Methodological procedures for the identification of typefaces: comparing the repertoires of letterpress printers and type foundries

Procedimentos metodológicos para identificação de fontes tipográficas: comparando os repertórios de oficinas tipográficas e fundições de tipos

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typography,
graphic design history,
print culture,
letterpress printing,
research methods

Identifying typefaces from printed materials is a necessary step in investigations that involve typographic analysis, but not a trivial task. This paper describes a set of non-digital methodological procedures that can be physically performed in archives and libraries for comparing typeface repertoires of letterpress printing shops and those of type foundries. The methodological procedures were applied in a research that asked for the commercial names and origin of typefaces employed by a letterpress printing shop based in São Paulo, Brazil (Tipografia Hennies Irmãos), from the late 19th century to the mid-20th century. Samples of those typefaces were compared with type samples found in catalogs of major type foundries in German-speaking countries from the same period. The methodological procedures included preliminary research and the creation of a database that enabled the organization of visual references of typeface designs on transparent film overlays for comparison by superimposition, together with the use of magnifying glasses and photography. The procedures adopted were successful in optimizing research time, worked well for medium and large font sizes, and revealed a strong connection between the Hennies Brothers typographic repertoire and that of German type foundries. These procedures provide a rigorous and agile set of tools for researchers in information design and graphic design history.

*tipografia,
história do design gráfico,
cultura da impressão,
impressão com tipos móveis,
métodos de pesquisa*

Identificar as fontes tipográficas em materiais impressos é um passo necessário em investigações que envolvem análise tipográfica, mas não é uma tarefa trivial. Este artigo descreve um conjunto de procedimentos metodológicos não digitais que podem ser realizados fisicamente em arquivos e bibliotecas para comparar os repertórios tipográficos de oficinas tipográficas e de fundições de tipos. Os procedimentos metodológicos foram aplicados em uma investigação que se debruçou sobre os nomes comerciais e a origem dos tipos utilizados por uma oficina tipográfica sediada em São Paulo, Brasil (Tipografia Hennies Irmãos), desde o final do século XIX até meados do século XX. Amostras desses tipos foram comparadas com amostras encontradas em catálogos de grandes fundições de tipos de países de língua alemã do mesmo período. Os procedimentos metodológicos incluíram uma pesquisa preliminar e a configuração de uma base de dados, que proporcionaram a organização de referências visuais dos caracteres tipográficos em lâminas transparentes para comparação por sobreposição, juntamente com o uso de lentes de aumento e

fotografia. Os procedimentos adotados foram bem sucedidos na otimização do tempo de pesquisa, e funcionaram bem para letras de tamanho médio e grande, revelando uma forte conexão entre o repertório de tipos dos impressores Hennies Irmãos e as fundições de tipos alemãs. Estes procedimentos oferecem um conjunto de ferramentas rigoroso e ágil para pesquisadores em design da informação e história do design gráfico.

1 Introduction

Researchers in the field of typography know that identifying typefaces from printed materials is not an easy task. The most common visual comparisons are made by side-by-side observation of samples of letters and type specimens, aiming at the identification of similarities in typeface design. In order to confirm that a certain sample was indeed produced with the typeface featured in a type specimen, and, eventually, ascertain the origin of a typeface design, a more detailed examination of letterform design is necessary.

Methods for identifying typefaces and type founders through studies of books and type specimens that broaden the understanding and description of typographic elements have been adopted by typography scholars such as the Belgian historian Hendrik Vervliet (2008) and the British researcher Nicolete Gray (1976 [1938]). Vervliet (2008) examined sixteenth-century type design in France with the aim of identifying the origin of the typefaces described and critically evaluating earlier attributions linked to the most important type cutters of the French Renaissance. Gray (1976 [1938]), focusing on the 19th century, described the ornate typefaces of the Victorian era, emphasising the changes in type design aligned with and reflecting social changes.

In his investigations on 15th century Venetian roman type, Ricardo Olocco (2019, 2021) reviewed and improved traditional methods of type analysis employed in bibliographical studies. Olocco (2019) applied these methods for examining roman types cut by Nicolas Jenson, and other types cut soon after, as Valdarfer, Blavis, Manzolus, and Scotus roman types, mapping the spread of roman types among Italian printers. High quality images of characters collected and edited allowed for the observation of small details that could differentiate the letterforms analysed, and framed images with parts of the texts provided samples of the types in use in a larger text area, allowing for details of the composition to be observed. The characters were photographed, enlarged, edited, cut out, and then used to compose a digital type specimen, the starting point of a morphological analysis. Olocco (2019, 2021) applied different colours to letterforms and then overlayed them, in order to perform a microscope level analysis, aiming to determine whether or not the letterforms were obtained from the same punch.

A method for accurately identifying typefaces was proposed by Aragão and Farias (2017), who were aiming at establishing the origins of

the typefaces distributed in Brazil by Funtimod – Fundição de Tipos Modernos –, the largest Brazilian type foundry company in the 20th century. Aragão and Farias (2017) describe comparative methods and strict criteria for comparisons, considering that only exact similarity would be an evidence that one typeface was equal to another. Pages from Funtimod type specimens were scanned and compared, side by side, with foreign type specimens, and then compared digitally – overlaying scanned copies of the specimens.

In a master thesis on printing technology presented to Rochester Institute of Technology, J. Ames Parsons (1989) offers another approach to identifying typefaces. Considering a complex scenario where thousands of typefaces are available to users, Parsons develops, describes and tests a typeface identification system called TYPE-ID, based on a sequence of questions and on a database of 50 typefaces. The system was tested a thousand times and proved to be efficient.

Some currently available online resources operate in a similar way. WhatTheFont,[1] for instance, available at MyFonts platform, performs identification based on images of typeface characters that are compared to existing font collections. Albeit limited to what is available as digital typefaces at MyFonts, WhatTheFont is useful for practising graphic designers, and for exploratory research.

A new method for automatically recognising fonts in early printed books was developed by Nikolaus Weichselbaumer and Mathias Seuret (2021). It works as a large dataset along with a text recognition system with OCR-models based in different font groups,[2] employing a neural network. Weichselbaumer avoided modern type classification as the project would include books printed in German lands before the 1800s.

How can those methods and procedures be combined in order to help in the identification of typefaces found in books and other publications produced by letterpress printers? The methodological procedures presented here were developed for identifying typefaces used by Brazilian letterpress printers, involving comparisons with type specimens produced by European type foundries, and incorporating aspects of the methods described above. They configure an analogue (non-digital) method of comparison performed physically in archives and libraries. The typographic repertoire of a specific letterpress printing shop based in São Paulo and whose owners were of German origin was compared with those of large type foundries based in German-speaking countries in operation in the same period. The typefaces to be identified were part of the repertoire of the Hennies Brothers Letterpress Printing Shop, and were in use from late nineteenth to mid twentieth century. A method that would not depend on the use of digital resources was needed for conducting comparisons with typeface samples on printed documents to be found in libraries and archives. The methodological procedures adopted were successful in optimising research time, worked well for medium and large letter sizes, and provided evidence of a strong connection between Brazilian and German typographic culture.

1 https://www.myfonts.com/pages/whatthefont

2 The font groups are: Textura, Rotunda, Gothico-Antiqua, Roman, Italic, Bastarda, Schwabacher, Fraktur, Hebrew and Greek (Weichselbaumer, 2021).

2 First steps: from preliminary research to the configuration of a database

The first procedure was to establish a research *corpus* to represent the letterpress printers repertoire. Printers' type specimens would be the best way to establish that, but only one type specimen produced by the Hennies Brothers in the 1940s (Hennies & Cia, n.d.) was available. Additional procedures for gathering and visualizing information on typefaces used by the printers in other artefacts produced from1891 and 1911 were employed. Typeface samples from books, newspapers and magazines issued by the Hennies Brothers were collected, scanned or photographed, treated, organised and uploaded in a platform developed for transforming those samples in digital type specimen pages (Tipografia Paulistana).[3] The final research *corpus* consisted of 178 typefaces, in total.

Preliminary data on the 178 typefaces – such as their commercial names, manufacturers and issue year – was obtained through a sequence of methodological procedures, organised into eight steps (detailed in Piaia & Farias, 2021). These steps include searching for information on typefaces in literature, compendiums, online databases and digital type specimens. Different resources on modern typography were consulted and checked, and the last step was a comparison between characters from the *corpus* and those produced by typefounders using digital methods.[4]

The typefaces from the Hennies Brothers repertoire were compared with those in the repertoire of a German typefunder by overlaying[5] images in a raster graphics editing software, a method that consists in placing images of digitised and treated characters, and images of type specimen pages, also digitised in good resolution and in real size, on overlapping layers (Figure 1). Such procedures were already applied and described by Brazilian investigators Aragão and Farias (2017), and by Italian researcher Ricardo Olocco (2019).



Figure 1 Detail of a comparison between Canon Angelus, a typeface from *Specimen de Tipos* (Hennies & Cia., n.d.) and Angelus-Mediaeval, a typeface found in a H. Berthold type specimen (n.d.), highlighting the result of overlaying characters found in both samples (B, a, e, i, s).

3 The typeface samples were treated and organised following a protocol developed for this platform (Farias et al., 2021; Farias, 2022), which gathers information on typefaces in use by São Paulo city printers between 1827 and 1927. The protocol includes the treatment of pages previously scanned or photographed, organisation of lines containing relevant characters, and the refinement of images. The platform creates pages for each typeface based on images and metadata.

4 This last step necessarily required consultation of type specimen pages digitised in real size and could be applied using resources already available online.

5 Using Adobe Photoshop, typeface samples were overlaid on images of H. Berthold (n.d.) type specimen, with similar resolution and 50% opacity, to visualise coincidences and differences in character design.

The initial analyses revealed a strong connection between the Hennies Brothers repertoire and that of H. Berthold type foundry, with almost 30% of correspondence. From the 91 typefaces in the Hennies 1940's type specimen, 29 were found in the H. Berthold catalogue. The analysis also revealed that other 17 typefaces were most possibly acquired from Funtimod, a Brazilian type foundry of German origins that marketed types with German design, mainly those manufactured by D. Stempel and Klingspor (Aragão & Farias, 2017).

All information regarding the Hennies Brothers typographic repertoire was added into an online database set up on AirTable,[6] along with samples of words or phrases composed with movable type extracted from printed artefacts, to guide the next steps. This database was built with a collaborative approach, and was shared with colleagues from the research team and researchers, professors and type designers from other institutions and locations. A key reference for that were the methodological procedures adopted by Dan Reynolds for visual data organisation and compilation information in databases (Reynolds, 2021). Organising the visual data on this collaborative platform allowed for sharing information with other researchers who could collaborate by suggesting the names of known typefaces similar to the samples, type specimens for reference, archives and libraries for consultation, among other possibilities. The first steps described so far culminated in obtaining good quality images of samples of all typefaces in the *corpus* (132 typefaces in total, some consisting of two or more fonts in different sizes or styles), as well as relevant information about them, and in an easily accessible database that combined both.

6 Typeface Hennies Brothers 1891–1911 [1940], https://airtable.com/shrQoy6PZJ2MRg3Nq

3 Further steps: organising and implementing comparisons

Methodological procedures for comparison between the printers repertoire and the type funders catalogues were devised. This was done considering that comparisons would take place inside libraries and archives, and that research time should be optimised. Having the type funders catalogues scanned would be a solution, but most libraries don't have scanning services available to researchers, or, when they do, scanning involves costs and long waiting times. The solution was to prepare ahead a compilation of visual references of the typefaces in the research *corpus*. Sample characters from each font in the *corpus* were organised alphabetically, then grouped by typeface and organized by size. This resulted in 27 A4 pages prepared in Adobe InDesign, where the sample characters were filled with 55% black. Those pages were then transferred to transparent film through a photographic process[7] (Figure 2).

The comparisons were conducted in archives and libraries in Germany.[8] All the documents regarding the biggest German type foundries from the late nineteenth and early twentieth century available were examined. These documents were mainly type specimens books, catalogues, and boxes with typefaces booklets and leaflets featuring the typographic repertoire marketed by these companies.

7 Preliminary tests were done using tracing paper in a laser printer. This was not successful since the tracing paper distorted typefaces measurements after being heated by the laser printing process.

8 The Gutenberg Museum Library archive in Mainz, Deutsches Buch- und Schriftmuseum, Deutschen NationalBibliothek and Museum für Druckkunst in Leipzig, Deutsches Technik-Museum in Berlin and Klingspor Museum in Offenbach am Main.

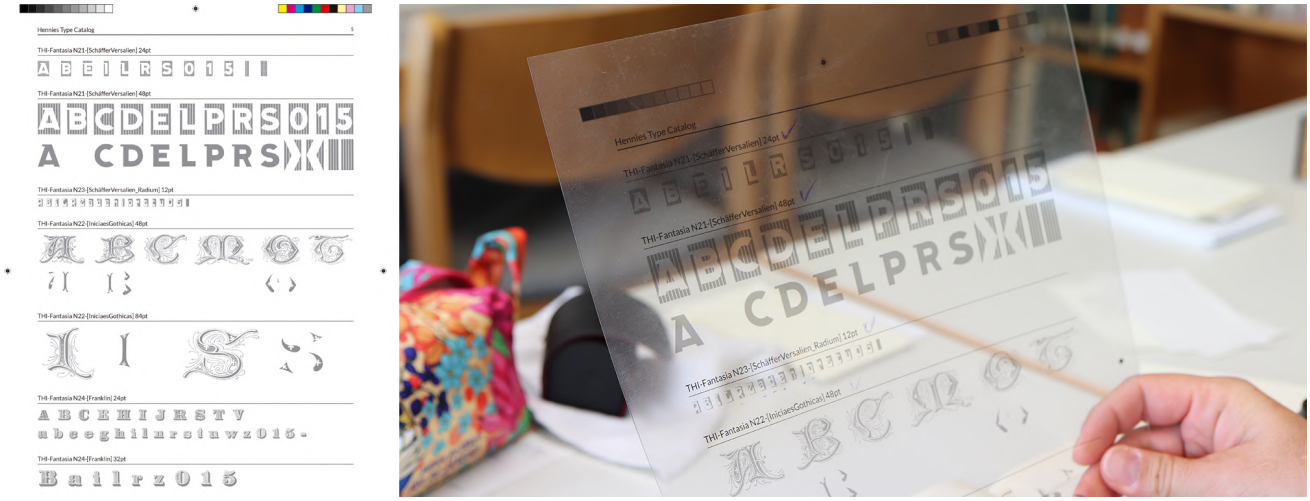


Figure 2 On the left, a page prepared with samples of the typefaces to be compared, and on the right the same page printed on transparency film. Photo by Gutenberg Museum.

The visual character analysis involved careful examination of each page of the type specimen books and promotional materials available, looking for coincidences with the typefaces in the *corpus*. This involved observing typeface names, available sizes, and an accurate observation of visual similarities in the characters' design and anatomy (Bringhurst, 2018).

When some similarity between typefaces was found, the first procedure was to photograph the whole page – with the help of a wooden mobile phone stand and lights that helped to minimise shadows. Then, the transparency film containing the image of the same typeface was superimposed, and characters in the same body size were compared and the result of the comparison registered (Figure 3). The comparison between typeface characters was observed by means of a thread counter or a 10× magnification lens (Figure 4). A mobile phone was used to register the comparison, adding camera zoom when necessary to capture a clear image.

Typefaces in large body sizes (above 96 points) were compared by overlay with the naked eye, without the need of magnifying lenses. Coincidences and differences in bigger characters were easier to visualize, but finding the same characters to compare was not simple, since samples for such big sizes often amount to one word or only a couple of letters. Similarities in type design were considered also by comparing the same character in different body sizes (Figure 5).

The number of characters compared varied according to the compatibility between the materials – not all characters for all typefaces in all sizes were available in the transparency sheets or in the type specimen books. All similar characters found in each size were checked and most of them were photographed. Comparisons were considered successful when there was a perfect match between a character in the *corpus* and the same character in a type specimen, and unsuccessful when the characters do not fit together perfectly, showing differences in design, width or height. All comparisons were recorded in a control spreadsheet.[9]

9 'Hennies Brothers typefaces in German type specimen' spreadsheet, available at https://docs.google.com/spreadsheets/d/1D14g5WUWKxTDmUXZXmY1mugQkEoycIIn6etgCAKN7-0/edit?usp=sharing



Figure 3 On the left: photographing a page using the wooden mobile phone stand. On the right: detail of typefaces comparison. Photos by Paulo Diniz and Gutenberg Museum.

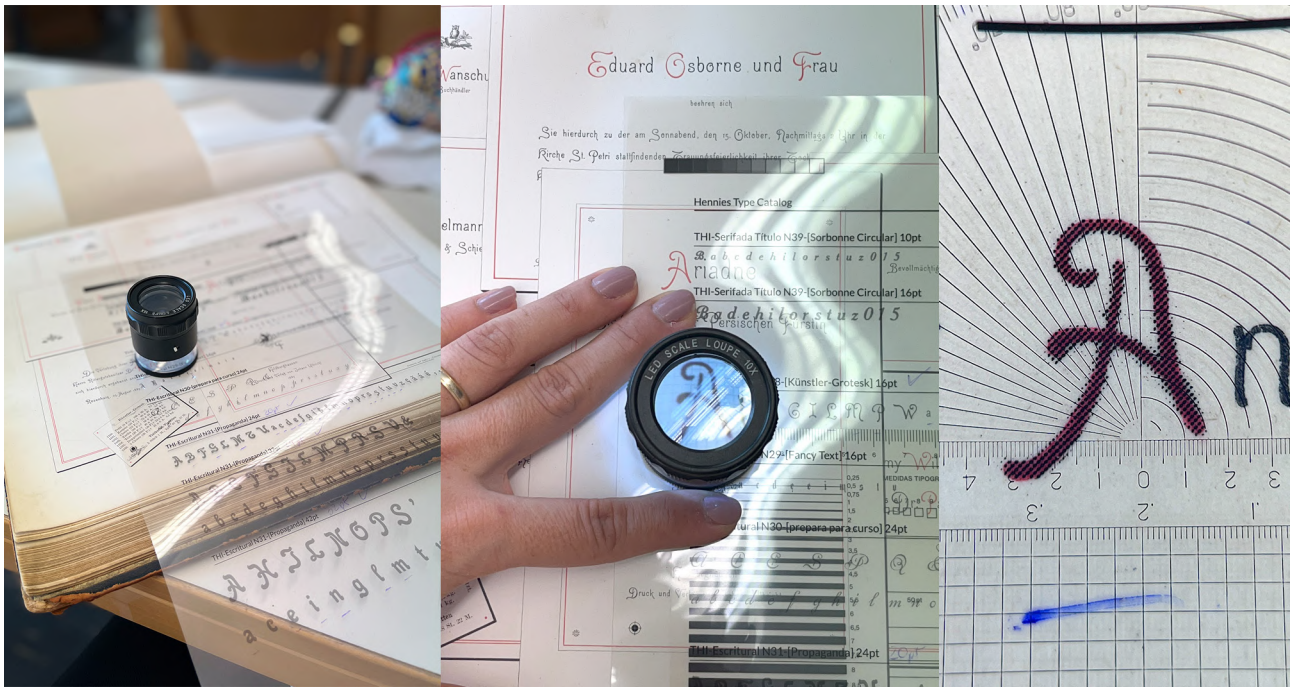


Figure 4 Example of a successful comparison of letter “A”. Photos by Jade Piaia.



Figure 5 Page of J. G. Schelter & Giesecke (n.d.) type specimen with samples of the typeface Nadir, and comparisons by overlay with characters in transparency film. Source: Gutenberg Museum Library.

Data treatment involved organising all images of characters' comparisons, a set of files with all typefaces successfully compared, and the control spreadsheet, with information regarding each successful or unsuccessful typeface comparison. This control spreadsheet was also a summary of the transparent film pages, something that proved to be helpful for locating typefaces in the corpus during the research on libraries and archives.
The control spreadsheet included the generic name previously assigned to the typeface according to Tipografia Paulistana protocols (Farias, 2022)[10] – for instance, 'Fantasia Nº 22' –, the number of the transparent film page that contained samples of that typeface, followed by columns with the names of the type foundries to be researched and a level of priority.

The priority level was defined according to the following criteria:

- **Level 1**: typefaces for which a probable commercial name and type foundry was identified;
- **Level 2**: typefaces for which a very common probable name (such as 'grotesque', 'renaissance' or 'medieval cursive') was already identified, but with no certainty on the type foundry that would have manufactured it;
- **Level 3**: typefaces for which no probable commercial name or type foundry was identified, and that would have to be searched for based on visual characteristics only.

During the comparisons phase, coloured labels were added to the transparency film pages, grouping typefaces by status: **green** for the typefaces already confirmed as being manufactured with a certain name by a certain

10 The Hennies Brothers typefaces catalogued on Tipografia Paulistana platform can be examined at https://www.fau.usp.br/tipografiapaulistana/empresa/93?/lang=eng

type founder; **red** for typefaces not yet identified, but for which there was some hope of arriving to successful comparisons (regardless of the priority level established); and **yellow** for the typefaces considered unlikely to arrive to successful comparisons and put aside during the research[11] (Figure 6). Notes on comparisons or on key characters for typeface identification were also added to the transparency film pages.

11 The selection consisted of text typefaces at very small point sizes, including serif, grotesque, and monospaced (typewriter) fonts.



Figure 6 Transparency fil pages 8 and 15 with colour tags and notes added during the comparison process.

The control spreadsheet was updated daily. When the commercial name of a typeface was identified, it was added to the column corresponding to the type foundry responsible for its manufacture and the cell was highlighted in **green**. In case of comparisons with unsatisfactory results, the commercial name of the typeface was also added to the column corresponding to the type foundry, preceded by the sign '[✗]', and the cell was highlighted in **red** (Figure 7). A new column was added for assigning one of two possible symbols for typefaces that were already compared: a check mark [✓] for typefaces in the *corpus* for which comparisons were successful and a commercial name and a type foundry was identified and an [✗] for typefaces for which comparisons were unsuccessful. So, typefaces were clearly tagged as 'identified' or 'unidentified' both in the transparency film pages and in the control spreadsheet, and then organised in priority levels.

✓	Prio	Hennies Type Catalog 1	P.	H. Berthold, Berlin	J. G. Schelter & Giesecke, Le	D. Stempel AG, Frank	Schriftgiesserei Emil Gur	Schriftguss A.G. vorm. Brüd
✓	1	THI-Fantasia N20-[Helion]	4					Helion
✓	1	THI-Fantasia N21-[SchäfferVersalien]	5					Schaefer Versalien
✓	1	THI-Fantasia N22-[IniciaesGothicas]	5		Initialen			
✓	1	THI-Fantasia N23-[SchäfferVersalien_Radium]	5		Radium			
✓	1	THI-Fantasia N24-[Franklin]	5	[?] Franklin (very small diference in "				
✓	1	THI-Fantasia N26-[Felicia]	6	Felicia				
✓	1	THI-Fantasia N29-[Gloria]	6				Schmale fette Gloria	
✓	1	THI-Fantasia N30-[Künstler-Schrift Claro]	6			Magere Künstler-Schr		
✓	1	THI-Fantasia N31-[Künstler-Schrift Meio Preto]	6			Halbfette Künstler-Scl		
✓	1	THI-Fantasia N32-[Hansa Grypho]	7	Hansa-Cursiv (small diference onl				
✓	1	THI-Fantasia N40-[Aurora]	26		Zierschrift Aurora			
✓	1	THI-Fantasia N41-[Crayon]	7	Zierschrift Luna				
✓	1	THI-Fantasia N42-[Favorit]	7	Schmale Verzierte Gotisch [Emil B Victoria-Gotisch (comparar) [HB] [HB Zierschriften (comparar) [Gustav Rei				
✓	1	THI-Fantasia N43-[Zierschrift 546]	7					
✓	1	THI-Fantasia N45-[Artistic - effigie]	8	Artistic (small diference only in "e")				
✓	1	THI-Fantasia N46-[Renaissance Gotisch]	8		Renaissance-Gotisch			
✓	1	THI-Fantasia Nxx-[Aquatinta]	26	Aquatinta	Aquatinta			
✓	1	THI-Fantasia Nxx-[Asträa]	26		Zierschrift Asträa			
✓	1	THI-Fantasia Nxx-[Lafayette]	26	[x] Concordia (*is not the same desig				
✓	1	THI-Fantasia Nxx-[Preciosa]	26	Preciosa		[x] Preciosa		
✓	1	THI-Grotesca N10-[Grotesque Estreito / Schlanke Grot	8	Schlanke Grotesk	[x] Schlanke Grotesk	[x] Moderne Schlanke G	[x] Moderne schlanke Grot	
✓	1	THI-Grotesca N36-[Mediaeval-Grotesque]	11		Mediaeval-Steinschrift	Mediaeval-Grotesque		
✓	1	THI-Serifada Texto N22-[Elzevir]	16	[x] Elzevir 1 (K20; B180) [x] Elzevir 2 (B181)			Elzevir N.1 (Grosse corpu	
✓	1	THI-Serifada Texto N23-[Elzevir Versalette]	16				Elzevir N.1 (Colonel - cor	

Figure 7 Detail of the control spreadsheet "Hennies Brothers typefaces in German type specimens".

The method of comparing typefaces using type samples on transparent film proved to be very effective for font sizes above 12 points. It also proved to be effective for display typefaces or fonts in smaller sizes with a very particular design. The application of this method for comparing typefaces in body sizes smaller than 12 points and without clearly visible distinct characteristics, such as text faces, proved early on to be ineffective once hundreds of possibilities would have to be examined, with results that would be better controlled and measurable on computer. For this reason, the total number of typefaces in the *corpus* that were effectively compared was reduced from 132 to 113.

4 Last steps: getting to results and conclusions

Different strategies were required to get to research results and conclusions depending on the priority level of the typefaces in the *corpus*. The most challenging were of course typefaces with priority level 3, for which no information was found during preliminary research, but even the analysis of typefaces with priority level 1 required further inquiry.

The search for typefaces with priority level 1 in type specimens was facilitated once their commercial names and probable type foundries were already identified during preliminary research. It was necessary, however, to have in mind that some names could have been translated, that the organization of the Hennies Brothers type specimen could be misleading regarding typeface names, and that the same commercial name might have been used for different typefaces produced by different type foundries.

An example of typeface with translated name is the one identified as Hollandeza Preta[12] in the Hennies Brothers type specimen (Hennies & Cia., n.d., Figure 8), for which the original name, prior to literal translation to

12 https://www.fau.usp.br/tipografiapaulistana/familia/215

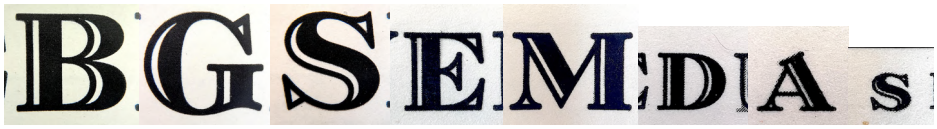
Portuguese, proved to be Fette Holländisch. The organization of the Hennies Brothers type specimen also suggested that 'Schäffer Versalien' would be the name of a group with two quite different typefaces,[13] that proved to be indeed two different type families: Radius and Schaefer-Versalien (Figures 8 and 9).

13 https://www.fau.usp.br/tipografiapaulistana/familia/233 and https://www.fau.usp.br/tipografiapaulistana/familia/197



Figure 8 Page of *Specimen de Tipos* (Hennies & Cia., n.d.) with typefeces Hollandeza Preta and Schaffer Versalien; and pages of German type foundries specimens with typefaces Fette Holländisch (Schriftguss A.G. vorm. Brüder Butter, n.d.); Radium (J. G. Schelter & Giesecke, n.d.); and Schäffer Versalien (Schriftguss A.G. vorm. Brüder Butter, n.d.). Source: Hennies Family and Gutenberg Museum Library.

Comparisons between Hollandeza Preta (Hennies Brothers) and Holländisch Fette (Schriftguss A.G.), body sizes 36 pt, 20 pt, 12 pt and 8 pt.



Comparisons between Schaffer Versalien, lines 2 and 3 (Hennies Brothers) and Schäffer Versalien (Schriftguss A.G.), body sizes 48 pt and 24 pt.



Comparisons between Schaffer Versalien, line 1 (Hennies Brothers) and Radium (J. G. Schelter & Giesecke), body size12 pt.

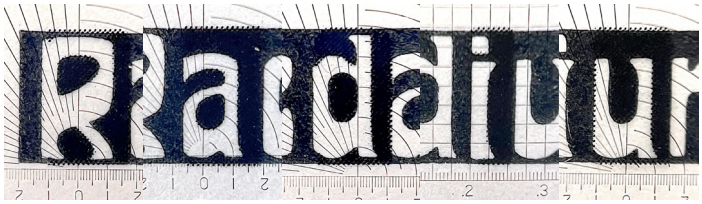


Figure 9 Typeface characters in transparency film (Hennies & Cia., n.d.) compared by overlay with typeface samples in German type foundry specimens: Holländisch Fette and Schäffer Versalien (Schriftguss A.G. vorm. Brüder Butter, n.d.) and Radium (J. G. Schelter & Giesecke, n.d.). Source: Hennies Family and Gutenberg Museum Library.

The use of the same name for typefaces manufactured by different type foundries was observed in different situations. Sometimes the name was applied to the same, or to a very similar typeface design, with minimum changes. It also occurred that the same name was applied to completely different typefaces. An example of this is Preciosa, a name used by H. Berthold and D. Stempel, for quite different ornate typefaces (Figure 10). This demonstrates the insufficiency of relying solely on nomenclature without a rigorous comparative analysis of the typeface designs. As evidenced by the investigation into the Hennies Brothers typographic repertoire, a lack of precise character verification during preliminary research would have led to erroneous identifications.



Figure 10 Samples of Preciosa in type specimens by H. Berthold (n.d., above) and D. Stempel (n.d., below). Source: Gutenberg Museum Library.

Some probable typeface names raised in preliminary research actually corresponded to names used in other countries, such as the USA and UK, where those typefaces were originally designed and manufactured. In Germany those same typefaces were produced and commercialised with other names. Examples of these are typefaces Campanile and Crayon, both manufactured originally by MacKellar, Smiths & Jordan, USA. Those typefaces were commercialized in Germany as Halbfette Skelett-Renaissance (German name for Campanile by Julius Klinkhardt, Leipzig) and as Zierschrift Luna, Lichte Cursiv Italienne or Verzierte Italienne-Cursiv (German names for Crayon, respectively by H. Berthold, Berlin; Ludwig & Mayer, Frankfurt am Main; and Ferd. Theinhardt, Berlin). A direct consequence of this practice is the emergence of misleading indicators, which suggest connections to global contexts unrelated to the specific scope of investigation. Such instances underscore the systematic practice of renaming typefaces upon import or licensing to foreign markets, notably between the US, UK, and Germany, as well as between Germany and Brazil. This phenomenon shaped how typefaces were identified in local contexts, presenting challenges for typography history research.

Typefaces with priority level 2 sometimes had a very common probable name. An example of this is the typeface identified as Renaissance Estreito[14] in the Hennies Brothers specimen (Hennies & Cia., n.d.) – three typefaces named 'Renaissance' were found in the German type foundries catalogues. Figure 11 shows the results of comparisons between samples of Renaissance Estreito and samples of the typefaces Schmale Halbfette Renaissance, Schmale Renaissance and Enge Renaissance found on specimen books from different type foundries in the Gutenberg Museum Library in Mainz and in the Deutsches Buch- und Schriftmuseum in Leipzig.

14 https://www.fau.usp.br/tipografiapaulistana/familia/127



Figure 11 Examples of comparisons between characters of Renaissance Estreito (Hennies Brothers) and those of typefaces Schmale Halbfette Renaissance, Schmale Renaissance and Enge Renaissance. Type foundries are identified by acronyms: BK (Benjamin Krebs Nachfolger); DS (D. Stempel A.G.); EG (Schriftgiesserei Emil Gursch); FT (Ferd. Theinhardt); GH (Genzsch & Heyse and E. J. Genzsch GmbH); HB (H. Berthold); JK (Julius Klinkhardt); LM (Ludwig & Mayer) and WW (Wilhelm Wöllmer). Sources: Gutenberg Museum Library and Deutsches Buch- und Schriftmuseum.

The comparisons showed subtle differences between characters of Renaissance Estreito and of similar typefaces, as shown in Figure 11. Differences were also observed in body size and face size, as shown in the last example of the second line in Figure 11 – characters of Renaissance Estreito 42 points were found to be taller than those of typeface Schmale Renaissance manufactured by Wilhelm Woellmer in the same body size. Ten comparisons involving different body sizes were needed before arriving at a conclusion.

Typefaces Schmale Halbfette by D. Stempel A.G., Enge Renaissance by Ludwig & Mayer and Schmale Halbfette Renaissance by Ferd. Theinhardt all showed a high degree of similarity with the typeface identified as Renaissance Estreito in the Hennies Brothers type specimen. Considering that most of the typefaces in the Hennies Brothers repertoire were identified as coming from D. Stempel, and that the D. Stempel specimen book was the only one offering the typeface at 28pt body size, the conclusion was that Renaissance Estreito would also have come from D. Stempel.

Typefaces in priority level 3, for which no probable commercial name was identified during preliminary research, were given nicknames based on words found in the first samples collected. This procedure proved to be mnemonically more efficient than assigning numbers or acronyms to the typefaces. Typefaces similar to priority level 3 cases could appear on any type specimen book from any type foundry, and both the identification of potentially similar typefaces and the conclusions on the success of comparisons had to be based on visual similarity only. A script typeface found in an advertisement of a preparatory course in mathematics and physics printed by the Hennies Brothers (Figure 12), nicknamed "*Prepara para curso*",[15] is an example of priority level 3 typeface successfully identified.

15 https://www.fau.usp.br/tipografiapaulistana/familia/394

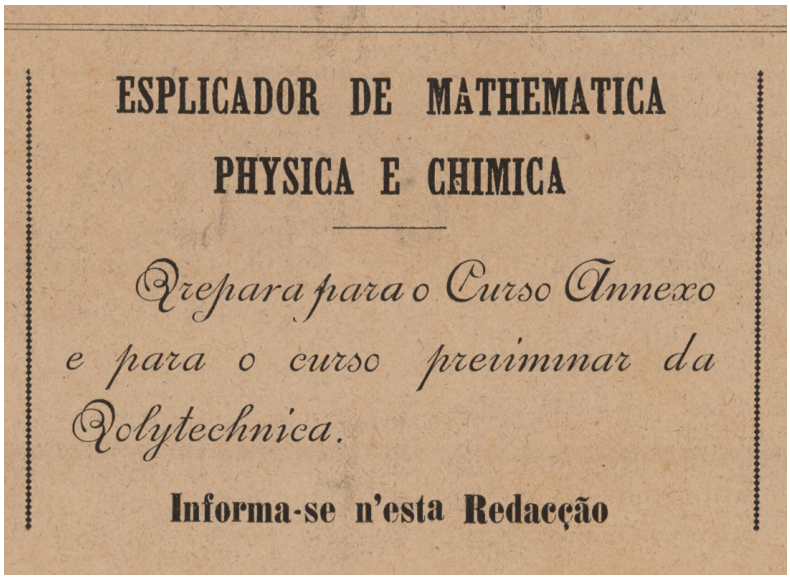


Figure 12 Detail of an advertisement in a newspaper published by the Hennies Brothers (*Echo Portuguez*, y. 1, n. 1, p. 4, 1897) featuring the use of a script typeface in lines 3–5.[16] Source: Public Archive of São Paulo State.

16 In line 3, a possible confusion caused by the flourishes on uppercase letters culminated in the erroneous use of letter "Q" instead of "P".

The visual similarity identification and analysis took into account mainly the swashed capitals, focusing on the extent and shape of the flourishes. Identification of potentially similar typefaces was facilitated by the memorization of distinctive features in key characters, such as the inner curve of lowercase "s" and the alternate designs for "p".

Many script typefaces were compared side by side with "*Prepara*", but discarded quickly. The typeface was then carefully compared with Mediaeval-Schreibschrift, by H. Berthold (Figure 13). Only capital letters "E" and "P" were available in the same body size, so other capital letters were compared side by side in search for similarities and differences in the overall design logic. Differences in character design depending on body size are common in script typefaces once larger bodies provide more space for flourishes. Similarities consistently found in lowercase letters led to the conclusion that the comparison was successful, and the nickname was substituted by the typeface commercial name assigned by H. Berthold.



Figure 13 Comparisons between a level 3 typeface sample from the Hennies Brothers repertoire and Mediaeval-Schreibschrift, a typeface manufactured by H. Berthold (n.d.). Source: Gutenberg Museum Library.

The control spreadsheet and the Airtable database were updated with images and data for 113 typefaces representing the Hennies Brothers typographic repertoire and for which the methodological procedures detailed here were applied. Among typefaces in priority level 1, 46 of 51 (90,2%) were successfully identified; in level 2, 13 of 20 (65%); and in level 3, 17 of 42 (40,5%). In total, 103 of the 113 typefaces from the Hennies Brothers typographic repertoire were compared with type samples in one or more type specimens; 76 (67%) of the 113 typefaces were identified as belonging to the repertoire of 15 type foundries based in German-speaking countries.

5 Final considerations

The methodological procedures described here allowed for the systematic comparison and eventually successful identification of a large number of typefaces in a rather short period of time (50 days, working an average of 10 hours per day). In the preliminary research phase, the collaborative method of typeface identification through an online database broadened the detection of probable commercial names and manufacturers by involving specialists and type designers. This external collaboration helped in the process of type identification and in narrowing down possibilities, indicating also countries of origin and relevant type catalogues.

The organisation of data in a spreadsheet associated with a physical catalogue (the set of transparent film pages with samples of the Hennies Brothers typographic repertoire) and with images of all characters found in each size organised in a digital platform were three fundamental tools for the success of the application of the comparison procedures inside libraries and archives. It was easy to cross-reference access to these three resources, something essential for locating potential similarities among the typefaces in the Hennies Brothers repertoire and the many type foundry specimens available. Overlaying the transparent film plates to selected type specimen pages proved to be more effective than observing typefaces side by side, allowing for more detailed comparisons.

The main advantages of the methodological procedures described here are:

- previously narrowing the scope of possible similarities among typefaces through preliminary research, the results of which help in defining different levels of priorities for field research;
- development of tools that help in gauging similarities among typefaces, including visual references easily accessible via mobile phone or computer, and type samples in transparent film that allow for comparison by superimposition, making the process more precise and agile;
- accuracy in measuring and registering results through the use of magnifying lenses combined with zoom when capturing characters image with mobile phone camera.

The ease with which the data spreadsheet and the transparent film set were updated contributed to the organisation, with labels differentiating successfully identified types, those not yet identified and those that had been left out of the comparison process.

The results involve a significant number of typefaces that were produced by German type foundries that supplied type to the Hennies Brothers, all identified through their visual characteristics. The evidence, provided by the methodological procedures described here, of the connection between those printers, established in São Paulo, and type foundries established in Germany and other German speaking countries, contributes to broadening the understanding of movable metal type trade and trends between Germany and Brazil in the turn to the nineteenth to the twentieth century.

The originality of this methodological approach lies in its ability to overcome the limitations of the existing literature on typographic identification, which has traditionally relied on isolated digital analyses and purely visual side-by-side comparisons of specimens. By systematically integrating the collaborative online database, the set of physical transparencies organised by priority, and the daily control spreadsheet, the method advances the state of the art by structuring an optimised working ecosystem for all stages of field research (before, during and after). This unprecedented combination replaces the conventional method of direct observation with the technique of exact superimposition on transparent films, utilising collective intelligence and the agile cross-referencing of multiple resources to narrow down the scope of the search even before visiting the archives. Thus, the methodology differs from previous work by transforming the process of historical cataloguing – which is often slow and decentralised – into a fast and scalable model for studies of visual memory and the history of information design.

Research in information design that benefits from this methodology includes studies on typeface identification and classification, which require detailed analysis and agile tools for visual comparison. It also encompasses historical and graphic memory research, aimed at mapping the circulation, trade and trends in movable type between countries. Field research in archives and libraries, which requires optimising working time through cross-referencing data and techniques involving the superimposition of images on transparent film. It also encourages collaborative online projects, which use digital databases to engage specialists and designers in narrowing down hypotheses and accurately identifying visual artefacts.

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