

03 Bilingual Design Layout Systems: Cases from Beirut

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ABSTRACT

This paper identifies and analyzes the challenges of bilingual design layout systems in Beirut. With the rapid spread of globalization, English and Arabic often enter the public realm together. As the design industry also rapidly develops and the Western influences are manifested, the duality of languages and scripts are constantly negotiated. This paper investigates various bilingual design layouts and proposes six new variations of bilingual design layout systems for designers, educators and students to employ and develop further. By employing an illustrative methodology in which different layout systems are both examined and compared, the author proposes visual structures for bilingual readers, adding an extra layer to the understanding of visual communication while offering the viewer the choice of reading both scripts.

> **W**ith the rapid spread of globalization and the overwhelming development of the design industry in the Middle East, Arabic script has become secondary in publication designs. Beirut, as the capital, is used in this paper as an intense laboratory where Western influences are clearly manifested and negotiated in language and graphic design. In Beirut, bilingual design for a range of media—from street signs and graffiti to various forms of printed materials including posters, pamphlets, and books have become an increasingly obvious "challenge" as designers treat the two scripts; Latin and Arabic equally, despite their differences in direction, texture, and weight. As the design industry develops and as more designers are taught at Western educational institutions, the issue of bilingual design is more and more frequently resolved by having the Arabic script as a secondary form, foregrounding the Latin script.

This paper investigates the challenges of bilingual design layout systems in the Middle East and more specifically in Beirut, the capital city of Lebanon. It proposes bilingual design layout structures to equip designers with a better understanding of bilingual compositions and integrated methods of application. Many attempts have been made to bring together Latin and Arabic scripts in a harmonious way, yet, they have not yielded thorough explorations that will assist designers in the development of bilingual layout systems.

Building on Kimberly Elam's typographic systems and based on my research and observation of Beirut's visual bilingual topography¹, I developed bilingual layout systems and will demonstrate their applications by showcasing selected projects of my students' work at the Lebanese American University (LAU) in Beirut, along with personal work and vernacular bilingual city signs. The choice of these examples is representative of a larger scope illustrating the diverse applications of bilingual layouts in our daily life in Beirut.

This paper exposes the difficulties of combining dual distinct scripts of Latin and Arabic, and overviews several approaches for designing and pairing bilingual scripts in a harmonious manner.² It culminates in the proposal of six new variations of bilingual design layout systems for designers, educators and students to apprehend, employ and develop a variety of bilingual compositions.

Many design publications in this region are produced solely in English since Middle Eastern designers are more comfortable using Westernized layouts given that their design background lacks adequate training in combining Arabic and Latin scripts. The lack of training stems from a well-founded desire to study in the West, but the application of this Westernized knowledge to further the dialogue between the two cultures is still amiss. The ultimate goal should be to enhance the local

language by looking at and learning from the Western design systems, whereas the trend in design seems to merely adapt Latin script compositions to the Arabic script that do not necessarily accept such aesthetics. Paul Cleveland, professor at Griffith University explains, "Aesthetic preference involves complex factors which optimize the degree of arousal potential. The use of ratios may be one of these, but balance, complexity and order are also important factors" (Cleveland, 2008:37). While assessing the relationship between the scripts of two languages, it is crucial to consider the specific elements that contribute to our innate visual preferences.

The lack of training in creating harmonious bilingual layout systems³ calls for the need of innovative, compelling layout systems that can be employed for various daily needs of designers in the Middle East to combine Latin and Arabic type. Understanding the specific problems posed by the combination of Arabic and Latin script is vital to start thinking about the guiding principles in the creation of bilingual layout systems. The challenge of integrating bi-scripts of distinct nature into a coherent and skillful layout drove many designers in this region to choose form over function. Form over function here refers to the prioritization of goals; where form is treated as more important than solving the problem of handling Arabic and Latin script in a balanced manner. This is the easy way out so instead of thinking about the co-existence of the two scripts, designers dealing with bilingual layouts allow the Latin script to dominate, which underscores design limitations. This paper sheds light on this trend and I am hoping it will be a stepping-stone for further investigations in the field.

CHALLENGES OF COMBINING LATIN AND ARABIC SCRIPTS

Before tackling the issue of bilingual layouts, one has to start by understanding the challenges of combining two scripts of different nature and to learn how to select or create suitable and corresponding typefaces in order to proceed with an integrated bilingual layout design. Scripts play an essential role in layout designs, as they generate the texture, tone, contrast and form of the composition. They also indicate the reading direction of the text, each have an appearance and style that should be considered before structuring a bilingual layout.

There are two primary differences between the Latin and Arabic scripts that constitute the problem of bilingual layouts: form and direction. The curved, flexible form of Arabic type, rooted in its calligraphic foundations, is in contrast to Latin structured type. The ascenders, descenders and baseline, important in typography for word recognition, are different in Latin and Arabic scripts; in addition Arabic script has no capital letters.

The anatomy of the letters and the scripts reveals further differences. The two scripts create different textures, which further complicate their representation together. Texture of the script refers to the type created by the strokes as well as the curvature of the script. In an ideal bilingual layout, the textures of the two scripts would be to preserve a harmonious look and feel. As Robert Bringhurst notes,

“the more closely different alphabets are mixed, the more important it becomes that they should be close in color and in size, no matter how superficially different in form” (Bringhurst, 2002).

For instance, Helvetica, a sans serif typeface that was developed in 1957 by Swiss typeface designer Max Miedinger, required a corresponding Arabic typeface that would be consistent and complement the Latin type in bilingual layout publications. The Arabic type library is still nascent in comparison to Latin typeface library and the flexibility of the Arabic scripts for typographic interpretation is an important matter of debate for designers such as Nadine Chahine⁴, Yara Khoury⁵, Pascal Zoghb⁶ who develop typefaces, in relation to and independent from Latin scripts. The Arabic text occupies different dimensions than the Latin with respect to the length and width of the paragraphs. As illustrated in Figure 8 and onward, the multifaceted Arabic script carries a wide range of ascenders and descenders and combines small glyphs and counters that create a smaller appearance in comparison to the length of Latin text.

Unlike Latin script, Arabic script is read from right to left, which makes the two texts collide if facing each other. They run in opposite directions. The Arabic script is rhythmical and its letters connect smoothly in a soft and natural flow. It is multi faceted; each letter has 3 to 4 assorted forms depending on its position in the word (Tracey, 1975). (figures 1, 2)

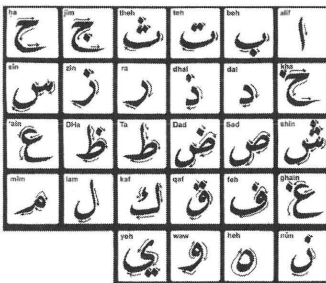


FIGURE 1 Freestanding Arabic letters

Name	Final	Medial	Initial	Isolated
alef	ا	آ	أ	آ
ba	ب	با	ب	ب
jim	ج	جا	ج	ج
dal	د	دا	د	د
zein	ز	زا	ز	ز
sin	س	سا	س	س
sad	ص	صا	ص	ص
ta	ط	طا	ط	ط
ayn	ع	عا	ع	ع
fa'	ف	فا	ف	ف
kaaf	ق	قا	ق	ق
kaaf	ك	كا	ك	ك
lam	ل	لا	ل	ل
mim	م	ما	م	م
noon	ن	نا	ن	ن
he	ه	ها	ه	ه
waow	و	وا	و	و
ya	ي	يا	ي	ي

FIGURE 2 A few Arabic letters with variation of forms depending on their placement in the word.

In addition, the Arabic letters are mostly vertical in comparison to the horizontal form of Latin words that are based on a standard x-height, descender and ascender. Arabic letters have a varied x height, and an extended ascender and descender in comparison to Latin letters (Nemeth, 2006). They have many glyphs and hundreds of ligatures that make it difficult to typeset and read. The diacritics are hard to position correctly and often require manual adjustment, thus more time and effort. The difference in letter size makes the small Arabic size typeset illegible; moreover the vertical nature of the letters with big ascenders and descenders requires a larger baseline skip, hence less lines fit on the page (Haralambous, 1998).

HARMONIZING LATIN AND ARABIC TYPEFACES

Many reform attempts have been proposed to simplify the Arabic Writing systems but only few succeeded in providing adequate Arabic typesetting and a new direction for Arabic type design (Smitshuijzen AbiFares, 2001). Nowadays the Arabic typeface design library is still skeletal in comparison to the Latin versatile library of type. This is due to the complexity of the Arabic script and the lack of technological programs that enables Arabic font applications.

Consequently, recent efforts from a few design firms and local designers have been focused on developing a resourceful Arabic typographic library providing the designers with more choices of harmonizing Latin and Arabic typefaces.

There are different ways of associating typefaces, either by designing both Latin and Arabic type simultaneously such as pairing them to

secure a complete customized entity, or by matching a type to another and having a main script that influences the development of its matching script.

PAIRING TYPEFACES

A compelling case study to understand the design problems posed the specific bilingualism using Latin and Arabic script is the Dubai Metro. The newly constructed metro, a crucial part of Dubai's rapid modernization was opened in 2009. Dalton Maag, a design agency currently working on a number of Arabic font projects, created the branding system of Dubai Metro project in Collaboration with Transport Design Consultancy (TDC). They conceived a font design and typographic system covering both Arabic and Latin, which satisfied all of the functional requirements.

Dalton Maag identifies a most common problem with dual language systems—when Latin script is used to "set the tone," the Arabic script takes on a secondary role, disregarding the specific visual and cultural heritage. The need to treat Arabic script the same as Latin script becomes obvious in the context of growing tourism and cultural sharing opportunities (Dalton Maag, 2010). The subservient treatment of Arabic foregrounds the Western element in the Middle East and disregards the context and the specifics of local language.

According to the firm, too often in dual language systems, the Latin script is used to establish the tone of typography. This means that other scripts such as Arabic are considered secondary, giving little significance for its rich heritage and visual semblance to the rest of the identity. This project was a pioneer in developing two entirely different script systems in unison and harmony.



FIGURE 3 Dalton Maag. Dubai Metro signage. <http://www.daltonmaag.com/news/135.html> <http://www.transportdesign.com/?pid=2&sid=17>

Looking at bilingualism in the larger context by analyzing another combination of scripts, namely, Welsh and English, can help us anchor the study of Arabic and Latin scripts used in combination. Nikolas Coupland, in "Welsh linguistic "parallelism" as a crucial element in bilingual layout systems, through looking at bilingual designs employing Welsh and English (Coupland, 2010).

It is possible to format bilingual text, stylistically, following principles of parallelism in several different ways [...] The main [principle] is equality: Welsh and English must be given equal weighting and prominence, so that the same access is afforded to each language. Equivalence is interpreted in the specific sense that the textual content of Welsh and English must be identical; then once again choice, in the assumption that bilingual speakers/ readers will be able to choose whether to access the content of a text either in Welsh or in English. A further principle is code integrity, requiring that Welsh and English text-elements must be presented as fully formed and separate from each other.

The relationship between Welsh and English is obviously different from the relationship between English and Arabic. However, the principle of equality holds valid for the conception of new bilingual layout systems. Parallelism, in the context of a globalized Arab world becomes particularly important as the governing principle should be that the local language is held in the same esteem as English, not as a subservient second, echoing colonial relationships between the West and the Middle East.

MATCHING TYPEFACES

Matching Arabic type to Latin has been a rising concern and has been explored by a few designers. Khatt Foundation lead by Huda Smitshuijzen Abifares has gathered Dutch and Arab typographers to conceive five new Arabic typefaces inspired by Latin type (Smitshuijzen Abifares, 2009). These new Arabic typefaces will assist designers in creating contemporary and compelling bilingual products. According to Abifares, this exchange plays an essential role in visually representing a culture's identity (*figure. 4*).

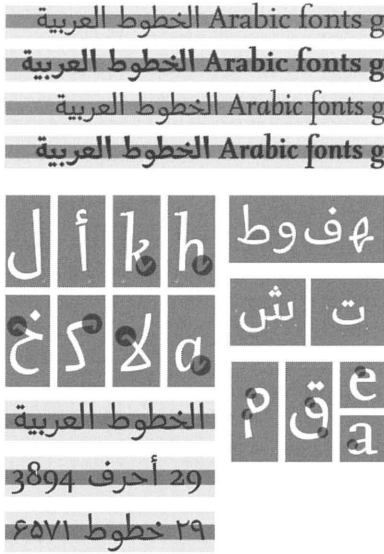


FIGURE 4 *Sada Font: A comparison between the proportions of the Sada Arabic fonts and the Serif fonts (Roman and Italic). Type design by Martin Majoor and Pascal Zoghbi, typographic matchmaking, 2007.*

Abifares approach brought together Latin and Arabic typefaces in a generic and practical manner disregarding the complexity of Arabic calligraphy, and following primarily Latin scripts guidelines, such as using a single baseline and an x height, therefore Latinizing the Arabic font (Nemeth, 2006). The contribution of Typographic Matchmaking typefaces to the improvement of bilingual layout designs has been substantive as many bilingual publications in the region are now utilizing these matching typefaces that are easy and ready to use with the purchase of the book “Typographic Matchmaking”.

Even though new fonts are being developed to reach a better dual script combination, it is still crucial to understand how to select and arrange bi-scripts in order to create comprehensive bilingual layouts⁷. Matching and pairing fonts are important factors to achieve a harmonious bilingual design structure, yet they form a partial response to the needs of bilingual layout design.

BILINGUAL LAYOUT DESIGNS OBSERVATIONS IN BEIRUT

Lebanon has long been an intersection of many colonial powers including the Ottoman and French. In the 19th C, many missionaries



FIGURE 7 *Mixed Nuts bilingual store sign, Hamra, Beirut*

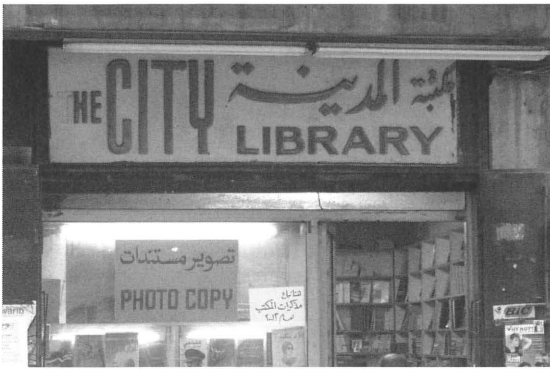


FIGURE 8 *City Library bilingual sign, Beirut*

BILINGUAL LAYOUT SYSTEMS EXPANDING ON KIMBERLY ELAM'S PARADIGMS

Based on Kimberly Elam's expansive research and approach to typographic compositions, along with my professional and teaching experience in bilingual designs and including my extensive observation of Beirut's bilingual designs representations, I propose six new bilingual layout systems. In order to propose new bilingual design layouts systems, I have used Elam's *Typographic Systems* as a reference, which led me to create a revised version that is suitable for bilingual layouts dealing with bi-scripts of distinct origin.

These will equip designers with innovative and flexible solutions when faced with the challenge of combining scripts that are different in nature, direction and form. These systems are set on dual and harmonious typographic systems based on target audience requirements. In the particular case of Beirut, the target audience is the majority of readers equally comfortable in two languages.

According to Elam, designers are unaware of the typographic systems possibilities that other systems hold for them (Elam, 2007). She proposed eight different systems: axial, bilateral, radial, dilatational, grid, random, transitional, and modular, that help designers create compelling layouts by exploring beyond the traditional grid. I have adapted three of Elam's systems: axial, bilateral and random to fit the bilingual layout requirements and integrated the rest of her typographic systems into three new developed bilingual structures: mirroring, interlacing and complementary (figures 9).

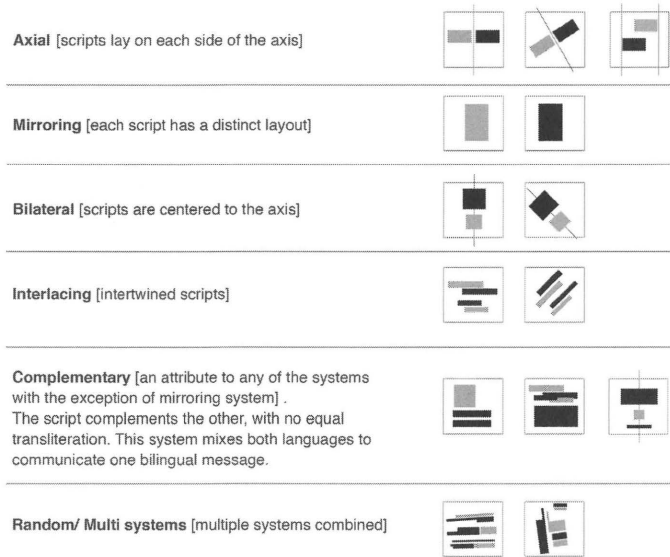


FIGURE 9 Diagram of the six new proposed bilingual system. Latin script is represented by the black color and the Arabic script by the grey color.

For a better understanding of these proposed bilingual structures, an explanation of each system will follow. I illustrate the proposed six bilingual systems using diverse visual examples⁸ as well as graphical representations that I developed to better comprehend the relationship of both scripts. These graphical representations compute the volume allocated for each language; grey color represents the Arabic script and black color represents the Latin script. This chart communicates the visual ratios of the two scripts reinforcing the difference in volume between scripts and demonstrating that most frequently the Latin script is larger, as described earlier. It highlights the importance of script volume leading to a better understanding of bilingual structures. This difference in volumes supports the analytical fact of both scripts differing in structure and dimension. In addition, the arrows located in the black and grey areas represent the direction of each script showing how both scripts interact.

THE SIX PROPOSED BILINGUAL SYSTEMS

I: BILINGUAL AXIAL SYSTEM

The bilingual axial system is where each script (Arabic + English /French) lays on the side of a vertical or horizontal axis. This structure is widely used in bilingual catalogs and book designs, keeping the scripts independent from each other. It allows designers to place the scripts individually on one side or the other of a single axis, which creates an invisible divider (*figure 10*).

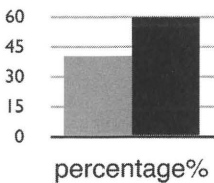


FIGURE 10 Vertical axial system. "Ayam Beirut Al Cinema'ia" Arab Film Festival Catalog. Beirut 2008 Arab Film Festival Catalog. Beirut 2

This system is also practiced with two parallel axes each introducing a script that faces the other (*figure 11*). However, if both scripts are aligned, then the opposite direction of the scripts poses a problem for the axial system, as the texts ideally should not move towards each other, but away from each other, unless the designer chooses to create a particular negative space between the two scripts.

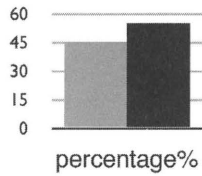
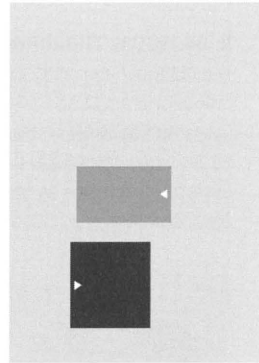


FIGURE 11 Horizontal axial system. Poster design by Malika Katishat. LAU, Beirut 2008

In advanced publications such as in posters designs, the designer can apply multiple axial systems combined to create an attractive and intricate composition (figure 12).

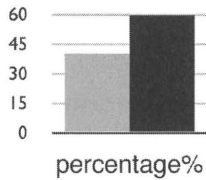
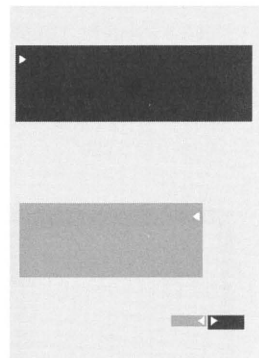


FIGURE 12 Vertical and horizontal axial systems. Poster design by Dana Charabati. LAU, Beirut 2008

II: BILINGUAL MIRRORING SYSTEM

The bilingual mirroring system is where scripts are "mirror" reflections and separated from each other. Most mirroring systems are used in bilingual package designs (figure 13), street signs, business cards and brochures. The mirroring system comprises of two parts with equal visual density, each containing exclusively one script.



FIGURE 13 "Leaves" tea package design by Farah Kalash. LAU, Beirut 2008

This system is widely used in brochures and books where the treatment of texts is equal yet separate. It deals with single script model that is convenient for lengthy texts to keep it intact without the distraction of the other script, thus making it easier to read. For instance in Figure 14, the scripts are facing each other, each placed on a flap of the cd booklet, displaying an equal text volume, and are divided by the center CD holder.



FIGURE 14 "Darwish" CD design by Randa Abdel Baki. © Forward Music 2009

Many designers choose this system as it deals with scripts distinctly, without handling the complexity of bilingual layouts. However, they have to understand even though the scripts are not combined together they still have to work

together, thus the importance of harmonizing bi-scripts as discussed earlier. The most common and weak application of the mirroring system is exhibited in the vernacular presentation of shop signage and adverts. These bilingual layouts are not integrated since the treatment of both types is neither compatible nor harmonious (figure 15).

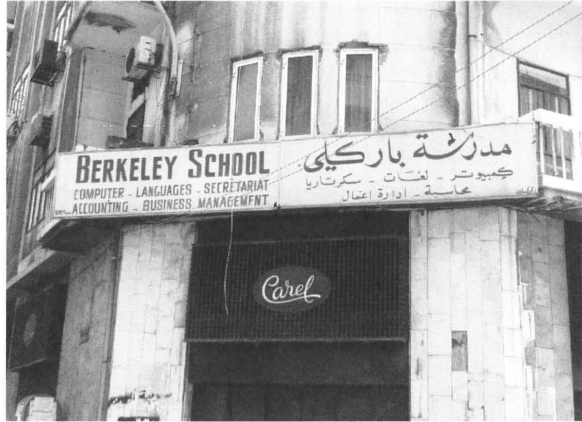


FIGURE 15 Berkeley School bilingual sign. Beirut 2012

III: BILATERAL SYSTEM

The bilateral system is a symmetrical structure, where both scripts are centered on the same single axis. This organizational system separates the two scripts from each other, thus making the selection of language easier for the reader. In other words, the reader can immediately discern which language is easier to follow. The volume of scripts adopted in this system is mostly equal. It is mainly used in public bilingual city signs (figure 16).

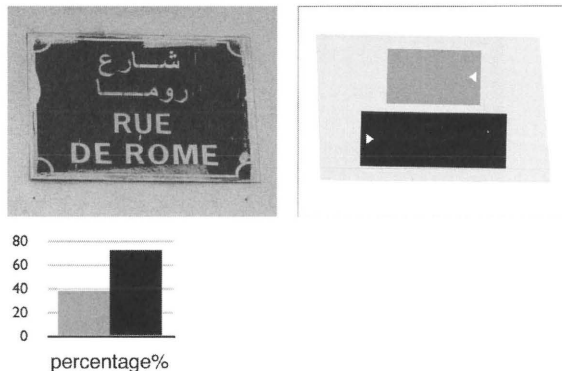


FIGURE 16 Street sign. Beirut

The practice of bilingual bilateral system is common and predictable, since it requires keeping both scripts separate and centered to the same axis. This simple bi-structure relies mostly on the choice of corresponding and harmonious scripts that are centered to one axis.

In many existing cases when the typeface treatment is not studied then the final outcome of the layout is weak. (figure 17) An effective treatment of bilateral system is when used for bilingual indorsed display sign. (figure 18)

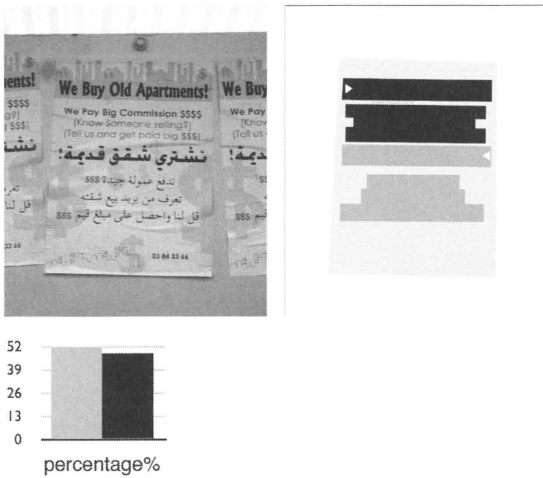


FIGURE 17 Flyer posted on the walls of Beirut 2009

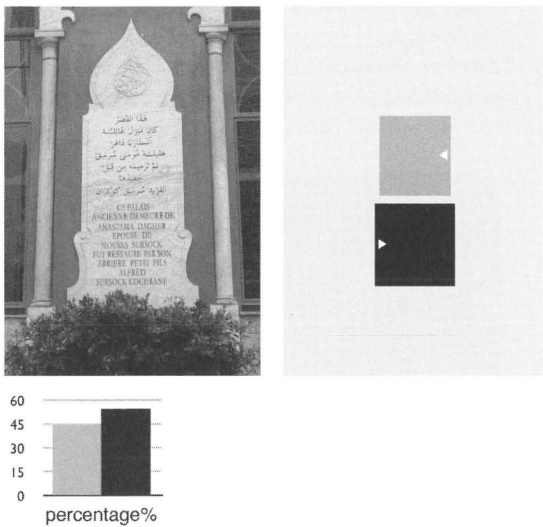


FIGURE 18 Sursock Cochrane Palace sign. Gemayze. Beirut 2010

IV: INTERLACING SYSTEM

The interlacing system is where intertwined or interlacing scripts display an interweaving of the two languages. The two languages are combined without a conspicuous axis. This system has the advantage of blending together the two scripts and making the separation of scripts seamless. This bilingual layout system gives the impression of having one unified body text where the volume of each script is no more crucial as they seem to become one unit (figure 19).

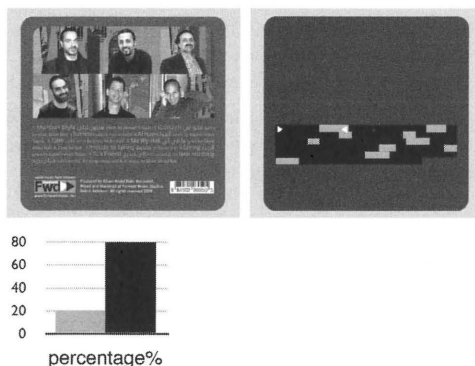


FIGURE 19 "The Last Communiqué" back cover design by Randa Abdel Baki. Forward Music 2010

In addition, this system can be combined with other systems such as bilateral or axial as illustrated in Figure 20, where the bilingual text is flushed to the right side axis, having an interlacing axial system. This advanced combination of two layout systems helps the designer to explore a wider range of sophisticated bilingual compositions aiming to unify both scripts into one.

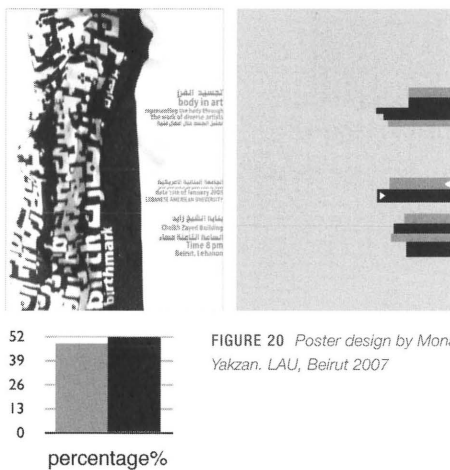


FIGURE 20 Poster design by Mona Yakzan. LAU, Beirut 2007

The interlaced system generates a blended visual message that creates a unified dynamic content. The designer has to understand that this bilingual system is inappropriate for lengthy text.

V: COMPLEMENTARY SYSTEM

The complementary system features a layout structure where one script complements the other. It is an attribute to any of the proposed bilingual systems with the exception of the mirroring system that has equal content and cannot be associated to a dual complementary combination. The complementary layout designs could be described or characterized as axial complementary (*figure 21*), bilateral complementary (*figure 22*), intertwined complementary (*figure 23*) or random complementary that will be discussed further in this paper. (*figure 24*)

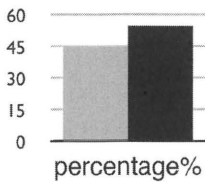
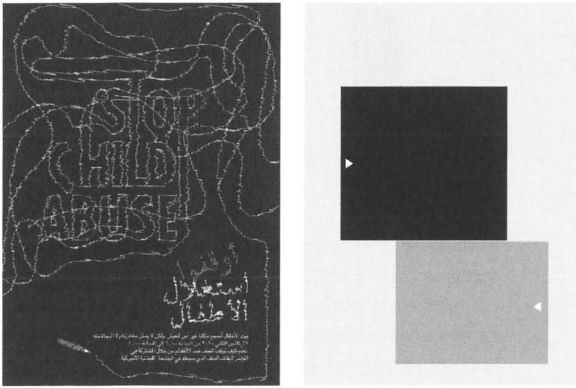


FIGURE 21 Axial complementary systems. Poster design by Yasmine Salami. LAU, Beirut 2010

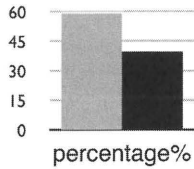
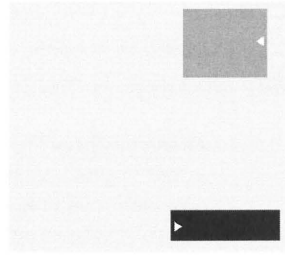
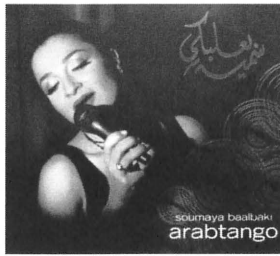


FIGURE 22 The Arabic calligraphy complements the Latin script. "Arabtango"
CD cover design by Randa Abdel Baki. © Forward Music 2009

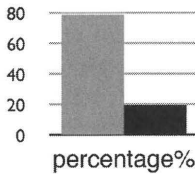
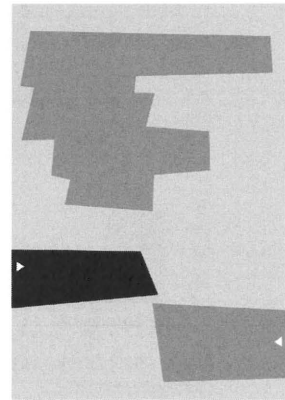


FIGURE 23 Poster design by Dunia Nassar. LAU, Beirut 2011

In this case, the designer should keep in mind his priority audience. If the viewer is primarily an Arabic reader, then the main information will be presented in Arabic script and vice versa.

Complementary systems are useful in contexts where the priority audience is clear and the information in the secondary language is merely present as a reference point.

As seen in Figure 25, the car brands are clearly recognizable in their original language and script. However, the potential customers need the information in Arabic. Therefore, the brands' logotypes are the only information in Latin script and the rest is in Arabic.

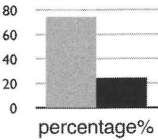
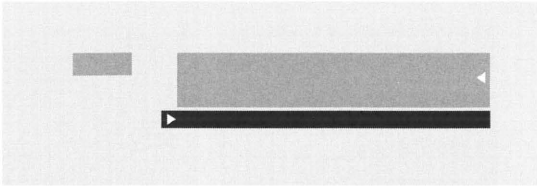


FIGURE 25 Street shop banner. Car brands are represented by Latin Logotype. Gemayze Beirut. 2010

VI: RANDOM SYSTEM

The random system consists of multiple systems combined where the scripts appear to follow no specific pattern. The combination of different systems enables a complex layering of information. Different factors, such as priority audiences, locality and hierarchy of information within the layout and direction of the texts can dictate the combination of systems. For example in Figure 26, the book cover design displays a random structure where the Latin script is primary and Arabic script presents the same information yet in smaller script for the local readers. This is further demonstrated in the percentage chart, which clearly conveys that the Latin script visually dominates the Arabic script in this particular example. Another

combination of multiple visual systems is presented in Figure 27. It is comprised of intertwined and axial structures, including the same content in both languages.

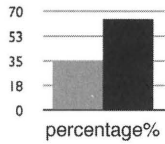


FIGURE 26 "Ayam Beirut" book cover. 2008

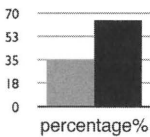
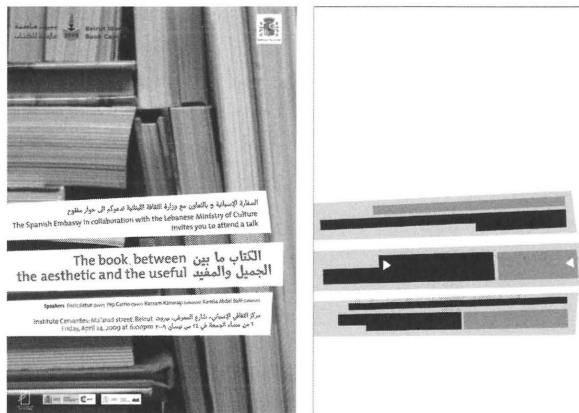


FIGURE 27 "The book between the Aesthetic and the Useful" Conference. Poster design by Randa Abdel Baki & Bassam Kahwagi. 2009

In other instances, the random system can also feature the complementary attribute, blending multiple compositional systems with variable contents. This means that the Latin and Arabic text complete each other instead of equally reflecting each script (*figure 28*).

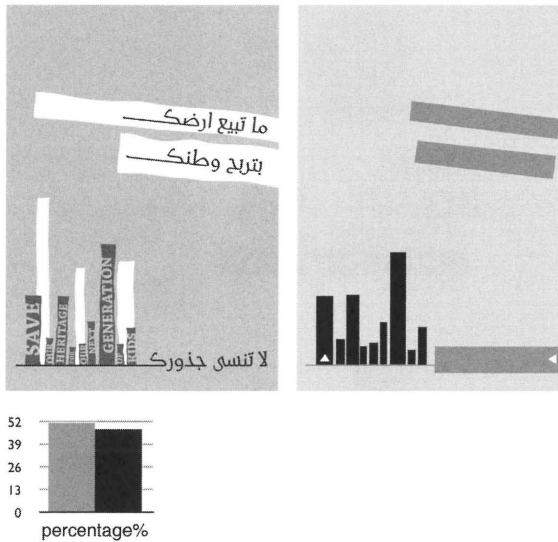


FIGURE 28 Poster design by Aleen Chehayeb. LAU, Beirut 2011

The purpose of this visual system is to produce a fusion of dynamic bilingual scripts while keeping the design cohesive.

DISCUSSION

In order to achieve a harmonious bilingual system the designer has to keep in mind various criteria such as appropriating complementary typefaces, hierarchy, direction of reading, legibility and contrast. The six proposed bilingual systems articulated above showcase a broad range of bilingual design solutions and offer designers, educators, and students the tools to expand and explore further bilingual systems. These bilingual systems provide the tools that can be applied to solve specific design problems. However, this dual layout approach is still in its infancy. It illustrates a complex visual structure for bilingual readers, which adds an extra layer to the understanding of visual communication while offering the viewer the choice of reading both scripts.

The specific challenge of bilingual systems remains for designers to create symbiotic designs that enrich the emerging global dialogue while preserving local culture specifics.

In bilingual design, the most important challenge remains to maintain harmony between the two languages. In a visual culture dominated by Western influence, it is important to bring Arabic script up to par in novelty, innovation, and legibility. Bilingual material possesses culturally sensitive duality, which poses a critical contemporary question for the local designers in the Middle East. The specific problems posed by the combination Arabic and Latin scripts are relatively novel and made acute by the cultural necessities of globalization. In this sense, the specific case study of Lebanon is an important beginning for this larger conversation on the use of bilingualism in design.

The duality of scripts, as illustrated in the case study of Beirut, can also be expanded to other scripts such as the Cyrillic, Hellenic, and Sanskrit alphabets. The specific issues posed by Arabic can be used as a foundation to expand on, as script-based differences will inevitably produce different affects. The juxtaposition of different languages will pose challenges that can only be overcome through the understanding of specific dualities.

The inherent hybridity in bilingual design layouts is an immediate rendition of a sense of belonging and the fusion of two languages is indicative of a cultural exchange.

The research in dualities and hybridity also furthers our understanding of design as a form of communication, a contemporary mode of research, and an intercultural tool. This opens up a new horizon of possibilities in places where there is a plurality.

The integral relationship between everyday life and design also accentuates the importance of carrying the permeability of this study in both the commercial design world and the more abstract understanding of these concepts in educational contexts. To put in harmony two scripts of different language in various formats such as adverts, posters, books, and packages can be enhanced with the application of the six proposed bilingual systems.

It is also of note that the general concept of duality can be applied to many different media and any artistic realm in which cultural production takes place. As cultural nuances become more prominent

in contemporary design, the need to integrate the differences as well as the similarities into the quotidian becomes more pressing. The abstract and the utilitarian come together in bilingual design layouts that can be used as a framework for other forms of hybridity.

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REFERENCES

Bringhurst, R. 2002. *The elements of typographic style*, 2nd ed., Hartley & Marks, Vancouver, 107.

Chahine, N. 2008. *Face to Face Interview*. <http://ilovetypography.com/2008/05/01/face-to-face-an-interview-with-nadine-chahine> (Accessed April 10, 2012).

Cleveland, P. 2008. *Aesthetics and Complexity in Digital Layout Systems*. http://www98.griffith.edu.au/dspace/bitstream/handle/10072/24181/49670_1.pdf?sequence=1 (Accessed May 12, 2012).

Coupland, N. 2010. *Welsh Linguistic Landscapes 'From Above' and 'From Below'*. Jaworski, A., ed. *Semiotic Landscapes: Language, Image, Space*. London: Continuum, 77-101.

Dalton Maag. 2012. Case Study Dubai Metro in Detail. <http://www.daltonmaag.com/news/135.html> (Accessed May 20, 2012).

Elam, K. 2007. *Typographic Systems*. Princeton: Princeton Architectural Press.

Haralambous, Y. 1998. *Simplification of the Arabic Script: Three Different Approaches and their Implementations*. Lecture Notes In Computer Science. Berlin: Springer-Verlag, Vol. 1375.

Linotype. 2012. Badiya Family. <http://www.linotype.com/341148/Badiya-family.html> (Accessed April 11, 2012).

Nemeth, T. 2006. *Harmonization of Arabic and Latin Script. Possibilities and Obstacles*. University of Reading.

Salibi, K. 2003. *A House of Many Mansions - The History of Lebanon Reconsidered, New Ed edition*. London: B Tauris & Co Ltd.

Smitshuijzen AbiFares, H. 2001. *Arabic Typography a Comprehensive Sourcebook*. London: Saki Books.

Smitshuijzen AbiFares, H. 2009. *Typographic Matchmaking: Building Cultural Bridges with Typeface Design*. Pap/Cdr BI Edition. Amsterdam: BIS Publishers.

Tracey, W. 1975. *Advances in Arabic printing, British Society for Middle Eastern Studies, Durham*: British Society for Middle Eastern Studies.

ENDNOTES

1 As a graphic designer and an academic working and teaching in Lebanon, I have thoroughly observed and analyzed many typographic bilingual layouts displayed in the city of Beirut for at least two decades and have directly worked with bilingual design issues in my teaching career.

2 Bi-scripts will be discussed later in this paper, as they represent a major component to design successful bilingual layouts. They display the overall texture, contrast and form of the layout.

3 I use the term “harmonious” and “integrated” to refer to a relatively comparable and equal treatment of both Arabic and Latin scripts.

4 Nadine Chahine, font designer and Arabic specialist at Linotype GmbH, handles Arabic-related projects. A few of her Arabic fonts are: Frutiger Arabic, Palatino Arabic, Badiya and Janna.

5 Yara Khoury type designer and design director at Al Mohtaraf (www.mohtaraf.com) design house. Her work focuses on designing corporate identities and publications for the Arab world and developing Arabic typefaces.

6 Pascal Zoghbi is a typography instructor and type designer specialized in Arabic fonts. He designed contemporary Arabic fonts for leading Middle Eastern Newspapers, magazines, and urban spaces.

7 In the advanced typography class that I taught at LAU, I requested from my students to develop bi-scripts in order to understand the differences of scripts and their challenges before moving forward and looking at the big picture of designing successful bilingual layouts. This was further developed in another paper: Coupling Bilingual Typefaces.

8 The selected visual examples are depictive of bilingual applications in the city of Beirut and demonstrate the integrated new bilingual layout systems. They are based on urban street signs, my students' work at LAU and a collection of personal design work.



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