

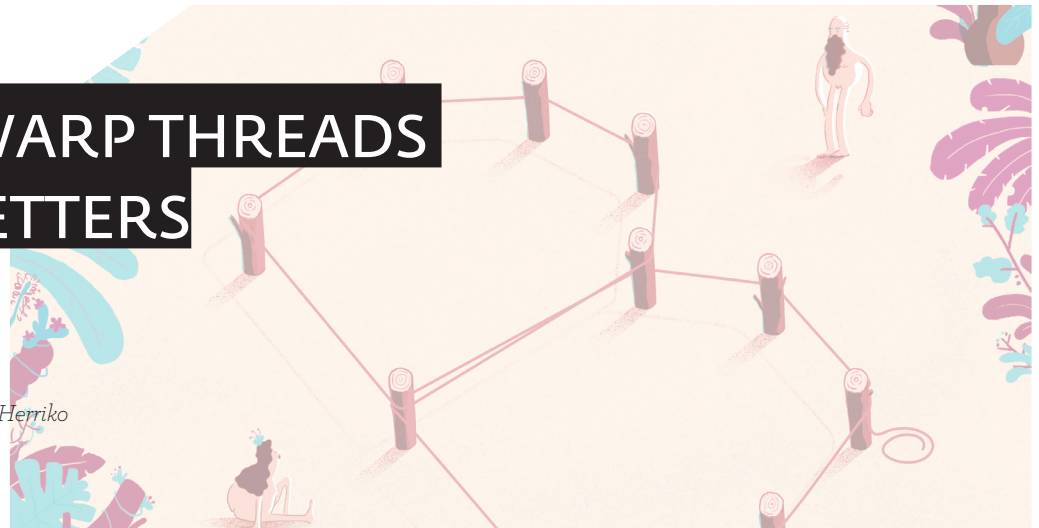
# DEVISING WARP THREADS TO MAKE LETTERS

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The metaphor derived from the origin of the meaning of the word ‘text’ as “fabric”, we are defining the Latin alphabet as a lattice or a confluence of diverse kind of knowledge, because of which we could focus on it from different areas. From the point of view of the designer, this article aims to analyse such typographical areas as a whole of the project external determinants. In this sense, the designer has the responsibility of being profoundly aware of these determinants before they are ready to go deep into the matter of the project.

**Key words:** letterform, typeface design, project methodology, design project

From the combination of letters that form words and from words that form sentences we construct the unit of sense which we call text. The term “text” comes from the Latin *textus*, participle of *texo* of the verb *texere* that means “to weave, trace, interlace”. Thus, we understand the text as an ensemble or fabric resulting from the action of weaving or interlacing threads that are words that construct meaningful structures.

While the words are made up of letters, Barthes poses the question “what are letters made of?” Costa<sup>1</sup> indicates the nature of this question as a consideration on the “physical identity” of letters, whose proposed response lies in the combination and articulation of two components on the path from the “ontological and cultural” to the “pragmatic and material”, that is: “significant form” and “technology”. Both of these are subdivided in another three elements. To the “significant formal substance” correspond: the *ductus* of the stroke, its “distinctive graphic structure” (*cursus*) and its “stylistic intentionality”. To the technology that allows fixing the shapes formed on a given support correspond: the “physical support”, the “instrument” and the “dyeing material or tracing substance.”

We know the letters as signs belonging to a visual code – the alphabet system – that regulates verbal communication. As such, the shape of the letters responds to patterns imposed by conventions that must be respected to achieve a correct reading. But in so much as the signs, derived from the hand-eye-thought communion, the letters are potentially significant in symbolic, psychological and ideological ways... and thus, in general, a parallel reading of the signs derived from their linguistic function.

Based on this idea, designing an alphabet supposes, in the first place, defining it as an interdisciplinary “weave” or grid that conforms the “fabric” which is the letter (Fig. 1). Taking the proposal stated above by Costa as a starting point, in this article we propose that the letter – as part of a greater structure which is the alphabet – is susceptible of being approached from several dimensions. In so much as they are graphic elements, and thus material, letters respond to a technological dimension; in so much as they are an instrument of speech, meant to be the channel of verbal communication on the visual plane, letters respond to an ergonomic dimension; in so far as signs, which perception we associate thoughts, feelings or experiences already lived, letters respond to a symbolic dimension; in so far as it is a product, inserted in an industry and in a market economy, letters respond to an economic dimension; in so much as shape, susceptible of generating aesthetic pleasure, letters respond to a plastic dimension (Fig. 2).

The nature of the alphabet has been widely studied and developed from different disciplinary approaches: historic, semiotic, technologic, ergonomic, psychological, ideological, artistic... The purpose of this article is to study the letter from the stance of design that in some way gathers, regulates and summarises all the above in the projection and configura-

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COSTA, JOAN: *La Forma de las Ideas*, Barcelona, Costa Punto Com, 2008, p. 112.

ration of an artifact that becomes prosthetics and a metaphor<sup>2</sup>. To that end, we are going to define the alphabet, to know which threads form its fabric, first a basting thread to later “weave” the alphabet. This would be an analysis of previous, or pre-existing notions, - *a priori* - inserted in the alphabet’s configuration, which would be required knowledge for the designer before being able to begin the design process in order to favour adequate future decisions.

Posing the study of the letter from the designer’s approach (*letter maker*) is not a novelty<sup>3</sup>. It could begin being so when it is inserted in the notion of a project - that is, from the project methodology - so that with creative and technical components we can conform an alphabetic system that supposes an adequate innovative model for the project purpose.

### A letter is... technology

The technological innovation means a qualitative leap in the daily routine of the individual, making tasks easier and allowing new discourses. In the area of typographic design, the technological evolution, besides making the designer’s tasks easier and quicker in the project production phase, has favoured the construction of the new ways of understanding the process of typographical configuration, propelling constant innovation of production, reproduction and support resources.

At the very moment hand and thought meet, the marks that precede and those that become letters of the alphabet owe their materiality to the instrument that traces and to a support that fixes them. Occasionally, with the introduction of the reed pen and the papyrus in Egypt, and to a pigment that transforms the movement of the instrument into visible strokes. The variations that surge from the articulation of this principle establish that the technology used in handwriting as a principle of configuration of the letter, *cursus* and *ductus*, so essential that authors such as Noordzij<sup>4</sup> established in their comprehension the basis that explain the morphological nature of the letter, be it written by hand or artificially; being even the spark that gives origin to the digital typographic technology as we know it now (Fig. 3).

The appearance of the printing press brought the standarisisation of models and standarisisation of the alphabetic form that is integrated in movable modules. Also sizes were systematized according to their use, increasingly so from then. At the same time, the activity is diversified; the letter becomes a trade; and in its distribution, a market.

From then, a new emerging typographic industry is driven to face new challenges linked to the needs of a society in constant change. We distinguish here between new supports and new ways of production and composition, from whose articulation design problems appear, which give way to

new typographical models and to a notable extension of the typographic family.

The three-dimensional quality first fades into light-driven information, that goes from being digital and finally, as we know it today, numerical. Posing the alphabetical system as a set of digital instructions stored in a file, supposes understanding the letter also as *software*. That is, the shapes become data. On the other hand, the digital system does not understand shapes. It deals in algebraic operations whose precise formulation - through a number of given operations - gives place to the visualization of the alphabet, thus what we understand as a letter, is at the same time programming. That is, the data become shapes.

### A letter is... ergonomics

«Typography has one plain duty before it and that is to convey information in writing. No argument or consideration can absolve typography from this duty. A printed work which cannot be read becomes a product without purpose». Emil Ruder<sup>5</sup> begins his *Handbook of Typographical Design* with these words. The principle function of typography is the visual transmission of information, the suitability of the shapes to our perception must be optimal, both in its rapid recognition and identification as in its easy reading.

This suitability is determined by several factors: use - text body, titles, signage - user - people clearly literate, people in process of becoming literate, persons having dyslexia or other problems that difficult reading -, type of reading - continuous reading, quest for specific information, search for words - and support - paper (weight, sheen, composition), screen (computer, mobile devices, stadiums, means of transportation). Based on these factors, what defines them - distance, movement... - and how they combine, the design problem is completely different. For this reason, knowing and understanding how a letter behaves in each of the possible variations becomes a fundamental task not only in typographic design also in graphic design (Fig. 4).

At this point a matter of terminology must be clarified. While the English language distinguishes between *legibility* and *readability*, the *Real Academia Española* (Royal Spanish Academy) does not consider a semantic differentiation in the term “legibilidad” (legibility), which gives place to confusion. At present to differentiate the two concepts in Spanish - we will explain below - a non-regulated neologism known as *lecturalidad* (readability), is used.

In the first place, we understand legibility as the ease with which a text is clearly recognised and, thus, understood. This is a question inherent to the design since harmonious organisation of the elements that compose the letter and that insert them in a system - horizontal and vertical proportion, *cursus*, *ductus*,

## 2

MARTÍN JUEZ, FERNANDO: *Contribuciones para una antropología del diseño*, Barcelona, Editorial Gedisa, 2002, p. 66.

### 3

Ver FRUTIGER: 1980, 1981, 2002, 2007; RUDER: 1981; BLANCHARD: 1988; HERRERA: 1994; NOORDZIJ: 2000; GESTNER: 2003; AICHER: 2007; COSTA & RAPOSO: 2008; NOVARESE: 2009; entre otros.

### 4

NOORDZIJ, GERRIT: *Letterletter*, Canada, Hartley & Marks, 2000.

### 5

RUDER, EMIL: *Typography: A Manual of Design*, New York, Hastings House, 1981, p. 8.



Fig. 3. Construction of a letter from a technologic position.

prose, average bowl, contrast, terminals, width, inclination of the axis, spacing – determine the ease of identifying the letters in a given context – the starting line technology, type of reading, etc. – and enhances comfort in the act of reading. For it, the vital principle of all alphabetic systems is to respect, above all, shapes learned from convention, that the mind of the reader has engraved in his retina and which his brain expects to be able to identify and follow easily at the time of perception.

Secondly, we distinguish the concept coined as *readability*, associated to the ease with which a text is linked not so much to its design as to its composition or distribution in the space according, always, to its determined use.

#### A letter is... history

The history of the letter – and, by extension, of writing – is linked to the history of how human beings became social beings and their progressive organisation in communities from the invention of irrigation which allowed them to become established in one place and gave rise to the concept of property and, therefore, market. Recording information became necessary then.

At that time begins a path leading to new uses that give place to different ways of transmitting ideas, thoughts. Innis<sup>6</sup> established, the “problem of space” and the “problem of time” as the two premises that bind the morphological evolution linked to a support and an instrument. Thus, said author established as “soft” media those of administrative and mercantile type... in which the recording speed was most important. To this group belong the inscriptions on wax tablets, papyrus, parchment... that accompanied by the reed pen contributed to the abstraction of the signs leading to the alphabet as we now know it with the lower case letters of Latin writ-

ing. The second group the author establishes is that of “hard” media, that guarantee permanence in time of the information. This is the case of dynastic types, as a sign of the power of a conquering people over a vanquished territory... To this group belong the inscriptions in Stone, bronze, marble... whose formal paradigm – in Latin writing we find in the Roman capital, the model of our current upper case letter.

Being a product of the human hand and mind, the letters link their evolution to a specific time and place, whose aesthetic standards are translated also in the alphabetic sign. The letters are witnesses and spokesmen of their time. Their translation is also reflected in the *cursus* – transitive or intransitive – in the *ductus* – modulated by passage or by expansion<sup>7</sup> – thus as in morphological elements such as the inclination of the stroke, the average bow, contrast, terminals, vertical and horizontal proportions... (Fig. 5). These changes have been inscribed by historians and theoreticians of typography in specific historical periods, to which correspond particular characteristics that the designer must know since these, far from being limited to a purely aesthetic matter, also respond to determined symbolic and ergonomic matters.

#### A letter is... an evocation

Using a musical analogy, Bringhurst<sup>8</sup> poses that typography is to literature just as a musical performance is to the composition: an “essentially interpretative” act.

The existing consideration that learning some conventional shapes corresponding to determined sounds make us look at letters through them, as if they were transparent, to center on the verbal content they hold, following linguistic directions. However, as we stated at the beginning of this article, the letter in its function as a sign is capable of generating meaning from it “visual substance”<sup>9</sup>, endowing the act of seeing a comparison and association of what has already been seen; functioning as transmitter of “what is atmospheric”. These meanings can converge or diverge with the content the words hold and the information they carry is the association of experiences, ideas and sensations the user has previously lived, and that relate, unconsciously within a determined context in the process of reading.

The letters, in so much as visual representatives of the evolution of thought and culture, form part of the vital process in human communication, reason why an inherent personality to its shapes generated by and for a given context. Their shapes *speak* to us of a historic time, and of a determined environment and society, that grant meaning and condition to its reading. That is, the shape of the letter can be an excellent media for anthropological study, because it manages to reflect clearly and retain human genius, and the constant cultural mutations through time<sup>10</sup>.

## 6

INNIS, HAROLD A.: *The Bias of Communication*, Canada, University of Toronto Press, 1971.

## 7

NOORDZIJ, GERRIT: *El trazo*, Valencia, Campgràfic, 2009, p. 7.

## 8

BRINGHURST, ROBERT: *The Elements of Typographic Style*, Washington, Hartley & Marks, 2004, p. 19.

## 9

CARRERE, ALBERTO: *Retórica tipográfica*, Valencia, Universitat Politècnica de València, 2009.

## 10

COSTA y RAPOSO: *La rebelión de los signos: el alma de la letra*, Buenos Aires, La Crujía, 2008.

Therefore the letter, in its symbolic dimension, can evoke psychological, ideological aspects... finally, it has the power of identifying its specific shape with places, ages, values, qualities, etc.; becoming a powerful tool in visual communication.

Following that line of thought, Peter Behrens<sup>11</sup> points out: “typology is, besides architecture, the most characteristic picture of an epoch and the most severe testimony of the intellectual development of a people. In the same way in which architecture reflects all fluctuation of an age and the external life of a people in plain light, typography shows signs of internal will, and speaks of their pride and humility, of hope and doubts of the generations (Fig. 6).

In oral communication the resources of speech surpass the mere use of words. Discourse has rhythm, intonation and nuance that are accompanied by gestures that support the speech, giving it emphasis. The use of these aspects is something we do in our everyday life, learned throughout time, to relate with each other and the social environment. Based on this, it can be appreciated that the letter functions as the sign of a sound, but its visual aspect can transmit much more. The alphabetic signs generate, from their graphic quality, their own semantic systems in relation with their context. Before this premise, we distinguish typography as the clothing of words<sup>12</sup>. The letter in so much as shape, has the capacity of expressing that which words are not allowed to, “illuminating” the verbal content from the graphic perception.

#### A letter is... economy

At the same time in which the typographic industry was created by the printing press, the letter with the differentiation of phases of design, production, distribution and sales is converted to market terms. Presently a typographic family can have quite a number of variables: weight – from thin to heavy, – width – condensed or expanded – optical appreciation – book, display, caption – structure – cursive, allcaps – type of script – Latin, Greek, Cyrillic, Arabic – and style – with serif –. To this the fact that in digital typography each one of these variables – all the typographic fonts – is considered as software, that can be acquired individually or as a family, as well as having a single exit device – computer, web, etc. – or a limited number of them. Both questions can suppose an economic barrier for whoever wants to have a specific typography. For this reason, there is an increasing number of corporations and institutions that commission a “custom made” typography beyond the matter relative to identity. In this sense, it is convenient to know how a typographic font is distributed and what are the licences that guarantee the authors’ rights.

Let’s start with the distribution. The digital typographic foundry takes its name from the traditional

of craftsmen casting the moulds to obtain the lead types. A typographic foundry establishes the flow and sales strategy of a font or typographic family and its diffusion. There is an increasing number of designers that launch their own typographic foundry or choose small ones as a guarantee of a personalised relationship with the client and a more exhaustive sales control. Besides, each typographic foundry establishes its percentages in reference with author’s rights, distribution process, international sales and publicity.

On the other hand, we have licences of use. A user’s licence grants the user the right of freely using a font or typographic family acquired according to the terms of the agreed. Given the multitude of possible present uses, we can find types of licences ever more personalised to the needs of the client.

We can make a first distinction between licences for personal use and those serving for a commercial use. This said, we find licences for desktop, web pages, open code licences – mostly under the SIL International standard – licences for apps, for digital publications (ePub), to be lodged in the server, for third parties or for its use as a product integrated in a specific software or hardware. The terms of all of them appear in the information of each font in what is called *End-User License Agreement (EULA)*.

#### A letter is... expression

With the gesture as a link, letter and art have a common origin in graphic expression. The perception of the letter as a shape supposes its appreciation from aesthetic approach, far from its eminently communicative function. The letter as an expressive element eludes the tyranny of line and the constrictions imposed by language and enters the territory of the aesthetic judgment, that of being self-referred, the author’s stamp in its making... Finally, the world of art.

Calligraphy could rise on its own right as the paradigm of graphic expression through the alphabetic sign, from its very nature. This reasoning is inferred from the etymological origin. The term, calligraphy, comes from the Greek. It is the conjunction of *kallós* – beauty – and *graphein* – to write, to engrave – which we could translate as “beautiful writing”. In this context, Mediavilla<sup>13</sup> considers “how are the expressive shapes and their emotional power generated?”. According to this author, the shapes are born in the individual conscience of its own being and its relationship with the world. In this manner the exchange between our interior activity and the exterior space, through calligraphy, allows us to empower the first, giving place to an action that is “nearly therapeutic”.

The alphabetic figure is a normal graphic resource character dating from the avantgards. However, the quality of the letter in its expressive aspect is not limited only to its hand creation. The artificial

## 11

HERRERA, EDUARDO: *Aspectos visuales y expresivos del signo tipográfico y su aplicación experimental en la configuración gráfica*, Leioa, [s.n], 1994.

12

FRUTIGER, ADRIAN: *En torno a la tipografía*, Barcelona, Gustavo Gili, 2002.

13

MEDIAVILLA, CLAUDE: *Caligrafía: del signo caligráfico a la pintura abstracta*, Valencia, Campgràfic, 2005, p. 278.