Typographic "Cursus"

Writing has been fundamental to understand the humanity, the characters and glyphs have given humanity the opportunity to express their ideas, feelings and stories. Based on the theory "**Cursus-ductus**" of Dr. Enric Tormo, let's take a closer look how ''cursus'' was involved in creation of the alphabet.
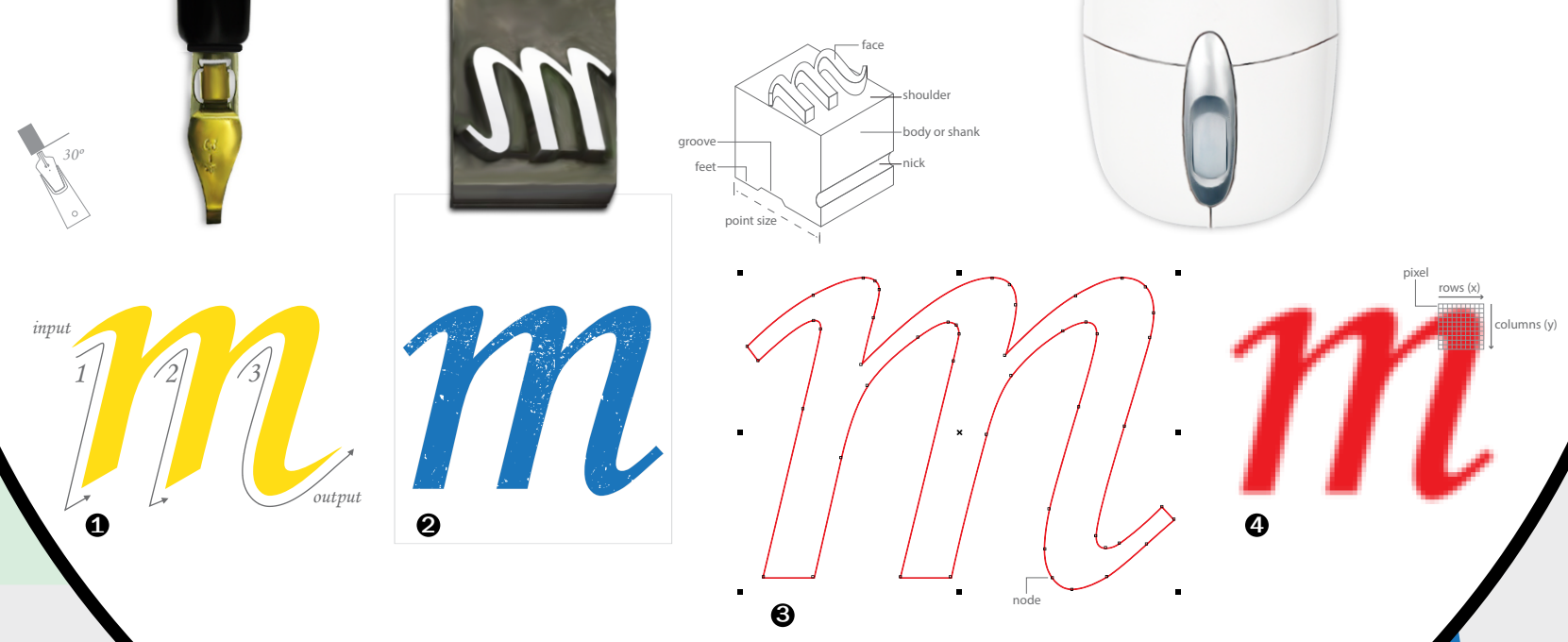
The structure of the written characters depends on calligraphic traces and is defined by the movements of the hands, wrists, joints and fingers. We can determine that the glyphs are consists of "**cursus**" and "**ductus**". Let's see how the "cursus" works.

Alphabet letters are defined by a trace, or line, which is drawn in a controlled way. This is known as "cursus ", it means, it is the path that is followed to create each of the letters (straight or curved) from one point to another. For example, to trace "b" of the Latin alphabet, will make the "cursus" in two steps, first a line from top to bottom and then another in circle.

According to ''**Tormología**'' we can set three different types of "cursus":

PC **Physical Cursus**

PC **Perceptive Cursus**

UC **Utilitarian Cursus**

PC Refers to the physical shape of the graphic space. It is when the "cursus" acts as formal paradigm defining the typographic shape of the alphabet.

PC Closely linked with the theories of Gestalt and refers to the route that a vision is following when reading a graphic text. Obviously, this is not the physical "cursus". On the contrary, in the execution, some points are enhanced to devalue others to create series of points that lead us on the path to the form. Along the entire route exist multiple gradients of definition.

UC It is the combination of the physical and perceptive. Its name indicates the value of use acquired, this is what will determine where you place the strategic points of the graphics benchmarks, those that support reading skills. The "utilitarian cursus" points out the places from which the designer can manipulate the glyph set, respecting, enhancing or altering their expressive power.

Calligraphy (from Ancient Greek: κάλλος *kallos* "beauty" and γραφή *graphē* "writing") it is the art of handwriting in a beautiful and elegant way, also is known as the set of features that characterize a person's writing or document.

Calligraphy is, unlike other graphic-craft techniques, the only discipline whose competence is the development of alphabets which are recognizable, readable, and mostly uniform in graphic diction. To do this you must use a framework to organize the different surface graphic strokes forming the letters, so that there is a constant directionality and ordering in feature value of each of the letters drawn. A characteristic feature in calligraphy must always be repeated in the same position and with the same intensity; this is what gives value to writing unit.

PC *Calligraphy*

calligraphic pen stroke

Bézier curve

node

control handles

① Calligraphic Character
② Character printed with type metal
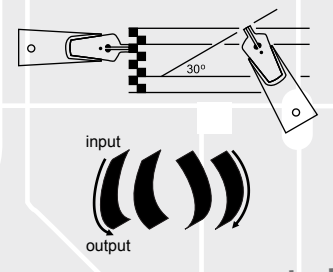③ Vector Character
④ Bitmap character

① In the calligraphic trace can appreciate the *"physical cursus"* by the way which is left with the strokes of the pen.

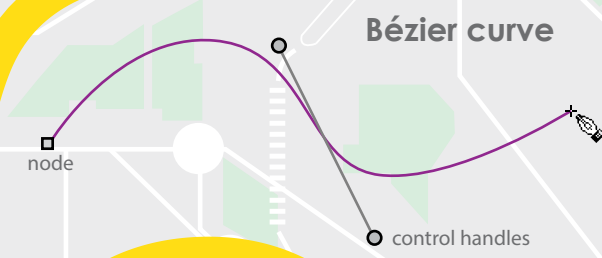② In the type metal print we can see the *"perceptive cursus"* in the way that letters have input and output

③④ The digital letters have *"utilitarian cursus"* because in some way we can manipulate them, in vector with Bézier Curves forming independent geometric objects (segments, polygons, arcs, etc.), each one is defined by different mathematical attributes of shape, position, color, etc. In the case of the letters created with pixels (bitmaps) the cursus can also be manipulated controlling the direction by programming syntax and in this way both have input and output.

UC Digital typography

It is a set of drawings in vectors or bitmaps. This font file also contains the necessary information to match each picture to the corresponding character, and also for the spacing of characters.

UC PostScript typography

Tipografía vectorial codificada. Es un tipo de letra que recoge la información que lo describe en dos ficheros: uno contiene la información que describe al tipo y otro contiene la información vectorial o de mapa de bits que mediante fórmulas matemáticas le permite "dibujar" caracteres.

UC Vector Typography:

The basic procedure for drawing glyphs with lines that can be scaled infinitely, is to locate the critical points of the shape to create to set the necessary points and join them with lines (straight or curved) to create the wanted figure. The points are called "nodes", "tangent points", or "anchor points ". The shape of the path is defined by invisible points in the drawing called "control points", " control handles " or "direction handles ".

UC Bitmap Typography

This is an electronic data file that describes the font ordered on a bitmap grid. They are also called screen fonts because they are specially designed to compensate the relatively low resolution of display screens.

Sintaxis bitmap typography

```
% 1 bit image in CMYK
<</PageSize [50 50] >> setpagedevice
/DeviceCMYK setcolorspace
true setoverprint
/im
{
0 1 0 0 setcmykcolor
0 0
[8 0 0 -8 0 8]
lectura
{<001&0404 1C241C000>}
imagemask
} def
gsave
75 75 translate
100 100 scale
im
grestore
showpage
```
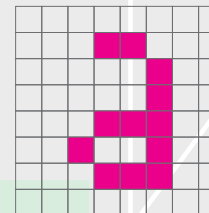
CP Movable type

System of printing and typography that uses movable components to reproduce the elements of a document.

Movable type, are a prism-shaped pieces. Usually the type pieces are created from an alloy of lead, tin, and antimony, also can be found in wood and ceramic. Each one of these pieces contains a character or symbol in mirror-reversed relief. The idea of Johannes Gutenberg was to imitate mechanically the handwriting, the "cursus-ductus", and the energy that drives the movement, organize and modulate the layout of the letters.

Typography: discipline and uses
Diagram Typographic "**Cursus**"
Otto Lerma
La letra: docencia e investigación cursusductus
www.ub.edu/cursusductus/cd.htm