Multi-script

Multiculturalism

Multilingualism

Type design

Typography

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"Designing multi-script type families is the task type designers will face in the future"

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The Value of Typography in a Global Multilingual World

In her well known essay *The Crystal Goblet,* Beatrice Warde defended the need for printing to be invisible to ensure absolute transparency of text and comprehension of message. As a tool in the service of visual communication, however, typography transcends this utilitarian vision and furnishes the values and attributes that result in the personality or character of a brand, a product or service.

A Culturally Diverse Contemplation of the World

One of the challenges faced by society today is multiculturalism, particularly as it is expressed in written communication, i.e. multilingualism, by which we refer to the ability that societies, organisations, groups and individuals have to ordinarily use or come into contact with more than one language in their everyday lives.

Through graphic interfaces that are represented as an accessible space, our increasingly global world is smaller and more domestic. From a comfortable settee we can travel through satellite images offered by applications such as Google Earth and visit the different countries that configure our diversified planet. The globalism that is visually explained through such programs doesn't contemplate the social and cultural reality present in the real world: the variety of languages, cultures, customs, faiths, etc., an extremely rich and complex reality that eludes all globalising visions.

We live halfway between a real and a represented world, a world based on a simplified approximation to reality. Our vision of the world depends to a great extent on the tools we have designed to measure, represent and govern it, and it is therefore a distorted vision, or at least a tailor-made vision.

In recent centuries the Western vision of the world has subordinated other possible gazes and cultures. Yet the world can't be summed up in a single vision. Ours isn't a unitary culture—multiculturalism is a fact that creates a melting pot of expressions in which languages play a key role, not only because they are a way of articulating thought but because they are a powerful tool forsocial cohesion and relations within a given community. As stated by Director General of UNESCO, Koïchiro Matsuura, in 2003 '[L]anguages constitute an irreducible expression of human creativity in all its diversity. Tools of communication, perception and reflection, they also shape the way we view the world and provide a link between past, present and future.'[1]

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1   A. Ouane, 'Towards a Multilingual Culture of Education' [online]. Unesco Institute for Education. 2003. [Accessed: 15 June 2010]. Available at: http://www.unesco.org/ education/uie/pdf/uiestud41.pdf.

So-called globalisation has not only triggered greater interaction between countries and their cultures, but necessarily produces a disposition to mingle. Notwithstanding its reductionist and unitary vision of the world, globalisation entails a growing awareness of 'other' cultures. Rather than obliging others to behave as we do in the name of equality, it is simply a question of treating them as equals. This is an important change in the way in which we approach the reality of our contemporary world. Postmodernism's non-centrist vision has furthered our understanding of this principle in the field of culture, philosophy and the plastic arts.

Towards Social and Technological Multiculturalism

Languages are usually the first barrier we encounter when we have to communicate with or relate to other cultural realities. Being able to express ourselves in one language is insufficient nowadays. Economic globalisation compels us to treat markets with respect, so if a product hopes to successfully survive it must position itself respecting local idiosyncrasies, just as any expression that aspires to be cultural (a publishing product, for instance) and hopes to transcend its local context will have to address multilingualism as a true necessity. Many are the publications (digital and on paper) that convey their textual contents in two or more languages. Co-existence in multicultural space may pose a series of problems in which design can play a key role to facilitate human relations in all senses: providing signage in spaces shared by people of diverse origin, labelling foodstuff before it is placed on the market, packaging cosmetics or making a drug pamphlet. Difficulties posed in terms of design can in part be solved by typography, which brings valid answers not only to problems of composition but also to issues concerning multilingualism, such as designing typographical characters for composing multilingual texts.

In the last decades of the twentieth century the technological industry was galvanised by social and economic changes, and emerging markets enabled it to further its business.

In the field of computer science, the writing systems of some of these emerging countries were a barrier restricting access to technology, preventing computer tools from being used in the way of those who generally expressed themselves in English or in any other language with a Latin alphabet. Until recently, the huge number of characters that exist in some systems (such as Arabic or Chinese) was one of the main obstacles to the expansion of digital technology to other areas of the globalised world.

"Designing for a global world implies taking into consideration cultural diversity and the various different writing systems used for communication"

Any kind of textual information introduced into a computer is expressed in a specific language. Many computer technicians have considered the 'problem' of multilingualism as that of the availability of special characters. If this were the case the problem could be solved by simply having available all the characters required for the languages to be represented, on screen and on a printed support. However, this could not be achieved with MS-DOS environments or with the operative systems that preceded Mac OSX, where the entire range of available characters was reduced to a set of 256, the number of characters in standard formats (Postscript or TrueType) in which the data from digital sources was stored. It was too small a number for composing texts in most of the world's languages, as many writing systems require more than 256 characters.

The last few years of the twentieth century and particularly the first decade of the twenty-first witnessed how software and hardware developers have been striving to implement multilingualism in computer environments. An early success story was the development of a standard for character codification, so-called Unicode, established following the foundation of the Unicode Consortium,[2] a non-profit-making organisation to promote the development of a standard model (the Unicode standard) intended to specify the representation of texts in all kinds of software and products. One of its objectives is to enable the exchange of multilingual documents among users. The Unicode Consortium has made a great effort to design a universal map of characters that will identify all existing writing systems and signs, in order to establish a standard codification recognised by all software manufacturers.[3]

A further turning point was the development and recent marketing of the OpenType format, which is called to be the new standard for digital fonts. OpenType allows for up to 65,536 glyphs or symbols in a single font archive, as a result of which the coexistence of several writing systems with common stylistic traits is now a reality. Another of the huge advantages of the new format born at the onset of the new millennium is its compatibility with the most common operative systems (Macintosh and PC Windows), which was one of the main demands made by users, especially in the graphic industry. We could therefore consider that the OpenType format was created to fulfil a specific need in an increasingly global world in which the introduction of new languages and writing systems has become a 'moral' condition for market expansion, in spite of the fact that English is still the lingua franca of technology.

Designer and expert in multilingual environments John Hudson holds the opinion that if typographical design at the turn of the millennium is experiencing an international revival, this is partly due to the computer industry's desire to position its products in societies that speak other languages.[4]

Designing for a Global World: Multilingualism and Typography

Designing for a global world implies taking into consideration cultural diversity and the various different writing systems used for communication. According to Hudson, typographical design today is closely related to the internationalisation of information technology and, in this sense, typeface designers, being as they are directly implied in the economic, social and cultural development of globalisation, assume a specific responsibility. To paraphrase Hudson, globalisation must be more than just a business opportunity for software manufacturers (including the design of digital fonts), and must also involve a meeting between cultures, dialogue between civilisations and respect for cultural heritage, the rights and aspirations of citizens around the world.[5]

In short, over the course of its history, type design has been an activity in the service of culture and, ultimately, of written communication. The designers of new fonts therefore play a key role in the development of written culture, providing communication tools.

The need for multi-script fonts, i.e., fonts containing symbols from more than one writing system, has led a few designers to study in depth other non-Latin alphabets in order to meet the demands of an increasingly global world. The most important companies devoted to creating and distributing digital fonts have endeavoured to update typographic

2   For more information on the Unicode project, see http://www.unicode.org/history/summary.html

3   We should point out, however, that some characters belonging to languages such as Guaraní, which has joint official status in Paraguay, haven't yet been incorporated into the Unicode standard.

4   J. Hudson, 'Unicode from text to type', in John Berry (Ed.), *Language Culture Type. International Type Design in the age of Unicode*, Association Typographique Internationale / Graphis, New York, 2002, pp. 24-44.

5   Ibidem.

English

Finnish

Czech

Russian

Greek

Hebrew

Hindi

Arabic

Chinese

◄ Languages affect our vision of texts, their specific colour and the amount of space we need for a given volume of text (its length). The Latin alphabet can present different textures, according to the language used for writing. Even so, changes in texture and colour are much more obvious when different writing systems are employed. Examples taken from G. Sadek and M. Zhukov, *Typographia polyglotta*, ATypl / The Cooper Union, New York, 1997.

catalogues and include fonts containing characters belonging to other writing systems—not only from those that are recognised as work tools within the European Union, such as Greek or Cyrillic, but also from others belonging to cultures that are now exerting an influence on the global economy, such as Arabic, Devanagari, Chinese and Japanese, to name but a few.

In the mid-nineties the demand for multilingual fonts within the Latin alphabet made type designers and large distributors aware of the need to extend the set of characters and incorporate all the characters required for composing texts in other languages in the European context. How often had we been challenged by a lack of signs for composing texts in Catalan or Spanish, where the lack of an accent or a virgule prevented us from using a specific type? Sometimes, careless spacing of diacritical characters (not usually employed in English) resulted in ugly-looking texts. By the turn of the millennium, this awareness would be strengthened by the introduction of new writing systems in typographic repertoires. Technological progress has enabled type design to the needs imposed today by graphic design and its users.

Interest in the design of multi-script fonts has been reinforced by the possibilities offered by technology. However, the technical and cultural knowledge required by such activity makes this kind of design an extremely unique practice. Type designers have embraced multilingualism relatively recently, as proven by the debates on the subject produced over the past decade in specialised areas within the profession and the academic world.

In a recent article published in *Codex*, designer David Březina has pointed out some of the problems posed when designing multilingual families of type. He believes that type designers work 'on the crossroads of linguistics, typography, and computer science.'[6] At present these professionals face significant challenges when it comes to adapting different scripts to typographic systems or to the limitations of certain supports.

Not many lines of thought or studies have attempted to establish connections between type design (in general terms) and its social impact. In my opinion, working in the field of multilingual typography and developing multi-script fonts is a good way of coming into direct contact with the more social side of design.

Multi-Script Typography

Understanding and getting used to a new system of meaning based on new forms is the main difficulty posed by the creation of a multi-script font. Regardless of the writing system, type design must take into consideration a few important aspects, conventional, technical and cultural. According to designer Gerard Unger, some aspects have barely changed over long periods of time and can be considered constants. The forms and proportions of letters are based on conventions, and the tools used to design them have become consolidated over the course of history. At the end of the day, letters represent language, which is a convention. Phil Baines upholds that it is 'vitally important that typographers should begin to understand the features of language while at the same time learning the conventions for its notation and the technical processes for its reproduction.'[7]

6   D. Březina, 'Challenges in multilingual type design', in *Codex: the Journal of Letterforms*, No. 2 (2012), p. 24.

7   P. Baines & A. Haslam, *Type and Typography*, Laurence King Publishers, London, 2005, p. 10.

In spite of the changes brought about by the move from paper to screen, we have gradually developed new reading habits, related to the workings of eyes and brain when we read and write. Unger believes that the configuration of habits has a considerable effect on typography, which strongly influences the shapes of letters. On the contrary, the types most frequently read are reinforced by readers' own habits.[8] There are no rules, but the conventions (or constants, as they are defined by Unger) that derive from tradition must be taken into account in all typographical design projects. History is a loyal guide when it comes to finding references or examples to examine how this tradition has shaped conventions and habits and how all this has affected type design and its use. For Stanley Morison, the notion of tradition is another way of expressing unanimity in certain basic and age-old aspects established through trial and error: *experientia docet*.[9]

Gerrit Noordzij says that 'shapes that do not conform to convention are just not writing.'[10] Writing is affected by different directions of reading, the motion of the tool and even the shapes of the letters. Typography has a direct connection with writing and not so much with calligraphy, which is its most artistic expression. As the shapes of letters are based on writing, they follow the conventions derived from its evolution over the centuries. Moreover, languages determine the way we see texts, their particular hues and the amount of space we need for a certain amount of text (its length). Some specific combinations of letters appear more frequently in one language than in another, so each language defines its own visual conventions that affect the reading process.

Writing and its formal variations have been influenced by the instrument employed (chisel, quill, brush, pen, etc.). The choice of angle and direction produce differences in size, weight, slant, breadth and other more formal aspects that characterise the qualities of letters. Different tools give rise to different shapes, even if the letters are the same. Furthermore, the type of surface used (stone, wood, paper, parchment, screen) also determines the results obtained. Technology defines both the limitations and the possibilities of the ensuing shapes. All design processes imply sufficient technological knowledge to meet the various challenges. In typographical design, this technological knowledge must also be combined with cultural and linguistic knowledge.

"Typography has a direct connection with writing and not so much with calligraphy, which is its most artistic expression"

Every writing system, be it alphabetic or not, is the result of a specific evolution and has its own structure and system of proportions. Thus, when two or more alphabets are combined in the same font, each one must preserve its proportions, for this affects its legibility and cultural idiosyncrasy. It is important that this principle be respected, despite the difficulty of making the different systems harmoniously compatible.

Typographical designers in the Latin alphabet use a small number of guides to define proportions when designing new types of letters. To force this alphabet's proportions in other scripts would be a mistake, unless they adapt naturally (as in the combination of the Latin and Cyrillic alphabets). Arabic script, for instance, will require other proportions that are completely foreign to our alphabet, and the same goes for other systems such as Greek, Chinese

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8 G. Unger, *While you're reading*, Mark Batty Publisher, New York, 2007, p. 84.

9 S. Morison, 'Postscript', in *First Principles of Typography*. Cambridge University Press, Cambridge, 1967.

10 G. Noordzij, *The stroke. Theory of writing*, translated into English by Peter Enneson, Hyphen Press, London, 2005, p. 9.

Se conoce como *al-Ándalus* al territorio de la Península Ibérica y de la Septimania bajo poder musulmán durante la Edad Media, entre los años 711 y 1492. Entre los años 711 y 715, los musulmanes ocuparon una parte de la Península Ibérica, aunque sin ningún tipo de dominio efectivo al norte del Sistema Central. La invasión

Al-Andalus was the Arabic name given to a nation and territorial region also commonly referred to as Moorish Iberia. The name describes parts of the Iberian Peninsula and Septimania governed by Muslims, at various times in the period between 711 and 1492, although the territorial boundaries underwent constant changes

الأندلس التسمية التي تعطى لما يسمى اليوم شبه الجزيرة الإيبيريه (جزيرة الأندلس) في الفترة ما بين أعوام 711 و1492 التي حكمها المسلمون. تختلف الأندلس عن أندلسيا التي تضم حاليا ثمانية اقاليم في جنوب إسبانيا ۞ تأسست في البداية كإمارة في ظل الدولة الأموية في الشام، التي بدأت بنجاح من قبل الوليد بن عبد الملك (711–750)، بعدها تولتها دولة بني أمية في الأندلس عبد الرحمن الداخل وبعد سقوط دولة بني أمية تولت الأندلس ممالك غير موحدة عرفوا بملوك الطوائف، ثم وحدها المرابطون والموحدون قبل أن تنقسم إلى ملوك طوائف مرة أخرى وزالت بصورة نهائية بدخول فرناندو الثاني ملك الإسبان مملكة غرناطة في 2 يناير 1492 ۞

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or Devanagari. When designing multi-script types that combine two or more systems we must preserve their proportions, while endeavouring to harmonise them in the text.

Colour, Proportion, Texture

Two important elements we must bear in mind when combining different writing systems are the colour and texture they give the text. When designing types of letters for textual composition, the appearance of the paragraph is critical. Any small detail in letter design may influence the general hue. As Robert Bringhurst has said speaking of mixing alphabets, the closer texts are composed in different alphabets, the more important it becomes 'that they should be close in color and in size, no mat-

▲ An example of multi-script application. Pradell type, combining texts in the Latin writing system (Pradell Roman) and the Arab writing system (Pradell Al-Andalus). The optimal harmonisation of both writing systems is only possible if we respect the features that define each alphabet system individually.

ter how superficially different in form.'[11] The actual writing system influences the colour and texture of texts, but so does the language used to compose it. As pointed out by Březina, languages define the appearance of the composition of the set of characters, the frequency of the letters, certain combinations of letters and the use of diacritical signs.[12] The Latin alphabet can present different textures, according to the language we are using—Spanish doesn't work like English or German. Even so, changes in texture and hue are much more obvious when different writing systems are in use.

Colour is influenced by the thickness of stroke and the degree of lightness of characters, i.e. their weight. Weight is distributed differently in Arabic

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11 R. Bringhurst, *The elements of typographic style*. Hartley & Marks, Vancouver, 1996, pp. 106-107.

12 D. Březina, *General Issues of Multi-Script Typography*. MA Dissertation, Reading University, Reading, 2007, p. 12.

PRADELL AL-ANDALUS. A NON-LATIN MULTISCRIPT TYPEFACE BASED ON NASKH CALLIGRAPHIC STYLE, DESIGNED BY ANDREU BALIUS (2009-2013)

Andreu Balius **The Value of Typography in a Global Multilingual World**

الحروف ينقل الفكر

برشلونة هي مدينة كاملة من الضوء والفرح

نجد الجمال في كل الأشياء التي تحيط بنا والتي هي جزء من الكون

ليست كل حركة الرقص

الخط العربي هو واحد من أرقى فنون

▲ A sample of a Pradell Al-Andalus letter. Andreu Balius, 2009-2013.

and in Latin: the former, with its connected letters, presents a clearer horizontal baseline for the weight falls on the horizontal strokes, whereas in the Latin alphabet it falls on the vertical strokes. The countershapes and spaces between letters also affect the colour of texts.

Examining the design of non-Latin typography is certainly a complex issue, and perhaps one of the first questions that arises is how to design type for a writing system that is different to one's own. Drawing characters for composing texts in Polish, Czech or even Turkish is a simple exercise if we compare it to designing the characters of a Cyrillic or Greek alphabet, not to mention Chinese or Arabic script. In my opinion we should approach these systems with respect and with sufficient knowledge.

Fiona Ross believes that 'Best practice is built upon sound research.'[13] As I have said earlier, when designing type, regardless of the chosen writing system, we should be familiar with conventions, and good grounding in the tools and the evolution of shapes over the course of its history will provide greater insight into the specificities of the system.

Pilar Cano, type designer at Dalton Maag, says we should look at letters with other eyes, we should understand how we read and what is truly important in order to preserve legibility.[14] According to Ross, 'Whether a native reader or not, however, close

observation of how harmonization and yet differentiation can be achieved within a new typeface design is effected by analyzing all modes of textual communication, whether past or current, and whether by hand with a pen, stylus or brush, or by means of digital technology. In so doing, the designer can acquire a keen sense of the letterform proportions—and how far one can deviate from them; develop an eye to perceive which elements are key to letterform identification—and which treatments can lead to ambiguities; and become sufficiently informed to judge which letterform features are shared and thus can be treated in a similar manner to provide textual cohesion.'[15] Ross goes on to add that 'an awareness of cultural sensitivities naturally forms an essential ingredient to the design process.'[16]

While it is surprising that most non-Latin alphabets created over the course of history were developed by designers from Latin backgrounds, we must not forget that the printing press and most of the technology related to the design and making of types of letters are indeed Western inventions. The teaching of typography is also concentrated in a few countries in the Western world, although designers from other cultures are increasingly working with their own writing systems, thereby expanding the offer of quality fonts.

corporate different writing systems within one and the same type family. This indeed implies a significant change that obliges type designers to acquire a much higher level of knowledge, as demanded by today's global world.

The availability of multi-script fonts that will enable us to compose multilingual texts characterised by an ideal aesthetic and formal unity is a growing need. But, as I have argued before, multi-script type design does not only meet practical needs—the possibility of representing other languages and cultures through typography is at once a powerful tool for obtaining social cohesion and building bridges of dialogue between the different cultures that shape the human environment.

Conclusion

Designing multi-script type families is the task type designers will face in the future. If the first challenge in the late twentieth century was to apply multilingualism to the Latin alphabet, and consequently introduce characters for other less common languages into text composition (character extensions for Eastern European languages), the second important challenge in the twenty-first century is to in-

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13 F. Ross & G. Shaw, *Non-Latin Scripts. From Metal to Digital Type*, St. Bride Foundation, London, 2012, p. 151.

14 Pilar Cano in an interview with the author, November 2012.

15 F. Ross & G. Shaw, *Non-Latin Scripts. From Metal to Digital Type*, op. cit., p. 151.

16 Ibidem.