

Letterpress Printing

A brief introduction to history and terminology

Introduction

More than five centuries ago, letterpress printing brought about a revolution in western civilization. Today it remains a viable craft, rich with history and tradition, which continues to inspire new generations of typophiles even in a post-postscript world.

The basics of letterpress printing are apparent in its name. The image to be printed, usually produced from metal letters, is inked and pressed against the page. Letterpress is a form of relief printing, because the printing surface is raised where ink is meant to go.

Type terminology

The use of “upper case” and “lower case” to specify capital and small letters is one of many typographic conventions which has a literal origin in the lore of metal type. In one system of type organization, capitals were kept in the top case and small letters below. Following are some more typesetting terms important for aspiring letterpress printers to know.

Line spacing: In letterpress printing, “leading” involves real lead. Flat strips of metal, fit between lines of type, are known as **leads** (1, 2 or 3 points thick) or **slugs** (6 or 12 points thick).

Quads: In metal typesetting, every line must be equal in length so that all the type can be properly locked in place during printing. Quads are used to fill out shorter lines with space, and measured in ems: em quads, 2-em quads, etc. (An **em** is the square of a type size, i.e. for 12-point type an em is 12 points.)

Spaces: Blocks used to separate words, measured by how many of a particular Space would equal an em: 2-to-em (or 2 em) Spaces, 3-to-em (or 3 em), etc. 2-em Spaces were commonly referred to as **en Spaces**.

Tools

Composing stick: a metal frame with points and picas marked, in which lines of type are assembled.

Type case: A tray with compartments for the characters and matching spaces, leads, etc. for a font of type. The layouts of type cases vary; the California Job Case is common in the United States. Some interesting notes about this style of case:

- “upper case” and “lower case” letters for a font are actually stored in a single case.
- small letters are organized based on how often they are used; the most frequently-used letters are in large compartments in the center while less common letters are arranged around the outsides.
- the capitals, located on the right side of the case, are arranged in alphabetical order except for “J” and “U.” This is a legacy of the relatively recent addition of those letters to the Latin alphabet.

Press terminology

Bed: The flat surface on which type is placed during letterpress printing.

Ink disc: A plate on which ink is placed and mixed (by the passage of the roller).

Ink roller: A cylinder, typically made of rubber, which spreads ink over the type on a letterpress.

Jobber: A press used for printing “job work,” i.e.. short run items such as handbills, newsletters, etc.

Platen: A flat plate which forces inked type and paper together with its weight. The platen lowers onto the type on a hand press and tilts towards the bed on a platen press.

In the Beginning

The invention of a process for printing from movable type is commonly credited to Johann Gutenberg sometime around 1450. Working in Mainz, Germany, Gutenberg's actual contribution to the history of printing is somewhat vague, but it appears to have been less a matter of invention, and more one of combination and refinement.

Printing, even with crude wooden letters, had already been practiced in the west, and the Chinese had been printing books from wooden block letters for hundreds of years by Gutenberg's time.

With printing presses and at least the concept of movable type more or less ready, Gutenberg's main innovation was probably in the production of the type. Borrowing a little from the tools and techniques of jewelers, Gutenberg designed a reusable mold for casting type, capable of producing the multiple pieces of identical type necessary for effective printing. The method for manufacturing type pioneered by Gutenberg was so effective that it remained in practice with slight modification for nearly 450 years.

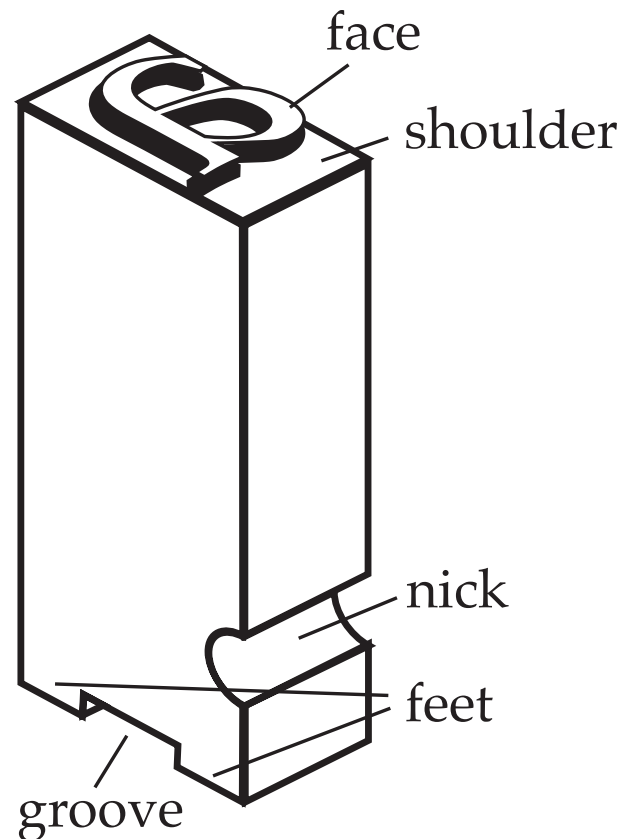
Movable Type

Several steps were involved in producing metal type using the old method. First came the **punch**, a steel bar with one end shaped into a letterform, except in reverse. The metal outside of the letterform was filed away, while the counter was stamped into the punch. This was done using a **counterpunch**, essentially a punch shaped into the counter of a letter.

Punches were carved from relatively soft steel. Once completed, they had to be hardened before being pressed into a bar of copper or brass to create a **matrix**.

The matrix, with the letterform (now facing the right way) stamped into its surface, was then placed into a mold.

A typesetter then poured molten metal into the mold and forced it into the matrix. Once the metal cooled, the mold was opened up and a piece of type was nearly finished. All that remained was smoothing off burrs and cutting a groove into the bottom of the bar, creating "feet" for the letter to stand on.



Letterpress Advances

Mechanization was introduced to type foundries towards the beginning of the 19th century. Punches, however, were still hand cut up until the 1880s when Linn Benton Boyd invented a pantographic system for engraving punches and matrices.

Around the same time, another inventor brought mechanization to typesetting. Ottmar Mergenthaler's Linotype machine, debuted in 1884, cast an entire line of type at once, greatly reducing the need for hand-setting individual letters.

Unlike the type itself, the printing press was improved upon many times in the centuries following Gutenberg's first publications.

The exact appearance and function of Gutenberg's own press is uncertain, but it is known that Gutenberg printed on a wooden hand press, with a large wood screw turned to make impression on paper. Following are a few examples of how that early system was improved upon over the years:

Around 1803, Charles, the Third Earl of Stanhope in England, invented the first all-iron printing press, which used a system of levers to impress an image on paper.

In 1851, a New Yorker named George Phineas Gordon patented the first of his platen jobbers, featuring ink rollers which moved in tandem with the platen and a rotating ink disc which provided a fresh surface for each pass of the rollers. The result was faster printing and more even ink distribution, and Gordon's design became very popular.

Donald A. Aspinall of Twickenham, England created the modern lever press around 1933. Its basic structure was a platen hinged on a wooden box, with the key addition of a roller that passed over the ink disc upon closing the platen and rolled over the type within the box when the platen was opened.

Letterpress Printing Today

Many commercial printers have letterpress equipment in their shops, but it is typically used only for specialty work such as die-cuts or foil-stamping. Traditional letterpress typesetting and printing has not disappeared, however. Old equipment has found new life in the hands of many hobbyists, and a few professionals as well.

For aspiring letterpress printers, the internet can offer help with finding equipment, learning the craft and, most importantly, connecting with others who share an interest in letterpress. Some good places to begin:

Introduction to Letterpress Printing in the 21st Century: <http://www.fiveroses.org/intro.htm>

Letterpress FAQ: <http://www.greendolphinpress.com/letterpress-faq.html>

American Amateur Press Association: <http://members.aol.com/aapa96/>

Sources used:

The Briar Press: <http://www.briarpress.org/>

The 26 Letters. Oscar Ogg. E. M. Hale and Company, Eau Claire, 1961.

Printing: A Practical Introduction to the Graphic Arts. Hartley E. Jackson. McGraw-Hill, St. Louis, 1957.

Printing Types: An Introduction. Alexander Lawson. Beacon Press, Boston, 1971.

Modern Alchemy LLC ★ info@modernalchemy.biz ★ www.modernalchemy.biz

This work is licensed under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 United States License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/us/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.