

Apprehending the semiotics of global typography:

A Systemic Functional Grammar approach of Japanese and Latin typefaces

SUMMARY

*

This research paper is divided into two main parts: a theoretical approach to typography as a semiotic mode, and the empirical aspect of the study, assessed through a field study.

Understanding the origin of typography implies an acute insight into how characters it transcribes originated. Following the theory of Fisher (2003), defining a history of what is writing implies that one understands what ‘writing’ really means. The description that could be accepted as an accurate definition of what writing is “*the sequencing of standardized symbols (characters, signs or sign components) in order to graphically reproduce human speech, thought and other things in part or whole*” (ibid.). In the West, understood as alphabetic civilizations, readers are mostly familiar with a single way of reading, using a system of consonants and vowels, ordered in horizontal lines that ought to be read from left to right, in descending horizontal lines. However, Some Eastern systems such as the Japanese language encompass many more reading systems, accepting vertical and horizontal lines, and a reading direction from both left to right and right to left. These core differences could suffice to prove that Eastern and Western writing systems have nothing in common and are immiscible. Nevertheless, beyond proving the common misconception that the Latin and Asian scripts are “*world historical opponents*” (Stetter, 1999) wrong, digging in the past of languages and their scripts allows us to get a better grasp at our current society. The study reveals investigating a history of writing seems to corroborate the cliché of historic recurrence Mark Twain depicted in 1903 as “*a favorite theory of mine—to wit, that no occurrence [Twain’s emphasis] is sole and solitary, but is merely a repetition of a thing which has happened before, and perhaps often...*”. As different as they might seem nowadays, both the Latin and Japanese scripts emerged from pictographic systems. Through abstraction, simplification, and conceptualisation, both have managed to grow quite far apart from their logographic roots... to eventually go back to them, in the name of standardisation and globalization. Indeed, written communication increasingly gives way to logographs and pictures, through aspects as varied as road signs, or emoji.

Past the evolution from cryptic pictograms to the letters we now know used in handwriting, scripts have greatly evolved with their technological environment, and as handwriting turned into typing. The West has had a long tradition of using handwriting, before moving to the printing press after the diffusion of the printing press started by Gutenberg. The constant technological evolution of the printing methods and devices also had a strong impact on the shape of letters, especially with the invention and development of computers. Printing in Japan is a much older tradition, since printing was developed in China during the IInd century CE (Whitfield et al., 1990). The large amount of character in the Japanese writing system proved to be quite a hindrance to the evolution of printing, and woodblock printing was long preferred to movable type in Japan. Computerized typography in Japan was so difficult to develop using the Western codes (ASCII) that Japanese engineers had to develop their own system to allow for kanjis to be legible when turned into binary codes (Heisig and Sienko, 2008). Typography nowadays has become a very serious field, with its own set of rules, and a whole syntax.

The definition of rules has contributed to turning typography into a design field. However, it is also a sign system, therefore falling under the spectrum of fields that could be studied through the eye of semiotics. The concept of 'sign' in the semiotics field is very broad, and can be interpreted as something that can be understood as having a meaning, which is something other than itself, and which is therefore able to communicate information to the one interpreting or decoding the sign. According to Peirce (1932), "*nothing is a sign unless it is interpreted as a sign*", proving that the study of signs is not only relevant, it is also essential. Semiotics and typography is a rather new match, yet one that find its importance in our post-Gutenberg parenthesis era. Using the knowledge gathered on the origin of both letters and typography, the study then focuses on the construction of rules –the rules of typography as a semiotic mode.

Before diving in the intricacies of typography through a social semiotics perspective, the study briefly explains what semiotics are. First focusing on the Saussurean dyadic approach of signifier and signified, it then moves on to Peirce and his trichotomy: object, interpretant, and representamen. It opens the reflexion to the concept of semiotic modes: icon, index and symbol, all terms that will be important in the analysis of typography. Moving on the Japanese approach of semiotics, the paper reveals, that the study of signs is rather limited in Japan; rather, Western theories are adapted to the Japanese civilization.

To understand why it is so important to study typography from a semiotic perspective, the research then explores the concept of *Gutenberg parenthesis*, a concept that emerged in the University of Southern Denmark. First a think tank available on the university website, it has outgrown this first context since Pettitt's 2007 *Before the Gutenberg Parenthesis: Elizabethan-American compatibilities*, which has first exposed the theory within the frame of academic writing. Pettitt, along with Sauerberg, another teacher from the university of Southern Denmark, propose this idea that we are currently witnessing a crucial change in our conception of media, and that this new era will have a dramatic impact on our behaviour, access and consideration of knowledge, and interpersonal relationships, to mention a few. In his essay *From Gutenberg to Google* (2006), Shillingsburg even considers that "*we are now in the infancy of a textual revolution comparable to the one initiated by the invention of printing from movable type, from the XVth century*" (as quoted by Pettitt in a 2010 lecture). As new media develop, the book (standing for printed media in general) is no longer the lynchpin of communication. To Pettitt and Sauerberg, the parenthesis opened by the democratization of printed media around 1600 CE is now closing, changing our approach to information and interpersonal communication. Reading, for instance, is changing greatly with the development of multimodality. Multimodality is a semiotic theory that approaches the elaboration of content, and is part of both communication and social semiotics (Halliday, 1978). It refers to communicative practices using visual, textual, but also linguistic, spatial, aural, palpable, tastable or olfactible information, each considered as a separate mode (Lutkewitte, 2014).

Lastly, the theoretical part of the research introduces the notion of typography as a semiotic mode. It first forays into the emotional, connotative dimension of typography: by using a particular font, one can convey images, or a mood. To Mackiewicz (2004), fonts even have personalities. How can one asses the personality of a font? To the researcher, there are two categories of type: text typefaces and display typefaces. Text typefaces would be letterforms such as Times New Roman. They are designed to be read in technical, official, or professional documents, and cause minor to no reading problems when used in lengthy texts. Display serifs, such as Ransom Note have a much heavier visual impact, but would be very difficult to read over long stretches of text. More than simple

affective response, works such as Velasco et al.'s *Taste of Typeface* (2015b) try to assess the connotative aspect of type in more specific domains, such as taste. For instance, rounder shapes seem to be associated with sweetness, and high legibility, while angular fonts were considered less legible, and linked to bitterness, sourness, or saltiness, depending on the fonts. However, previous works from the Velasco et al. (2015) show that sweetness is not automatically linked to round shapes, but rather that taste hedonics can impact the way people tie tastes to shapes. "*In other words, the more that an individual likes a taste, the more they will choose a round shape to match it to, and the less they like it, the more they will tend to associate the taste with an angular shape instead*" (Velasco et al., 2015b). Works such as Westerman et al., 2012 explain this correlation by stating that people prefer round objects to angular ones.

Following the structural and connotative dimension of fonts, a classification system can even be conceived. Following Western and Japanese systems, such as Kupferschmid and Komiyama, the paper focuses on the Takagi classification system, established in 2014, and comparing Latin and Chinese characters. In this matrix, characters are separated in four categories, inspired by the Kupferschmid system: 'Dynamic', 'Static', 'Constructive' (which stands for Kupferschmid's 'Geometric') and 'Expressive' (Kupferschmid's 'Decorative'). Presence or absence of serif then divides these groups, and the 'Analogue' part, which refers to fonts "*with a calligraphic touch*".

To Nørgaard's (2009), typography can be understood as a semiotic mode, since it carries out three functions: "*discursive import*", "*iconicity*", and "*indexicality*". One example of indexicality is Master's multimodal novel *A Life Backwards* (2006). Parts of the novel consist in excerpts from the protagonist's diary. These parts are transcribed in a handwritten font, making the look of the writing invokes the material origin of its own coming into being. This imitation, or *mimesis*, is called high modality in multimodal terms, and could be defined by "*what we see is what we would have seen if we had been there*" (Van Leeuwen 2005). Iconicity the choice of typeface mostly resides in the emotional connotation of the chosen font. Discursive import refers to "*a type face associated with a particular media context is imported into a different context in which it did not previously belong*" (Gibbons, 2012). For instance, the typeface Courier, since its creation in 1955, has conveyed the meaning of typewritten text in literary works.

The approach used in the framework of this research is the theory of Systemic Functional Grammar, a theory first drawn by Halliday in 1961. He considered language, and its grammar, as a set of flexible and adaptable systems, instead of set rules. Alongside those systems, he considers language as having three metafunctions: ideational, interpersonal, and textual. The ideational metafunction refers to the understanding, construction and maintenance of experience. Thanks to the ideational metafunction, the subject is able to make sense of reality (Halliday and Matthiessen, 2004). Put in one sentence, the ideational metafunction focuses on the fact that *language represents the world*. The interpersonal metafunction describes the choices made by the speaker to put the multifaceted and various interpersonal relations into words. It reflects the ability of language to *construct social relations*. The textual metafunction is linked to the notion of *mode*, or the core organisation and communicative nature of a text. This encompasses notions such as textual interactivity (for instance, disfluencies such as pauses or repetitions). In a few words, the textual metafunction focuses on *how language forms texts*. How can these models fulfil the metafunctions of Systemic Functional Grammar? Van Leeuwen finds answer in the metaphorical aspect of type. He writes: "*Increased weight is of course frequently used to increase salience, but it can, at the same time, be used metaphorically, to signify ideational and interpersonal meanings. Bold can be made to mean 'daring',*

'assertive', or 'solid' and 'substantial', for instance, and its opposite can be made to mean 'timid', or 'insubstantial'" (2005). Earlier we talked about the indexical and iconic dimension of typography, and these could perfectly be represented by the Hallidayan dimensions of ideation and interpersonalit. The textual metafunction of typography can be found in the meaning potential of layout (cf. *supra*; Kress & Van Leeuwen, 1996; Van Leeuwen, 2005), and in aspects such as colour, among others. The current research aims at expanding those results to Japanese typography, to assess whether those findings are globally applicable.

*

This paper then followed an empirical study following a deductive thought process: among the theories that were detailed in the theoretical part, some were chosen to be applied to the sample of 300 people (150 Japanese, 150 Westerners), and be either validated or denied. The study was divided in two movements: it opened on a qualitative exploratory study, which helped build a strong questionnaire, and the main, quantitative study, that put the theories to the test.

Individual variables refer to characteristics proper to each person forming the study sample. Very few of the studies used as sources for this paper have taken individual variables into account when conducting fieldworks. Therefore, to bring forth as many elements of study as possible, we have retained basic sociodemographic features, and personal background and international experience as variables. These allowed to assess whether the perception of design elements, in the case of the present study, typography, can be influenced by gender, age, and personal background. As for the theories put to the test, four concepts were assessed in the field study. This paper followed two discrete leads: confirming the theories and frameworks that have been created before in the field of Western typography, and transposing them to the field of Japanese typography, to evaluate whether they are valid in such a different environment. As it has been proven before, the Japanese and Latin writing systems are so different that, should all theories and paradigms be validated in both spheres, one could infer that a generalisation of these theories to a global scale is possible.

- The Takagi classification matrix: To validate our question, and Takagi's model in the framework of Japanese typography, the respondent will be asked to pair Latin and Japanese fonts according to the specifics of each font.
- Velasco et al.'s *Taste of Typeface* (2015): His American sample associated rounder shapes with sweetness, and high legibility, while angular fonts were considered less legible, and linked to bitterness, sourness, or saltiness, depending on the fonts. This paper is both a confirmatory study and a scope expansion.
- Van Leeuwen's and Nørgaard's semiotic functions of typography: In this study, focused on two aspects of the semiotic side of typography: the metaphorical aspect of type, and the influence of spacing in the meaning-making potential. The metaphorical aspect of type was explored through the personality of type (Mackiewicz, 2004 and 2005), and the influence of spacing through proper kerning in text.
- Systemic Functional Grammar:
 - Ideational metafunction: The interviewees first had to answer broad questions, asking them whether they think that typography can help them understand a corporate image, therefore contributing to construing their environment. Then they were asked to become the content generator: a company, or a creative agency.

- Interpersonal metafunction: The sample was asked broad questions about the communicative potential of corporate typefaces.
- Textual metafunction: This study focused on information value: the repartition of value from left to right with the *given* and *new* repartition of elements, and the separation between top and bottom, where *ideal* and *real* elements respectively fall.

Below are the research questions:

| Hypotheses / Variables | Questions |
|--|---|
| Gender | Q 1.1: Gender has an influence over the apprehension of typography as a semiotic mode. |
| | Q 1.2: Men are more prone to grasp letterform details. |
| Age | Q 1.3: Age has an influence over the apprehension of typography as a semiotic mode. |
| Level of education | Q. 1.4: A higher level of education enables a better apprehension of typography as a semiotic mode. |
| Foreign languages proficiency | Q 1.5: Proficiency in a foreign language influences the viewer's perception of typography as a semiotic mode in his/her own language. |
| | Q 1.6: Proficiency in a foreign language influences the viewer's perception of typography as a semiotic mode in a foreign language. |
| Exposure to internationalisation | Q 1.7: Exposure to internationalisation influences the viewer's perception of typography as a semiotic mode. |
| Cultural background | Q. 1.8: Japanese people and Westerners have a similar approach to typography as a semiotic mode. |
| Typography can be framed in a global classification system | Q 2.1: Type can be classified following an international, common matrix, regardless of the writing system that is in use (Japanese or Latin characters) |
| | Q 2.2: Understanding a writing system affects the viewer's perception of the structure of characters. |
| Typography obeys international metaphorical codes, regardless of the writing system | Q 3.1: Round character design conveys a sweet connotation both in Japan and in the West |
| | Q 3.2: Round character design conveys a hedonic connotation both in Japan and in the West |
| Regardless of the writing system, typography can convey meaning | Q 4.1: Typography can convey meaning in a language that is understood and/or familiar |
| | Q 4.2: Typography is considered a meaning-making element even if the language is not understood/is unfamiliar |
| The rules of the Western 'grammar' of typography can be applied to Japanese typography | Q 5.1: Both Western and Japanese typographies have an ideational metafunction |
| | Q 5.2: Both Western and Japanese typographies have an interpersonal metafunction |
| | Q 5.3: Both Western and Japanese typographies have a textual metafunction |

The study of the individual variables show that, for the most part, they do not have influence over the apprehension of typography as a semiotic mode: Q 1.1, 1.4, 1.5, 1.6, and 1.7 have been rejected. These inform that individual characteristic might not influence our judgement, but the consideration of typography is culturally dependent, since Q 1.8 has been validated. We will put these results to the test in the next part, by analysing the theories detailed in the first section of this research.

The evaluation of the Takagi classification matrix produces positive results, both in the West and in Japan. On all five tests, the expected answer was the one winning a majority of votes, however slight said majority was. This test also informs us that, although all the “correct” answers prevailed, individual variables such as age, gender, and cultural background influenced the results. As for the current research questions put to the test, the research question Q 2.1 can be validated, while Q 2.2 can only be partially validated. The fact that neither the Western, nor the Japanese sample have had most “correct” answers all through the test prevents us from either completely validating or rejecting the question. It can be argued in favour of the validation of the research question Q 2.2 that for the fonts 1 to 3, the most classic ones, and the ones that are used and seen every day online or in print, the Japanese sample had an advantage. This could be due to the gender repartition of the sample, or simply the fact that, because Japanese characters are more intricate, the Japanese viewers are more used to paying attention to slight details, such as the presence or absence of serifs, or the stroke contrast.

The results of the analysis of the “taste of typeface” show that there is a strong relationship between sweetness and appreciation, or in the words of Velasco et al., “*hedonism*”. Besides, in the results there is no clear differentiation between saltiness, sourness, and bitterness, therefore validating all of Velasco et al.’s theories. Therefore, the research questions Q 3.1 and Q 3.2 have been validated.

Then, the study of the importance of micro- and mesotypography allow us to confirm that typography can be considered a semiotic resource for both samples. The research questions Q 4.1 and Q 4.2 are valid. However, it is important to note that the answered offered by each sample, although pointing in a general same direction, were quite different. The metaphorical aspects of type, linked to the confirmation that spacing is a meaningful part of typography confirm the model designed by Stöckl in 2005, and the research of Van Leeuwen (2005; 2006) considering typography not only as a semiotic medium, but also as a discrete semiotic mode, understood as a culturally dependent variable.

As for the SFG approach, the results are equally as satisfactory. In the study of the ideational metafunction, besides minor differences, both samples have come up with similar answers. This proves that there is indeed a global dynamic, and that people, may they be Westerners or Japanese consider that the same fonts take part in the construction of the same ideas, or same concepts, which validates the research question Q 5.1. The advantage of thinking about type as a set of systems instead of finite rules is that it accepts variables such as culture. To quote Halliday (1985), “*human beings do not all mean alike, and [...] their unconscious ways of meaning are among the most significant manifestations of their culture*”. The slight alterations between the Japanese and the Western samples’ answers only corroborate the founder of the SFG.

The answers to the questions assessing the interpersonal metafunction of typography were overwhelmingly positive, with ratio agreements of up to over 77%. These figures, associated with the previous research about the personality of fonts, allow us to consider that the research question Q 5.2 is validated. As for the ideational metafunction, cultural background seems to be a variable of certain influence, but not strong enough to change the overall tendency of the results.

As for the textual metafunction, the results offered very interesting insight. The Japanese answer patterns promoted a very vertical organisation of design elements in a layout, while the Westerners proposed horizontal arrangements. Even though the results do not follow the theories created by Kress and Van Leeuwen (1996), the high degree of accordance of answers within the samples separately suggests that the principles are justifiable: it is only the results that need revising. There surely is a pattern that emerges in those answers, and people within given cultures seem to agree on where they would place each element. As Van Leeuwen wrote “[T]his work has only just begun, and not yet reached a stage in which conclusions can be drawn. This paper should therefore be relatively open-ended, inviting others to join in the enterprise, rather than presenting a finished product” (2006), really representing the spirit of the current paper. Therefore, the research question Q 5.3 is partially validated: the reasoning is confirmed, but not the results that were issued before this study.

The overall positive outcome of this study opens various perspective for future. First, a similar study should be conducted on a larger, more representative sample. For instance, in the current study we had an undermined p the proportion of elements of the population of origin, meaning that arbitrarily, $p = 0.5$, and a margin of error $e = 5.66\%$, for a trust rate of 95%. To lower the margin of error to a more acceptable 3%, the sample size would need to be $n = 1,835$ people. A bigger sample would allow to select the answers to get a sample that represents best the population of origin.

In further studies, using qualitative methods such as semi-directed interviews, in-depth interviews, or even case studies, of both professionals and amateurs, would allow to refine the results, and present stronger conclusions. Moreover, the since the qualitative approach has been used extensively in this field, a more extensive literature is available to better anticipate the results, and ease the preparation of the study, indicating which biases or shortcomings can be avoided. All the theories evaluated in the study have been narrowed down to a few elements that could easily be assessed by the sample. For instance, the vertical axes of the Takagi classification were not dealt with here. Since Abramov et al. (2012) were right about men’s tendency to understand details better than women, the opposite should be conducted too, to assess whether women have a better understanding of colour. Since the study of colour is often referred to in the literature concerning typography as a semiotic mode (Nørgarrd, 2009; Stöckl, 2005; Van Leeuwen, 2006), research in this direction could strengthen (or redefine) the models experimented here. Lastly, the SFG metafunctions, and the other functions of typography as semiotic mode were only approached through very specific angles, easily communicated through a questionnaire. Qualitative studies would remedy the issue, allowing for more encompassing, in-depth input.

Further studies comparing professionals and non-professionals could also be assessed, to estimate how much knowledge of typography impacts our vision of the field. Lastly, the intercultural communication viewpoint would be enriched if future research compared other cultures who possess yet completely different writing systems, such as Arabic, or Hindi.