff, secretaries who harbor latent nostalgia for the bygone era of typewriters and carbon paper" [16].

Participants agreed on which typefaces are not technical. Their overall ratings show that they found the following handwriting typefaces to be the least technical of the 15 typefaces:

- 1. Comic Sans (mean = 2.44)
- 2. Script (mean = 2.41)
- 3. Bradley Hand (mean = 2.23)

Participants also gave these three typefaces the lowest ratings on the professional attribute. These results may suggest that the anatomical features that contribute to lower assessments of a professional personality may also lead to a lower assessment for a technical personality.

It seems that participants associated a technical personality with ease-of-reading; participants' comments about these handwriting-mimicking typefaces referenced problems with legibility and readability more than comments related to the professional attribute did. This association between technicality and legibility/readability is one supported in typography books. Spiekermann and Ginger describe "workhorse" typefaces—typefaces that could be used in "a catalog for machine parts, or instructions for using a fire extinguisher"—as having "very legible numerals" and not being "compressed beyond recognition" [17, p.67]. Participants' comments about Script suggest the importance of legibility and readability:

- [It] "would not be efficient in technical writing.
 Too difficult to read."
- "This is definitely not a technical font. For one it's cursive, the letters are also not very distinct."

 "The curves of the letters cause distraction and would make it difficult to read technical and other important papers."

These results recall Strizver's claim that display typefaces, such as Script, may trade legibility for "a more powerful feeling" [6, p.43].

Clearly, participants focused on the anatomical features of Script in assessing the degree to which in conveyed a technical personality. It would be interesting to know, however, exactly which features of the typefaces that participants considered as detracting from legibility and readability. It would also be beneficial to be able to point out to technical communicators which anatomical features contribute to a technical personality so that they can enhance that tone in their documents.

Participants' comments about Bradley Hand and Comic Sans relay participants' evaluations, but tend to convey those evaluations without explanation. For example, one participant wrote that Bradley Hand is not technical because it is not "straight-forward." About Comic Sans, participants wrote:

- [It is] "not good for business or technical writing" [because it] "seems too childish."
- [Its] "playfulness would make it bad [for] technical writing."

Although participants didn't explain such evaluations, their evaluations suggest that they were attuned to the anatomical features of the typefaces. For instance, the comment that Comic Sans is "too childish" likely refers to its rounded terminals and its lack of thick-to-thin transition within its strokes, i.e., the fact that it seems to mimic a felt-tip pen.

4.4. Formal attribute

Times New Roman also received the highest mean rating on the "formal" attribute (4.98), whereas Comic Sans received the lowest mean rating (2.31). Participants' written comments do not offer much insight into why they thought Times New Roman conveys a formal personality. It is possible that they had often seen and used Times New Roman in documents at work and at school and that they associated such documents with formality. This hypothesis is supported by comments that associated the professional and formal attributes (e.g., "very formal and professional") and by the lists of documents that participants associated with both formality and Times New Roman. One participant, for example, wrote that Times New Roman is "a common font for formal documents" and then listed examples of the documents she was referring to: reports and memos. While such a correlation fails to account for the vast amount of informal writing that takes place at school and work, such as email and some memos, participants may not have considered such documents in their assessments.

That participants rated Times New Roman highest on the formal attribute (and Century Schoolbook second highest at 4.61) is somewhat surprising in that this finding does not coincide with what typographers would typically discuss when writing about formality. Spiekermann and Ginger, for example, note that while "there is no category known as 'formal fonts,'" several categories-calligraphyand engraving-mimicking typefaces in particular-come from invitations for formal events and other documents associated with aristocracy and high class (e.g., dinner menus, calling cards, bookplates, and event programs) [14, p.69]. In fact, participants rated Copperplate eleventh on this attribute (3.37), just higher than Lucida Console (3.33). They did, however, rank Script fourth-highest on this attribute (4.20), suggesting that they recognized Script's history of use more than they recognized Copperplate's. This finding also makes the distinction between history-of-use and anatomical features clear. Participants described Copperplate as "demanding" and "overpowering." One participant wrote that the attention Copperplate draws to itself decreases its formality: "Because of its dramatic effect, it would make a poor formal font."

4.5. Elegant attribute

As Figure 5 shows, the highest and the lowest mean ratings for all of the 10 attributes were assigned to the elegant attribute, suggesting that typefaces vary widely in the degree of elegance they convey. Script received the highest mean rating overall, 6.03 on the elegant attribute. Script mimics cursive handwriting. Students' written comments indicate that they associated Script's cursive quality with elegance:

- "The cursive handwriting helped convince me that it was elegant."
- "The font is cursive so it is an elegant form."

Students' ratings and their written comments corroborate professional typographers' assessments. Strizver, for example, writes that "script and calligraphic fonts... can be very elegant" [6, p.47]. Conversely, the lowest mean rating overall was assigned to the elegant attribute as well; Courier New received a mean rating of 1.86 for this attribute. Participants' comments suggest why they gave a low rating to Courier New on this attribute:

- "Since it is so technical it is also not very . . . elegant."
- "Its to [sic] robot like."

4.6. Artistic, dramatic, and individual attributes

The personality attributes of artistic, dramatic, and individual seem to be closely related. Handwriting-mimicking typefaces rated the highest on these attributes. Figure 5 shows that Script received the highest mean

ratings for the "artistic" (5.78) and the "dramatic" attributes (4.91). One participant, for example, wrote that Script is "artistic because it was script and not text-like."

On the opposite end of the artistic and dramatic spectrums was Helvetica, one of the most widely used typefaces [1, p. 33]. It received the lowest mean ratings on the artistic (1.92) and the dramatic (2.35) attributes. Participants wrote the following about Helvetica's lack of artistry or drama:

- "doesn't jump out at you or grab you"
- "no excitement in the letters"
- "very blah"
- "very plain"

Clearly, participants focused on Helvetica's anatomical features, but they tended to use vague labels like "plain" in their assessments.

A similar pattern emerged on the individual attribute. Bradley Hand, a typeface that mimics print handwriting, received the highest mean rating on the individual attribute (5.00). This result corresponds to Spiekermann and Ginger's observation that typefaces that mimic handwritten letters, such as Bradley Hand, do not "carry some of the spontaneity of handwritten letters to the mechanical restrictions of typesetting" [p.47], as well as Strizver's observation that typefaces that mimic handwriting can be "very humanistic, quirky, and quite individualistic" [6, p.47].

As with the artistic and dramatic attributes, Helvetica received the lowest mean rating on the individual attribute (2.55). Students' comments correspond to their low rating of Helvetica on the individual attribute:

- "seems like a little of everything"
- "pretty normal"

These comments correspond to what typographers have written about this widely-used typeface. Spiekermann and Ginger write that Helvetica conveys a "lack of individualism" [17, p.65], and they go on to say that "Helvetica is not the most elegant type design of all time, but it is practical and neutral, and it is seen everywhere" [17, p.111].

4.7. Contemporary and futuristic attributes

We discuss the contemporary and futuristic attributes together because they both relate to the extent to which typefaces invoke a time—in these cases either the present day or the future. Courier New was rated lowest on the contemporary (3.09) and the futuristic (2.66) attributes, findings that suggest that the student participants recognized it as a typeface that mimics the output of an outdated technology. Lucida Console received the highest mean rating on the futuristic attribute (3.76) because, it seems, participants associated it with "computer manuals" and "computer screens." Interestingly, though, one participant's comment suggested that he associated it with

older computer technology, writing that it reminded him of "1980s computers." Participants' comments also suggest that the fixed pitch, or spacing, of Lucida Console may have contributed to its ratings on this attribute:

- "The spacing and awkwardness makes [sic] this font futuristic."
- [It has] "Too much space between letters and words."
- [It has] "very big spaces."

However, it must be noted that Lucida Console's mean rating of 3.76 is not a high one and, in fact, falls below the mid score of 4.00. It seems, then, that none of the 15 typefaces assessed in this study convey much of a futuristic tone. Similarly, on the contemporary attribute, the other attribute that encouraged participants to think in terms of time, Poor Richard received the highest mean rating (4.38). It is important to note that scores ranged narrowly for the contemporary attribute; with the exception of Courier New's lowest mean rating, scores ranged from 3.48 to 4.38.

4.8. Understanding students' assessments

We have analyzed participants' assessments of typeface personality, analyzing both quantitative and qualitative data. Our analysis of both sets of data reinforces previous research by Brumberger [2-3, 7] and Mackiewicz [4-5] that found that typefaces are assessed to have different personalities. We found that common typefaces like Times New Roman, Helvetica, and Courier New were assessed highly on the personality attributes of professional and technical. Typefaces that were not rated highly on these attributes were rated highly on the friendly attribute.

Participants' written comments suggest that they assess typefaces to have different personalities based on their previous experience with those typefaces (where they have seen them, or typefaces like them, before) and based on the anatomical features of the typefaces. However, participants' comments about the anatomical features of different typefaces do not suggest that participants regularly analyzed and compared particular anatomical features, such as typeface terminals or stroke contrast. Rather, their comments tended to consist of evaluations like "overpowering" or "no excitement in the letters" that are difficult to scrutinize.

Participants' comments suggest that people intuitively distinguish among typefaces and the personalities they convey, but that they distinguish among personalities in a fairly unprincipled manner, using intuition. This tendency toward unexplained assessments is not surprising, given typographers' tendency to do the same in books aimed at practitioners and students. Moreover, it must also be noted that our survey did not specifically ask participants to analyze the anatomical features of the typeface letterforms. Thus, it is understandable that many participants did not

think to do so. That some participants did analyze the anatomical features of different typefaces makes those analyses particularly valuable—they speak to the fact that certain anatomical features carried substantial weight in conveying particular personalities.

Other participants' comments suggest that previous experiences with a particular typeface or with a similar typeface influenced participants' ratings of the typefaces for different personality attributes. Previous experience with typefaces seemed to influence participants' assessments of popular typefaces like Times New Roman and Helvetica, which they had encountered often in both print and online documents.

In the case of "mimicking" typefaces, it seems that both anatomical features and previous experience played a role in participants' assessments. Participants recognized Courier New as a typeface that demands both that they know what typewriter print looks like and that they have seen typewriter-typed documents before. Similarly, some participants associated Script, rated high for elegance, with wedding invitations, yet also remarked that cursive writing is elegant. Such comments indicate that history-of-use and anatomical features are deeply and inextricably linked.

5. Further research

As noted throughout this paper, the next step in this research project will be to determine the extent to which participants' ratings of typeface personality can be associated with particular anatomical features of different typefaces. By doing this, we hope to help technical communication professionals and students go beyond using intuition to select typefaces. In other words, we hope to help them analyze the anatomical features of typefaces so that they can select a typeface that best contributes to the rhetorical effect they intend.

6. References

- [1] Craig, J. and W. Bevington, Designing with Type: A Basic Course in Typography, 4th ed., Watson-Guptill, New York, 1999.
- [2] Brumburger, E. The Rhetoric of Typography: The Persona of Typeface and Text. *Technical Communication*. 50: 206-223, 2003a.
- [3] Brumburger, E. The Rhetoric of Typography: The Awareness and Impact of Typeface Appropriateness. *Technical Communication.* 50: 224-231, 2003b.

- [4] Mackiewicz, J. What Technical Writing Students Do Know and Should Know about Typography. In *IPCC: The Shape of Knowledge* (Proceedings of the 2003 International Professional Communication Conference) (Piscataway, NJ: IEEE, 2003), 209-222, 2003.
- [5] Mackiewicz, J. What Technical Writing Students Should Know about Typeface Personality. *The Journal of Technical Writing and Communication*, forthcoming 2004.
- [6] Striver, I., Type Rules!, North Light Books, Cincinnati, OH, 2001
- [7] Brumberger, E. The Rhetoric of Typography: Effects on Reading Time, Reading Comprehension, and Perceptions of Ethos, *Technical Communication* 51: 13-24, 2004.
- [8] Bartram, D. The Perception of Semantic Quality in Type: Differences between Designers and Non-designers. *Information Design Journal*. 3: 38-50, 1982.
- [9] Burt, C., A Psychological Study of Typography, Cambridge U.P., Cambridge, 1959.
- [10] Poffenberger, A. T., and R. B. Franken. A Study of the Appropriateness of Type Faces. *Journal of Applied Psychology*. 7: 312-329, 1923.
- [11] Rowe, C. L. The Connotative Dimensions of Selected Display Typefaces. *Information Design Journal*. 3: 30-37, 1982.
- [12] Earls, D., Designing Typefaces, RotoVision, Mies, Switzerland, 2002.
- [13] Gale, N. Type 1: Digital Typeface Design, Universe Publishing, New York, 2002.
- [14] Fontscape, Helvetica, 15 March 2004. [Online]. Available: http://www.fontscape.com/explore?9BV.
- [15] Rude, C. D., Technical Editing, 3rd ed., Longman, New York, 2002.
- [16] Murphy, D., Choice of Typeface Reveals Personality Traits, *ITInfo* 30 May 2001. [Online]. Available: http://www.dgl.com/itinfo/2001/it010530a.html.
- [17] Spiekermann, E. and E. M. Ginger, Stop Stealing Sheep and Find Out How Type Works, 2nd ed., Adobe Press, Berkeley, CA, 2003

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