

IDENTIFYING AND ORGANIZING MATRICES FROM THE COLLECTION OF THE POLYTECHNIC OF TOMAR LETTERPRESS PRINT SHOP

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KEYWORDS
Letterpress, Hot Metal Typesetting, Linotype, Monotype, Ludlow

This project comprises the inventory and forms of organization of Linotype, Monotype and Ludlow matrices, the hot metal typesetting processes existing at the IPT Letterpress Print Shop. This work is part of the project Polytechnic of Tomar Letterpress Print Shop – An Industrial Heritage to Safeguard and Enhance, taking place at the Techn&Art research centre, which also includes the study of manual typesetting, among other more or less recent equipment related to Graphic Arts. Results of this research have been shown in previous editions of this ET (Delfino and Matos, 2018 and 2019) and in other forums related to Technologies and Graphic Arts (Delfino et al, 2021, e.g.).

Identifying and organizing the matrices of this asset, as well as obtaining additional information on the composition and mechanical casting equipment, is a task that had yet to be accomplished since the founding of the Polytechnic and of this Letterpress.

CONTEXT

Typesetting and/or mechanical casting type matrices are not always easy to identify and organize. The original boxes from foundries, or other places where they are kept, either do not identify typefaces and their sizes or, when they do, this is made in a coded way. In addition, codes used are specific and quite varied, whether the ones invented by well known brands, or even by other foundries that produced matrices compatible with other systems. Added to this difficulty is the fact that these equipment and techniques have been obsolete for some decades now, with information about them dispersed, scarce, or held by a few specialists, mostly English-speakers. This context turned out this identification relatively difficult, but undoubtedly attractive.

OBJECTIVES

Therefore this project intends to clear these doubts, show and explain how matrices are coded and how the respective typographic fonts are identified. In addition, ways of organizing these matrices on cabinets, magazines or in alternative places or materials are shown. Internally, this survey will allow organizing,

preserving and showing this asset in a dignified and didactic way.

The growing interest in these traditional forms of text setting and printing – increasingly considered as an industrial heritage to be preserved – continues to develop, also in Portugal, so this information could be useful to other researchers, creative, historians or holders of similar assets. The eventual loan of matrices to other institutions, for casting types or lines of text, is also possible as a result of this study.

METHODOLOGY

The methodologies used have been literature review and expert inquiry. The first includes specialized books, such as equipment manuals and catalogues, mainly type specimen books. Complementarily, we have found some information on specialized websites in the study of these technologies. Some of the experts contacted are responsible for some of these websites. Contacts have been made by email or through specialized discussion forums.

RESULTS

In the vast majority of cases the results have been conclusive, with all matrices identified, as well as the type setting and casting equipment and an important part of its history. The following three posters show these results for each of the three brands, Linotype, Monotype and Ludlow. Here we find a brief description of each of the systems and the different types of matrices. Each of the encoding forms is explained, as well as the organization of matrices while they are stored or when they are going to be used. Some of the most relevant specimen books for this study are also shown, as well as all faces existing at the Print Shop. Among these, we highlight one for each system that stands out because of their interest within the collection or for their formal or historical characteristics.



Cabinet drawer with Linotype matrices of Life roman and italic, 6 pt body.



Monotype matrix box with Baskerville roman and italic, size 6 pt.

Ludlow Matrix cabinet, Angle Top model.



Galley with Linotype matrices of 10 points condensed Univers 57 and 67.



Box with the matrix set of Monotype Spartan Light, Bold and Wide, bodies 6 and 12 pt.

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MONOTYPE

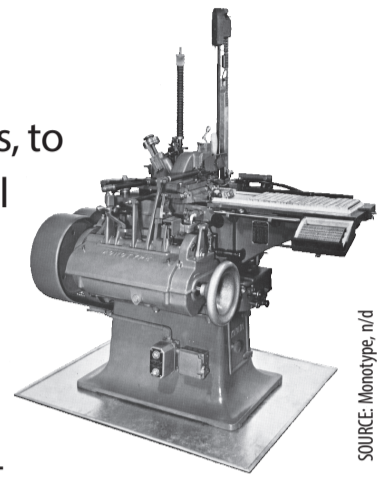
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Monotype was, to some extent, one of Linotype's biggest competitors, mainly in body copy typesetting. Despite casting text in movable characters (monotype), and not in single lines (monolinear), the system was efficient, having several advantages, such as the easy correction or replacement of text. Typesetting of body text and justified text was also a strong point, either because the system separates the composing phase from the casting, allowing some autonomy and saving time; as it can get better results in spacing characters and words when justifying. Another great advantage of Monotype was the possibility of using type casters to cast individual characters intended to reconstitute the movable types used in manual typesetting, which always coexisted with mechanical setting. This expedient not only made it easier to bring new characters, or complete types sets

in print shops, but also, in certain cases, to avoid the time-consuming and painful organization task of returning the types to the cases after they had been used. We think that Monotype was much less used in Portugal than Linotype. At least that was the case at Imprensa Nacional Casa da Moeda, which only acquired its first machine in the mid-1950s, a Super Caster, or Supra (INCM, 1956). IPT has two Super Casters offered by INCM and Grafalito, in 1989. According to the records of the British Monotype (currently at The Type Archive, in London), the oldest machine dates from 1960, having been acquired by Papelaria Fernandes in 1961; and the second was sold in 1973 to Eborauto, a company from Évora (Morris, 2022).



Matrix Boxes

Monotype marketed its matrices in different types of boxes. The most common ones in the IPT collection are made of cardboard, in two sizes: square, normally with cellular matrices, and rectangular, for display matrices. IPT's single wooden box contains Baskerville 6 pt, roman and italic fonts.

Technical information

Number and dimensions of matrices, their alignment or position are other information that appear here. The latter is fundamental for the selection of specific parts, such as wedges, e.g., necessary in the casting phase.

Order Identification

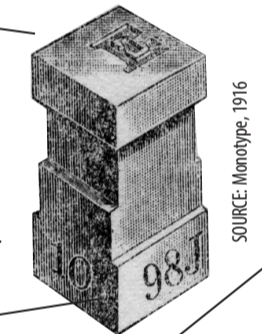
In the IPT collection there are few boxes that have the name of the customer in the proper field. The order number would allow us to get to this information, if it were easy to consult the Monotype records, currently at The Type Archive, in London. The only concrete references on IPT boxes are from Bertrand, a Lisbon bookstore and publisher, and Papelaria Fernandes, retailers of the English brand in Portugal. We believe that the initial letters CM, on the Matrix Order No. field, identify Casa da Moeda, that might have bought those mats from Papelaria Fernandes.

Face Side

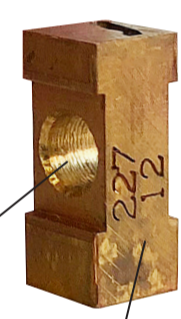
Point Side
The indication of the body may be accompanied by letters, indicating the typographic family, e.g.

Series Side

The indication of the typeface can be accompanied by letters, indicating variations such as subscript or superscript, or useful information for a correct casting, related to the width of the characters, e.g.



Cone-hole Side



Cellular or Composition Matrix
For casting bodies between 5 and 14 pt. In the most recent English matrices the identification of the typeface, and its size is placed on the side.



Cellular or Large Composition Matrix
For casting 14, 16 and 18 point bodies, or taller letters of smaller bodies. Both type features are placed on the side.

Display Matrix

For bodies from 14 to 72 points. In addition to the usual information, the side of the mat also has useful information for choosing the supplementary parts needed to cast. The adjustment of these mats for casting is different from that of smaller matrices, as they do not require a cone hole.

MATRIX ANATOMY

Regarding the casting of lines of text or movable type, it can be said that the Monotype system is simpler than Linotype. The simplest form of his matrices reflects this, basically distinguishing three significant sides, in the case of the most common matrices, for smaller and medium sizes: that of the face itself; the code(s) that identifies it; and that of the cone-hole. The latter allows the matrix to be fixed, by force of a pin, adjusting it to the mold, where the casting of the character takes place. The matrices of the images above and the types of encoding are the most common, there are still variations in Display mats (three different types), as well as in the way of encoding used by the two Monotype companies, American and British.

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Dave Hughes (Metal Type), David Bolton (Alembic Press, Letterpress Alive), David MacMillan (Circuitous Root), Jon Cornelisse (Enkidu Pers), Sallie Morris (The Type Archive).

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LANSTONE MONOTYPE, PHILADELPHIA, US / MONOTYPE CORPORATION, LONDON, UK

All IPT Print Shop Monotype matrices were purchased to the British Monotype. Despite the technology being the same as the American counterpart, the companies were autonomous, which was reflected in many differences in the way of producing and marketing their products. The images above show specimen books pages, respectively, from the American

Monotype, 1922; and the English Monotype, probably published between 1964 and 1971. Both show pages of Plate-Gothic and Spartan typefaces, in thin versions. Despite the design being the same, the typefaces had different names and identification codes.

SPARTAN LIGHT
SPARTAN LIGHT
SPARTAN BOLD
SPARTAN BOLD
SPARTAN WIDE
SPARTAN WIDE

THE COLLECTION OF MATRICES AT IPT'S PRINT SHOP

IPT Letterpress Print Shop has relatively few Monotype matrices, in a total of 82 boxes, the vast majority of them of sizes for body copy text, especially 8, 10 and 12 pt. Even so, the collection is quite varied, with specimens of most typographic families. The only typeface with body sizes for small headlines is Times New Roman Wide.

Baskerville 169
6, 8 pt 1923, Monotype
(original by John Baskerville [1706-1775], mid 18th century)

Century Schoolbook 227
12 pt 1915 (Century No.1), Morris Fuller Benton

Gill Sans 262 **Gill Sans Bold** 275
Gill Sans Light 362 **Light Italic** 362
6, 8, 10, 12 pt 1929, Eric Gill

Grotesque Light Condensed No.2 274
Grotesque Condensed No.2 33
6, 8, 10, 12 pt 1926[?], Monotype

Modern (No.3) 189
12 pt 1900[?], Monotype

Placard Condensed 568
6, 8, 10, 12 pt 1937, Monotype

SPARTAN LIGHT 139 **BOLD** 141
SPARTAN WIDE 145
6, 12 pt 1921-3, Monotype

Temple Script 455
10, 12 pt 1937, Monotype

Times New Roman Wide 427
Times New Roman Wide Italic 427
18, 22, 24 pt 1932, Monotype
(from Stanley Morrison's roman, 1931)

Typewriter (No. 4) 127
10, 12 pt data desconhecida, Monotype
(original by an unknown author to Stephenson Blake, 1927)

Univers Light 685 **Italic** 189
Univers Roman 689 **Italic** 689
Univers Bold 693 **Italic** 693
Univers Extra Bold 689 / 696
Extra Bold Italic 689 / 696
10, 8, 10, 12 pt 1961, Adrian Frutiger
(originally to Deberny & Peignot)

SPARTAN

Most typefaces from the IPT Print Shop collection are attributed to Monotype designers, of whom little is known. Among these, all originating from the British Monotype, we highlight Spartan for several reasons. First, this is the face that has by far the biggest number of boxes in the IPT collection. This is also due to the fact that, even though there is not a wide variety of sizes, each type of the same body size has two different sizes of small caps and other two for all caps, a quite unique feature. On the other hand, this design had and continues to have a diversified and, in a way, sinuous history. The original design is by Frederic W. Goudy, from 1901, with several subsequent variants by Clarence C. Marder and one by Fuller Benton, always for American Type Founders. This design was later widely copied, including by American Monotype in 1921 and 1923 under the name Plate-Gothic and by Ludlow as Lining Plate Gothic (undated). Today it is also marketed by Linotype (with two versions!), keeping the original name. Reichardt, in 2011, counted fourteen typefaces similar to Copperplate; today that number has already increased (Linotype 2022a and 2022b). We believe that the name Spartan was used only by the British Monotype.