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Typography and Geometry in an information graphic

Graphic designers need to structure and build with proportions the linguistic and iconographic signs of the visual systems we carry out. We also need to systematize, organize in a hierarchy, position and measure our designs, in areas such as visual identity, editorial design, or new informative formats to make easier the understanding of complex contents.

To achieve this, we apply concepts that derive from a field of knowledge with origin in Geometry. The history of Graphic Design is responsible for referencing very significant models or processes. We can mention milestones such as Harry Beck's conceptual innovation in 1933 by using a single 45 degree angle on the London underground map (Rendgen 2012); or Rosarivo's method for achieving the divine typographic proportion on the page (Catopodis 2014). We can also highlight the technical innovation for the generation of the curves and paths developed by Pierre Bézier, incorporated in the programs with vector tools and that every graphic designer or type designer currently dominates (Bringhurst 2014).

This contribution shows the preliminary results of a study that examines and revitalizes the links between these two disciplines. Through the bibliographical study of several authors, with this project we wish to identify, classify and propose certain mathematical-geometric procedures and knowledge related to the construction of our visual culture. We will start from the proportions of the

page and later we will focus on small details of the letters, essential signs in our daily communication. We will carry out an inventory with concepts such as the golden section, the spreading of the module in the grid, the proportions of the alphabet, units of measurement, sequences, construction patterns as well as other systems of interchangeable parts (Bringhurst 2014 , Cheng 2006, Elam 2014). This knowledge applied with good criteria makes the relationship between the components harmonious and consistent.

As a practical goal or a "graphic conclusion", we want to dump this information into an infographics where this content inventory is visualized based on three interconnected areas: page, calligraphy and type design. This diagram will be illustrated with examples of our teaching and professional experience and can be used as educational material and inspiration for the community of students and professionals in graphic design, type design and information design in general.

TYPOGRAPHY AND GEOMETRY IN AN INFORMATION GRAPHIC

Graphic designers need to structure and build with proportions the linguistic and iconographic signs of the visual systems we carry out. We also need to systematize, organize in a hierarchy, position and measure our designs, in areas such as visual identity, editorial design, or new formats for information to make easier the understanding of complex contents.

To achieve this, we apply concepts that derive from a field of knowledge with origin in the Geometry. The history of Graphic Design show us very significant models or processes. We can mention milestones such as Harry Beck's conceptual innovation in 1932 by using a single 45 degree angle on the London underground map (Rendgen 2012) or the Golden section (Bringinghurst 2014). Also important is the Rosarino's method for achieving the divine typographic proportion on the page (Catalopdis 2014). We can also highlight the technical innovation for the generation of the curves and paths developed by Pierre Bézier, incorporated in the programs with vector tools and that most graphic or type designers dominate.

The current contribution shows the preliminary results of a study that examines and revitalizes the links between these two disciplines, Typography and Geometry. In our project we have identified, classified and proposed certain mathematical-geometric procedures and knowledge related to the construction of our visual culture, after retrieving information through the bibliographical study of several authors.

We have started with an inventory of basic concepts related to Geometry. The study of these concepts have been extended to three interconnected areas: Calligraphy, Typography and Page Design. In a second step, we have organized this information into an infographics that has been illustrated with examples of our teaching and professional experience.

In conclusion, proportion, symmetry, balance and precision are very important variables for graphic designers. This knowledge applied with good criteria make harmonious and consistent the relationship between the components. In this way, welfare is produced in the receiver's mind and the graphic objects become more pleasant and accessible.

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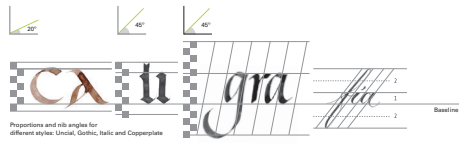
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CALLIGRAPHY

LETTER SKELETON AND GEOMETRIC SHAPES
The skeleton is the structure of a letter; is a constructive determinant of its morphology

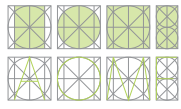


TOOL AND NIB ANGLE
Maintaining the angle of the nib according to the calligraphy style, is essential to set up consistent texts



PROPORTIONS
In calligraphy, we use the width of the nib to create the guidelines that define the proportions of the letters

ROMAN PROPORTIONS
The Roman Capitals are models of proportion of the classic uppercase typographies



AOMF
▲ TRAZAN

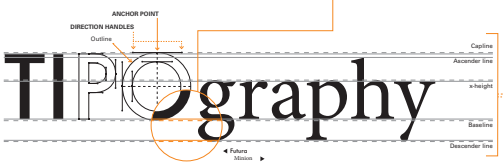


GUIDELINES
This lines define the heights of the letters in a typeface

OPTICAL ADJUSTMENTS
Size and shape visual compensations to optimize signs for the human eye



BÉZIER CURVES
Vector graphics method to draw curves with precision. (Paul de Casteljou and Pierre Bézier, 1962)



TYPOGRAPHY

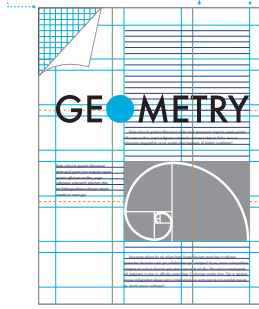
PAGE

GRID OF SQUARES
The grid allows us to organize the graphic elements harmoniously. The height of the spacing (leading) is the height of its basic module

COMPOSITION
To organize the elements on the page, we can consider different principles of composition

TYPOGRAPHIC GRID
The modules allow the designer to articulate and hierarchize the information in a flexible and consistent way

NOTE: This contribution has been financed in part by the University of the Balearic Islands (UVI) (PIAG). Tania Quindós was granted by UPV (EHU) for her Doctoral Thesis project on Postagrams and Typography.



▲ Poster font Univers



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Title
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K-words
Geometry
Typography
Info-graphics
Visual Design Teaching

