

Morotugal

*Bilingual Typeface: Bridging
Portugal and Morocco*

Student: Lamyia Sefyani Lakrizi

Mentor: Ricardo Santos

Escola Superior de Arte e Design de Caldas da Rainha

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Abstract

This research attempts to show considerations related to typeface design, specifically for printed materials used to showcase the cultural connections between Morocco and Portugal. Morotugal hybrid typeface will mostly appeal graphically and visually amusing toward a specific target, which are Portuguese and Moroccan dialects speakers. Albeit Portugal being only few miles away from Morocco, it seems that the relationship between the two countries are not often talked about. This is where this research comes in handy. A common typeface is thus needed to describe and showcase not only the diplomatic relations but also the cultural similarity and common words between these nations. This thesis sheds light on methodological techniques while harmonizing and exploring bilingual typefaces. It also investigates different attempts to improve experimentation and blend and homogenize Arabic (Maghribi Mabsut Style) and Latin alphabets, alongside a survey that was conducted to collect large amounts of data to better understand my target audience. The purpose is to explore different legible approaches and create a unified visible typographic identity. Ultimately, the goal is to create a distinct typeface that will showcase and create a visual identity for the bilateralism between Morocco and Portugal, focusing specifically on the common words used in both countries.

Keywords

Bilingual, Arabic, Maghrebi, Mabsut, Latin, Hybrid, Calligraphy, Typography, Graphic Design, Morocco, Portugal.

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Glossary

Abjad: Derived term from the first four letters of Arabic script (alif, ba', Jim and dal) in their traditional order and used to designate either (1) a type of writing system that denotes only consonants (Arabic is the most widespread of these systems), or (2) the alphanumeric system of numbering in which the letter correspond to numerical values: alif for example, is equivalent to one, ba' to two, etc.

Aljamiado or Aljamía: Manuscripts that used the Arabic script for transcribing European languages, especially Romance languages such as Mozarabic, Aragonese, Portuguese, Spanish or Ladino.

Arabic: The Semitic language of the Arabs, spoken by some 150 million people throughout the Middle East and North Africa.

Arabization: The process of developing and promoting Arabic into a nation's education system, government, and media in order to replace a former language that was enforced into a nation due to colonization.

Arabizi: A widely used alternative for the Arabic script in computer-mediated contexts and social networking sites, which has emerged as a result of the Arabic script being unsupported in technological tools and Internet resources.

Ascenders: Upward stem part of lowercase characters that extends beyond the meanline and x-height of a font, like letter (t), (h), (f) or (l).

Baseline: It is the line where the characters are set. This is the most stable axis along a line of text, and it is a crucial edge for aligning text with images or with other text.

Body size: In graphic terms, the height of the face of the type, which in typographic terms is the depth of the body of the type.

Byzantines: The Byzantine Empire, also referred to as the Eastern Roman Empire or Byzantium, was the continuation of the Roman Empire in its eastern provinces during Late Antiquity and the Middle Ages, when its capital city was Constantinople.

Calligraffiti: An art form that combines calligraphy, typography, and graffiti.

Descenders: Opposite of an ascender, downward portion of a letterform that extends below the baseline, like (j), (g), and (q), the descent marks the lowest point that their lines meet.

Dinar: The basic monetary unit of Serbia, and certain countries of the Middle East and North Africa.

Finials: Also known as 'exits' or 'serifs', they are the protrusions of a glyph. Serifs, for example, have finials. When a typeface has no finials they are called terminals (sans-serif).

Font: The word font refers to a set of printable or displayable typography or text characters in a specific style and size.

Garb Al-Andalus: West of the Muslim Iberian Peninsula that encompassed the center and south of Portugal (Algarve), and also the extreme west of the current Spanish Extremadura and Andalusia regions.

Glyph: An incarnation of a character.

Ink: The most important tool in a calligrapher's kit is ink, traditionally it was collected from oil lamps, the smoke the oil lamp produces sticks to the wall and from wall, they'd collect the soot and made ink out of that. That was the perfect blackest ink that they had at that time.

Ink pot: It's a personal choice for a calligrapher, the ink pot contain silk threads that are soaked in ink to prevent the ink to spill.

Islamic: Related to the religion Islam.

Islamic Calligraphy: The artistic practice of handwriting and calligraphy, in the languages which use Arabic alphabet or the alphabets derived from it. It includes Arabic, Persian, Ottoman, and Urdu calligraphy. It is known in Arabic as khatt Arabi (خط عربي), which translates into Arabic line, design, or construction.

Kerning: The process of adjusting the spacing between characters in a proportional font, usually to achieve a visually pleasing result. Kerning adjusts the space between individual letterforms, while tracking adjusts spacing uniformly over a range of characters.

Ligatures: Glyph that combines the shapes of certain sequences of characters into a new form that makes for a more harmonious reading experience.

Maghrebi Style: Refers to a loosely related family of Arabic scripts that developed in the Maghreb (North Africa), Al-Andalus (today known as Iberia) and Sudan during the Islamic conquest around 661 – 750 CE.

Moors: Exonym term first used by Christian Europeans to designate the Muslim inhabitants of the Maghreb, the Iberian Peninsula, Sicily and Malta during the Middle Ages. The Moors initially were the indigenous Maghrebian Berbers. The name was later also applied to Arabs and Arabized Iberians.

Naskh: Literally, copying, transcription, the most common script of the Six Pens, used for regular transcription. The script is the most ubiquitous among other styles, used in the Qur'an, official decrees, and private correspondence.

Nastaliq: Nastaliq calligraphy was developed in the 14th century in Persia as a script for writing poetry, and it quickly became popular for its beauty and versatility. Nastaliq combines elements of both the Naskh and Ta'liq scripts, with the horizontal lines and regular letter shapes of Naskh and the graceful, flowing curves of Ta'liq.

Phonetic Transcription: Visual representation of speech sounds by means of symbols.

Qalem or Reed Pen: Writing implement made by cutting and shaping a single reed straw or length of bamboo. The Qalam has got different kinds like : Bamboo pen, reed pen and there are certain pens that come with different angles and making.

Reconquest: Military, politic, religious expansion of the Christian kingdoms in the Al-Andalus territories rule by the Muslims in the Iberia Peninsula (781-1492 A.D).

Romance languages: Less commonly referred to Latin languages or Neo-Latin languages, are the various modern languages that evolved from vulgar Latin between the 3rd and 8th centuries.

Romanization: Romanization or transliteration in linguistics, is the act or process of writing words using a different alphabet. Methods of romanization include transliteration, for representing written text, and transcription, for representing the spoken word, and combinations of both.

Sans-serif: Typographic style name for characters without serifs.

Serif: A stroke added to the beginning or end of one of the main strokes of a letter.

Shehada: The central statement of faith in Islam, recited ceremonially by new converts and consisting of an affirmation of the uniqueness of god and of Muhammad as god's prophet.

Syriac: Dialect of Aramaic, an ancient Semitic language that was spoken in the Middle East. It originated in the region that is now known as Syria, and was widely spoken throughout the Near East in the early Christian era.

Tracking or Letter-spacing: Process of series of letterforms or characters to have their horizontal spacing widened or shrunk. It's an important process that improve the readability of texts.

Type Color: Refers to how heavy or dense the text appears on the page. Text can be easier to read if the type color and white space are used in the right proportions.

Typeface: A set of characters, numbers, and many other typographic resources, from a particular design, that can include variations in size, weight, slope, width. Each of these variations of the typeface is a font.

Typography: A collection of characters, numbers, punctuation, and other symbols used to set text.

X-height: Reference measure to define the size of the typeface.

1.1 Overview and Relevance

The impacts of colonialism include many aspects and facets, but one of the most interesting ones is the blend between the native language and the colonial language. The world's countries cannot be portrayed as solely having monolingual identities anymore and we can finally say that each language in the world is definitely influenced by a past history of colonies. The influence of European languages in North Africa is one such example. Within the Moroccan dialects there are different variations of the influence of European language like French, Spanish and a small percentage of Portuguese. Similar to that, the Arabic influence in the Romance languages from Iberia Peninsula like the Spanish language and culture that contains more evident Arabic influence from language, religion, architecture, ceramic, food, etc., thanks to the long period of Al-Andalus (Moors) domination.

The cultural and intellectual legacy inherited and shared by joining the Portuguese and Moroccan nations is indeed minuscule. Yet it is still valid in the contribution and development of those two countries. The study of loanwords or adopted words from languages coming in contact with each other, may be a valuable device in tracing encounters and exchanges between diverse communities within the past. In today's world there are many words that we don't know are loanwords from some languages and that's what is happening in Morocco and Portugal. Putting the spotlight on to the loanwords and finally creating a bridge between the two nations by encouraging their similarities is a great way to build a resilient bilateral relation.

1.2 Aims

This research aims to produce a historical bond between Portugal and Morocco by creating a typographic journey between the Maghrebi Mabsut style with the Latin one, exploring alternatives and experimental ideas. It's about creating a multi-language display typeface merging Arabic and Latin that will later on be used as visual identity alongside including loanwords from both languages. This hybrid typeface will be created once the Arabic and Latin typefaces influenced by the Maghrebi style are designed which motivated this research to contribute to learning about type design shoulder-shoulder with building a prototype to test, within Moroccan and Portuguese speakers.

1.3 Research Questions

-How can typography be a part of visual identity?

-How do we combine Moroccan and Portuguese loanwords and create a visual identity from them?

-How can typeface design be influenced by Moroccan and Portuguese dialects ?

1.4 Methodology

According to Mia Cinelli in TEDxUofM (2016), “Everything you ever read is in some kind of typeface, and all typeface are designed to say something specific, so when something is typed in a typeface then what it said it’s influenced by how it is set”. What matters here is how to present a typeface visually and that is where typography steps in making this study take a new viewpoint in our system of methods. The Morotugal typeface study was based on applied research using the practical application of the calligraphy tools to get to a spontaneous, non-planned result, being the most suitable approach that will lead us to answering the research questions. This thesis used non interventional methodology with qualitative methods, like bibliographic reviews targeting history, culture, religion, calligraphy and type design, which has guided me in designing my own typefaces. The research was situated in an existing body of work using case studies to gain an in-depth understanding of a creation of typefaces and hybrid letterforms.

The methodological steps of this thesis are:

- Historical review over the shared history of Portugal and Morocco.
- Historical review from the Arabic and Maghribi style development.
- Historical review of the influence of Portugal on Morocco and the vice versa throughout history.
- Research and review about digital type design.
- Review and case studies on ways to achieve harmony between Latin and Arabic scripts.
- Gathering insights from Portuguese and Moroccan speakers on the prototype through a survey.

1.5 Document Structure

The study will be split to two parts: The first part will be tackling case studies and collecting data and tools that will be used for the practical research to enforce the results that we conclude from the similar researches. On the other hand, in the second part concerns methodological research regarding the loanwords between the two languages, Portuguese and Moroccan dialect, alongside creating a type design prototype project designed to make a typographic blend.

2.1 Common History

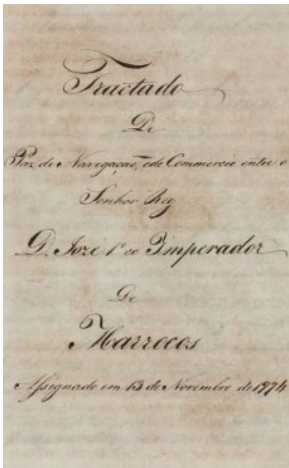


Figure 1: Treaty of peace, navigation, and trade between Mr. Rey D. José I^o and the Emperor of Morocco assigned on November 13, 1774.

The history of the Arab period in the Portuguese territory is indeed nowadays full of discontinuities or dusk zones that have, as it were, gradually been filled and illuminated by the advances of the still very scarce research. This case is all the more blatant as it is certain that this period, due to its duration and cultural impact, was without a doubt the most striking, at the level of a remote source, of what we call Portugal. It all started when Al-Andalus invaded most on Spain and Portugal back in the 8th century, which left a historical impact on Portugal in so many aspects, Garb Al-Andalus (West Andalusia) is the name given by the Muslims in Andalusia to the region of the West (Portugal) during the period of their rule of those lands between 711 – 1249 A.D.

This period began with the fall of the Christian Visigothic kingdom after Tariq ibn Ziyad invaded Iberia and established a territory under the control of the Umayyad dynasty. During the Caliphate of Córdoba from 929 to 1031 A.D, Al-Andalus was a centre of learning, and the city of Córdoba, the largest in Europe became one of the leading cultural and economic centers throughout the Mediterranean Basin, Europe, and the Islamic world. The Caliphate of Córdoba effectively collapsed during a ruinous civil war between 1009 and 1013 A.D, although it was not finally abolished until 1031 A.D when al-Andalus broke up into a number of mostly independent mini-states and principalities called Taifas: Almoravids, Almohads, and Marinids.

Fast Forward to 1415 A.D After the Reconquista, Portugal expended into Africa, starting with the territory of Morocco in 1415 A.D, by occupying cities specifically the conquest of Ceuta, and establishing fortified outposts along the Moroccan coast. Portuguese Morocco is the name given to the part of Morocco militarily occupied by Portugal from August 15, 1415, when Ceuta was taken by João I, until March 11, 1769 A.D, when Dinis Melo e Castro was the last governor and captain-general of Mazagan. Neither-less, Morocco-Portugal relations is a relation that is not so much spoken about even though there's a rich similar history that bonds the nations together. It's true the Portuguese occupation in Morocco weren't that long compared to the French or Spanish colonization, additionally that short time of period still have a percentage of influence in the cultures.¹

Moreover, the Portuguese presence in Morocco extends from 1415 to 1769 A.D marking history once again. By 1769 A.D, the governments of Morocco and Portugal concluded a peace and friendship agreement, one of the oldest bilateral agreements of both nations that was signed by the king D. José the first and the Emperor of Morocco on November 13, 1774 A.D, the coastal cities that Portugal was occupying in Morocco are: **Ceuta** (1415-1668 A.D), **Alcácer-Ceguer** (1458-1550 A.D), **Tangier** (1471-1661 A.D), **Azila** (1471-1549 A.D), **Safi** (1488-1541 A.D) and **Azamor** (1513-1541 A.D). This period of time marked the history and left some historical monuments in both countries, leaving the nations adapting to the influence of two novel cultures and adjusting them to their daily lifestyle.²

2.2 Cultural Connections

Portuguese heritage in Morocco is one of the most shared and prominent bonds between the nations. The architecture heritage showcase how deep the history of those nations is. Moreover, one of the most famous heritages in Morocco left by Portugal is the Portuguese fortifications that is located in Mazagan, which is now part of the city of El Jadida, 55 miles southwest of Casablanca. These fortifications were established

¹ <https://www.pathsoffaith.com/en/islamic-legacy>, last visit: 6 august 2022.

² <https://historiasdeportugalemarrocos.com>, last visit: 6 august 2022.

as a fortified colony on the Atlantic coast at the beginning of the sixteenth century. The Moroccans then recaptured this colony in 1769 A.D. The fortifications, in addition to its prominent forts and ramparts, are a clear example of Renaissance military architecture. The Portuguese buildings that are still visible today are the Basin and the Church of the Ascension, which were built in the Manueline style (late Medieval age). The Portuguese city of Mazagan, one of the first installations built by Portuguese explorers in West Africa on their way to India, is an extraordinary witness to the mixed influences of Portuguese and Moroccan cultures that are evident in architecture, technology and urban organization³.

On the flip side, the influence of Moors in Portugal is still alive. Much of Portugal lived under Islamic rule for over 500 years from the early 8th century, when North African invaders overturned the Germanic kingdoms that had held sway over the Iberian Peninsula since the fall of the Roman Empire. The Portuguese Reconquista gradually forced the Arabs south, driving them from their last strongholds along the Algarve coast in 1249 A.D.

While seven centuries of Arab rule in Andalusia produced architectural treasures like the Giralda in Seville, Córdoba's Great Mosque and the Alhambra palace in Granada. The Islamic ruling period in Portugal left few major monuments, mostly architectural from the defense and castels like in Silves, Lisboa, Sintra, etc. The Al-Andaluz period brought also different urban configuration into the cities and villages, as well as some toponomic names of different places in the country. Portugal was always on the outer edge of the Muslim world and its frontier rulers invested little in grandiose construction, nevertheless the intangible influence of the centuries of Moorish rule in Portugal are immense even if the physical remains are few.

The country's best-know example of Islamic architecture is in the small, southeastern town of Mértola where the slender columns and outline of a mihrab in the parish church recalls that the delicate white building was once a mosque⁴.



Figure 2: Church of Our Lady of the Assumption, Mértola Mother Church.
© Celestino Manuel.

In fact Mértola each year celebrate Islamic Festival that is based on the archaeological work carried out on the heritage of Mértola, in particular, that relating to the Islamic period, carried out, since the late 1970s.

In the Islamic period, Mértola strengthens its position as the westernmost port in the Mediterranean reaching the peak of its mercantile function and assumitself as a privileged space for meeting cultures. For all this, it was almost natural that in 2001 the 1st edition of the Islamic Festival of Mértola appeared integrated into the poster of the events of the Municipality. There are countless places that combine history and heritage rich in memories evoking the Islamic presence specifically in everything relating to archaeology. Many rich treasures were found from interesting fu-

³ <https://www.portugalvisitor.com/history/islamic-period-portugal>, last visit 25 April 2022.

⁴ <https://www.festivalislamicodemertola.com>, last visit: 9 Jun 2022.

neral tombstone, ceramic pots, tiles with decoration using the dry rope technique or sets of Islamic coins, etc. Every nation's gastronomy reflects the historical cultural characteristics of that country. Every society has continued the food culture from the society that existed before itself, every country has adopted a different food culture from a neighboring society, and every society has taken the food culture from those who migrated from countries far away. The formation of a country's gastronomic culture is influenced from their history and survival struggles. Country relations in old historical times play a very important role when assessing cuisines of countries. The similarities of Arabic cuisine in Portuguese gastronomy are marked in many popular dishes in Portugal. It was mostly influenced during the Moorish invasion period, and luckily the Portuguese kept the legacy alive adapting it to their culture, we can still see the influence in their dishes of the south of Portugal until today, except for all those directly linked to the consumption of pork. Islamic communities had a very strong trade between different countries even to Asia, specifically China. Portugal did benefit from those trades where different new fruits, vegetables, and spices enter in Iberia Peninsula by the Mediterranean like lettuce, coriander, parsley, oranges, lemons, figs, almonds, etc.

One of the famous influenced dish is Açorda in Portuguese or Tarid in Moroccan dialect, originally ath thurdâ الثرداء in Arabic which means soaked bread. Açorda inherited from centuries ago, when the Moors were already keen on preparing food in simple ways that would highlight seasonal vegetables and preserve their nutritional value after cooking.

The cuscous in Trás-os-Montes, Northeast of Portugal was introduced and made by the Sephardic community (Jewish), even though not as popular as decades ago but the region is still known of their Cuscous or Couscous, the famous Moroccan dish, but this time Cuscous was adapted to the Portuguese culture and is typically prepared almost like a risotto, in a rather saucy preparations with greens or mushrooms. Both in Arab and Portuguese culture, have an important similarity which is cherished by both cultures: The meal rituals at the table, surrounded by family and loved ones, all the influence and similarities between Morocco and Portugal have been valued and indirectly transmitted from generation to generation keeping the legacy of the ancestors alive⁵.

In other hand, the Islamic heritage in Portugal has left remarkable fingerprints on the country's development over time. Great figures of Al Andalus had a deep connection to Portugal, such as Al-Mutamid ibn Abbad (1040-1095 A.D), the poet king born in Beja, who became king of the Taifa of Seville; Ibn Qasi (died 1151 A.D), a native of Silves, who rose to power in the most important cities of the Garb at the time, Mértola and Silves, and whose temporary alliance with king Afonso Henriques allowed opposition to the Almoravids; Ibn Ammar (1031-1086 A.D), poet born in Silves, who became vizier in Seville; Ibn Muqana, important Arab poet born 1042 in Alcabideche.

2.3 Dialect influence

The relationship between the populations of the current territories of Portugal and Morocco has inevitably left its mark on the Arabic dialect spoken in Morocco, but its perception is not clear and is not properly clarified, as a result of the lack of a scientific and rigorous study on the subject. It is undeniable that Moroccan Darija also has Portuguese influence, which dates from the period of the establishment of Portugal's strongholds on the coast of Morocco from the 15th century, a period that coincided with the expulsion of the Moors from Portugal. That is, between the 15th and 18th centuries.

⁵ <https://www.tasteoflisboa.com/blog/portuguese-foods-inherited-from-the-moorish-occupation/>, last visit: 25 April 2022.

The Portuguese language arrived to Morocco through the expelled Portuguese Muslim and Jewish and through the Portuguese borders and inhabitants of the strongholds established by Portugal on the Moroccan coast. Othmane Mansouri the author of "Portugal e o Magrebe" says in an article online that «when the Portuguese abandoned their borders, they took everything with them. However, there are cross-influences in the Portuguese and Moroccan languages. Even though there are still studies developed, we can see that there are numerous words, such as "festa" in Portuguese or "party" in English, that are identical in both languages⁶».

Unfortunately, there is no in-depth survey of the Portuguese terms that make up Moroccan Darija, and it is quite common to attribute many of them to Spanish influence. However, in areas where the Portuguese stay was longer and more rooted, such as in the region of Tangier and Arzila and in the so-called Duquela, specifically on the Atlantic coast between Azamor and Safi, including El Jadida (Mazagão) and Oualidia. The influence of Portuguese is more evident, with some words remaining especially among the oldest inhabitants of the country.

2.4 Aicha Kandicha Myth

The history between Portugal and Morocco is very rich yet is buried deep into a circle that almost no one seems to want to shed light on. The two countries have more commonalities than they think, either it's the influence in their dialect or architecture or food industry, traditions, etc.

The Aicha Kandicha myth is one of the symbols of the influence or the results of the history between Portugal and Morocco from 1415 to 1769 A.D. Aicha Kandicha is a myth that have multiple version of the story, some says Aicha Kandicha was a Portuguese countess who fell in love with a wealthy merchant from Safi, where she went with the aim of marrying him. The countess converted to Islam and took the name of Aicha, having the habit of walking only at night without a veil and dressed in white, seducing and driving crazy the men who came across her, or a charismatic young legend who lured Portuguese soldiers before killing them during the war between Morocco and Portugal. It is said that, since her death, her ghost appeared at dusk, often near lakes, streams or by the sea, where Aisha tempted young people of marriageable age and then killed them. The name Kandicha is thus the countess's adaptation to Moroccan Darija, or Arabic dialect spoken in Morocco. The myth of Aicha even influenced the dialect of the city of Marrakesh, for example, in the creation of the adjective mkandech, which means sad or pessimistic, or the expression dayra ki Aicha Kandicha, or she looks like Aicha Kandicha, to designate an ugly or careless woman. Over time, the story of Aicha that has been passed down over time and is now an urban legend. Nowadays many adopted this myth into books or even movies like the movie "Kandisha" that was directed by Julien Maury, Alexandre Bustillo and released in October 2020, or the Aisha Kandisha novel that was written by Gloria Berrocal in 1999 in Tangier Morocco, carrying this myth throughout the years from generation to another.⁷

⁶ CHAUDIER, Julie. "L'héritage portugais au Maroc". Yabladi Mag, 13 de Junho de 2011.

⁷ <https://historiasdeportugalemarrocos.com/19/05/2014/aicha-kandicha/>, last visit: 5 march 2022.

Chapter 3: Framework and Case Studies

3.1 Arabic Alphabet

The origin of Arabic script first emerged in the 1st to 4th centuries C.E and came from the Aramaic⁸, it was used by the Nabataean⁹. The Arabic alphabets belongs to a group of Semitic scripts, it can be referred to Abjad¹⁰, because it is represented by the consonant. The written alphabet for numerous languages, including Persian, Malayalam, Urdu, Central Kurdish, Pashto, and Uyghur, is composed of Arabic characters. Arabic language has a great history and inheritance in the fields of literature. It is the language of the revelation that played a seminal role in the religion of Islam and in the civilization that prospered under Muslim contribution. The script created for composing Arabic was adjusted to fit other dialects, counting a few: Berber Dialects of North Africa. Sheila S.Blain (2006 p.3) mention that Arabic after Roman script is the segmental script most frequently used in the world today. Although the Arabic language has an official status in over 20 countries and is spoken by more than 250 million people extensively, It is the world's second most spoken language in terms of number of speakers.

ئ	إ	ؤ	أ	آ	ء
ج	ث	ت	ة	ب	ا
ز	ر	ذ	د	خ	ح
ظ	ط	ض	ص	ش	س
ل	ك	ق	ف	غ	ع
ي	ى	و	ه	ن	م

Figure 3: The 36 phonemes used in Arabic.

The Arabic alphabet, called Al-abjadiyah, has 28 characters, in total the language has 36 phonemes, six vowels with long and short forms of /a /, / i /, and /u /. Short vowels / ə /, / ɪ / and / ʊ / are called (ـَ) Fatha, (ـِ) Kasra and (ـُ) Damma.

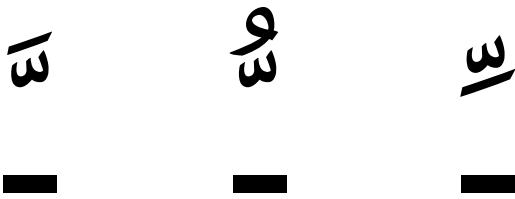


Figure 4: Short vowels in Arabic.

Long vowels / a /, / i / and / u / are called ا (alif), ي (yeh) and و (waaw).

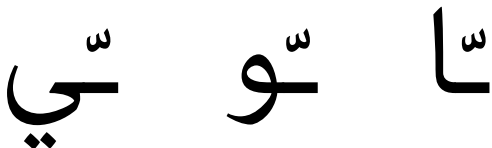


Figure 5: Long vowels in Arabic.

The form of each letter is determined by two factors: its position in the word – initial, middle, or final, and whether or not it connect to the letter that precedes it. A letter connect with a preceding character depending on its nature: six of the Arabic letters

⁸ One of the most well-known and widely used dialects of Aramaic is Syriac an ancient Semitic language that was spoken in the Middle East. It originated in the region that is now known as Syria, and was widely spoken throughout the Near East in the early Christian era.

⁹ Nabataeans were an ancient Arab people who inhabited northern Arabia and the southern Levant.

¹⁰ Abjad is a writing system used widely in pre-Modern times in which only consonants are represented, leaving vowel sounds to be inferred by the reader.

do not ligate to the following letter: و, ز, ر, ذ, د, ل, (ADḏRZU). The combination of position and ligation creates four-letter forms: a form for letterforms in the beginning of the word, a form for letters in the middle of the word that connect to the preceding letter, a form for final letterforms that connect to the preceding letter, and a form for final letterforms that do not connect to the preceding character. Middle letters that do not ligate to the preceding letter are written using the initial letterform.

3.2 Islamic Calligraphy

Arabic calligraphy is a traditional art form in the Middle East. It's also called Islamic calligraphy, which is a form of writing that became an important traditional art form in the Muslim world. The development of Arabic and Islamic calligraphy is strongly tied to the Quran; chapters and excerpts from the Qur'an are a common and almost universal text upon which Islamic calligraphy is based on. The first Arabic style that was created was the Kufic style that was supposedly developed around the end of the 7th century and was mainly used to write Quran, the style later developed into several varieties, including floral, foliated, plaited or interlaced, bordered, and square kufic. Islamic calligraphy developed from two major styles: Kufic and Naskh. There are several variations of each, as well as regionally specific styles. Arabic or Persian calligraphy has also been incorporated into modern art, beginning with the post-colonial period in the Middle East, as well as the more recent style of calligraffiti. Calligraphers have produce elaborate designs using Arabic script, ensuing to a variety of different Arabic calligraphic styles namely:

- **Kufi** (الخط الكوفي): Originated in the city of Kufa in Iraq during the 7th century. It is characterized by its angular, geometric forms and thick, heavy lines. The earliest known examples of Kufi calligraphy can be found on coins and inscriptions from this time period.

- **Farissi** (الخط الفارسي): Calligraphic style that has been developed over many centuries, starting from the early Islamic period in the 7th century CE. It is characterized by its curved and flowing lines, with emphasis placed on the visual beauty of the written word.

- **Naskh** (خط النسخ): Cursive style of Arabic calligraphy that emerged during the early Islamic period in Iraq, around the 9th or 10th century. It is known for its legibility, clarity, and even letter spacing, and is commonly used for writing religious texts like the Qur'an. Naskh features upright letters and does not use diacritical marks, making it easy to read.

- **Riqa'** (خط الرقعة): Type of Arabic calligraphy that emerged in the 10th century in the region now known as Iran. It is a cursive script that is known for its flowing, graceful lines and rounded forms. Riqa' is often used for decorative purposes, such as in manuscripts and inscriptions.

- **Maghribi** (الخط المغربي): Cursive script that developed during the Almohad dynasty (12th-13th centuries CE) and became popular throughout the Maghreb region, especially for writing official documents and manuscripts. It is known for its legibility and simplicity.

- **Thuluth** (خط الثلث): Arabic calligraphy style that emerged in the medieval period, likely in the 13th century. It is known for its elegant, curved letters and decorative flourishes. Thuluth is often used decoratively in mosque inscriptions and Qur'anic manuscripts. It features large, sweeping curves and intricate embellishments, such as floral motifs and geometric patterns.

- **Nastaliq** (الخط النستعليق): Cursive script primarily used to write the Persian language, originated in the 14th century in Iran and quickly became the dominant script used for writing Persian poetry, due to its ability to convey the subtle nuances of the language. Nastaliq is notable for its irregular, fluid shapes and its use of ligatures and diacritical marks.

- **Diwani** (الخط الديواني): Diwani is an Arabic calligraphy style developed during the Ottoman era in the 16th century. Initially used for official documents, it later became popular for decorative purposes. Diwani features stylized, overlapping letters with elegant and flowing lines. Writing in Diwani requires a high level of skill and precision, using a reed pen.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Naskh

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Reqa

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Thuluth

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Nastaliq

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Dewani

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Kufi

Figure 6: Sample of different Arabic calligraphic styles by Arrabi Calligraphy 1999.

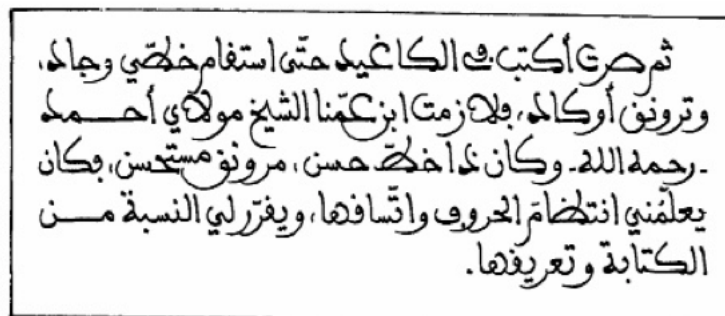
The Arabic calligraphy varied and the ways of drawing its images and letterforms varied with it, but all of them are similar in their Arabic identity stemming from the heart of the language, and there is no doubt that these many differences throughout the ages have been the main engine for the Arab calligrapher to develop, progress, innovate and discover the mysteries of this original art. The Arabic characters did not stop at this point. Arab calligraphers refined the single version into several versions and showed them with several distinctive images, this is one of the achievements that call for pride and celebration of this great art. There is no doubt that Arabic calligraphy is one of the most important achievements that Arabs are proud of in their various cultures without paying attention to the religion or race to which the various Arab people belong, rather they are all united by admiration for the splendor and beauty of Arabic calligraphy and the art it contains in its formation and creation. It is also worth mentioning that the creativity of many non-Arab calligraphers in this art is conclusive evidence of its comprehensiveness, the breadth of its capabilities, and the richness of its artistic content.

3.3 Maghribi Style

Andalusians were forced to convert to Christianity, and were expelled from the Iberian peninsula in the early 17th century A.D. They ended up moving to North Africa with the waves of Andalusian immigrants who were able to spread it to various regions and countries. In this sense, the scholar Ibn Khaldun says in his introduction: “As for the people of Andalusia, they spread in the countries, in the enemy of Morocco And Ifriqiya¹¹, and they were attached to the tails of the state, so their handwriting prevailed over the African line and it was forgiven, and he forgot the Kairouan and Mahdia line and the lines of all the people of Africa became on the Andalusian drawing in Tunisia and what is there.” He says in the same context, speaking about the influence of (Andalusian) in Morocco: “And it happened In the state of Bani Marin after that, in the far Maghreb, a color of the Andalusian line was due to the proximity of their neighborhood and the fall of those of them who went to Fez soon, and their use by the rest of the state.” From this Andalusian line, the Maghrebi script was invented and developed.

The Maghrebi script came from the old Kufi. The oldest script that was stumbled upon belongs to the 3rd century A.D. Arabic Calligraphy was transmitted to North Africa first, then the Sham second. The development of calligraphy was proceeding at a rapid pace in the Orient. Simultaneously, it remained undeveloped and preserved as it is in the Maghreb in which the Moroccans began to soften the sharp, dry forms of the Kufi, and added dots and shapes to it in order to gain accuracy and precision, then gradually and as time has passed, it turned to the current distinguished writing in textbooks. Maghribi script is mainly known as the script used to write the holy book in Islam, the Quran. The Andalusian Maghribi style saw light around 711 A.D where it was used on money coins, since then the Andalusian Maghribi script divided to five types and forms:

1 - Mabsut: Means “simple” in Arabic. It was called by this name, due to its simplicity and ease in reading, as well as its straight letterforms. It’s the style that is used in the Moroccan Qurans. It is distinguished by the straightness of it’s letters, it’s extension, it’s agility, and it’s control over the space, with a kind of ordered geometric presence.



الخط المبسوط

Figure 7: The Maghribi Mabsut style by Dr. Muhammad Al-Manuni (1991), pg. 14.

2 - Al-Mujawhar: Because of the closeness and smallness of letterforms, it resembles in its consistency the knot of the essence, and it is called the “Diamond script” It is the most widely used Moroccan style. It helps in inscribing private and public texts, royal decrees and visual communication.

¹¹ Ifriqiya (or Lower Maghreb) is one of the historical names that the Arabs gave to Tunisia.

ثم صارت أكتب في الكاغذ حتى استقاع خطي وجاد، وتوفون أو كساد،
بلازوت ابن عمنا الشيخ مولاي أحمد ورحمه الله - وكان ذا خلد حسن،
تموفون مستحسن، وكان يعاينني انكشاف الحروف واتساقها، ويفر لي النسبة
من الكتابة وتعرف فيها .."

الخط الجوهري

Figure 8: The Maghribi Al-Mujawhar style by Dr. Muhammad Al-Manuni (1991), pg. 14.

3 - **Al-Musnad:** Specific to judicial documents, personal notes, and self-restrictions. Chiefly known for its titled style of writing.

ثم صارت أكتب في الكاغذ حتى استقاع خطي وجاهد
وتوفون أو كساد، بلازوت ابن عمنا الشيخ مولاي أحمد
رحمه الله، وكان ذا خلد حسن، مستحسن،
وكان يعاينني انكشاف الحروف واتساقها ويفر لي
النسبة من الكتابة وتعرف فيها .."

خط المسند - الزمامي

Figure 9: The Maghribi Al-Musnad style by Dr. Muhammad Al-Manuni (1991), pg. 14.

4 - **Al-Mashriqi:** It is a style adapted from the Eastern script and in the Thuluth script in particular, but the Moroccan hand innovated and Moroccanized it. The Moroccan taste has given it a local tinge. Titles of books are covered with this particular style. The letterforms are usually written thickly, overlapping each other. Sometimes, they're written in gold ink. To this day, examples of it remain in the marble endowments on the walls of the Marinid schools in Fez, Meknes and Salé. It was called Al-Mashriqi, because it is from the Levant region.

ثم صارت أكتب في الكاغذ حتى استقاع خطي وجاهد
وتوفون أو كساد، بلازوت ابن عمنا الشيخ مولاي أحمد
رحمه الله، وكان ذا خلد حسن، مستحسن،
وكان يعاينني انكشاف الحروف واتساقها، ويفر لي
النسبة من الكتابة وتعرف فيها .."

الخط المشرقي المتمغرب

Figure 10: The Maghribi Al-Mashriqi style by Dr. Muhammad Al-Manuni (1991), pg. 14.

5 - **Kufic:** Style with sharp angles and straight lines in a geometric shape. It is a decorative script that is rarely used for regular writing. It was found in the ancient Qurans, and developed between the seventh and 10th A.D centuries. It was found carved on stones, the doors of some Moroccan kasbahs, and in ancient mosques, and it is a special style that was adapted to the Moroccan typography styles. Kufic was passed down by Moroccans since the Andalusian civilization¹².

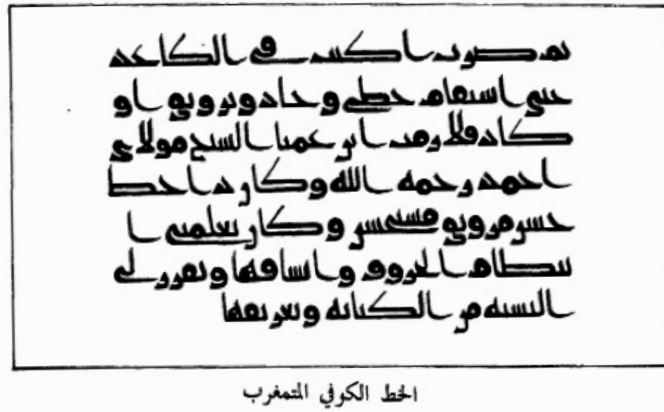


Figure 11: The Maghribi kufic style by Dr. Muhammad Al-Manuni (1991), pg. 14.

3.4 Latin Alphabet

Ab Bb Cc Dd
Ee Ff Gg Hh
Ii Jj Kk Ll
Mm Nn Oo
Pp Qq Rr Ss
Tt Uu Vv Ww
Xx Yy Zz

Figure 12: Modern Latin alphabet as used to write English, Source Serif Variable typeface.

Latin script was created and influenced by the Greek alphabets. Greek culture was the Roman Empire's model and the base of European culture to this day. Latin script, also known as Roman script, is mainly called Latin because it is merely one of the dialects spoken by the Latini¹³. The Latin alphabet is now the most widely used, with nearly 70% of the world's population employing it, as a result of the spread of the western Christianity during the Roman empire's invasion around Europe (7th century A.D) that has strongly contributed to the wide spread of the Latin script across Europe including Portugal which created the Latin languages (Italian, Spanish, Portuguese, French, etc.).

The Latin alphabet had twenty three characters that were divided by uppercase and lowercase characters. The letterforms were cut into the surface of the inscriptions and they were characterized by a geometry which is based on the simple forms of the square, circle and triangle. This form of writing followed certain geometric criteria and had three dimensions that is apparent especially in the monuments that have been sustained, such as Trajan's column. These Latin letters were accepted as preceding forms and models of the contemporary Latin alphabet's styles. Many languages supplement the basic Latin alphabet with a variety of diacritic letterforms. In this case, the Portuguese language comes with different alphabets and variants alongside with pronunciations. Moreover, the borrowing of the Arabic numerals into the Latin alphabet system instead of the roman numerals that were used before. The numeral system, composed of the ten symbols {0,1,2,3,4,5,6,7,8,9} is also called the Hindu-Arabic system. It was not until the fifteenth century that the symbols that we are familiar with today first took form in Europe. Portuguese language consists of 23 characters. Letterforms like (KWY) are missing from the Portuguese alphabets because these characters only appear in foreign words. The uppercase (Y) used (seldomly) during the Renaissance but in 1911. The Portuguese spelling reform displaced the letter Y forever replacing its sound by the letter 'i'.

The Portuguese Alphabet and Diacritics							
Alphabet				Diacritics			
A	G	M	S	Y	Á	É	Ú
B	H	N	T	Z	À	Ê	
C	I	O	U		Â	Í	
D	J	P	V		Ã	Ô	
E	K	Q	W		Ä	Ó	
F	L	R	X		Ç	Õ	

Figure 13: Alphabet and most common diacritics in Portuguese language, the diacritic dieresis (¨) is only use in Brasil (Ã,ã).

¹³ Latini is a group of related tribes who settled in the territory of Latium, in which Rome occupied around 475 A.D a dominating position.

3.5 Digital Type Design

To design a typeface, it is necessary to draw or make a digital scan from the calligraphic sketches, before being converted into a typeface. Most of these drawings and data are used by many computer softwares to produce legible and readable letterforms for screens and desktop printers. A typeface is a design product with artistic expression of a set of alphanumeric symbols or a design, it contains letters, numbers, punctuation, various symbols, and more. We can classify typefaces by their optical size, but in general they are divided by two groups, text fonts are typefaces which are designed to be applied in small sizes, however display fonts are for big and large sizes. Headlines normally use display versions, while text typefaces are commonly used for both proposals like headings, including titles, logos, etc. The letterforms are designed by series of Bèzier Control Points¹⁴ (BCP) position in the most extreme parts of the shapes, less points better the result will be. There are two different Bèzier curves that have two different font formats: Quadratic Bèzier curve (TTF format) has 3 points: an insertion one, a control one and an end one, meanwhile, cubic Bèzier curve (PostScript format) has four: insertion, end and two handles.

There are different font formats, including True Type font, favored by Windows and Postscript Type1, which became the default for professional printing. PostScript fonts allow the operating system or browser to decide how to translate a character's vector outlines onto the cruder grid of the screen. The render performance of PostScript fonts depends on the system that displays them; as rasterizers improve, the fonts follow along. Lastly the otf format packs all the desirable features wanted into a font file. It often has the suffix pro (Adobe Garamond Pro) or the prefix or suffix OT or OTF¹⁵. With these properties, designers can use OpenType font files to create rich and detailed typography that displays consistently across a wide range of devices and platforms. To design a quality typeface design, it is necessary to test the spacing of the characters making it an effective way to see the development of the design. Display typefaces provide a wider range of spacing options than other typefaces for body copy or captions. The very first test should involve checking that there is a good balance between the space inside letters and the space between them. Alongside spacing, side bearings are a necessary part of any font, they ensure that letterforms look correctly spaced next to one another.

Side bearings are the spaces to the left and right of each letterform. Meanwhile, for adjusting the spaces between characters, kerning, letter-spacing and word spacing (tracking) are used for that. Kerning deals with individual pairs of glyphs, typeface designers create kerning tables to achieve visual consistent spacing between problematic pairs, such as (Ty) and (We).

Lastly, for making the leap from outline to raster, a True Type font carries around its own instructions. These instructions are called hinting, it demands many hours of specialized labor and are a stubborn obstacle to achieving universal webfonts. Hinting tells the operating system or browser to adjust such features as height, stem width, white space, and the relationship between uppercase and lowercase letters. Hinting creates a sharper look by increasing contrast along the edges of the letterforms, at the expense of preserving character shape and the space between letterforms, giving a better performance in most of the screen devices.

¹⁴ Bèzier control points are the points that define the shape of letterforms. By adjusting the position and orientation of the control points, type designers can create complex and intricate shapes for each letter.

¹⁵ Ellen Lupton. (2014). *Type on screen*. Princeton Architectural Press New York, pp. 72.

3.6 Bilingual Visual Communication

Bilingual graphic design consists of the coexistence of two linguistically distinct sets of languages and their characters. When it's applied to integrate and combine Arabic and Latin letterforms for the purpose of visual communication, a designer faces the challenge of merging the two dissimilar character systems. Neither letterforms are precisely proportionate, meaning that Latin characters written out at the same size will often appear massive compared to the Arabic¹⁶.

Arabic contains reverse contrast, where it produces horizontal forms that are visually more strong. Latin, on the other hand, originally contains “western” contrast which creates vertical strokes that are stronger. Both languages have different reading directions of the text. Tension often occurs between Arabic and Latin letters, which are two different writing systems from two different cultural backgrounds. Arabic is horizontally aligned and connected with calligraphic flow. Latin letterforms consist of vertical and linear shapes, proportions and baseline alignments that are more rigid, separated from one another, allowing for space between each form, presenting a western personality of individualism, production, and communication¹⁷.



Figure 14: Toponymic bilingual plaques from the Citadel of Mazagão showing the direction with original name used by the Portuguese (xv-xvii).

Some of the examples of the beautiful creation of bilingual typefaces that marked history is Morisco alphabet that was created by Muslims settled in Spain and Portugal who were forced to convert to Christianity at the beginning of the 16th century. Called Morisco or ‘convertidos de Moro’ were forced by king Felipe II in 1566 to adopt Spanish language, dress code and customs. The Moriscos produced books known as which were written in Spanish (Castilian) in Arabic transcript and were used to instruct fellow Moriscos in Islam.

Aljamiada literature is undoubtedly a reflection of a community that has lost its roots, cultural and territorial identity. It denotes a need to affirm these roots and identity through the evocation of a distant and glorious past. The fact that Aljamiada literature, this “strange hybrid literature”¹⁸ also combines Arabic words and grammatical forms of the Arabic language with the Latin language. Aljamiada literature is a contribution to the formation of the current Iberian languages, specifically Portuguese, which today preserves more than eighteen thousand words of Arabic origins¹⁹.

16 T. Milo. (2011). *Balancing Arabic and Latin Typography*. Intellect Limited 1, no. 2, pp. 239-254.

17 S. Blankenship. (2003). *Cultural Considerations: Arabic Calligraphy and Latin Typography*. Massachusetts Institute of Technology: Design Issues 19, no. 2 pp. 60-63.

18 Carmelo, Luis. (1999). *A Semiose Aljamiada e o Reverso do Século de Ouro Ibérico*. Universidade Autónoma de Lisboa.

19 Alves, Adalberto. (2013). *Dicionário de Arabismos da Língua Portuguesa*. Imprensa Nacional Casa da Moeda.

In the past few decades, a new form of writing has emerged across the Arab world. Known as transliteration of Arabic, it is when Latin characters are used to refer to written and spoken Arabic. Arabic westernization is also a product of a former language that was enforced into a nation due to colonization. It differs from Arabic country to another, yet it has different role and purpose in the society, it can be as way to learn spelling Arabic and makes it easy to learn specially for non Arabic speakers who are used to Latin characters or for translation of names and titles, cataloging Arabic language works, along side with the representation of the language in scientific publications by linguists. It is mainly used by youth in technology-related contexts such as social media and texting, and has made many older Arabic speakers uneasy, making the standard forms of Arabic, such as modern standard Arabic disappearing in the social media world.



Figure 17: Example of conversation in Darija using Latin characters and Arabic figures (Whatsapp).

Arabic westernization produced a variety of dialects based on the country and the languages encountered throughout its history. As a fact, in North Africa it is more influenced by French language. Where we find Franco-Arabic, representing a mixture of Arabic and French, a case of code-mixing in the dialects of Morocco, Algeria, and Tunisia as a result of French cultural colonization. Otherwise there's Arabizi²¹, where you mix between English and Arabic, it is mostly used in Middle Eastern countries and most of them are Arab countries. In other hand, numbers were created and used to fill the non existing Arabic characters in Latin alphabets, it varies from country to another, for Morocco for example:

- Number 2 represent letter ا
- Number 3 represent letter ع
- Number 5 represent letter خ
- Number 7 represent letter ح
- Number 9 represent letter ق

²¹ Sullivan Natalie. (2017) *Writing Arabizi: Orthographic variation in romanized Lebanese Arabic on Twitter*. The University of Texas at Austin.

THE ARABIZI ALPHABET

Arabic Letter	Name of the Letter	English Equivalent	Number Letter	Example
أ ء	Alif & Hamza	a	2	2na ; ana (I/me)
ع	'Ayn	'a or 'e	3	3endi ; 'endy (I have)
غ	Ghayn	gh	3'	lou3'a ; lougha (language)
خ	Khaa	kh	5	5amsa ; khamsa (five)
ط	Taa	t (sharp t)	6	6abeeb ; tabeeb (doctor)
ح	Haa	h (sharp h)	7	7ar ; har (hot)
ق	Qaaf	q	8	Da8ee8a ; daqeeqa (minute)
ص	5aad	s (sharp s)	9	7i9an ; heesan (horse)
ض	Dhaad	dh	9'	9'bab ; dhabab (fog)

Figure 18: The Arabizi alphabet, made by Eton Institute in 2018.



Figure 19: Example of Western transliteration of Arabic in Morocco, Publicity of Orange Morocco, 2022.

3.7 Linguistic Connections between Morocco/Portugal

3.7.1 Arabic words in Portuguese

The Portuguese dialect came from Latin that was talked by troopers of the Roman Empire (Italy) amid the occupation of the Iberian Peninsula. From all the tongues spoken, «latim vulgar»²² was born which is called Portuguese in today's time and age. Be that as it may, the roots of Portuguese can not only be found within the Latin dialect. The Portuguese language had been in contact with a well-known historical heritage like Iberia languages mostly the Romance that blended between the Latin and the local languages, also the Visigothkics period that left some words in the Portuguese language, in other hand, the Moorish period's and influence that began before 711 A.D and did not end until the 15th century is present still. The Moors left a considerable cultural heritage on the Iberian Peninsula, especially as they had been the scientific pioneers of their era. Many Arabic words have been adapted to the Portuguese language due to the fact that the Moors introduced certain knowledge, customs, objects and techniques which had no corresponding words in Portuguese.

²² Latim vulgar, also known as popular or colloquial Latin, is non-literary Latin spoken from the late Roman republics onwards.

You can say that the Arabic influences in the Portuguese language are more from a lexical angle rather than structural. One of the examples of how Arabic influenced Portugal is , for example, during the the Al-Andaluz time the toponymy names in Portugal were completely made and influenced by Arabic letters, sound and spelling like: Algarve, Alentejo, Almada, Algés, Alcântara, Aljezur, Alcoentre, Alcochete, and many others.

Some of the obvious aspect that was found intriguing and interesting to showcase the influence of Arabic in Portuguese is:

- Acéquia: EN: Weir AR: السَّاقِيَّة	- Alcachofra: EN: Artichoke AR: الخَرشوف
- Açougue: EN: Marketplace AR: السُّوق	- Alcaria: EN: Village, AR: القَرْيَة
- Aduana: EN: Customs office AR: الدِّيوان	- Alcunha: EN: Family name AR: الكُنْيَة
- Açúcar: EN: Sugar AR: السُّكَّر	- Aldeia: EN: Township AR: الضيعة
- Alarife: EN: Savant AR: العَرِيف	- Alface: EN: Lettuce AR: الحَس
- Alcaide: EN: Leader AR: القَائِد	- Alfazema: EN: Lavender AR: الخزامَة
- Algarve: EN: West AR: الغرب	- Azulejo: EN: Tiles AR: الزليج
- Almedina: EN: City AR: المَدِينَة	- Limão: EN: Lemon AR: الليمون
- Almanaque: EN: Weather AR: المَنَاح	- Madraçal: EN: School AR: مدرسة
- Alvazil: EN: Minister AR: الوَازير	- Matraca: EN: Hammer AR: المطرقة
- Armazém: EN: Warehouse AR: المَخْرَزَن	- Oxalá: EN: God willing AR: إن شاء الله
- Arroz: EN: Rice AR: أرز	- Tâmara: EN: Dates AR: الثمر

3.7.2 Portuguese words in Moroccan dialect

Moroccan dialect, also called 'Darija' is one of the most diverse dialects in the Arab world resulting from historical and geographical factors. The relationship between the populations of Portugal and Morocco has inevitably left its mark on the Arabic dialect spoken in Morocco, but its perception is not clear and is not properly clarified as a result of the lack of an accurate study and research on the matter.

It is undeniable that Darija also has Portuguese influence, which dates from the period of the establishment of Portugal's strongholds on the coast of Morocco from the 15th century, a period that marked historically by the expulsion of the Moors from Portugal. Between the 15th and 18th centuries, the Portuguese language arrived to Morocco through the expelled Muslim and Jewish Portuguese and through the Portuguese borders (inquisition) and inhabitants of the strongholds established by Portugal on the Moroccan coast²³.

One of the few authors consulted who associates the influence of Portuguese in Darija with the period of the Portuguese occupation of the coast of Morocco, Othmane Mansouri, says that "when the Portuguese abandoned their borders, they took everything with them. However, there are cross influences in the Portuguese and Moroccan languages. Even though there are still studies developed, we can see that there are numerous words, such as 'festa' (word for party in Portuguese) that are identical in both languages".

Unfortunately, there is no in-depth survey of the Portuguese terms that makeup Moroccan Darija, and it is quite common to attribute many of them to Spanish influence. However, in Moroccan areas where the Portuguese stay was longer and more rooted, such as in the region of Tangier and Arzila and in Duquela, specifically on the Atlantic coast between Azamor and Safim, including Mazagão and Oualidia, the influence of Portuguese is more evident, with some words remaining, especially among the oldest inhabitants and of ancient origins. Some of the few common words that are still used in Moroccan dialect that was clearly influenced from Portuguese language are:

- Saia:

PT: Saia

EN: Skirt

- Cabayla/ cavala:

PT: Cruz

EN: Cross

- Fechta:

PT: Festa

EN: Party

- Berraka:

PT: Barraca

EN: Tent

- Simana:

PT: Semana

EN: Week

- Manta:

PT: Manta

EN: Blanket

- Sabate:

PT: Sapato

EN: Shoe

- Rwina:

PT: Ruína

EN: Ruin

- Capote/ Monto:

PT: Capote/Manto

EN: Cloak

- Pantufa:

PT: Pantufa

EN: Slipper

²³ <https://historiasdeportugalemarrocos.com/06/04/2014/vestigios-do-portugues-na-darija-marroquina/>, last visit: 25 March 2022.

3.8 Case Studies

Nowadays, it is undeniable that the world is becoming a multilingual more and more in contact with different languages. Languages that are crossing the boundaries of nations, continents and cultures. The scope of multilingualism involves past and present and all the language modes: writing, speaking and signing. One of the examples are in Morocco, where the streets are decorated with multiple posters and signages that combine different precepts and languages, or in Jamae El fena where you can hear local shops speaking to you in German, French, Spanish, English, Portuguese even Chinese. For a good analysis and understanding of the thesis, the case studies will be split into three type of case:

1. Examines the Arabic linguistics in Latin and how the designer successfully showcased a new way of interacting between two languages.
2. Showcase the possibilities of merging between two different alphabets: Arabic with Hebrew and creating a new typeface from it.
3. Observe the harmonization of characters in a multi-script typeface, between Latin, Arabic and Tifinagh, and how a multi-script can nurture cultural dialogue.

This will be helpful in understanding and taking in consideration how other designer worked on their project and which perspective they targeted. Nonetheless, some questions will be answered as a result of these case studies, such as:

- 1) What are the various why to unite between two different alphabets?
- 2) Should both scripts be clearly separated?
- 3) Should they interact with each other ?

3.8.1 Mirsaal Typeface

The type designer Rana Abou Rjeily has developed the Mirsaal typeface in 2011, which is designed to bridge the gap between Arabic and Latin alphabets along side fostering a new understanding of Arabic culture. Cultural Connectives tries to remedy the unknown about the Arab culture with all its rich and layered multiplicity with a cross cultural bridge where the designer showcased the Mirsaal typeface family. Both minimalist and illuminating, the book's stunning pages map the rules of Arabic writing, grammar and pronunciation to English, using this typographic harmony as the vehicle for better understanding this ancient culture from a Western standpoint²⁴.

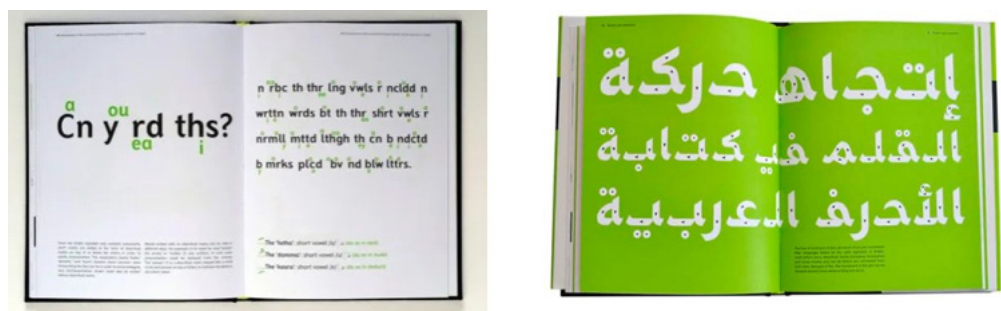


Figure 20: Cultural Connectives by Rana Abou Rjeily (2011).

Mirsaal Arabic typeface is a very well-studied font in terms of shapes and balance, the designer here tried to westernize the alphabets, through detaching the Arabic letterforms from their script in such a way that it resembles a Latin typeface. Detaching the Arabic characters was mainly inspired by Nasri Khattar a Lebanese architect who attempted to revolutionize Arabic typography, in 1932 he created the Unified Alphabet or Unified Arabic (Al Abjadiyyah Al Muwahaddah)²⁵.



Figure 21: Pascal Zoghbi U A Neo N (2007 2013).

The letterforms are simple yet still strongly connected to existing Arabic letterform structure. In Cultural Connectives the designer tried to show how Arabic characters work, how the direction of movement of the pen in writing Arabic characters works and showcase how the Arabic vowels work in Latin, alongside how westernization of Arabic it works.

3.8.2 Aravit Experimental Writing System

Aravit is an experimental writing system created in 2017 by Liron Lavi Turkenich, an independent Israeli typeface designer and a researcher who was curious enough to create a link between Hebrew and Arabic, while respecting both of the languages and making each hybrid letterform recognizable. She ended up designing new 638 characters in combination between Hebrew and Arabic. Each character is composed by Arabic on the top half and the Hebrew on the bottom half.



Figure 22: Aravit by Liron Lavi writing Language in both Hebrew and Arabic (2011).

Aravit came to showcase the bond between two nations, two religions even, this experimental writing system is one common script to both languages, where a world of difference, in a single moment of time, everyone can read the same thing and understand the same word. Aravit is a reminder that we all are similar and conjoined together. Arabic and Hebrew both belong to the Semitic language family making them similar languages and the new generations can find them under the tree of the BiDi “Bidirectional” languages. The structures, pronunciations and words resemble one another, where it is more simple to match the characters thanks to their similar

²⁵ Yara Khoury Nammour. (2014). *Nasri Khattar, A Modernist Typotect*. Khatt Books.

writing direction and their shared vocabulary structure. The experimental writing system of Aravrit proved that designing an Hybrid letterforms is doable, opening the door to new inventions and experiments.

3.8.3 Tubqal Pro: Multi-script typeface based on Maghribi Mabsout

The multi-script typeface Tubal Pro, was commissioned by Khatt Foundation as part of the Typographic Matchmaking in the Maghrib 3.0, the 3rd edition of the multi-script typographic research project of the Khatt Foundation. The goals of the Typographic Matchmaking projects are to nurture cultural dialogue and help develop local design skills. In this case, Tubqal contain Tifinagh, Maghribi-based Arabic and Latin in order to provide a real type cultural dialogue in the Maghrib region. The ‘Tubqal team’ was formed in Marrakech in 2015 by Salah Bellizi, Juan Luis Blanco and Andreu Balius. The curators of the project, Huda Smitshuijzen-AbiFares and Brahim Boucheikha, provided all support and freedom for the development of the project. Tubqal typeface succeeded in harmonizing not between two set of languages but three: Latin, Arabic (Maghribi Mabsut style) and Tifinagh which is the language of indigenous people of Morocco called “Amazigh”.

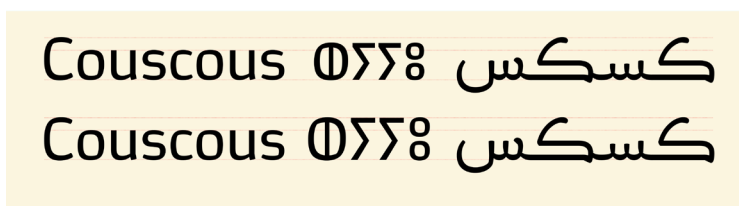


Figure 23: Tubqal typeface writing couscous in Latin, Tifinagh and Arabic. (2015).

The main goal was to obtain harmony and unity among the three scripts respecting their own idiosyncrasy. The overall idea was achieving a dialogue among the scripts without merging or submitting any of them to a particular one. Maghribi Mabsut style was their source for inspiration. Nevertheless, no proportions nor structure were sacrificed for the sake of unity. The Tubqal typeface have some harmonious features and connection like:

- The ascender strokes from Latin have the same proportions like Arabic letter (Alef).
- Same optical weight and contrast.
- Tifinagh characters can have the same uppercase Latin proportions.

All of their studies concluded in making Tubqal typeface an example of a harmonious multi-script, that thrived in respecting the characters's proportions and structures.



Figure 24: Sample of Tubqal typeface (2015).

Chapter 4: Morotugal Practical Application and Data Analysis

5.1 Concept and Procedure

This section covers the design process of the Morotugal font which was investigated with reference to the finding discussed about either the history shared of Morocco and Portugal or the harmonization and the common words in the Portuguese and Moroccan dialect. Morotugal is a multilanguage typeface containing Arabic and Latin encoding characters.

1. Arabic typeface based on the Maghrebi Mabsut style.
2. Latin typeface that was specifically designed and inspired by the writing of Maghrebi Mabsut script.
3. Hybrid letterforms mixing both the Arabic and Latin typeface created beforehand to design Morotugal display typeface.

The typeface motivation for the creation stems from various perspectives discussed in the previous chapter. As a native Moroccan Arabic speaker, as well as a Moroccan descending from an Andalusian line, after living in Portugal for my studies, I can't help but questioning the reason why the Moroccan-Portuguese relations are slipped under the radar. History gave us a legacy that is not well preserved and showcased in this case, this is where this study came in to pinpoint answers for my thesis's questions. Many graphic designers tried to bridge between Arabic and Latin in their own way, for there's no concrete creation of hybrid letterforms between Arabic and Latin due to the major difference in both characters of the alphabets. During the ATypI Reykjavik linguistic conference in Netherland, 2011, Thomas Milo a contemporary Arabic linguistic, who talked on 'The role of Dutch Arabic Typography in Middle Eastern Printing' where he spoke about 'Eurabic' the Arabic type that was made –especially for scholarly purposes– in Western Europe, and how designers influenced Arabic characters with the western letterforms. The majority of the harmonization created between Arabic and Latin by designers are the creation of typefaces that display the exchange of characteristic of Arabic in Latin letterforms or vice versa.

The motive behind choosing Maghribi Mabsut style as the main influence and practice in the practical part is different. First of all Maghribi style is an Andalusian link that groups Spain, Portugal and Morocco together, since it's used in many architectural pieces, papers and other legacies left behind.

Second of all, Maghribi Mabsut style is a script colossaly used in Morocco and has a value since it kept following the rule of Mawzun²⁶ script, so the letterforms appear more straight, clear and extended. One of the examples of the importance of this style are: it's use in the logo of the Moroccan government, passport and in the logo of the kingdom as well. Considering the value and the origin of the development and creation of this style which was in Morocco, we conclude that Maghribi Mabsut style strongly represent Morocco and it's Andalusian history. If we take into consideration the insight that was given to me by my calligraphy teacher M. Moulay Haidara himself, when sharing the idea of the project with him, he was amazed by the style choice since it was a style that was not worked with or showcased more in the design field. Seeing him approve of the style choice was motivating and incentivizing to continue working on it.



Figure 25: Calligraphy tools used in the process of making Morotugal typeface.

²⁶ An old term that refers to the scripts that relies on the machine and the ruler in its drawing and writing.

Procedure

The Maghribi Mabsut cursive script style as well as the calligraphic approach contain many letterforms and ligatures that are unfamiliar to the average reader. In other words, the Maghribi Mabsut script writing consist of some traditional tool that we used in the making of our Morotugal typefaces starting with the Qalem or Reed Pen. This tool is sacred and has great importance in the culture of Arabic calligraphy. It is directly associated with spirituality and also religion. There have been sayings in the Quran where the pen has been mentioned as a sacred tool, through which the humankind got to know about things and gained their knowledge and improved. This tool has a very important value in a calligrapher's daily life, which alongside the ink, they were necessary elements in the making of the Morotugal typeface.

In the beginning of the research, I had the chance to connect with one of the best calligrapher and artist in Morocco, Moulay El Hassan Haidara. He received the Mohammed VI Honorary Prize in the art of Arabic calligraphy by his Majesty the King Mohammed VI. He helped me alot by sharing his insights, he selflessly gave me some materials and tools to start working and learning the calligraphic Maghribi Mabsut style with, and made for me a piece of art that indicates how to write each letterform in Arabic in Maghribi Mabsut style.



Figure 26: Example of practices of Maghribi script Calligraphy, testing and exploring the main proportions (width and vertical dimensions) using the dot's system on Maghribi Mabsut style. February 2022.

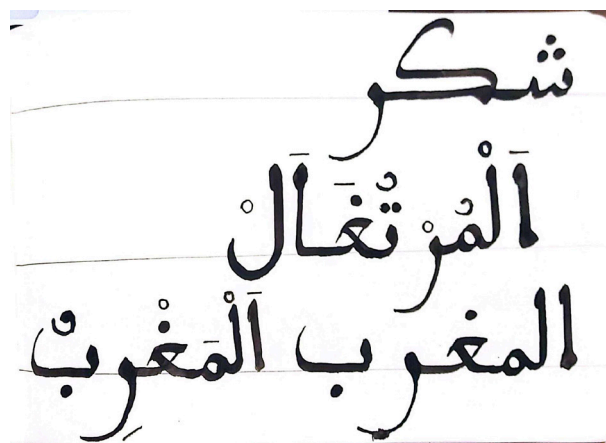


Figure 27: Example of practices of Maghribi script Calligraphic experiments. The image include the worlds "Thanks, Portugal, Morocco", written by an Reed Pen "Qalem".

The aim of this practical project was to create a hybrid letterform that bridge between Portugal and Morocco; however to achieve this goal it was needed to make the process challenging by creating a Latin and Arabic typefaces that is inspired by Maghribi Mabsut style. The first step was to create the Arabic typeface, for it to be a reference and base for the other typefaces following next. The sample that was created by Moulay El Hassan Haidara was a big help for me. The project started with an in depth study of the calligraphy in Maghribi Mabsut style. Despite the popularity of this style it was discovered that every calligrapher had their own way to brand their character which makes them recognizable in the field. Once the designer feels confident with the shapes, then they can move to the second step which is applying and creating their Maghribi Mabsut style.

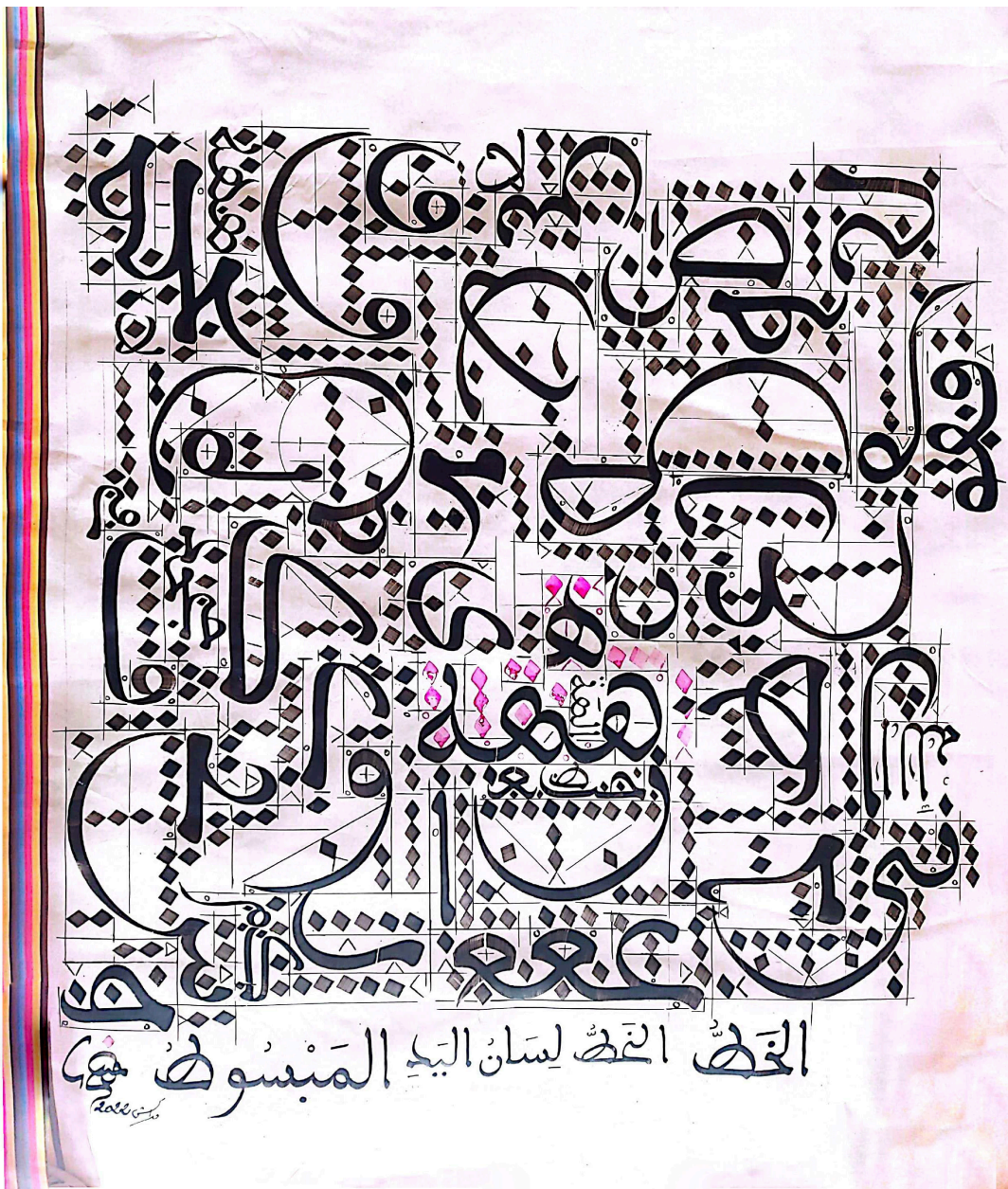


Figure 28: Sample of Maghribi Mabsut style by Moulay El Hassan Haidara, in 2022, Marrakech Morocco.

Once the shape of the characters that will be used as a reference were designed and recognized the next step will be to apply them to Latin alphabet. At first it was deemed important to design them manually using the same way of the Maghribi style in calligraphy.



Figure 29: Example of practices of Latin calligraphy influenced by Maghribi style.

During this process, it was necessary to remember to harmonize between Latin and Arabic letterforms separately making them both in the same size and weight. The notion that Latin and Arabic scripts should be treated equally in terms of the amount of research and thought they demand is a crucial realization that was made in the procedure. The majority of popular typefaces followed this design philosophy while preserving some degree of harmony between the two scripts. In designing a two harmonized typefaces, coming across issues relative to the lack of harmonious uniformity are inevitable as:

-Arabic normally needs more vertical space to group all the different levels of diacritics compared to Latin.

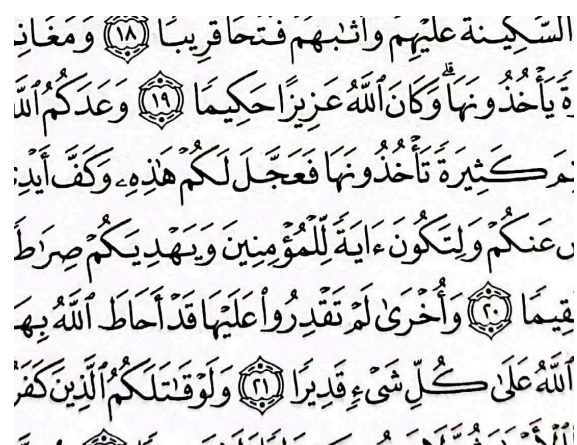


Figure 30: Close up of Holy Quran verses written in Naskh style. Example of the vertical space given in text and the diacritics role in it.

-Defining the dimension and position of the diacritics by the ascender strokes in Arabic.

-Arabic script don't have the same concept of x-height, the letterforms have more freedom do be positioned, this situation will influence the proportions of the Latin lowercase x-height dimension.

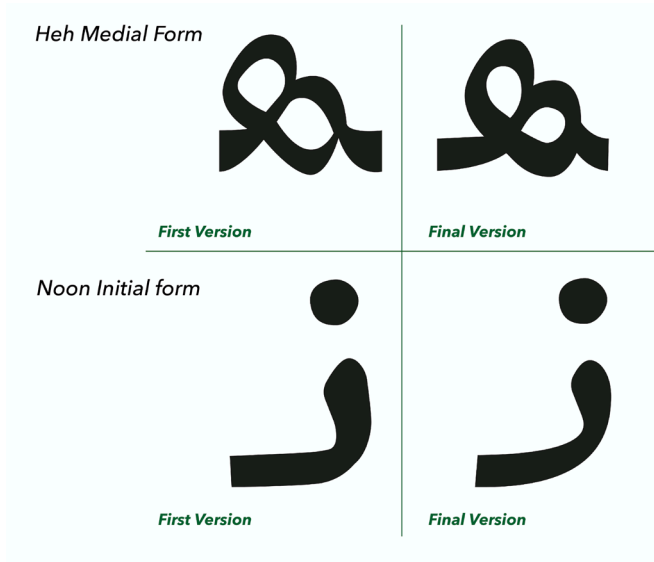


Figure 31: Samples of the first and last versions of the digitalized Arabic typeface.

- Correct balance in the typographic color of the text, when they are used together (bilingual design) should be visually and optically balanced.

- Arabic letterforms contain deeply descender dimensions, where some diacritics could be applied too. The Arabic descender proportions are different from Latin, but they also influence the harmony between them together.

5.2 Study of Arabic Character Shape

Morotugal is a display calligraphic typeface, that allowed each character to look creative and unique its own way. However, the Arabic typeface was the base of all the typefaces that followed and once it was done it made the process easier than it was before. The design process was done manually and the decision on the shapes adopted was finalized once it got approved for each letterform's shape. Consequently, it was about time to make it digitalized and bring the characters into digital font format. The first step was scanning the alphabets that were created with vectorized calligraphy, which was imported to the Glyphs app, the main tool used to design this project.

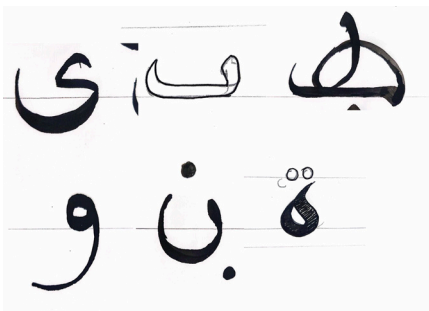


Figure 32: Examples of scanned calligraphic drawings in paper, selected to be digitalized. The only guideline reference used was the baseline to align the different characters.

The calligraphic Arabic characters were made respecting some of the traditional approaches to keep the same vibe and harmonization. In digitalizing the Arabic calligraphy made manually, with love and respect as a calligrapher, it was of great importance to sustain the core of Arabic calligraphy given to it in our digitalized Maghribi Mabsut style typeface. Arabic calligraphy has long been recognized and admired for its variety and tremendous potential for growth, and that was exactly what was needed to be shown in the digitalized Arabic typeface.

Making the Arabic typeface was a learning process along the way as a perk of my background and my knowledge of Arabic letterforms. However, Latin speaking type designers have created the majority of Arabic types. Applying western concepts about type design, nonetheless, is expecting the script to adhere to an unnatural set of rules because Arabic is designed differently than Latin, which means applying western ideas about type design is asking the script to conform to an unnatural set of standards.

That's why this typeface was made with extreme carefulness to maintain the origin and unique way of Arabic calligraphy and typography in general.

One thing that was missing after digitalizing and correcting the letterform design of all the characters that were made by calligraphy was the different position of the each letterforms depending on whether they come at the beginning, middle or end of a word. In cursive script writing letterforms are joined together by means of joining strokes, the same is applicable to the majority of the Arabic letterforms: each letterform join to the following character, the Arabic letterforms have four different form positions, the same glyph can be written: isolated, initial, middle and end.

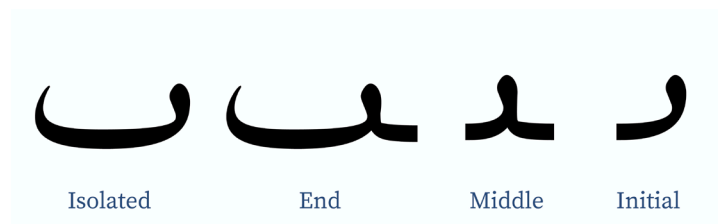


Figure 33: Beh character applied in the different form position (Morotugal typeface).

Arabic and derived script are flexible and powerful enough to encompass wide design variations, since they require less independent shape designs. In Arabic, the spacing is different due to the letterform connections. Most of the calligraphic drawings on digital form have to go through a process to review and verify all the typographic details like the proportions, same weight and contrast. Some forms were repeated in different letterforms to produce more harmony as a group of shapes with the same design approach. Latin characters had the same process, where some Arabic shapes were adapted and converted as Latin letterforms. Digitally all the letterforms were simplified. The amount of Bèzier Control Points (BCP) were reduced and positioned on the extreme parts of the letterforms.

The general standard in designing an Arabic typeface like this one needs the usage of the dots systems known as Nuqta translation to a dot, which is a repeat proportional geometrical measurement across all letters of a particular style, in this case the Maghribi Mabsut style. These measurement produce visual uniformity across multiple instances of the same letterform as well as collections of distinct shapes, thus indicating the proportions of each letterforms. The dots's system here is different than the dots used in diacritics, which varies depending on the Arabic style used in some calligraphic styles contains dots (Nuqta) as a tilted square, but Maghribi tyle uses round dots as diacritics giving a very unique design approach.

One thing that I learned while designing the Arabic characters is how much I underestimated the design process. Designing an Arabic typeface demands patience and a good amount of concentration specially in making the connecting letterforms aligned. To name some of the few other learnings :

- *Arabic letterforms don't have standardized terminology compared to Latin type terms.*
- *The terms ascender and descender may be used for Arabic because it has characters that extend below the baseline and others that stand out higher than middle heights.*
- *Some technical terms could be borrowed from Latin typography, such as kerning and ligature.*
- *Do not use 'x-height' and 'cap height' simply because there are no 'x' or capitals in Arabic.*

ARABIC CONNECTIONS FORMS

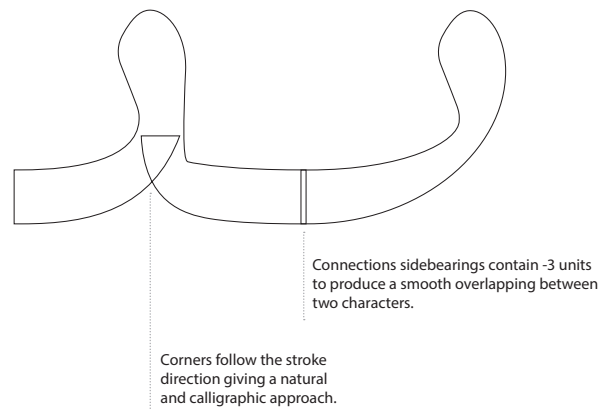


Figure 37: Connections forms contain negative values, to improve a better overlapping between the different characters (sidebearings), used in Morotugal.

5.3 Harmonious Features

In order to ensure the typeface harmony, typeface designers use the traits of the letterforms and design the other characters according to those traits. In this case they can design each Latin alphabets based on the right shape they think its convenable to it in Latin characters. Since Arabic letterforms don't contain uppercase characters, we only had the lowercase ones to use as reference or base to create the similarity in Latin as well. Since the goal of those typefaces is to have the influence of the Maghribi style in the letterforms. Taking the traits from the Arabic characters was very easy since it was very remarkable and aesthetic.

Making a serif typeface for Latin characters was admissible since it will ultimately work with the features of Maghribi Mabsut style. Some of the harmonious traits chosen to make Latin typeface in harmony with the Arabic Maghribi version are:

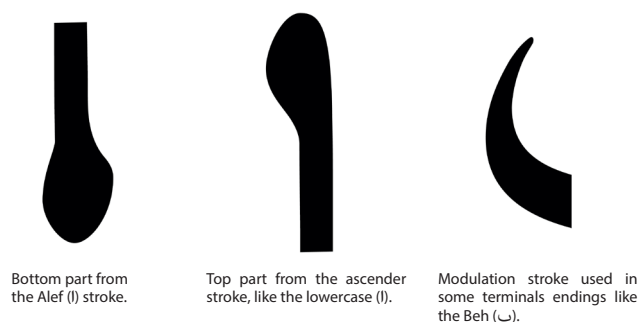


Figure 38: Samples of the harmonious features used in the Arabic and Latin typeface.

Harmonization came to life by copying the ends of strokes from the Arabic typeface to the Latin typeface. On the other hand, the stroke modulation for the Arabic has always been present and constantly stumbled across in Latin. The goal, however, is to create a cohesive typeface that respects both scripts equally since Arabic and Latin scripts have their own different conventions. Latin harmonization in Arabic doesn't always focus on the rounded dots used in Arabic, but it's much more of a bridging of two different contrasting scripts.

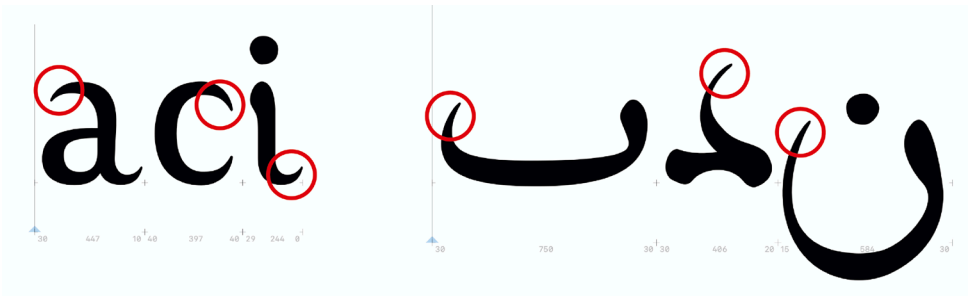


Figure 39: Harmonized terminals between some Latin and Arabic letterforms.

VERTICAL DIMENSIONS BETWEEN LATIN AND ARABIC

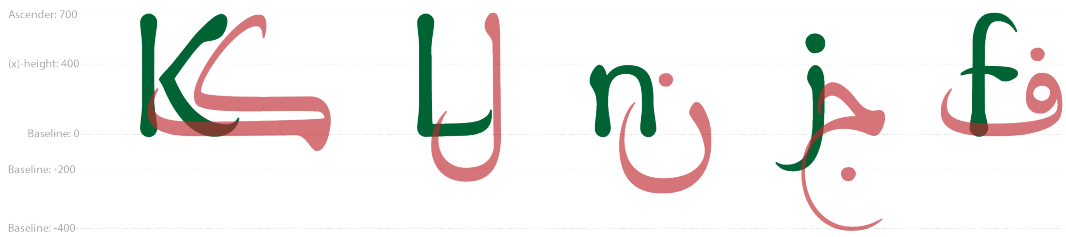


Figure 40: Example of lowercase and uppercase harmony in dimensions.

DIACRITICS WITH ANCHORS

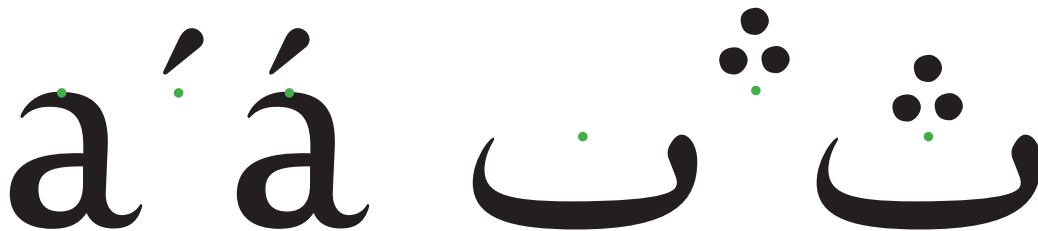


Figure 41: Harmonization of Arabic and Latin diacritics with anchors.

5.4 Study of Latin Character Shape

The Latin part has a very different yet almost similar departure structure as Arabic. They both started with calligraphy in this project. The point was to recreate all the Latin letterforms with the same design approach from the calligraphed Arabic characters. The transition from paper to digital forms is always what was aimed for since the beginning of the study, when creating the first sample of the Latin lowercase letterforms, the first issue that I've come across, was how some characters were hard to match with a Maghribi version of them, for the point was to make the characters look more close to Arabic in their design, but without losing their identity. Making this possible was a very hard challenge to claim and delve into.

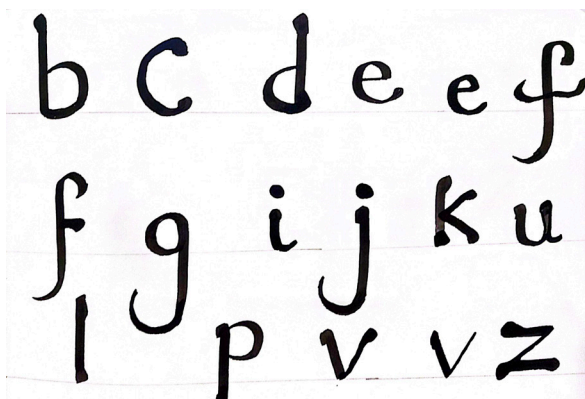


Figure 41: Early Latin calligraphic letterforms experiments with the same pen stroke and Arabic approach, type-face dimensions are still unbalance.

The few sketches that were done had been sufficient to provide a broad notion of how the main characters should be designed. Likewise, the second challenge during this process was in the creation of the first samples of the digitalized Latin characters with the same proportions, connections, and terminals as Arabic typeface. The dimensions and typographic proportions weren't the main focus during this testing phase. Nonetheless, the first prototype contained some small issues, like:

- *The endings of stroke were not unified.*
- *Round letterforms needed to be more open.*
- *The top part from (f) looked very close to the uppercase version (F)- better to be different to improve legibility.*
- *Weight and contrast needed to be improved.*

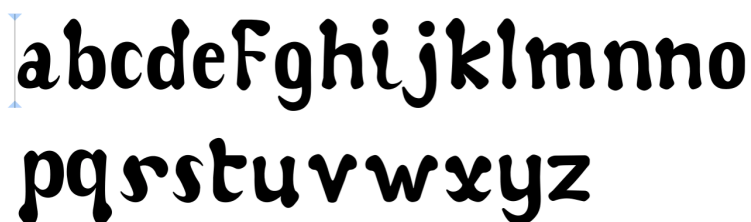


Figure 43: First digitalized sample from the Latin lowercase.

During the process, going back to references and case studies that followed the same design idea was necessary to understand and learn from old cases, such as Tirhal family²⁷ typeface that had the same objective of harmonizing both Arabic and Latin typefaces. This was done by learning from their research and by closely examining how heavy or dense the text appears on the page, and check if white space and type color are used in the right proportions. The advantage of this strategy was that it allowed for inspiration to be drawn from an already made design model.



Figure 44: Example of harmonizing Latin and Arabic letterforms in size. The image include the world Portugal in Portuguese and Arabic.

²⁷ Tirhal family is a master project designed by Samar Zureik, where she aimed harmonize between Kufi style in Arabic and Latin letterforms in 2020.

During the design procedure, the online courses that I took were a big help, regarding the spacing between the letterforms, like the course “*Creating your own typography*” by Juanra known as Wete a graphic designer and type designer, where he explained the space strategy for each letterform in Latin. What I learned is that the rhythm of typography achieved with spacing and the empty white space (counters) is almost as important as the character itself. If we analyze the counter-forms and spacing, we conclude that the space of the counter-forms is practically similar to the space between words. Which means, in controlling the space and the counter-forms, we can generate rhythm and create tension around the characters.

At the space calculation we follow the Walter Tracy’s method²⁸. This method tells us in a general way that the rounded shapes are inside a box narrower than straight shapes, it’s because in circular shapes we get more air inside the letterforms.

The Walther Tracy’s Method says that in a hypothetical case the left side of (N) which is completely straight will have a different space number than the right side of the uppercase (O) because of the curves in the letterform like the (O). So controlling the spacing between those two characters will create a base of to work in the spacing of the vertical and round shapes of each character. This method ensures that there is a consistent visual rhythm and flow to the typography, it was well demonstrated in Karen Cheng's new book "Designing Type"²⁹. Once these factors were controlled, I tested out the rest of the alphabets to check the rhythm. Eventually, I repeated the same process with the uppercase as well.

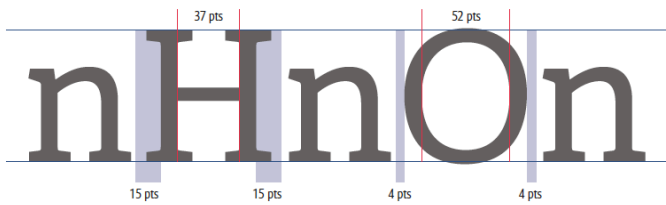


Figure 45: The Use of Control Characters H and O to Fit Capitals with Lowercase Letters, Sample from *Designing type* by Karen Cheng.

UPPERCASE SIDEBEARING



Note: Values are in Units.

LOWERCASE SIDEBEARING

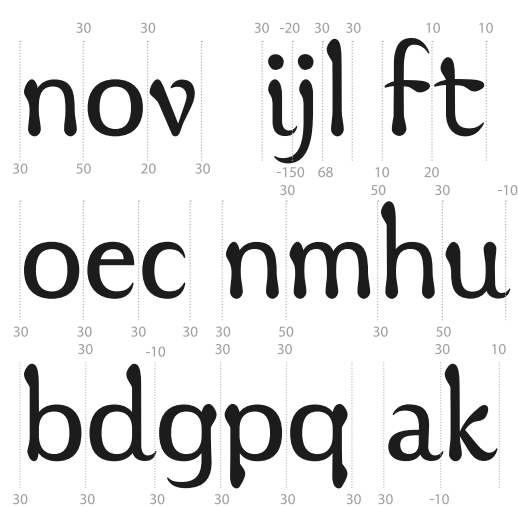


Figure 46: Sample of sidebearing of uppercase and lowercase Latin Morotugal typeface.

The terminology used to describe the different parts of a typeface’s design, such as the vertical proportions: x-height, baseline, cap height or shapes that influenced further

²⁸ David R. Godine, (2003). *Tracy, Walter. Letters of Credit: A View of Type Design.*

²⁹ Cheng, K. (2006). *Designing type.* Yale University Press.

typographic adjustments (ascenders, descenders, etc). All of the above was included in the designing process to maintain the same proportion measurement from the Arabic typefaces already designed, following all standard criteria in design type to design a project.

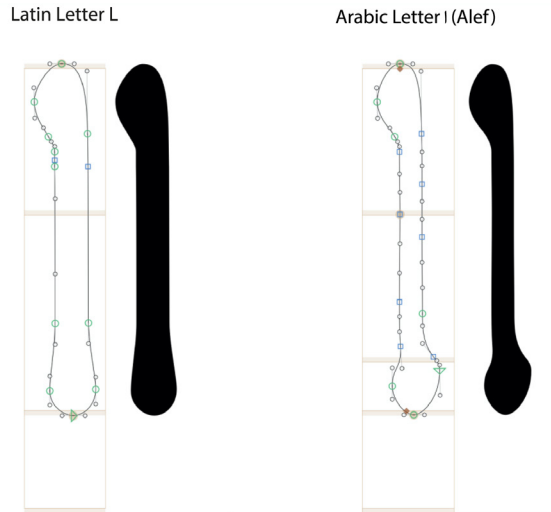


Figure 47: Combining same elements between the two alphabets following the Maghribi style approach. Alef (I) is having the Arabic reverse contrast, the Latin lowercase character contain the same terminal on the ascender stroke but the contrast modulation is more western.

After making sure the Latin characters are in a harmony with the Arabic letterforms, and ensuring the recognizability of the Maghribi style features in the script like figure (40), it was time to export the file to an .OTF file, to experiment with the typefaces in text to see how they will look like. This test has been made several times in the design process. The aim of it was to ensure the functionality of the typeface.

المغرب ، رسميا المملكة المغربية ، هي الدولة الواقعة في أقصى الغرب في منضقة المغرب العربي بشمال إفريقيا . وتطل على البحر الأبيض المتوسط من الشمال والمحيط الأطلنسي من الغرب ، ولها حدود برية مع الجزائر من الشرق ومنضقة الصحراء المغربية المتنازع عليها من الجنوب . ويضال المغرب أيضا بالمقتنيات الإسبانية في سبتة ومليلية وبينون في فيليز في لا غوميرا والعديد من الجزر الصغيرة التي تسمى عليها إسبانيا قبالة سواحلها .

Morocco, officially the Kingdom of Morocco, is the westernmost country in the Maghreb region of North Africa . It overlooks the Mediterranean Sea to the north and the Atlantic Ocean to the west, and has land borders with Algeria to the east, and the disputed territory of Moroccan Sahara to the south . Morocco also claims the Spanish exclaves of Ceuta, Melilla and Penon de Velez de la Gomera, and several small Spanish controlled islands off its coast .

Figure 48: Bilingual sample examples to verify the characters proportions, weight, contrast settings in the same body size (text color).

The uppercase characters were the last things to be designed, as the Arabic letterforms don't have a lowercase and uppercase format like the Latin alphabets, The goal was to shape both scripts equally yet it appeared that it would be causing the neglect of the values and structure of the Latin alphabets. The uppercase letterforms design were an easier process than the lowercase since they all had the features necessary that were already available and designed. On this basis I used the same lowercase method from Walter Tracy's, starting with the letter (H) and (O), and placing uppercase characters in between to maintain the height difference and size harmony. During the design process of the Latin typeface, I learned that we need to be always open to different outcomes rather than sticking to one specific area and being disappointed at the end.

5.5 Morotugal Merged Characters Version

Designing Arabic typeface for me was a spiritual process, precisely a testing one. Most Arabic type design projects require a less independent shape, in contrast to Latin. Although this statement concludes that connectivity is the primary cause of most Arabic typographic complexity, this does not signify that connectivity should be abandoned. Instead, it encourages a better comprehension of it in order to create an environment that is receptive to both cursive and non cursive design approaches. When the merged version was made I came to the conclusion that it was a journey with an uncertain result, as it's something that never studied before, nor it's technically possible in the first place, considering Arabic scripts have the connectivity issues, not the mention that the writing direction of both scripts differs. Knowing all of this challenged me more to experiment in this adventure of a study project.

The main objectives of the Morotugal merged characters version is to bridge between two opposite letterforms, languages and cultures even for that reason making the typeface legible for Portuguese and Moroccan audience is necessary, whether it be writing from right to left or the opposite. The decisions that were made for the creation process were to only use the basic letterforms in Arabic instead of the connected one, so we can blend between the characters. Secondly, the letterform writing direction can differ depends on the origin of the words used, alongside using the diacritic dots and signs (vocalization marks) to highlight the identity of some Arabic letterforms by the presence, the numbers, and the position. Additionally, ligatures were included, which are letterforms that blend Arabic and Latin for a variety of reasons, such as font aesthetics, justification, or legibility. It was therefore simple to begin the process because we had already generated harmonized Latin and Arabic typefaces.

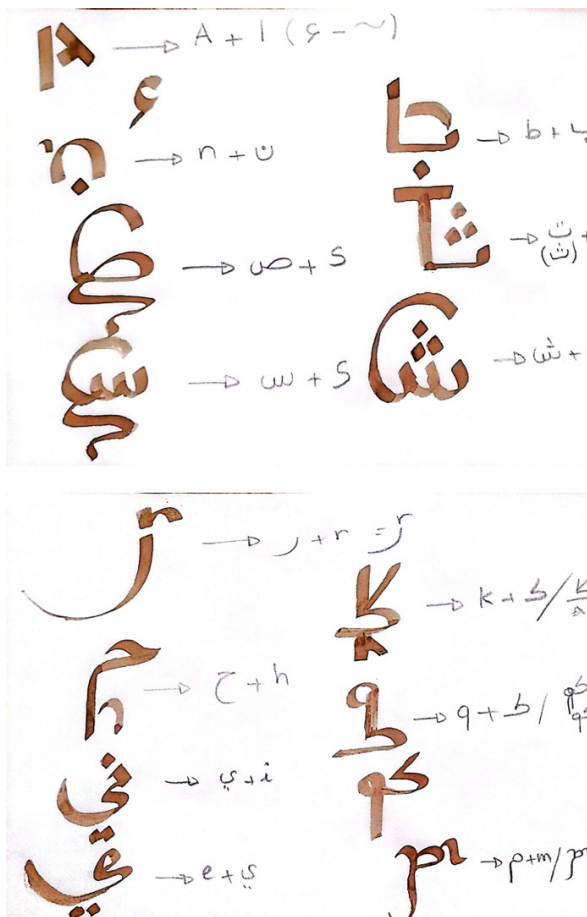


Figure 49: First calligraphic experiments from the Morotugal merged versions (pen-stroke, pencil, ink, paper) 27/03/2022.

The issues that I had in the beginning was:

- *Different alphabetic and language system. Characters differ completely, the sounds don't have the same distribution.*

- *Since the goal from this display typeface was to write the common words between Portugal and Morocco, deciding on an approach and a common ground to write and read the final design*

- *As a monolingual in Arabic, French and English, it was easy to read the letterforms that I designed. It was necessary for me to exploit my environment insights during the design process.*

As a result of all the research and analysis done, it was determined that translating a list of Latin characters into Arabic is not something that the Moroccan audience would find difficult to understand. The only challenge was to keep the process and the final design straightforward and simple enough for anyone to understand. The Latin alphabets consist of 26 letterforms; however, the Arabic alphabets contain 28 glyphs, the problematic is obvious here. Having to create different variants of some Latin characters was called for. For example character Kaf “ك” and Seen “س” can be used in one same Latin character “c” depending on the context.

a	ا ء أ -	o	و ُ
b	ب	p	ب
c	س ص ك	q	ك ق
d	د	r	ر
e	ي	s	س ص
f	ف	t	ت ث
g	ج	u	و ُ
h	ه	v	ف ف
i	ي	w	و
j	ج	x	—
k	ك	y	ي
l	ل	z	ز
m	م		
n	ن		

Latin
 Arabic
 Nothing

Figure 50: The sound and vocalization equivalent in both Latin and Arabic alphabets precisely to Portuguese and Moroccan dialect.

During the design process of the hybrid typeface, there was no broad expectation nor an idea about the final product in general, the process was more of an experimentation. In the course of the first assessment sample in figure (47), I came across a realization that:

- Using uppercase and lowercase characters was called for.
- Some Latin alphabets will have different variants in the hybrid typeface to fill the void of the missing Arabic letters.
- The requirement of designing solely four numbers instead of all the numbers is purposefully occurring to fill the place of the non-existent or the Arabic letters that don't have a match in Latin. Those numbers are : 3,5,7,9.
- The letterforms proportion varies from one character to another as a results of making the characters readable in Moroccan Darija and Portuguese.

Amid the digitalization practice, I focused on creating the hybrid typeface digitally and creating the sketches manually. For the character width, I based it the merged character of letter “b” since it got the stroke of letter Alef “ا”, the digital drawing was made thanks to the already made Latin and Arabic typefaces, mixing and merging between them in the Glyphs software. The quality and the design itself were changed during the conduction of the survey research, in regards to side bearings of the letterforms that were made for characters that had some long stroke like the merged version of letter “o” and character Waw “و”.



Figure 51: Sample of Morotugal hybrid typeface.

5.6 Survey

Survey Method:

An online survey was conducted to Portuguese and Moroccan students from diverse academic year aged from 18 to 30 years old, to gain an insight of the actual assumptions between the two nations and test the prototype of Morotugal merged version to see if the project is acceptable by the target.

Survey Objectives:

- Gain a better understanding of the targeted users.
- Test the Morotugal prototype to see if the users will be able to read the characters in their own language.
- Scrutinize if the audience is aware of the shared common words between Morocco and Portugal.

Prototype testing

Conducting experiments and tests was an essential aspect of the merged typeface design process, which involved soliciting feedback from my entourage, in addition to conducting an online survey. To assess the readability and likability of the merged typefaces, the initial prototype was subjected to an online survey targeted at Moroccan and Portuguese speakers. The first sample of the merged typefaces was developed after Figure (43) and following the creation of a visual identity and brand color scheme to showcase the letterforms.

Results

- 15 Portuguese and 17 Moroccan have taken the survey.
- 30% of the Moroccan audience calls Portugal by the name “ Bertqiz “.
- 94% of the participants think it’s possible to mix between Arabic and Latin alphabets and create a new typeface from them.
- 69% of the participants think there’s something in common between Portugal and Morocco in regard to the shared history when the cultures intertwined.
- The majority of the Moroccan participants doesn’t have a big knowledge of words that derive from Portuguese language.
- The majority of the Portuguese participants are aware of the Arabic words used in Portuguese language.
- 80% Of the participants succeeded of the reading the first prototype of Morotugal hybrid character.

- The majority of the target audience find the project a great way to learn both alphabets for the non speakers.

Reflection

The survey just proved that people are eager for innovation and creativity, and that creating hybrid alphabets to bridge between Portugal and Morocco are very much acceptable. Furthermore, the first prototype succeeded of being readable from both Moroccan and Portuguese targets.

Analysis and Discussion

From the survey results feedback and analysis of the prototype testing that was made, it was obvious that the current process of this investigation is acceptable by the target itself who eagerly expressed their enthusiasm to be looking forward to reach the final product. The outcome was very much unexpected since it was very positive. What was expected is people finding the idea of merging between Arabic and Latin unnecessary and disrespectful to either both Latin or Arabic; however, only one comment out of 75 participants answered negatively. The participant's answers are minuscule and small compared to all the other positive responses, yet inevitable and expected. Morotugal merged typeface was developed according to the results of survey study and insights from my mentor. However, this typeface is still an experimental display and might always develop more with time.

This typeface creation isn't official and might always be subject to changes during its display in real life. To conclude, I hope that this display typeface will have educational purposes in the future, and will be more diverse and open to different audiences around the globe.

6. Conclusion

The study was initiated on the basis of a thorough analysis on the cultural and historical connections bonding Portugal and Morocco together, with the intention of creating a brand new element to strengthen the bridge between the two countries based off the medium of visual typographical design. For this purpose, a multilingual typeface of Arabic and Latin was developed, which was the answers used in the creation of the hybrid letterforms of Morotugal. The thesis's initial objective was finding answers to the following question:

How can typography be a part of visual identity? In light of the research made during this study and the case studies scrutinized, it has been shown and proven that the outcome of each typeface development creates a visual identification of the subject which led to the rise of the following questions:

How could we be able to combine Moroccan and Portuguese loanwords to create a visual identity from them? and how can typeface design be influenced by Moroccan and Portuguese dialects? The cultural connections and the historical context sought and studied show that there are still existing links between Portugal and Morocco that are, especially prominent, linguistic dialects in specific varieties within society. Consequently, that resulted in finding common words that are used until this day, for which no one is aware of its Portuguese and Arabic origins.

This study came about for the purpose of designing a multi-language typeface containing the Arabic, Latin encoding languages, and the hybrid letterforms. Making it the first study producing a study that unify and harmonize the Arabic and Latin letterforms in hybrid characters. Morotugal typeface is the result of the influence of Portugal and Moroccan dialects on one another and the harmonization of Latin and Arabic letterforms. Furthermore, the perspectives of the typeface are two: 1. The Arabic is more traditional following the calligraphic design approach, the Latin version was more influenced by the Maghribi Mabsut style containing letterforms more organic and less rational. 2. Experimental version where blending Latin and Arabic made a controversial product. According to the survey that was inducted, the result shows that the targeted audience was very intrigued by the Morotugal merged typeface, making it seem possible to start introducing this hybrid letterforms creation among society.

This thesis managed to answer not only the question initially proposed but also provided tools for future typographic exploration in the area of hybrid letterforms of Arabic and Latin. Finally, I will put at your disposal some future goals to shall be improved:

- (1) *Develop several versions of the hybrid characters and making them easy read. Creating those characters as a tool for learning new alphabets and languages even.*
- (2) *Expand the reach of the Maghribi Mabsut style in the digitalized words.*
- (3) *Review different methods of harmonization between different scripts, and the personal touch a designer, or calligrapher can leave in their creations.*

In addition, and since the prototype testing was limited by shortage of time, it would have been extremely important to expand my reach and diversify the type of audience subject to my case study, instead of only focusing on Portuguese and Moroccan speakers in order to have a more complete and richer vision.

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Webgraphy:

AL-ANDALUS: AN ARABIC STYLE ENGLISH FONT BY JUAN JOSE MARCOS:

<http://guindo.pntic.mec.es/jmagoo42/arabic.html>

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A OCULTA ALMA ARABE FOS PORTUGUESE:

<https://historiaislamica.com/pt/a-oculta-alma-arabe-dos-portugueses/>

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https://www.youtube.com/watch?v=ZW_NACTXJ8o

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<https://www.aravrit.com>

CÂMARA DE COMÉRCIO E INDÚSTRIA ÁRABE-PORTUGUESA:

<http://www.cciap.pt/index.php>

DATA BASE OF ISLAMIC HERITAGE IN PORTUGAL:

<http://patrimoniislamico.ulusofona.pt/categorias.php?id=4>

DIWAN:

<http://diwanalarabia.com/Qsn.aspx>

FESTIVAL ISLAMICO DE MERTOLA:

<https://www.festivalislamicodemertola.com>

ISLAMIC MANUSCRIPTS:

<http://athaar.org/makhtutaat/?cat=4>

MARJANE TYPEFACE:

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MOROCCAN HERITAGE IN PORTUGAL:

<https://www.yabiladi.com/articles/details/5791/otmane-mansouri-l-heritage-portugais-maroc.html>

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https://youtu.be/N9KW2BC0F_U

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THE POWER OF TYPOGRAPHY BY MIA CINELLI:

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THE ROLE OF INDIVIDUALS AND INSTITUTIONS IN KNOWLEDGE PRODUCTION BY
TYPEPLATFORM X GERRY LEONIDAS:

<https://www.youtube.com/watch?v=XYDtHH8eco&t=582s>

TYPOGRAPHY DESIGN 101: A GUIDE TO RULES AND TERMS:

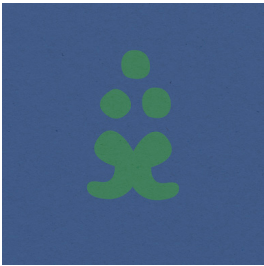
<https://en.99designs.pt/blog/tips/typography-design/>

UNICODE:

<http://unicode.org/charts/PDF/U0600.pdf>

. Survey - Prototype testing

First Prototype results 26/05/22



This new letterform represent letter mix between the letter “x” and the dots from letter “ش”. In Morocco specially in North Morocco the letter “x” is used in the daily conversation by social media to represent the sound “ch” in another hand the Arabic letter “ش”.

The percentage of the prototype:

40% guessed the letter “x”.

34% guessed the letter “ث”.

25% guessed the letter “ش”.



This letterform represent the mix between Latin letter “r” and Arabic letter “ر”.

The percentage of the prototype:

37% guessed the letter “r”.

37% guessed the letter “ر”.

25% guessed other letters as : “ج” “f”, “ز” and “و”.



This letterform represent the mix between Latin letter “h” and Arabic letter “ح”.

The percentage of the prototype:

46% guessed the letter “h”.

46% guessed the letter “ح”.

8% guessed other letters as : “n” “g”, “ج”.



This letterform represent the mix between Latin letter “o” and Arabic letter “ء”.

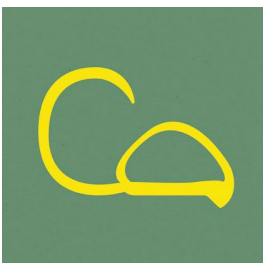
The percentage of the prototype:

37% guessed the letter “o”.

40% guessed the letter “ء”.

21% guessed other letters as : “e” “c”, “ؤ”.

Last Prototype results 18/08/22:



During the second Prototype and after analyzing and taking into consideration all the insights from the first survey, the second survey and the last one was an interesting one since at that point the majority of the merged typeface were already designed.

This letterform represent the mix between Latin letter “c” and Arabic letter “ص”.

The percentage of the prototype:

45% guessed the letter “c”.

53% guessed the letter “ص”.

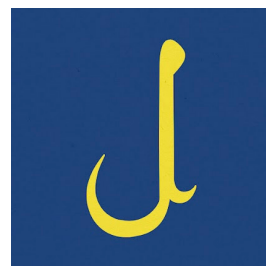
This letterform represent the mix between Latin letter “l” and Arabic letter “ل”.

The percentage of the prototype:

7% guessed the letter “l”.

48% guessed the letter “ل”.

34% guessed the letter “j”.



This letterform represent the mix between Latin letter “k” and Arabic letter “ك”.

The percentage of the prototype:

46% guessed the letter “k”.

48% guessed the letter “ك”.

6% guessed the letter “j”.



This letterform represent the mix between Latin letter “z” and Arabic letter “ز”.

The percentage of the prototype:

25% guessed the letter “z”.

44% guessed the letter “ز”.

31% guessed other letters as : “j” “خ”, “i”.



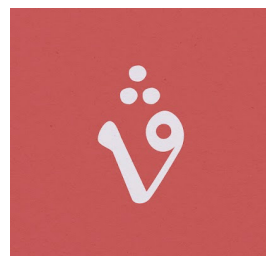
This letterform represent the mix between Latin letter “v” and Arabic letter “ف” or the letter “ف” derived letter from Arabic, a letter of the Arabic-based Central Kurdish, Comoro, Wakhi, and Karakhanid alphabets.

The percentage of the prototype:

53% guessed the letter “v”.

18% guessed the letter “ف”.

29% guessed other letters as : “ف”, “ق”.



This letterform represent the mix between Latin letter “g” and Arabic letter “ج”.

The percentage of the prototype:

37% guessed the letter “g”.

53% guessed the letter “ج”.

10% guessed other letters as : “a” “g”.



. Morotugal Typeface Specimen

Image 1 Poem by Mohamed Smyej Alandalusi for the birth of his first granddaughter Lamya Sefyani Lakrzi.

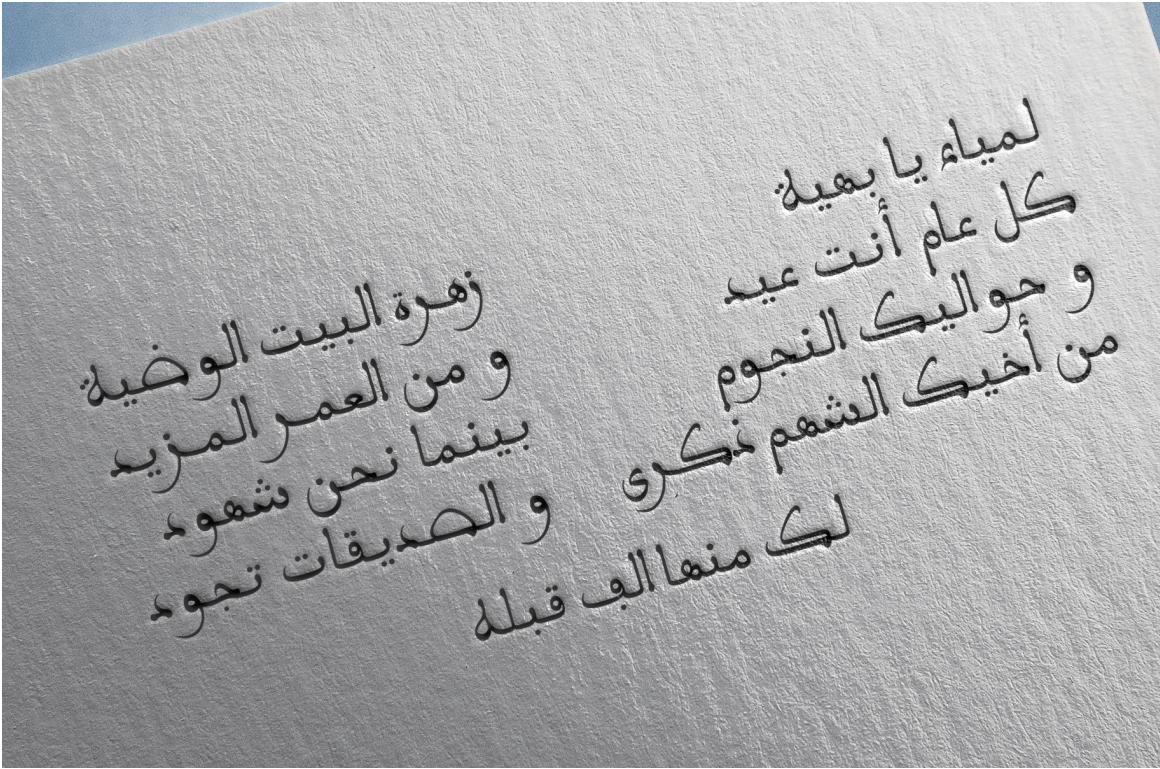


Image 2



Image 3

Morotugal Typeface

Bilingual Typeface: Bridging Portugal and Morocco

مروج تۇڭال
 مروج تۇڭال

Morotugal Typeface ————— Bilingual Typeface: Bridging Portugal and Morocco

خَهْ الْمُر تَغَالُ

Morotugal Typeface

من المغرب إلى البرتغال

Morotugal Typeface

Bilingual Typeface:
Bridging Portugal and Morocco

خه ثنائي اللغة :
ربه البرتغال والمغرب

خه المرتغال

ا ب ت ت ت ج ح خ د ذ ر ز س
ش ص ض ه ه ه ع غ ف ق
ك ل م ن ه و ي ء 2

ببب تبت تبت ججج ححح
خخخ سسس ششش صصص
ضضض ههه ههه
ععع غغغ ففف ققق ككك
للال ممم نnnen ههه ييي

أأأ آآآ إإإ ءءء
،،، ؟؟؟ ،،، ..

MOROTUGAL Typeface

ABCDEFGHIJKLMNO
PQRSTUVWXYZ

abcdefghijklmnopqrstu
vwxyz

àáãä å èéë ê ù ñ öòóõ üùú

ÁÁÄÅ ÈÉË Ê Ì Ñ

ÖÒÓÕ ÜÙÚ

- · _ , ' ; : " ! ?

س ك ش باه
 خ ر ن ه ج غ ي ل
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Image 9



Image 10



Festival Islâmico

مهرجان إسلامي

MÉRTOLA

قرية ميرتولا

Since independence, Morocco has remained relatively stable. It has the fifth-largest economy in Africa and wields significant influence in both Africa and the Arab world; it is considered a middle power in global affairs and holds membership in the Arab League, the Union for the Mediterranean, and the African Union. Morocco is a unitary semi-constitutional monarchy with an elected parliament. The executive branch is led by the King of Morocco and the prime minister, while legislative power is vested in the two chambers of parliament: the House of Representatives and the House of Councillors. Judicial power rests with the Constitutional Court, which may review the validity of laws, elections, and referenda. The king holds vast executive and legislative powers, especially over the military, foreign policy and religious affairs; he can issue decrees called dahirs, which have the force of law, and can also dissolve the parliament after consulting the prime minister and the president of the constitutional court.

Morocco claims ownership of the non-self-governing territory of Western Sahara, which it has designated its Southern Provinces. In 1975, after Spain agreed to decolonise the territory and cede its control to Morocco and Mauritania, a guerrilla war broke out between those powers and some

عرف المغرب في حقبة التاريخ القديم ابتداءً من الألفية الرابعة قبل الميلاد، تعاقب حضارات العصر الكلاسيكي وهي على التوالي: الحضارة الفينيقية منذ القرن الثاني عشر قبل الميلاد، الحضارة البونيقية منذ القرن الخامس قبل الميلاد، الحضارة الموريثانية منذ القرن الثاني قبل الميلاد، الحضارة الرومانية منذ القرن الأول بعد الميلاد. خلال التاريخ القديم، فتح المغرب أبوابه بشكل أوسع للدول المحيطة بالبحر المتوسط، حين ازدهرت تجارة الفينيقيين وأقاموا مستعمرات لهم في مختلف المناطق المتوسطية. أضلق الفينيقيون على البلد الواقع في أقصى الضرف الغربي لعالمهم المعروف اسم موقريم بمعنى "الأرض الغربية". تُعد كل من شالة، وليكسوس، والصويرة من أهم وأول المستعمرات الفينيقية التي أنشئت في المغرب، وقد بقيت الأخيرة مستعمرة فينيقية حتى القرن السادس قبل الميلاد.

كانت قرطاج مستعمرة فينيقية بالأساس، ثم تضررت لتصبح عاصمة لولة بونيقية سيطرت على أجزاء كبيرة من جنوب غرب المتوسط. خلال الألفية الأولى قبل الميلاد، أقامت قرطاج علاقات تجارية مع قبائل الأمازيغ بالمناطق الداخلية، وفُتحت لهم مبالغ سنوية لضمان تعاونهم في استغلال الموارد الخام.

كانت موريثانية مملكة قبلية، أنشعها السكان المحليون الذين عُرفوا باسم الموريثانيين؛ بعد وفاة بهليموس الموريثاني سنة، كُمت الإمبراطورية الرومانية المملكة وقسمتها إلى مقاطعتين اثنتين: موريثانية القيصرية في الشرق، وموريثانية الهنجية التي تتصابق تقريبًا مع الجزء الشمالي من المغرب الحالي.



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