

Bachelor of Journalism & Mass Communication

JMC 107 Design and Graphics

UNIT III

Type Composition - Manual - Mechanical - Lino-Mono-Ludlow, Printing Methods Letterpress, Cylinder, Gravure, Screen, Offset printing, Plate Making.

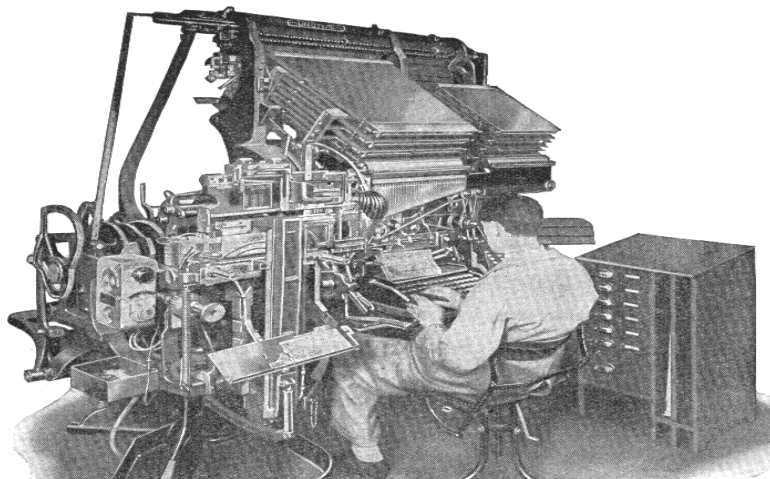
Type Composition

Type composition means compose the matter as per need or design. Typesetting methods are divided into two heads namely, Hot metal composition and Cold metal composition. In hot metal composition, the type characters are prepared from metal type. Hot metal composition is divided into two types namely manual and mechanical. Mechanical methods of composition are further divided into categories, Monotype and Linotype. In Cold metal composition, there is no involvement of metal for the type character. There are many types of cold composition, including cut and paste, strike on letters, etc. These days computers are used to do this work.

Mechanical methods of composition (HOT METAL COMPOSITION)

LINOTYPE AND INTERTYPE

Linotype machine was invented by **Ottmar Mergenthaler** a german by birth in America in 1885 and the inter type was produced by Herman Ridder publisher of the new York Staats Zeitung and was put into operation at the new York journal of commerce in 1913. The linotype and it's substantially identical competitor the intertype are mechanical typesetting machines that cast lines of type characters as solid metal slugs . these machines were universally used for setting newspapers. The range of type sizes available on slug casting machine varied according to their models. The normal range was 4.5 pt to 48 pt. the maximum width of slug which could be cast was 36 pica ems.



FUNCTIONING

This machine had 91 keys. The operator of a linotype machine used to sit at a keyboard somewhat like a typewriter. Above the keyboard was the magazine means store with narrow channels each containing a number of matrices for each letter. When he touched a key a matrix dropped into an assembler. When the matrices for one line were assembled the line was automatically justified and the metal was forced against the matrices casting a linotype slug ready for assembly into columns and pages for the purpose of printing. Uniform spacing in between the words and justification or alignment of lines on both sides could be achieved with the use of space bands wedge shaped strips of metal which were dropped in between the words . just before a line was cast , these wedges were pushed up mechanically to fill up the left over space of the line by redistributing it in between the words. Above the magazine there was distributor which used to send back the matrices in their own channel of magazine. The used slugs were remelted and the metal and the metal was re circulated.

MERITS

- It was fast and mechanical method of composing at that time . An average compositor could compose 1000 words per hour or 14 newspaper newspaper lines per minutes.
- It ensured optimum printing quality as fresh cast slug of type was used. The slug being a solid metal strip could withstand heavy printing pressures conveniently.
- It offered wide range of type sizes , faces and families.
- With special attachments headlines could also be composed in various sizes of types.
- It was cheap and needed one operator only.

DEMERITS

- Corrections were not only expensive but time consuming also as a line having even one correction had to be reset on the machine once again .
- These machines are now outdated , hazardous and unhygienic.
- Many occupational diseases due to lead used to occur.
- Lot of space was required to install these machines.

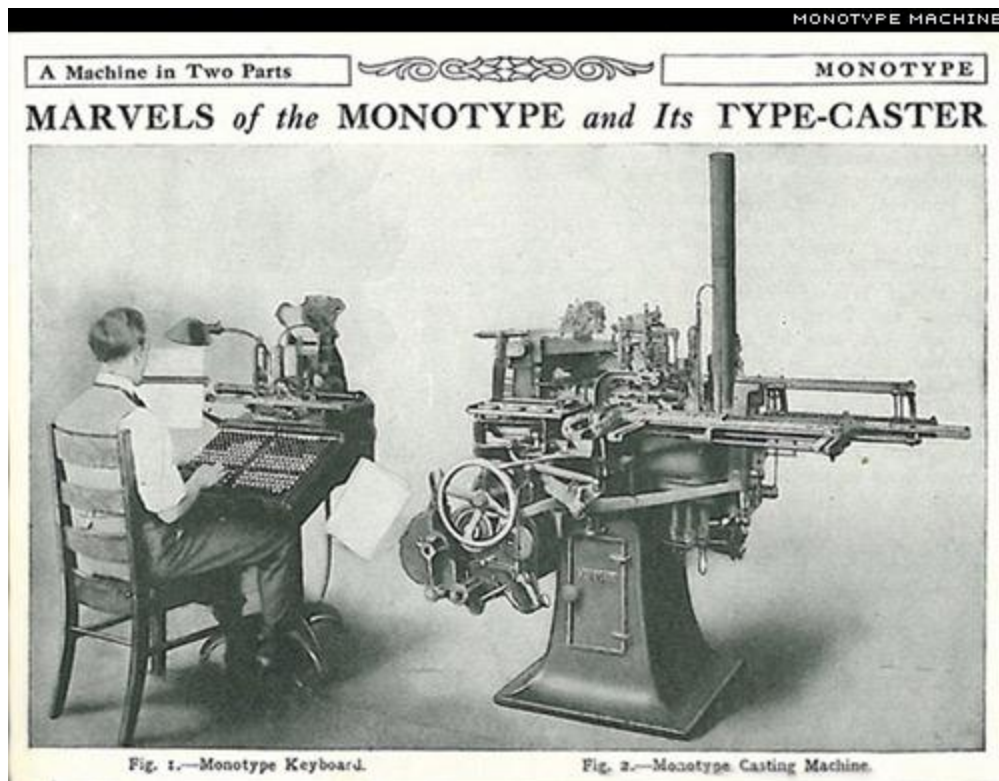
MONOTYPE

This machine was invented by Tolbert in 1886 in America. This machine is still used in some of the presses. It casts single type characters. The types are automatically assembled in lines which are duly justified both sides. The assembled lines are transferred to a tray called galley one by one forming a whole column of lines.

FUNCTIONING

In reality the monotype has two machines , a keyboard and a caster. The keyboard operator perforates a paper type , which is then fed into the caster . holes in the tape represent the characters of the type font and the spacing required. The keyboard unit signals the operator when a line is ready for justifying and hyphenation . He codes the needed information into the tape . as the is fed to the caster it activates

levers to move a matrix case backward , forward side to side. When the proper character matrix is over the mould , molten metal is injected into the mat to form the character. Casting is done at a rate of 150 per minute as each character is cast it is pushed into position until a full line is formed.



MERITS

- The monotype offers greater precision in spacing between words so that composition is more eye-pleasing.
- It also offers a wide range of types sizes, faces and families for different type of newspapers.
- It ensures, fast rate printing quality because of new types cast for every job.

DEMERITS

- Lot of space is also required to install these machines.
- Monotype is somewhat more expensive than the linotype for routine work.
- It is hazardous process. Many occupational diseases may occur due to use of lead.
- Co-ordination between two machines also creates problem.

Ludlow

This Machine was introduced by Washington I, Ludlow in 1909 and later developed by William A. Reade. It is a semi-automatic machine. A composition set the matrices of type characters in a special stick. The stick is then fed into the machine which cast the slugs, trims it and delivers the same after cooling it. Spacing and justification are manual processes. It was widely used for casting display lines in

sizes as large as 144 pt. The maximum length of the line is 27 pica ems. For longer lines two slugs can be aligned in continuation. Although it is akin to hand composition it makes possible the use of fresh metal for each job printed.

