A By-Letter Comparison of the Andalusian and Maghrebi Calligraphic Scripts

A thesis submitted in partial fulfillment of the requirement for the degree of Bachelor of Arts in Religious Studies from The College of William and Mary
by
Christopher Ahrens

Patton Burchett, Honors Thesis Advisor

Stephen Sheehi, Committee Member

Faraz Sheikh, Committee Member

Semiha Topal, Committee Member

Andrea Wright, Committee Member
Introduction

The beauty of non-academic collections lies in their composition as purely experiential sets of items. Up through the 19th century, European nobility would curate personal Wunderkammer, otherwise known as cabinets of curiosities, in order to delight their friends and family. These displays would be lined with various trinkets and items collected from abroad and be used to elicit wonder and provoke discussion.¹ What’s notable about these collections is that they would be arranged not to provide historically-accurate information about its contents, but rather to tell a narrative shaped by the Wunderkammer’s owner, to be an object of interest at a dinner party or kindling for a long-winded tale of colonial adventure. The simulation of significance outshone the true significance of the pieces within any given cabinet.²

In October 2012 and again in April 2013, the auction house and brokerage firm Sotheby’s put on an auction titled “Arts of the Islamic World,” featuring as several of its main lots “fine example(s) of Islamic manuscript production from the Islamic west,” namely, Qur’an fragments in the Maghrebi script.³ In returning to the archived pages of the auctions, it is striking to see the price individuals were willing to pay to obtain some of these works; none of them were estimated at a cost below 10,000 British Pounds.⁴ Even more surprising is seeing that people were willing to pay these sums for works of broadly unknown origin.

Beyond a simple bracket of two centuries and an assurance of a “western origin,” Sotheby’s did not so much as provide a specific region for most of the pieces at hand, uniformly labelling any piece in the Maghrebi script as “from north Africa or Spain.” Though guesses at a

² “Cabinet of Curiosities.” The British Library.
⁴ “New Arts of the Islamic World.” Sothebys.com
more exact point of origin were occasionally hazarded (based in turn upon uncited methodology that will be discussed later), the fact of the matter was that the collectors attending the auction cared more about the image-making potential owning one of these pieces had rather than their true background.  

The Andalusian calligraphic script has passed through discourse only in its image-making capacity. It is discussed as an immutable part of the culture of Muslim Spain and also dismissed as indistinguishable from the Maghrebi script in another. Scholars will point to Ibn Khaldun’s discussion of the style and its reflexive influence on north African calligraphy while collapsing its diverse and varied expressions into inaccurate heuristics by which to identify it. It exists in the minds of people only as much as it has to, so that it can be used to expand discussion on anything but itself. This may sound like talk of an academic study in dire straits, of a truly destabilizing hole in the knowledge of Arabic writing, but in truth, it isn’t. To a degree, this dismissive attitude that many have had towards the position of the Andalusian script is correct, or at least justifiable; the script languished in obscurity due to its regional isolation, impacting few outside of the Iberian peninsula before it collapsed along with the land’s Muslim presence during the Reconquistas. As long as its existence was at the very least acknowledged, the script did its job in the grand discussion of Kufic scripts and the narratives therein. It was a tool of image-making, an exhibit in a Wunderkammer.

This paper’s unique contribution to knowledge is therefore rather self-evident. It asks the question, “what can be learned about the Andalusian script if it were to be the centerpiece of a study, rather than a tool of illustration and explanation for another topic?” From this focus, it

5 Ibid.
strives to fulfill the basic, foundational needs of studying a script, starting with simply defining what separates an Andalusian piece from a Maghrebi one. Up until this point, the closest people have come to this is through the generation of single letter heuristics (for example, “the terminal Alef of the Andalusian script is drawn top to bottom” or “the Andalusian script possesses a cleft on its Lam heads”) to determine a text’s origin. In contrast, this work will implement a letter-by-letter comparative of it to the Maghrebi script, which the Andalusian script is most likely to be confused with.

The secondary goal of this paper is to work in tandem with continuing efforts to establish a digitized, searchable, and fully accessible database of Andalusian calligraphy. In these early stages, the hope is to recover and preserve pieces like those from Sotheby’s, artifacts of high quality and academic value that are outside of the academy. Pieces kept in private collections are rarely accessible to the public, often only surfacing online when they trade hands in forums such as Sotheby’s auction series. Unfortunately, many of these pieces only make it onto the internet in poorly scanned, low-quality formats good enough to sell the work on Ebay and not much more. Thus, this paper pioneers a method of text extraction for use on low resolution scans, the exact method of which will be discussed later.

More difficult to answer is what value lies in these exercises. Inasmuch that the Andalusian script has been a tool, it has been an effective one. What use is there in expanding this knowledge-base? The answer to this sits at the intersection of many disciplines and projects. The most direct value of the comparative and identification of the Andalusian script in the light of the Maghrebi tradition is in its contribution to revival efforts surrounding the script. Several modern calligraphers and designers, most notably Ian Abdallateef Whiteman and Emin Alzueta,
have expressed a desire to revive the script and note it to be of importance to understanding
Andalusian Muslim culture and heritage. The presence of a handbook enumerating the specific
textforms with illustrated examples would be invaluable to expediting this revival. Second, a
thorough investigation of the Andalusian script begs an examination of how the Maghrebi script
is perceived. Even for the large amount of scholarship produced surrounding Maghrebi works,
the standards by which the script is identified have been rather uncritically accepted, and this fact
will become very apparent as this study progresses. The ability to return and reconstruct the
identifying factors of the Maghrebi script in the process of reifying the Andalusian script holds
great value for this reason.

Less emphasis will be placed in claims over the nature of either the Andalusian or
Maghrebi scripts outside of their visual compositions, including discourse over the reification of
the Andalusian script as a wholly distinct entity and school of calligraphy from the Maghrebi. A
variation of paradigm within scholarship over this topic has existed for hundreds of years, from
Ibn Khaldun’s assertions over the script’s reflexive impact on African calligraphic models to
Nico Van Den Boogert’s more recent arguments for there being a “family of Maghrebi writing,”
including Andalusian calligraphy as a sub-style. To fully and confidently come down on either
side of this argument solely by virtue of distinctivizing the visual cues of the two scripts is not a
responsible approach to the discussion, and disregards the significant role that historical events
and cultural differentiation plays in the formulation of broader arguments of reifying a script as a
“distinct tradition.” The notion of a discrete script versus a simple regional variation in a larger
Maghrebi script continuity is a discussion with baggage further rooted in understandings of

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identity and the greater role of Andalusian in the public and academic consciousnesses which in turn indicate a strong need in a supreme confidence before proceeding with a claim of the Andalusian script as one or the other. What this paper intends to do is distinctivize the Andalusian script as a style that is worth having such a debate over to begin with.

The creation of a publicly accessible database for the Andalusian script derives value first and foremost in the techniques innovated to make such a project possible in the first place. While scanning technology has improved rapidly and digital archives have expanded to incorporate many thousands of uploaded images, little work has been done in extracting information from images of poor quality, images with no chance at being restored or retaken. It is undoubtedly true that in the future scholars will more frequently have to refer to sources consisting only of poorly-kept and produced digital artifacts. Beginning to form methods to approach this issue is critical to the development of the digital humanities. Furthermore, digitizing more pieces simply provides a greater base of resources from which future scholars can develop, compare against, and study with. Considering the relative rarity of the Andalusian script, forgoing potential documents and resources is inadvisable, as a lack of samples could bottleneck the validity of future projects regarding the script.

A Brief Introduction to Islamic and Arabic-Language Calligraphy

A core distinction that must be made in order to understand a comparative study of Maghrebi and Andalusian scripts is in the division between *Kufi* and *Nashki* styles. While these terms can refer to specific scripts within the discipline of Islamic calligraphy, the innumerable subdivisions and offshoots present have led to both being considered “umbrella styles” that various typographies branch out from.
The Kufic script is considered to be the first true type of standardized Arabic-language calligraphy. Its comparative deemphasis of line variation and uniform, simplified letterforms has led to hypotheses over its point of early origination and its presence in documents as well as works of bas-relief, architecture, and other mediums. Naskhi styles are believed to have diverged from the continuity of Kufi styles in around the 10th century, and have come to be known more broadly as the family of “cursive” scripts, including styles such as Thuluth and Diwani. This title is an oversimplification, however. Both the Kufi and Naskhi families possess what can be described a continuity of complexity, as newer offshoots and substyles in each grouping display continually more dense and delicate stylistic variation throughout the centuries, culminating in styles such as the regal Muhaqqaq of the Mamluks or Diwani of the Ottomans. Because of this, many later Kufi works, including the products of the Maghrebi and Andalusian scripts, possess multiple qualities that would demonstrate their being cursive, such as interpretative and varied tailings of letters for effect, line thickness changes, and ornamentation via Harakat alteration and other stylings.

A Brief History of the Andalusian Script

Extant examples of the Andalusian script show it to be a relatively utilitarian style used to write everything from pages of the Qur’an to scholarly manuscripts. In contrast to Naskhi variants of Arabic writing, whose compositions range from eminently readable to so fundamentally altered they are considered inaccessible to the layperson, the Andalusian and Maghrebi scripts are used almost exclusively in situations that require readability, such as in letters, legal documents, medical texts, and Qur’ans. Highly ornamental writing in areas where

these two scripts were dominant typically relied upon earlier variations of Kufic (something demonstrated by multiple Andalusian Qur’ans). While variations and levels of formalization exist, there is a clear, recognizable through-line in regards to the Andalusian script’s overarching aesthetic that makes its linkages to Maghrebi and other “post-Kufic” scripts clear. That being said, this paper explicitly will be constructed in reference to the elevated, calligraphic dimensions of the Andalusian and Maghrebi scripts.

What is less clear is an exact line of continuity between the Maghrebi and Andalusian scripts which would create an accepted genealogy between the two. As is stated by Adam Jusslia, the Maghrebi script did not “give way” to the Andalusian script due to a shift in aesthetic sensibilities or technical development; the two coexisted in Umayyad-influenced regions of the Islamicate world from the 10th century onwards, ending with the Reconquistas and the subsequent disappearance of the Andalusian script. It should be noted that by this point the Maghrebi script was declining in its usage due to a general downswing in the popularity of Kufic-derived writing styles. However, unlike the deleterious forced conversions of the Iberian peninsula, the Maghrebi script’s slow disappearance afforded it the preservation of many more documents written in the style than the Andalusian script.⁹

This all told leads to a period of about five or six centuries in which the vast majority of Andalusian-script calligraphy could have been written, from the Umayyad conquest of the Iberian Peninsula the 8th century to the Reconquistas at the end of the 15th, while also accounting also for the time period in which the script would develop away from the broader Maghrebi script. Like much work on the style at this time though, this period is only a rough

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estimation based upon surrounding evidence more so than evidenced, studied research. As of now, almost all examples that could reasonably be confirmed as Andalusian calligraphy are from the late 12th century onwards.

This all leads to greater questions regarding the historical, social, and political role that the Andalusian script occupied in its eponymous region throughout its life and legacy. Broadly, the unique intermingling of traditions, religions, and cultures that have come to define Al-Andalus in contemporary scholarship also fuels a substantial focus on many aspects of the region (though its script does not seem to benefit from a similar glut of discussion). While narratives about the peninsula following the arrival of Abd al-Rahman I (and earlier exploratory and political forces) usually focuses upon the uniquely peaceful relations between ethnic and religious groups up through the 1400s at the expense of very real conflicts between parties throughout the early years of Muslim control, the fact of the matter is that the lack of calligraphic samples before the 12th century in the area makes it difficult to truly link or study the role of the script during this developmental period with much accuracy.

It may be partially because of this fact that the scripts has come to be hailed as an emblem of the unique culture of the region, without baggage over whether or not it came to push out previous works of calligraphy in Andalusia nor how the script specifically came to impact the transmission of the Arabic language. Adam Jussila points out the ways in which the script came to define the notion of Muslim-Spanish visual culture, embodying the idea of stylistic refinement prized in Andalusian art and architecture known as gallardia. Following the Reconquista, Jussila reports that writings in the Andalusian style (more broadly, in Arabic but Jussila hypothesizes that at this point most writings were probably homogenized into the
Andalusian script) were considered to be contraband, and representative of earlier Muslim control of the region, firmly cementing the Andalusian script’s status as a hypericonic representation of the legacy of Al-Andalus.  

A further means by which the field of calligraphy became representative of the Muslim legacy in Spain was through the channeling of the south Iberian papermaking traditions into the production of various books and writings. Here, a very real fusion between the secular, universal need for paper and the unique drive of Muslim/Arabic drive for beautiful writing was realized, providing a few stunning examples of Qur’ans from the region, often written on heavy, dyed paper as opposed to vellum, which at the time was still used for the vast majority of works of Arabic calligraphy in the greater Islamicate world. Even following the Reconquistas, the paper mills remained throughout the country and now, several individuals attempting to realize the script such as Abdallateef Whiteman are tapping back into that very tradition of Spanish paper for their work.

Ultimately though, all of this is a much-needed discussion that must be had at a future time. The history of the Andalusian script was the first and foremost goal of this paper in its original form, but ultimately proved to be outside of the conceivable scope of this project due to just how little focus has been afforded the Andalusian script by itself. Hopefully through the establishment of a framework by which to identify texts as Andalusian and the continued uptake and preservation of artifacts, a stronger conception of when the Andalusian script became a distinct entity will begin to form.

An Introduction to Method

The first question to answer is in where this study begins. To date, there has been exactly one academically-driven, widely distributed work analyzing each of the letterforms in the Maghrebi script published in English: *Some Notes on the Maghribi Script* by Nico van den Boogert. While some texts have since attempted to place the Maghrebi script in a greater continuity in terms of both style and region, such as Mauro Nobili’s *Arabic Scripts in African Manuscripts: A Tentative Classification from the De Gironcourt Collection*, these texts typically operate with far less granularity than what is needed to comprehensively profile a script.

Unfortunately, Boogert’s 1989 project does not provide a sufficient platform by which to specifically discuss Maghrebi calligraphy, much less the Andalusian style. As is noted by Nobili in the preamble to his investigation of African scripts, most work on identifying scripts blends the realms of calligraphic writing, which Sheila Blair refers to as “script that the writer intended to impact the reader aesthetically,” and more mundane handwriting. In Boogert’s paper, he states that the majority of his extractions were derived from 13 total sources, ten of which were manuscripts and the remainder of which were facsimiles of Maghrebi Qur’an. Some number of these replica Qur’an were also composed of a Maghrebi Naskh variant, removing them from the overall number of truly calligraphic works in the Maghrebi script that Boogert considered.

Ultimately, many of the extractions that Boogert created are not applicable to the specific study of calligraphy. Beyond simply delineating wildly divergent letterforms and compositions found in none of the sampled works utilized in this piece, Boogert only passingly makes reference to the relative sizing of letters and variations in line width found throughout Maghrebi calligraphic writing. However, there are several instances in this paper in which the models he

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produced were valuable resources. Due to the larger size and greater complexity of calligraphic handwriting, combined with the limited number of accessible texts from which to extract, there were several rarely-appearing letterforms that were ultimately impossible to find. In these cases, Boogert’s models were used to further discussion, although with note and consideration.

So, what then is calligraphic writing? While Blair’s definition holds value in the abstract, the appearance of several mid-sized texts and lack of knowledge surrounding the intent of their creators can make it difficult to decide which texts to use and which to ignore at a glance. After parsing through a few different heuristics, the most useful for investigating Maghrebi and Andalusian calligraphy is to focus only upon writing in which it is clear that attention has been paid to the variation in line weight within letterforms. In the course of normal handwriting, it is almost impossible to accurately vary one’s lines due to the small form-factor of their work and the time and control required to continuously do so. When that much attention and care is put into composing a work, it is typically so that the letterforms act beyond their role in the conveyance of information. As such, one can consider the work to be calligraphic.

The modes and objects of extraction are ultimately what allows this paper to accomplish its stated goal. Beginning with the latter, all samples (beyond those attributed clearly to Boogert) are taken from pieces of calligraphy that exist outside of the academy and curatorial systems. Almost all are taken from auction websites such as Ebay and the aforementioned Sotheby’s, and those which are not are extracted from blog posts, forums, and other informal sites from around the internet. Outside of these low-quality photographs it is likely that these texts will never be seen by those outside of private collecting circles, at least not in the conceivable future. The current state of these artifacts is a tenuous existence. Ebay deletes old listings after about a year...
online, and websites can be closed or taken down for any number of reasons outside of the control of passing observers. While ultimately the project of digitizing and extracting examples of the Andalusian and Maghrebi script found in libraries and archives accessible to the academy is most definitely valuable, these pieces have a much longer metaphorical shelf-life than the digital artifacts utilized here.

It is doubtlessly true that the focus upon these digital samples posed issues that would not have existed if archived texts were to be used. The incredibly low quality of some of the files that were extracted from meant that some amount of guesswork came into play during the extraction process. Furthermore, the sourcing of some of these pieces remains dubious, but also all that one could go by. While collections at colleges, museums and the like will typically keep detailed notes on the speculation over the origins and history of a piece, the documentation that was at hand throughout much of this study was a brief caption for a link or a seller’s description of the item on Ebay. However, it must be said that the time period in which to conduct a digital survey of this sort could not have been more conveniently timed. With the social distancing rules put in place in response to the rise of COVID-19, it became incredibly difficult to access the physical sources that would be needed in the case of a focus on physical artifacts in collections, and without the ability to turn to digital samples, it is likely this project would not be completed.

Ultimately though, it was decided that the risks taken in focusing on these digital samples would be outweighed by the potential benefits that would be had at the end of the process. This paper is just the beginning of a long-running process to bring focus to scripts on the margins of scholarship and to introduce new methods of text analysis in the age of the digital humanities. The hope is that this work does not stand as the sole means by which to identify the Andalusian
script in the future. Hopefully, this sort of study will become normalized, with this exact topic revisited in the future once access to a greater range of Andalusian and Maghrebi sources is established.

The methods in place to extract letterforms from samples centers around the utilization of new “line extraction” abilities within programs such as Adobe Photoshop, or in the case of this study, Clip Studio Paint. Using a combination of level adjustments and this technology, a letterform can be isolated at a reasonable quality for tracing, reducing boundary noise to an area of about four pixels by the definition of the extracted image. From here, the letterform is simply traced by hand, filled, and vectorized for use.

(Above is the upscaling of a Waw letterform from 6 pixels across with smoothing to 12-13 pixels via line extraction, which is then drawn to 600 DPI) (From Source #2)

In the case of particularly poor-quality images, some degree of guesswork as to the minutiae of a letterform must factor into the extraction process. It is at this point that the other extractions of higher quality come into play. The process is self-referential in a way, building
upon the norms established in known variables to take educated shots at the unknown. As long as the general silhouette of a letter’s smallest features could at least be indicated in a sample, an attempt was made to extract the piece, though these samples were in turn weighed less in the process of determining norms and identifying factors of the script.

Isolated/Initial Alef

The first path of divergence taken between the Andalusian and Maghribi scripts of this time comes in the form of Andalusian documents almost entirely losing their utilization of mid-letterform recurves in comparison to their Maghrebi counterparts. In most samples investigated, Andalusian calligraphers focused upon straight, uniformly terminated isolated and initial Alef. Conversely, the Maghrebi script allowed for a greater degree of variance and flourish within medial segments of letters. While most Maghrebi manuscripts of this time were produced with subtle, horizontally symmetrical recurves in the initial (as well as medial/terminal) Alef, several exceptions to this trend do appear.
The subject of tailing initial and isolated Alef in the Andalusian script is one dominated by its notable deemphasization in most extant samples. Standing in the place of any noticeable tailing at the end of Alef during this time period is usually a strongly symmetrical, brief declination of the line to a point. Particular emphasis and care seems to have been taken in order
to ensure the uniformity and clarity of this formation, with it being an area with some of the least intra-textual variation found amongst samples.

Even in the case of the most prominent exceptions to this rule, such as in the instance of the “Pink Qur’an” from the David Collection in Copenhagen, tailing very rarely is used in a dramatic fashion. In many cases, the very slight pull inwards exhibited by tailed Alef during this time period gives the impression of a simple shunting of a declined point laterally to be in line with the interior side of the Alef.

The final center of focus of isolated and initial Alef is demonstrated in the heads attached to the letters. As is also demonstrated in the Maghribi script, most samples of Andalusian calligraphy do not exhibit the prominent heading of Alef that is common in many Naskhi styles. Instead of intersective heads which extend beyond the outer edge of the letterform, the Andalusian and Maghribi scripts take an integrative approach, with the head only extended inwards. A distinguishing factor between these two scripts can be found in the Maghribi tendency to more completely incorporate the head into curvature of the overall letterform, something that is much less prominent in the Andalusian script. When combined with the Andalusian trait of more widely flared headings to their Alef, the general impression given in a comparison of the two scripts is a greater prominence being placed upon the heading of Alef in the Andalusian style.

A final note is a brief discussion over the angling of isolated and initial Alef. While for the most part Alef in works from either side of the Narrows during the 12th century are drawn with perfect verticality, there are several samples of Andalusian works during this time period which are drawn with a slight obtuse bias. However, the extent to which this angle was
intentional is up for debate, and it should be noted that several of the extracted samples with noted bias are derived from particularly low quality scans which could have negatively impacted the extraction process, producing a bias. With this in mind, 12th century Andalusian calligraphy cannot hold an obtuse angling of Alef as a defining feature until more samples are collected.

Medial/Terminal Alef

The differentiation of medial and terminal Alef between those from Andalusia and those from the Maghreb can be supposed by a careful study of the “parent” design of the isolated and initial Alef. An aggregation of instances of medial and terminal Alef from both disciplines reveals a clearly bifurcated set of letterforms, one in which the Alef is tailed and one which emphasizes a gradual shift in curvature from the connecting line to the body of the letter. The former leads from the connecting line to the letter body at a harsh angle, with the intersection between the two often being near a ninety-degree angle with minimal rounding. This is in order to preserve the geometry of the tailing, which often attempts to replicate the stylization present in isolated/initial Alef.

With this in mind, the majority of variance between the Andalusian and Maghribi scripts to be found in this first form of medial and terminal Alef can be derived from the trends that also impact those instances of the letter. There are very few cases in which a document seems to diverge from the precedent for tailing set by the medial and terminal Alef, with exceptions to this most often coming from Al-Andalus, where works with particularly recessed and understated tails that would otherwise be subsumed in the connector to previous letters. Here, the tail is often extended inwards and downwards slightly, with care being taken to retain the “nature” of the original tail.
A distinct element of both the Maghrebi and Andalusian medial and terminal \textit{Alef} of this variant is in the overshot and subsequent tailing of the connecting line, often with the same geometry employed with the lower tailing of the \textit{Alef} body. While usually slightly shortened relative to the corresponding \textit{Alef} tail, this overshot tail is for the most part visually and stylistically continuous. The major exception to this factor is in deeply shortened Andalusian script tailing styles, in which the symmetrical termination of the \textit{Alef} is not replicated in the termination of the overshot. Rather, these pieces often have a single-sided declination to the lower side of the connector, leading to a sharper and often longer tail.

There are several exceptions to one or both of the defining traits that make up this first variant of medial/terminal \textit{Alef}, most of which are displayed in Andalusian works. In most cases, these exceptions are drawn from only a few samples or lack a continuity through later eras of the script, making it difficult to reify these deviating examples as core typologies.

The most commonly occurring variant of tailed medial and terminal \textit{Alef} is one which omits the overshot tail of the preceding letter’s connector. Little else is altered in most samples displaying this letter variant, with the angle of intersection to the preceding letter, curvature of the \textit{Alef}, and other elements remaining comparable to the more commonly occurring mode. Following the 12th century, only a select few Andalusian Qur’an fragments continued to be produced in this style.

The second umbrella of medial and terminal \textit{Alef} designs during the 12th century forgoes tailing and connector overshots, bringing sharper focus upon the intersections between connector and letter body. As is in line with earlier arguments pertaining to the recurve of a given \textit{Alef}, the
way in which the Andalusian script and Magrebi script produce a cohesive link is influenced deeply by the severity of the angling within the letterform.

Andalusian examples of this Alef letterform continue to lack a significant recurve in their composition. Moving sharply to a near-vertical body from a slanting head and copying the
structure displayed in initial and isolated *Alef*, the letter sustains a consistent line long enough to give the overall composition a sense of the letterform’s preserved rigidity before it gently glides backwards into a ninety-degree curve, blending seamlessly into the preceding letter’s connector. In examples with less dramatic shifts in curvature, often employed in order to further represent the rigidity of the letter, the outer side of the letterform demonstrates a sharp intersection with the connector, while the inner side of the letter is infilled to give the impression of a gentler curve. Notably, there seems to be little effort put into maintaining a symmetry of length or angle between the connecting curve of the head and body of the *Alef* and its body to the preceding connector. In all sampled cases, the lower curve occupies greater real estate than the connection of the letter to its head, the latter of which as stated earlier can in some cases act as little more than a harsh, dramatic intersection of head and body with no adaptive curve.

While the trend of an imbalance between upper and lower angling with a preference of length towards the latter continues in the study of the Maghrebi script, the feature of pronounced *Alef* recurves in this style leads to a noticeable shift in how calligraphers approach the medial and terminal *Alef*. While the upper half of most samples mimic the angles and stylings of an isolated or initial *Alef*, the inward-facing thrust of the recurve is often exaggerated to extend noticeably beyond the vertical silhouette of the letterform. This leads to a very pronounced inward “bulge” flowing into the letter connector, and thus provides this variant with a distinct, rounded shape. In the most extreme cases, the curvature of the letter’s upper half, including that of its head, are made stronger in order to accentuate the overall style.

In most cases, works in both the Maghrebi and Andalusian scripts rely upon one of these two types of medial and terminal *Alef* throughout their texts, but a significant portion of samples
display both variants. The reason behind shifting between variants in the texts that display this phenomenon is to better match the angularity of the Alef to that of the preceding letters. Connecting elements originating from letters that closely follow the lower “floor” of the script (such as Kaf, Baa, or some stylizations of Ya’) will often defer to the tailed variant of the medial and terminal Alef, as its overall silhouette better corresponds with a “flat” connecting line.

When a connector originates from a point noticeably above the “floor” of a line (such is the case with letters such as Ha or some variants of Mim), particularly in places where the calligrapher aims to maintain tight spacing between letters, they will often default to employing the more gradually curved, non-tailed variant of the medial or terminal Alef.

An interesting aside, the tendency for Andalusian calligraphers to heavily flourish certain letterforms such as Nun, Baa, and Ta​a contributes to one of the major issues of legibility for untrained readers. As will be discussed in their respective sections, the strong ending tails on terminal and isolated variations of these letters leads to the impression of a somewhat-malformed medial or terminal Alef of the untailed variety.

A final note should be made as to the nature of isolated, terminal Alef. While stylistically exceptional and present in only a few documents beginning in the 12th century, the presence of an isolated Alef letterform that is tailed outwardly, back towards preceding letters partially destabilizes this work’s division of letter typology between isolated and initial Alef and medial and terminal Alef.

While it is only in a few samples of calligraphy that consistently display a prominent, outward tail and the frequency of samples with this trait seem to decrease as the script progressed, the occurrences of these deviating letterforms demonstrates that at least some
calligraphers in Andalusia acknowledged the differentiation of isolated Alef depending on where they are placed in a document. This fact creates an asymmetry between the categorization of letterforms as explored by this paper and the mentality used in the creation of the Andalusian script, and while the impacts within this research are minor (especially due to the limited reach and manifestation of variants such as distinct isolated-terminal Alef), this should be noted in instances where this paradigm could be applied to other works.

**Isolated Ba’, Ta’ Tha**

Unlike many of the other letterforms in the Maghrebi and Andalusian scripts, the isolated form of Ba’, Ta’, and Tha are not considered to possess defining elements that are reflected in other forms of these letters. This is due in large part to the unique flourishes and alterations made to the body of these letters in other positions, which in turn stand as some of the defining features of the two scripts. It is in variations to these flourishes and adaptation that notable differentiation between the Andalusian and Maghrebi scripts can be found.

As is the case with several other letterforms throughout the course of this study, the relative rarity of samples from the time period in focus which display isolated Ba’, Ta’, or Tha does limit both the ability to establish a dominant narrative of stylization as well as the ability to understand a trajectory of development. As work on this topic becomes integrative of more wide-reaching and accessible collections of Andalusian and Maghrebi texts, this issue will hopefully become less relevant in the future. With this in mind, while trends and characteristics of isolated Ba’, Ta’ and Tha are presented as reified, the arguments given are put forth with less confidence as to their long-term veracity.
As it is often seen as the plural form of many feminine nouns, the most commonly occurring example of an isolated $Ba'$, $Ta'$, or $Tha$ is the $Ta'$, although in instances where one of the other letters becomes isolated, there seems to be little noticeable difference in the letterforms’ overall stylization. Forgoing the elongated shape that is commonly employed with these letterforms in Naskhi scripts, the foreshortened, rounded nature of the isolated $Ba'$, $Ta'$, and $Tha$ in the Maghrebi and Andalusian scripts bring them visually more in line with the construction of the Nun in more commonly known styles.

(Source #3, Source #15)

Another unique factor of the isolated $Ba'$, $Ta'$, and $Tha$ is that unlike their Naskhi counterparts, these letterforms are not clearly composed from two distinct pen strokes. Rather, in alignment with the pointed nib employed for most work in both scripts, great emphasis seems to be placed on presenting the letterforms as composed of a single, cohesive stroke. The most striking feature of the isolated $Ba'$, $Ta'$, and $Tha$ is in their immensely tall tailings, extending far beyond the height of the letterforms’ head and often reaching or even exceeding a line’s
“ceiling.” This feature is more greatly accentuated in the Andalusian script, in which a greater number of samples display tails reaching up to the “ceiling” of a line. In most cases, Maghrebi examples will still reach considerably above the head of a Ba’, Ta’, or Tha, but nowhere to the same degree as is demonstrated by Andalusian texts as early as the 12th century.

In line with earlier discussions of tailing trends in the Andalusian script though, to refer to the ending extension of the isolated Ba’, Ta’, or Tha letterforms as a tail is a bit of a misnomer. Inasmuch as a tail for purposes of this study, and as established in the locii of form, is usually defined by the point at which a letter’s body begins to narrow to an ending point, the isolated Ba’, Ta’, and Tha all exhibit short tails similar to those displayed by Alef. Rather, it is the overall letter body which extends sharply upwards on most samples, coming to a characteristically short, declined tail. By the same turn, most Maghrebi-script works display tails on their isolated Ba’, Ta’, and Tha as similar to those on Alef, with relatively greater length and an asymmetric declination. In no studied cases has an isolated Ba’, Ta’, or Tha exhibited a noticeable recurve in their body or radical angling of their tail, a fact that allows even pieces with very dramatic raises to avoid confusion with terminal Alef.

Further contributing to an overall more substantial footprint of Andalusian isolated Ba’, Ta’, and Tha in comparison to their Maghrebi counterparts, the beginning stroke of the former’s Ba’, Ta’, and Tha letterforms usually begin further above the line-floor and thus take up more average real estate. While covering a similar lateral distance, this leads to the Maghrebi examples of these letterforms to take on an overall “flattened” appearance, though the actual angularity between these works and Andalusian isolated Ba’, Ta’, and Tha are not noticeably changed to achieve this effect.
Initial \(Ba', Ta',\) and \(Tha\)

Beyond the isolated forms of \(Ba', Ta',\) and \(Tha,\) most other variants of these letters are rather unremarkable, often acting as “reactive” elements of both the Andalusian and Maghrebi scripts. Rather than being demonstrative of defining features of the two scripts, the initial, medial, and terminal \(Ba', Ta',\) and \(Tha\) all reflect the characteristics of other “core” letterforms, being adapted in order to maintain aesthetic cohesion.

A traditional element in appraising a script is the extent to which a work differentiates between initial \(Ba', Ta',\) \(Tha, Ya',\) and \(Nun.\) While the medial versions of \(Ya'\) and \(Nun\) are very rarely differentiated from \(Ba', Ta',\) and \(Tha\) (besides by their \(I'jam\)) and both their terminal and isolated forms are stylistically separated due to intrinsic differences in letter structure, there is substantial script-to-script variance as to whether or not initial letterforms are also clearly differentiated. While many \(Naskhi\) scripts present no variance in initial \(Ba', Ta', Tha, Ya',\) and \(Nun\) shapes, earlier Kufic styles often lengthened the connector to succeeding letters and flattened the head of \(Ba', Ta',\) and \(Tha\) in comparison to \(Ya'\) and \(Nun.\) In the case of the Andalusian and Maghrebi scripts, neither makes a noticeable effort to differentiate between these letterforms in their initial state.
The curving of the head of these letterforms are in most cases directly influenced by the angularity of the heads on letters such as Alef. Following the presence of the heading, neither script continues an inward curve as an accentuation of the angle, favoring a more direct shift to the line-floor, softly but quickly curving into a parallel connecting line. In certain Andalusian
documents particularly from later in the script’s lifetime, a very intensely angled head will in fact lead to an inward u-curve, extending almost parallel to the line-floor before looping back into a connector. While this flourish is only found in texts that already have heavily angled, stylized headings on other letters, the extent to which the inwards curve coming off of the heading is exaggerated indicates that these variants do not view the initial Ba’, Ta’, and Tha as specifically reactive or subordinate letters.

**Medial Ba’, Ta’, and Tha**

A notable absence from medial Ba’, Ta’, and Tha in both the Andalusian and Maghrebi scripts is in the emphasis on uniformly pointed tops to the letters that is often noted in Naskhi scripts. Though the specific ebb and flow of the line weight contributing to the severity of the point in these script types may not be possible with the uniform point employed in the Maghrebi and Andalusian styles, the occasional presence of strongly defined points on letters such as Sin as well as the tailing on Alef and others demonstrates the clear possibility for an emphasisation of points to occur. More than likely, these sections and letterforms were simply written quickly and were not considered as aesthetically important as initial and terminal letters, as long as they maintained an internal coherence and did not clash with similarly structured medial letterforms such as that of Sin (though there are several early Andalusian manuscripts which put little effort into a Ba’, Ta’, and Tha versus Sin distinction). Due to this, there are a wide variety of formations for the medial Ba’, Ta’, and Tha to take, though they broadly fall into one of two categories: a two-stroke, more pointed style and a more gently oscillating single-stroke form.
The former style does not necessarily need to be formed from two distinct strokes meeting at the apex of the letterform, but simply give the impression of such via the clear production of a concave upstroke on one side and a similarly-angled and curved downstroke on the other. This is the style that comes closer to presenting a more “traditional” version of the
letterform, but it does not seem to notably precede its counterpart in usage in either Andalusia or the Maghreb.

The second type is more commonly seen in Andalusian manuscripts, especially those texts with a smaller form factor. This style of medial Ba’, Ta’, and Tha fully deemphasizes the upper points seen in some variants of the letterform, opting instead for a gentler, oscillating curvature with straightened upstrokes and downstrokes that displays both vertical and horizontal symmetry. This style can be identified by more pronounced “gaps” beneath the apex of the letterform, unconstrained by a concave sloping inherent to the other style of medial Ba’, Ta’, and Tha found in Andalusian and Maghrebi calligraphy.

**Terminal Ba’, Ta’, and Tha**

The terminal variants of Ba’, Ta’, and Tha follow mostly in line with trends established by the isolated versions of the same letters, but with concessions made in order to better cohere with the preceding letters and connectors. With this in mind, Maghrebi-script terminal Ba’, Ta’, and Tha usually are less altered than in the case of Andalusian Ba’, Ta’, and Tha, whose headings are usually reduced in height in order to better match with the connector.
As a note in particular reference to Andalusian examples due to the exaggerated height of their Ba’, Ta’, and Tha, there appears to be a tendency amongst calligraphers to shorten the terminal versions of these letterforms, though there seems to be no established standard as to the extent to which this is done. Even within a single work, there can be variances in height, so this phenomenon is most likely the product of simple inconsistency rather than an expectation of the script. One other small variation present in a few Andalusian works is a brief upward stroke acting as a pseudo-connector before the arrival of the main letter body in the case of isolated, terminal Ba’, Ta’, and Tha.

**Isolated Jim, Ha’, and Kha’**

The Jim, Ha’, and Kha’ letterforms in both the Andalusian and Maghrebi scripts exhibit a characteristic compactness in their defining upper lines, which when combined with an exaggerated, swooping tailing leads to a distinctive and memorable silhouette. In the hierarchy of
stroke sizing for letterforms whose tailings frequently break the line-floor, the Jim, Ha’, and Kha’ are typically considered to subsume the structures of Nun, Ya’, Sin, Shin, Sad, and Dad in terms of depth, on par with the size of ‘Ayn and Ghayn (though several letters have a considerably larger lateral footprint). Several other letterforms with prominent tailing such as Lam, Fa’ and Qaf are so variant in sizing and style that they are not measured in the aforementioned hierarchy.

Due to the relative extremity of the depth of isolated (as well as terminal) Jim, Ha’, and Kha’, other letters from following lines will often intersect with its curves and tail. Like most scripts, this is a non-reactive process for both the Andalusian and Maghrebi style, with calligraphers doing nothing to avoid nor clarify the intersections as they occur. Needed diacritics are typically shifted though for readability, in some cases being elevated from lower lines to exist within the area encircled by the tail of the Jim, Ha’, and Kha’.

The heads of all forms of Jim, Ha’, and Kha’ are distinctive for their considerable height differential in their curvature over a relatively small amount of lateral movement, in comparison to other scripts. Naskhi styles often emphasize a gradual slightly sloping curve to their heads, oftentimes not moving even a full line-width vertically from the start to end of the letter feature. While, as stated before, the standard of line-width as a measurement of the Andalusian script is impossible to implement, a general survey of extracted samples shows that there is a noticeable differentiation.
Jim, Ha’, and Kha’ in all positions are often relatively large in comparison to surrounding letters, and when combined with the gap between the origin of the head stroke left in the aforementioned prominent height differential, there is ample room for stylizing this stroke with the appending of a preceding accent line. For example, a short line drawn inwards at a near-parallel to the line-floor before sharply shifting into the heading stroke is the most commonly featured style of ornamentation on Naskhi scripts.

In the case of Andalusian and Maghrebi ornamentation, the most typically seen is a simple “clubbing” of the starting point of the head stroke. Unlike in the case of Alef and other headed letters, the clubbing present on the Jim, Ha’, and Kha’ reads as little more than a simple dot made by coaxing a greater amount of ink onto the paper than what is typically deposited in the formation of a line.

**Initial Jim, Ha’, and Kha’**
In most ways, initial Jim, Ha’, and Kha’ simply follow the stylization present in Andalusian and Maghrebi isolated Jim, Ha’, and Kha’, with a loss of the tailing section, with it instead extending straight back along the line-floor as a connecting element. The loss of any downward curve to the continuous tail section in these cases often leads to a greater area in which the upper stroke meets with the connector, leading to some samples exhibiting almost half of their entire heading blending to the lower line.
Occasionally, connected forms of Jim, Ha’, and Kha’ will forgo the recurves always present on their isolated counterparts, particularly in the initial position and on smaller documents. In these cases, the letterform will exhibit a continuous downward tilt until intersecting with the connecting line. Invariably, this stylization also favors an ornamenting line.
drawn vertically into the head stroke, in some cases extending up from the connecting line or below even that.

**Medial Jim, Ha’, and Kha’**

While remaining relatively unchanged from the initial Jim, Ha’, and Kha’ letterforms, the medial position is notable for the occasional employment of letter stacking. Instead of radically shifting the base structure of the Jim, Ha’, or Kha’ involved, this phenomenon typically shifts and re-angles preceding letterforms in such a way as to easily align and connect to the beginning point of the Jim, Ha’, or Kha’s. While there seems to be no true standard in how this stacking ought be employed in either the Andalusian or Maghrebi script, “simple” preceding letters ( Ba’, Ta’, Tha, and Ya) do seem to follow a common pattern which allows for differentiation between the two scripts.
The Maghrebi script typically promotes a sharper angularity in its preceding stacked letterforms, not only rotating the letter body more but also curving the whole form at a sharper angle. In contrast, the Andalusian script typically is more gentle in its connection lines, a feature...
which in turn leads to a phenomenon similar to the heading of *Jim, Ha’,* and *Kha’* overlapping for an extended period with the connecting lines they produce.

**Terminal Jim, Ha’, or Kha’**

Even as a relatively prominent letterform, with a curvature that stands as opposite to most other Arabic letters as well as a particularly large overall size, *Jim, Ha’,* and *Kha’* are not typically the springboard for defining traits of either the Andalusian or Maghribi script. With that being the case, the terminal *Jim, Ha’,* and *Kha’* does not differ significantly from its isolated letterform.

![Image of letter forms](image)

(Source #6, Source #16)

**Isolated/Initial Dal and Dhal**

The Maghrebi and Andalusian scripts are often noted for their odd composition of inward-opening letterforms, including *Dal, Dhal, Lam, Ra’,* and *Zay*. Unlike the case with most
of these other examples though, *Dal* and *Dhal* retain the same notable construction at all positions within a text, beginning with it in isolation.

(Source #8, Source #7, Source #14, Source #15)

The *Dal* and *Dhal* both demonstrate a sort of “collapsed” structure, in which both the upper and lower strokes of the letterform are bowed inwards to varying degrees. While some
other scripts bow the lower strokes on Dal and Dhal, there are none that apply this to the upper strokes as well, which are almost characteristically and endemically curved outwards. In the case of the Maghrebi script, this curvature appears very prominently, with smaller texts often appearing as if their Dal and Dhal have their curves continually intersect as they begin to curve out from their meeting point. Typically, the lower curve has a more subtle shape to it, with the upper stroke being the main focus for collapsing. While the Andalusian script is comparable in overall structure, they often are less extreme in how they treat their upper stroke, while similarly only giving their lower curves a slight concave (in many cases, the line is simply rendered as straight and parallel to the line-floor).

Other consistently noted differences between the Dal and Dhal of the Maghrebi script and those of the Andalusian script are seen in the finer details of the upper strokes, impacted in large part by the variation in angling and curving between the two. Typically, an Andalusian Dal or Dhal will have its upper stroke begin at somewhere above the midpoint of the lower line, while the Maghrebi script has its Dal and Dhal originate close to or even at the end of the lower line.

There are also a variety of important ornamentations appending the letterforms. Both the Andalusian and Maghrebi versions of Dal and Dhal possess a small ornament similar on their lower stroke to the clubbing of the Jim, Ha’, and Kha’, a feature which does not appear to noticeably change from one script to the other. One that does allow for the differentiation between the two styles is in the tailing of the intersecting point between the upper and lower strokes of the letterforms. In the hands of Maghrebi calligraphers, this tailing is almost nonexistent, blending into the often-curved lower line almost as if it simply thickened near its
origin. The Andalusian script typically utilizes a more prominent tailing in that position, though it typically still consists of the same sort of “thickening” effect, just with a stronger variance in its angle to make the feature clearer. This is not to say that the Maghrebi script does not acknowledge the importance of this ornament; in cases where the Dal or Dhal are connected to a preceding letter, calligraphers will extend the tail in order to make it visible amongst the visual business of the intersection.

One noted variant that is exclusively featured in Andalusian works with a small script is a deemphasization of exact shape and collapsing curvature of isolated Dal and Dhal, instead focusing upon a rotation of the entire letter almost ninety degrees counterclockwise. This change is typically applied along with an alteration to the angularity of other letterforms in order to provide consistency, and is only rarely done. Several pieces, particularly smaller ones, from both regions also diverge from the stated characteristics of Dal and Dhal in their ornamentation, omitting one or both of the aforementioned additions, typically lending to an overall “cleaner” and more readable appearance which corresponds with the omission of similar marks from other letters as well.

**Medial/Terminal Dal and Dhal**

As is the case with most scripts for Arabic calligraphy, the Dal and Dhal in positions in which they are connected to preceding letters are not structurally affected in the Andalusian and Maghrebi styles, outside of the aforementioned adjustment to the tailing at the intersection of upper and lower strokes to compensate for visibility when interacting with a connecting line.
Preceding letterforms in the cases when a text utilizes the rounded letter connection style will often curve more sharply downwards before completing their connection when interacting with a terminal or medial Dal or Dhal. In these cases, the connector meets with the letter body at an angle that leads to the complete omission of any tailing at the intersection.
**Isolated/Initial Ra’ and Zay**

Due to their sweeping downward curvature, the letters Ra’ and Zay often generate considerable negative space around themselves and in turn are often one of the first letterforms the eye is drawn to in the appraisal of a script. As is the case in so many other typographies, the Andalusian and Maghrebi scripts both utilizes their Ra’ and Zay to help inform their angularity and overall stylization due to these features. They are, for one, key to understanding the aforementioned hierarchy of tailings. Ra’ and Zay stand as letterforms with tail strokes of the same size as those on Waw, Sin, and Shin, relatively smaller than they are typically rendered in Naskhi scripts. It is most likely that this is the case in order to better differentiate these letterforms from Nun, which is heavily stylized in the Andalusian and Maghrebi script to the point where its terminal form can often be mistaken for Zay by untrained readers. Typically, the tail line will terminate at the same point that Waw does, somewhere around its lowest extension without much of a “pull up” near the end of the stroke.

The Andalusian and Maghrebi scripts opt to give Ra’ and Zay the appearance of being formed from a single pen stroke. The shape of these letterforms is a simple curve slowly terminating to a point well below the line-floor. Beyond this apparent simplicity, Ra’ and Zay vary perhaps more widely from work to work than any other single letterform in the Andalusian and Maghrebi script, a factor which makes it difficult to claim a diverging identifying set of features for an Andalusian Ra’ or Zay and their Maghrebi copies.
While some letters can be quickly surmised as Andalusian by their noticeably shortened tails, the Ra’ and Zay letterforms are unique for their delicate, slowly declining tails in both the Maghrebi as well as the Andalusian script. This is one of the few cases in which the true tail of a letter takes up a large portion of its overall body. Ra’ and Zay also noticeably lack any sort of
heading ornamentation in all sampled texts, further compounding a lack of distinction between the two styles.

**Medial/Terminal Ra’ and Zay**

In comparison with the isolated and initial forms of Ra’ and Zay, all samples of both Andalusian and Maghrebi calligraphy showed no noticeable differences in the letterforms. Though most likely not a reified standard due to the level of this phenomenon’s presence, there is a trend amongst calligraphers to have a small upwards pull on preceding connecting lines as they intersect with Ra’ and Zay. This seems to be done in order to accentuate the stroke shape of the letters.
Due in part to the utilization of pointed pens in the writing of both the Andalusian and Maghrebi styles, the finely tuned and segmented main body of Sin and Shin that is typical of Naskhi calligraphic styles is much less important in their Andalusian and Maghrebi renderings.
While the guiding Maghrebi ideal of the two outer prongs of the letter body being taller than the central prong is present in most samples of that script, there is such great variance in line thickness, the pointing of the prongs, and distance between these points that it is difficult to ascertain much. In tight spaces, such as in the medial form of Sin and Shin, even the height regulation can be omitted. This is similar to how Ra’ and Zay also lacked a lot of clear standardization due to the variance in the angling of their tail lines.

The Andalusian script is even more free-flowing, albeit only slightly so due to its forgoing of the standardization of prong height. In either case, the main letter body, here referring to the prongs, is typically open to some degree of divergence and alteration by any given calligrapher. This can be clearly seen in just how much the letterform is downsized in some styles and enlarged in others, with the latter obviously leading to greater detailing.

In terms of the tail on Sin and Shin, their most notable standardization comes in their depth being usually equivalent to that of Ra’, Zay, and Waw. Unlike these letters, which typically
terminate at the lowest point of their downstroke below the line-floor, the Sin and Shin will pull up almost symmetrically to the tail’s downstroke, covering far more lateral area in the process. This trend appears to be particularly prominent in the Maghrebi script, whose radius of curvature pulls inwards near the end of the stroke, producing a distinctly rounded shape not present in Andalusian texts.

As is the case with Ra’ and Zay, the tailing on Sin and Shin in most cases declines to a point continuously along the length of the stroke. However, this feature is often not present in smaller writing, with variations ranging from a short, quickly declined point such as that noted on Andalusian Alef to there being no line width variation whatsoever (the latter is seen in small, unornamented handwriting the most frequently).

**Initial Sin and Shin**

The variations noted earlier regarding the main letter body of Sin and Shin still applies here. Typically, due to being relatively less restricted in terms of space as compared to its medial form, the initial Sin and Shin will be drawn larger, taller, and with greater detail, though some other texts opt to maintain visual consistency throughout the forms of these letters.
In both the Andalusian and Maghrebi scripts, the connecting line originating from Sin and Shin typically curves down from the final prong of the letter body at a geometry in line with the rest of the letterform, rather than extending outwards from the bottom of the letter as is the case in some Kufic styles.
Medial Sin and Shin

Relative to Sin and Shin in other positions, the medial stylings of these letters demonstrate the potential for the most structural variation in the pursuit of visual coherence with neighboring medial letters, particularly in the Andalusian script. While the Maghrebi script maintains the typical prong structure represented in the initial and isolated forms of Sin and Shin, the Andalusian style will in some cases collapse the letterform to mimic the waving style of medial Ba’, Ta’ and Tha connections, in turn losing focus of the prong structure. This stylization is particularly prominent in cases where the letterform is compacted.
Terminal *Sin* and *Shin*

In the terminal position, these letters display no notable differences in comparison to their isolated counterparts, beyond an unremarkable connection from the preceding letters. Due to the
relatively large amount of real estate afforded to the Sin and Shin in the terminal position, the letterform is typically drawn without miniaturization that can be seen in medial placements.

(Source #9, Source #15)

**Isolated Sad and Dad**

The role of Sad and Dad varies widely with each script of Arabic calligraphy. While some scripts mandate a relatively small version of these letterforms, the Maghrebi and Andalusian script both heavily emphasize Sad and Dad through a variety of means. Though its height is not often exaggerated to a great degree, the letterform is expanded laterally in all positions through both its main letter body and its tailing.
Sad and Dad are typically placed in the hierarchy of tail depth as it being greater than that of Sin, Shin, Ra’, Zay, and others, but still less extreme than those in the Jim, Ha’, and Kha’ tier. However, similar to Sin and Shin, these letterforms possess tails that continue their lining into an upstroke, massively increasing the lateral reach of the tail. Being a magnitude larger than Sin and Shin contributes to the scale of Sad and Dad in both the Andalusian and Maghrebi models. As is the case with Sin, Shin, and other letterforms with strong tails, the thickness of the stroke declines consistently throughout, even in the Andalusian script which often exhibits very short tails.

The main letter body of Sad and Dad, consisting of the lateral loop and following tail origin is also the subject of elongation. In order to preserve visual harmony and symmetry within Sad and Dad, the lateral loop is stretched to run a length similar to that of an elongated, lateralized Kaf letterform in the Andalusian script, and even longer in some particularly ornamented Maghrebi samples. While the longest samples are typically featured in the medial
position, this does not appear to be a fully standardized aspect of other scripts though it does align with the aesthetic sensibilities of the medial forms of the aforementioned lateralized Kaf.

A distinctive feature of the Maghrebi script not found in Andalusian Sad and Dad is the flattening of the top portion of the lateral loop so that it sits parallel to its lower portion, which typically runs straight across the line-floor. Usually, the Andalusian style retains the “dome” shape often associated with these letterforms. It should be noted that a significant portion of Maghrebi-script texts will also exhibit domed Sad and Dad, so this cannot be seen as a sole determinant as to the origin of a document.

Another notable feature is the typical omission of the mid-letter apex that flows into the tailing stroke on Sad and Dad, something which is almost invariably shown in both the Andalusian and Maghrebi styles. In these styles, the tail stroke instead emanates from the bottom of or even slightly behind the lateral loop, developing from the inner edge stroke.

**Initial Sad and Dad**

Although the idea of symmetry being a driving factor for Sad and Dad’s elongation is not present in either the initial or terminal versions of these letterforms, they still retain the considerably elongated lateral loop that is so defining of their typology in the Maghrebi and Andalusian scripts. Though probably not an established aspect of either script, both the initial and terminal versions of Sad and Dad seem to exhibit the least amount of elongation on average compared to the other positions for these letters, most likely due to a constriction of space and no need to match the scale of the medial Kaf.
The most notable part of initial Sad and Dad is the altered form of connecting lines employed to reach following letters. Rather than exhibit an immediate transition to a connecting line, Sad and Dad finish with a sharp downward lilt that appears almost as an inversion of the medial form of Ba’, Ta’, or Tha. Depending on the letter that proceeds the Sad or Dad, this inverse point can either immediately flow into the following form or transition back to a straight connector first. This inverse point can be seen as an indication of the medial apex of the letterform demonstrated in most other styles of Arabic calligraphy, but the fact that it is also shown on initial and medial forms of Ta’ and Za’ cast doubt on this possibility.

One of the few exceptions to this typical structure is when the Sad or Dad is followed by a letter with a rounded head such as Mim or Waw. In these cases, the connector will often originate from the top half of the lateral loop and flow quickly into the next letter after a brief downstroke. This stylization is particularly common amongst smaller Andalusian texts.

**Medial Sad and Dad**
Possessing a simple preceding connector entrance, the medial form of Sad and Dad possesses few remarkable qualities that would distinguish it from other positions of the letterform. As is noted in the prior section, these medial letterforms tend to have the greatest level of elongation in order to better match the profile of Kaf.

(Source #8, Source #15)

**Terminal Sad and Dad**

Similar to the medial versions of Sad and Dad, there are very few things that are altered from the initial layout of the letterforms in the isolated style to create the terminal position for the vast majority of samples in the Andalusian and Maghrebi script that were accessed for this study.
Isolated *Ta’* and *Za’*

Similar to *Sad* and *Dad*, *Ta’* and *Za’* are noted for several stylizations and alterations almost unique to the Andalusian and Maghrebi scripts that help to distinguish them from other styles of Arabic calligraphy, but there is also very little within their letterforms which distinguish the two scripts of focus from each other. The *Ta’* and *Za’* in all positions display a trademark back-slanted head line. Typically, these segments will reach backwards until they meet a height equivalent to that of an *Alef* or other tall letterform. Depending on the intensity of the angle at which this line is drawn at, this can make the heads of the *Ta’* and *Za’* the longest straight lines in the scripts, with the exception of exaggerated letterform stretching for ornamental purposes. This line is left unornamented in both the Andalusian and Maghrebi script, lacking even the minute heads of the former.
Ta’ and Za’ exhibit the same elongated lateral loops found on Sad and Dad, and tend to demonstrate similar aesthetic sensibilities in all positions. While the latter possessed exaggerated tailings in order to provide visual cohesion, Ta’ and Za’ appear to leverage their angled, lengthened heads to a similar effect. Another similarity to Sad and Dad can be observed in the flattening of the top of the lateral loop in some texts. When Sad and Dad exhibit this trait in a text, Ta’ and Za’ also invariably show this alteration.

In rare cases, particularly in Andalusian Qur’ans with smaller text, the Ta’ and Za’ will be seen formed from the middle of the lateral loop rather than its inward side. The head line does not extend below the top of the lateral loop, and continues upwards at an angle similar to other versions of the letterforms.

**Initial Ta’ and Za’**
*Ta’* and *Za’* leverage their connections to following letters much more normally than *Sad* and *Dad*, connecting in most cases straight from the bottom of the letterform along the line floor. Otherwise, their stylings remain wholly as expected.

(Source #4, Source #16)

**Medial Ta’ and Za’**

Continuing the running similarities with *Sad* and *Dad*, *Ta’* and *Za’* maintain the same trend of an elongated lateral loop of slightly greater average length than what is seen in the other forms, and are otherwise unremarkable in terms of substantial differentiation from its other forms.
Lacking any sort of traditional tailing, the terminal form of Ta’ and Za’ oftentimes strives
to maintain visual balance through minute alterations to its terminating inward edge. While the
isolated form of the letter is often more directly involved with proceeding letters which in turn
lends itself to less negative space in which it is considered necessary to alter its inner side, the
terminal form will often extend the lower end of its lateral loop slightly inwards past its normal
boundary, often combined with a slight downward tilt.
Isolated ‘Ayn and Ghayn

Comparable to Sin and Shin in the fact that the Andalusian and Maghrebi scripts hold less value in the minor angling and detailing of the letterform, ‘Ayn and Ghayn retain identifiable and important forms while still varying significantly, especially in their upper strokes. The isolated ‘Ayn and Ghayn are letterforms that appear only rarely in documents, and no sampled work at a size above that of typical handwriting was found displaying an isolated ‘Ayn or Ghayn. Because of this, Boogert’s models are displayed below and will be utilized as comparable samples to be elaborated on by more commonly appearing forms of these two letters.\(^\text{14}\)

\(^{14}\) Ibid.
Boogert notes two styles of ‘Ayn and Ghayn, one of more traditional proportions (a smaller upper curve and enlarged tail) and an alternate version which appears to almost switch the proportions of the upper and lower portions of the letterforms. Boogert further notes that ‘Ayn and Ghayn feature “(a) height… equal to that of the Lam,” something that does not appear to correspond with the pieces sampled in this paper. As noted earlier, the depth of the tailing stroke on ‘Ayn and Ghayn is at the same level as that of the similarly outward-facing curves on Jim, Ha’, and Kha.

Initial ‘Ayn and Ghayn

Rather than mimicking both of Boogert’s noted samples of ‘Ayn and Ghayn in the initial position, all documents surveyed demonstrated an even more exaggerated version of the enlarged upper stroke found in the latter of Boogert’s two models. These initial ‘Ayn and Ghayn stand just below the height of Alef at their highest point, and present an enlarged “doming” of the upper half of the stroke due in part to a non-proportional raising of the end point of the stroke.
This upper portion of ‘Ayn and Ghayn also exhibits subtle variations in how it terminates. Most of the time, the line head appears to thicken right before termination, but without even the minor tailing seen in the Andalusian script. The lower stroke along the line-floor that flows into the following connection is also elongated in comparison to the medial strokes in Boogert’s models, extending beyond the origin point of the upper stroke.

Differentiation between the Maghrebi and Andalusian script in the ‘Ayn and Ghayn letterforms in the initial position is not reliably documented. There is some evidence that the Maghrebi script tends to average a sharper angle of approach regarding the intersection of the head line and connecting line, but this feature is not prominent nor consistent enough in the samples collected to fully concretize this finding.

**Medial ‘Ayn and Ghayn**

The looped, pinched head of the medial ‘Ayn and Ghayn is, as mentioned before, not a heavily regulated feature of the Maghrebi and Andalusian scripts. The width, height, and even
interior composition of these letters lack standardization, which in turn makes it difficult to use them as means by which to differentiate between the Andalusian and Maghrebi script. Regardless, there are pathways by which to gain insight into the typographies as a whole through the ways in which these samples vary.

(Source #1, Source #13)

While most scripts take strides to emphasize the negative space formed in the middle of the loop in terminal and medial ‘Ayn and Ghayn, neither the Andalusian nor Maghrebi scripts seem to actively prevent the “closing” of the gap, most likely a product of the pointed-tip pens employed in both. Both styles also exhibit a substantial doming of the top line, though not enough of one to remove emphasis on the pinched sides in any samples.

Several Maghrebi samples demonstrate a substantial inward-bias in the production of medial ‘Ayn and Ghayn, shown by the rounding of the pinch-point and alteration of the angle at which the connecting line is reformed at the end of the letter, while Andalusian samples universally deferred to a more symmetrical composition. Due to this bias shunting the mass of
the letterform further from the entry stroke, these few Maghrebi stylizations often provide the most consistent formation of a negative space within the loop of the medial ‘Ayn and Ghayn.

**Terminal ‘Ayn and Ghayn**

Beyond simply combining the tailing of the isolated form of ‘Ayn and Ghayn and the looped top of their medial placements, the terminal ‘Ayn and Ghayn are most compelling in how they recurve from the upper loop into the tail stroke, as this stroke determines the lateral reach and overall profile of the letter. Typically, both the Andalusian and Maghrebi scripts establish the width of the head of the terminal ‘Ayn and Ghayn as the interior lateral limit of the tail stroke. This typically leads to a notably more narrow stature to the letterform than is seen in many other calligraphic scripts.

(Source #3, Source #17)

**Isolated Fa’ and Qaf**

*Fa’* and *Qaf* are fascinatingly flexible letterforms in almost all well-documented Arabic scripts, and this trend is left unaltered in the Andalusian and Maghrebi styles. Similar to the
rarity of the ‘Ayn and Ghayn in their isolated forms posing problems in the collection of samples, the instances of Fa’ and Qaf in isolation were too rare to provide a passable sample size for extraction and study.. For the second letterform running, it is therefore critical to turn to the models constructed by Boogert.15

Boogert posits two separate stylizations of isolated Fa’ and Qaf, both of which demonstrate intense curvature in their tailing to such a degree that the end of the stroke ends up travelling back toward the letter head. While there are examples of very divergent letterforms based upon a change in position, the fact that Boogert also shows a similar curvature in his terminal extractions indicates that he perceived this shape as relatively universal. The fact that none of the examples surveyed exhibited a similar trend in the terminal position seems to destabilize much of Boogert’s model, and brings the methodology of his extraction into some question.

15 Ibid.
The usable information in Boogert’s model is found in the fact that even his extractions show the line extending from the head of Fa’ and Qaf to drive downwards at a relatively direct angle before beginning its curve into the tail. This trend is notable at Fa’ and Qaf in all positions, and becomes crucial to distinguishing these letterforms in a text.

**Initial Fa’ and Qaf**

In comparison to the likely height at which the isolated form of Fa’ and Qaf begins at (as extrapolated from the height of the terminal form, which this initial style also diverges from), the initial Fa’ and Qaf begins higher, with the entirety of its aforementioned downward pull from its head existing over top of the line-floor, before turning and entering into the horizontal connector stroke. The angle of this transition is softened to varying degrees by the composition of the letter’s head and how far the lower part of its loop extends downwards before being fully absorbed in the vertical line. Another factor affecting the appearance of this angle is simply how long the vertical pull is allowed to be.

(SOURCE #4, SOURCE #14)
This angle seems to typically appear steeper in Andalusian versions of Fa’ and Qaf, due mostly to a much shorter lower pull in the Maghrebi style. Even though the Andalusian style typically has a longer distance before cohesion between the letter’s head and the downward pull, this softening effect is still less intense than the shortening in the Maghrebi style.

**Medial Fa’ and Qaf**

One notable trait of the Andalusian forms of Fa’ and Qaf is the preservation of a very similar head shape regardless of position. In many styles of Arabic calligraphy, including most forms of the Maghrebi style, the head is angled back and declined in the medial position in order to better allow for visual cohesion with the preceding letter and its connecting line.

The preceding connection line therefore is much more immediate for the Maghrebi style, where the letterform directly transitions into the main body of the Fa’ or Qaf. In the case of the Andalusian calligraphic style, the connecting line does in most cases still pull up ever so slightly, but its transition into the letter body is far less apparent, and the connecting line following the
"Fa’ or Qaf seems almost like a continuation of it, transitioning from the letterform at the same point at which the preceding connector terminates.

**Terminal Fa’ and Qaf**

The terminal form of Fa’ and Qaf begins with the letterhead forming almost directly out of the preceding connecting line, doing little to turn upwards and elevate the body of the letterform. Therefore, the downward stroke coming out from the head begins at or below the line-floor, rather than above it as is the case with medial placements of Fa’ and Qaf.

(Source #9, Source #14)

The tail of Fa’ and Qaf, while never reaching the extremity of curvature displayed in Boogert’s models in the case of more ornamented writings, still does vary greatly in terms of its length. Typically, the typology of a terminal Fa’ or Qaf can be bifurcated into those examples which begin to curve back upwards similar to the tails of Sin and Shin, and those which terminate at the nadir of the stroke, as is the case with most Waw. Neither variant seems to have its

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16 Ibid.
appearance predicated on region, and both styles also possess the continually declining style of tail seen on other letterforms with noted, prominent tails.

**Isolated Kaf**

As has been hinted at in previous sections, the *Kaf* letterform possesses several special details and variations which makes it both an incredibly visible and emblematic aspect of both the Maghrebi and Andalusian scripts. This journey begins with the isolated form of *Kaf*, which possesses a variety of shapes mirroring what is also found in the initial and terminal forms of the letter.

There are broadly two types of *Kaf*, one of which is standardized and the other of which possesses several notable variations. The first is the iconic expanded medial *Kaf*, simply medially shortened and transposed to the front of a word. This style will be discussed more in the following sections. The second style takes the upright version of a typical medial or initial *Kaf* in a standard script and substantially alters the upper stroke in a variety of ways, usually pulling the
stroke into an upright position and even curving the whole line inwards. In the most extreme cases, this process also involves changes to the mid-body of the letterform, usually altering the angle at which it stands at. The letterforms are rarely tailed or ornamented substantially, usually terminating bluntly as is similar with Ta’ and Za’. The only point of interest in reference to this aspect is how the expanded medial Kaf is finished, with part of its letter body that would typically be considered a connecting line being included even in the isolated Kaf position, though it too ends bluntly without proper tailing.

It is notable that Kaf is a letter in which Boogert’s models are surprisingly correspondent with the variants of Kaf displayed in the texts studied. Besides one particular stylization in which the top stroke of the “collapsed” type of Kaf is folded sharply back without a curve, Boogert’s styles either do appear or seem to be reasonably close to the samples obtained.17

**Initial Kaf**

The initial form of Kaf follows much the same trends as its isolated and terminal counterparts, with a single unique variation specifically in the Maghrebi script. Interestingly enough, this variation is perhaps the most recognizable form that Kaf takes in either the Andalusian or Maghrebi style, being the base version of the medially expanded Kaf which features prominently in some other initial positions as well as most medial positions.

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17 Ibid.
When taking the aforementioned medially expanded type of *Kaf* in the initial position, most calligraphers elect to truncate the letterform rather drastically in comparison to the medial versions of the same letter. It could be the case that some Maghrebi artists simply decided to revert the letterform back to its more traditional state in cases where the letterform would be so dramatically shortened. Because *Kaf* letter variations all lend themselves to simplistic, perpendicular transitions into following letters, the connections emanating from initial *Kaf* do little more than run straight across the line-floor in all noted variants.

**Medial *Kaf***

The medial form of *Kaf* is at once the most uniform and the most clearly altered form of the letter, almost invariably showing up as a massively elongated, medial-expanded centerpiece to many words. The exact length of the letter is often reactive to the proportions of other letterforms, as well as adaptive to the desires of the calligrapher. There is some degree of length
variance within a single document, though rarely does a piece showcase a high degree of difference.

The heading stroke of these lateralized Kaf reach to about the height of an Alef, similar to Ta’ and Za’, but at a slightly more acute angle. While in the case of Ta’ and Za’ this would lead to the overall lateral footprint of the letterform being expanded, the width of an expanded Kaf is such that even the longest heading strokes terminate before the outer end of the letter body is reached. Interestingly for such an extreme character, all but one of the surveyed documents never wavered from using heavily medially-expanded Kaf (outside of a few select pieces of handwriting). This includes the Magrebi exceptions which utilized a simplified Kaf form in the initial position. The one divergence was in an ornamented yet small-scale Andalusian Qur’an which in one instance utilized a straightened Kaf style comparable to one of Boogert’s models.\textsuperscript{18} Notably, in every other scenario, this work maintained the use of the laterally-expanded Kaf.

\textsuperscript{18} Ibid.
Terminal Kaf

The terminal Kaf displays no new forms or variations in comparison to its initial and isolated counterparts. Typically, pieces are tailed similarly to how they are in the isolated form of the letter. Boogert notes a wider variety of even more heavily altered versions of the letterforms than for any other letter in Kaf’s terminal position, but few if any of these could be corroborated with fully-sized, ornamented pieces of calligraphy.19

![Kaf terminal comparison](image)

(Source #4, Source #16)

Isolated Lam

Often focused upon for its compelling ligature with Alef, the Lam of the Maghrebi and Andalusian script is often heavily emphasized due to and by its large tail and imposing stature, typically stretching all the way from the top of a line to its floor and below. In the case of the article “ال” the Lam is often situated slightly below the upper reaches of the preceding Alef, though beyond this it typically matches that letterform in terms of height.

19 Ibid.
Notable is the difference in the heading of other vertical letters such as Alef versus a Lam in the same document. A Lam in the isolated as well as initial positions will invariably be headed more prominently and at a harsher angle, though the general appearance of the head will resemble that of Alef, a relationship most commonly seen in the “ال” article.

Lam is tailed with a laterally extended full curve that terminates in the upstroke, but the depth of the curve varies even within a singular document, hence why it is not incorporated into the hierarchy of tail depth. The size of the tail is something that varies based upon authorial intent, space availability, and the general parameter of averages as a text continues and more examples of the tailed Lam appear throughout a piece. As per usual, this tail is both non-reactive to surrounding letterforms and diacritics and also displays the typical constant thinning of the tail until its termination.

Initial Lam
The initial Lam is governed in its top portion by the same dynamics as the isolated Lam, but its geometry changes below this point due to the need to flow into a connector along the line-floor, which is typically exceeded in both isolated and terminal models. This process typically happens sharply, with a ninety degree angle that is equivalently distributed along the vertical and horizontal axes of the letterform, taking up at most one-fourth of the vertical height of the Lam to complete.

(Source #2, Source #7, Source #16, Source #20)

In some variant cases only found in Andalusia, the initial Lam’s connecting element could possess a transitional area that dips ever so slightly beneath the line-floor before correcting back out to run at the normal level of other connecting lines. This is a phenomenon only observed in texts that already possess notable alterations and stylizations beyond the basic conceptions of the Andalusian script.

Medial Lam
Both the medial and terminal forms of *Lam* are typically not bound by the angling and heading trends of the initial and isolated forms of the letter. In its medial styling, *Lam* possesses a similar interaction of incoming and outgoing connecting elements similar to those shown in an Andalusian medial *Faʿ* or *Qaf*, with the main letterbody dispersing both in an overlap before separation. There is no clear distinction between strokes following the point at which the incoming connector enters the letter body and the succeeding connector leaves.

(Source #2, Source #5, Source #17, Source #19)

A reason for this style of connector interaction may be in order to help distinguish the *Lam* from the *Kaf* stylization with a heavily straightened top portion, which in smaller scripts in particular can appear like an untailed *Lam* due to its lower angled line blending in with the line-floor and connectors.

**Terminal *Lam***

The terminal *Lam* heavily resembles an isolated *Lam* in its stylization, though a notable trend exists in its more greatly emphasized tail and reduced focus upon its heading style and
angle. The enlargement of its tail can be explained by a desire for calligraphers to provide flourish to the end of words (a trend that can be seen in many tailed letterforms), while the deemphasized head can be considered a by-product of the position’s distance from headed Alef.

![Illustration of Alef](image)

(Source #1, Source #17)

**Isolated Mim**

Both Boogert and individual study into the Maghrebi and Andalusian scripts produced a wide-ranging variety of Mim stylizations, ranging from immediately recognizable to almost inscrutable. As is the case with most other letterforms so far investigated, the vast majority of these Mim do not find their way into more ornamental settings. Interestingly, regardless of the variations depicted, all possess very similar head compositions. The Andalusian and Maghrebi Mim have heads far more rounded than and lacking the line variation of many Naskhi styles, which often have a noticeable outward pinch at the head of the letter. In the isolated position, there are two typical styles of Mim which are differentiated from one another based upon their tail structure.
The sample with a lower body consisting of a straight, downwards pull followed by an inwards curve that terminates after some level of lateral movement is the more common of the two variants. The style consisting of a shorter, straight tail is much rarer to see, only being found in one instance of the pieces surveyed. According to Boogert, this latter style allows for the tail of the *Mim* to be angled anywhere from vertically to a rather severely inwards, as is illustrated by the extracted sample. While the straight-tailed style thins continuously from its origin through termination, the curved tail only begins its decline in thickness following the start of the curve.

Returning to the discussion of the letter heads, the Andalusian script appears to take to the aforementioned rounding of the letterform to a greater extent than the Maghrebi script. The latter demonstrates multiple examples of a subtle pinching of the letterform near the top of the stroke, though they still remain rounder than *Naskhi* variants. This contrasts with the Andalusian

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20 Ibid.
script, whose *Mim* appear almost like pure circles, mirroring the stylization of their diacritic marks.

**Initial Mim**

Maintaining the head traits of their regions of origin, the Andalusian and Maghrebi *Mim* typically feature alterations in the initial position that are continuous across both styles. Unlike most letterforms which defer to simplistic line connections, there is a variation of *Mim* in this position which interacts with its succeeding connector in a nonstandard manner, though the most commonly used form of the initial *Mim* does simply flow into the next letter without much distinction.

Outside of a straight transition, the most commonly featured connector alteration in an initial *Mim* is a short downward or upward lilt and correction immediately back to the line-floor. This stylization recalls how initial and medial *Sad* and *Dad* interact with following letters, though the bump in the case of the *Mim* is typically more subtle.
In some situations, mostly in Andalusia and depending on the following letter, the body and angling of the initial *Mim* could be altered in order to create a pseudo-stacked appearance amongst the two letterforms. This was typically accomplished through the shunting of the *Mim* body down below the line-floor, and a clockwise rotation of it so that the connector exits the letter body at an upwards angle.

**Medial Mim**

Due in part to the lack of letter body to truly alter and express through in the case of the medial *Mim*, calligraphers typically did not stress either the standardization of the letterform nor its emphasis. This typically meant that a small, mostly obscured rounded letter body with a traditional upper connection point at the front was utilized without pomp or circumstance.

(Source #6, Source #15)

Any notable alterations comes in the movement of the origin point for the following connector line. Typically, the line either flows simply across the line floor, but some Andalusian
texts will have the connector exit at a point up the body, jutting upwards before returning to the line floor.

**Terminal Mim**

The terminal *Mim* preserves the same dichotomized tail stylizations found in the isolated form of the letter, with most differences coming in the style of connector that it is attached to. These stylizations are distinctive and typically a document will use one or the other continuously, but the version chosen does not seem to be dependent on the region of the document’s origin.

(Source #8, Source #16)

As is the case with the origination of the following connector in the medial *Mim*, the incoming connector line can either attach itself to the terminal *Mim* letterform in the front, or it can quickly shunt upwards and connect at a point higher up the letterhead.

**Isolated Nun**
The Nun in the Andalusian and Maghrebi scripts is the single most disruptive letterform in the reading of documents for those unfamiliar due to its visual similarity to Za’. Typically the Nun in other scripts typically possesses either a body that resembles a foreshortened Ba’ or Ta’, or the letterform is situated firmly at the line-floor. In the case of the two discussed styles though, neither of these trends hold true for terminal or isolated Nun.

(Source #4, Source #20)

In its isolated state, the Nun typically takes the form of a tailed curve which extends beneath the line floor. The depth and length of the letter body varies wildly from text to text, but typically this variation is in response to how Ra’ and Za’ are drawn. If those letters are drawn with long tails that terminate in an upstroke, Nun will typically terminate only after its downstroke, and vice-versa. There are significant numbers of exceptions to this self-referentiality though, and in some cases the two letterforms are almost indistinguishable.
Occasionally, the heading line of Nun will be emphasized with a clubbed head similar to what is done to some variations of Jim, Ha’, and Kha’. Though there is the possibility of more complex heading to be uncovered on samples of isolated Nun, none have so far been found and extracted. As is the case with most prominently-tailed letters in the Andalusian and Maghrebi scripts, the tail decreases consistently throughout the length of the tail until termination.

**Initial Nun**

Even with such great stylistic divergence in their isolated and terminal positions, Nun is relatively unremarkable when it is placed in an initial or medial position, falling into uniform stride alongside similarly-structured letterforms like Ba’, Ta’, and Tha’. With such similar structure, Nun is also altered and shifted in the same way as these other letterforms, changing their head curvature and connector style to match.

(Source #6, Source #19)
Nun is often the subject of letter stacking in its initial form, something accomplished through the counterclockwise rotation of the letterform in order to allow its connecting line to originate right on top of the following letter. This same styling will be seen on occasion with initial Ya’ forms.

**Medial Nun**

Beyond diacritic placement, the medial form of Nun is meant to resemble the stylization of Ba’, Ta’, and Tha in order to provide strong visual cohesion in a piece. With this in mind, Nun is subject to a lot of the same regional variation as these other letterforms, such as in the adjustment of apexes and the processing of connecting lines.

(Source #6, Source #13)

**Terminal Nun**

The terminal version of Nun is typically aligned with its isolated form in the structuring of its tailing and overall body composition. It is usually connected to preceding letters in a rather unornamented fashion, though in some cases a brief upward pull into the head section of the Nun
has been noted in Maghrebi documents, even in cases where the text does not typically emphasize these pulls on other letters.

(Source #2, Source #20)

**Isolated Ha’**

The *Ha* is the last fully unique letterform introduced which possesses truly novel alterations and compositions in every given position. In the Andalusian and Maghrebi styles, these alterations manifest in some truly divergent stylizations, which can make the letterform difficult to spot and parse through for new readers. In the isolated position, The most common two manifestations of the *Ha’* are a simplified main letter body without preceding or following stylizations, and a rotated, upwardly-tailed style without a heading line.
The former, simplified model is found specifically in Andalusian documents and resembles a typical *Nashki Ha’*, with the notable divergence of the rounding of the letter’s top point, which is typically pinched in *Naskhi* stylizations in order to distinguish the beginning and end of the stroke. As is representative of the Andalusian aesthetic sensibilities, the rounding creates a complete, nearly perfect circle, mirroring the shape and style of the Andalusian *Sukuun*.

The tailed style of isolated *Ha’* is present on either side of the Mediterranean, and is distinct as the only letter which touches the line-ceiling while also not reaching the line-floor. Instead, this isolated *Ha’* has its main letter body situated in the middle of the line. The tail of the letter extends from the inward side up and curves over the top of the whole letterform, with some examples pulling the tail in such a way that it laterally expands the footprint of the letter on its outward side. Unlike many prominently-tailed letterforms, this isolated *Ha’* does not possess a continuously declining line. In contrast, the tail will often terminate bluntly, similar to non-ornamented heading lines on letters like *Ta’* and *Za’*. 

(Source #4, Source #16)
Initial $\text{Ha'}$

There is no notable regional variation in the construction of the initial $\text{Ha'}$. Texts universally employ a letterform consisting of a curved heading line and single loop letter body that immediately leads into a connector that follows straight across the line-floor. This is the same letterform found in Naskhi samples, though the fine details are clearly tuned to fit better in with the Maghrebi and Andalusian calligraphic styles.

![Initial Ha'] letterforms](image)

(Source #6, Source #14)

The angle of the heading line varies in terms of intensity, but most samples show the first portion of the stroke begin anywhere from vertically to about 45 degrees outwards, before recurving noticeably into a connection with the main letter body. This main loop typically occupies the same space as the isolated form of $\text{Ha'}$ without tailing.

Medial $\text{Ha'}$

The Maghrebi treatment of the medial $\text{Ha'}$ is noted for its occasional omission of a preceding connecting line and utilization of the initial $\text{Ha'}$ letterform. While this specific type of
Ha’ is most often connected to both preceding and following letters using traditional pulls across the line-floor, there are examples in which a connection between the Ha’ and the preceding letterform is bridged simply by contacting the heading stroke of the Ha’ with this other letter body.

(Sample #4, Sample #15)

In Andalusia, the aforementioned transplantation of the initial Ha’ to the medial position is common, but there are no cases sampled so far which demonstrate the same alterations to the preceding connector as is found in the occasional Maghrebi artifact. Instead, many texts feature an entirely different medial Ha’ letterform, this one bearing resemblance to the two-part letter body of many medial Nashki Ha’. Rather than be precise in the vertical stacking of the two connected loops in this style though, Andalusian documents will often stagger the loops, with the upper half shunted further inwards than the lower, which falls beneath the line-floor. This letter placement in turn allows for the incoming and outgoing line connectors to remain right along the line-floor up until their entrance or exit from the letterform.
Terminal Ha’

The terminal position for Ha’ consists of the preceding connector line curving upwards into a near-vertical stroke, along with an outward-opening semi-circle intersecting with this vertical pull to form the letter body. This structure is notably mirrored in the formation of the terminal Ta Marbuta, and shows little regional variation.

(Source #5, Source #12)

The major elective difference in composition for the terminal Ha’ comes in the rounding off of the top portion of the letterform. In some samples, a small “tag” extending above the intersection of the upwards stroke and letter body is present, while others omit this feature in favor of a strict transition of this stroke into the main letter. This tag could sometimes be stylized further, with a pinching of the letter body upwards at the intersection in order to provide a smooth outwards transition to the body stroke.

Isolated/Initial Waw
The *Waw* in the Maghrebi and Andalusian script takes much from the composition of their *Faʿ* and *Qaf*, while doing just enough to remain in most cases a totally distinct and differential letterform. This differentiation is done both through the lack of following connector lines in its initial and medial forms as well as the omission of the vertical segment of the letter body exiting the head of *Faʿ* and *Qaf*. This latter factor brings the overall shape of the *Waw* more in line with the Maghrebi script.
It is notable that due to the bevy of isolated and initial \textit{Waw} and the lack of any extracted \textit{Fa’} and \textit{Qaf} outside of Boogert’s models, there stands the small chance that the isolated forms of \textit{Fa’} and \textit{Qaf} actually were the subject of a similar removal of the vertical line segment, though not likely due to a desire to maintain distinction between letterforms. The \textit{Waw} in all positions
also appears to maintain the same style of head loop that is found on Fa’ and Qaf, as well as a comparable tail geometry and declination style, though its placement is not raised as is the case with Fa’ and Qaf.

**Medial/Terminal Waw**

In the medial and terminal positions, the Waw head loop is altered slightly from its isolated and initial forms in order to allow for the immediate incorporation of the preceding connecting line into the structure. Otherwise, the letterform remains unchanged.
Isolated Ya’

The isolated Ya’ is a unique letterform which is distinguished regionally by a matter of degrees in the angling of its head. The recurve into the large, embellished tail stroke varies even within single documents, making it difficult to standardize the letter outside of the heading.
stroke. However, the depth to which this tail continues beneath the line-floor is usually standardized, sitting at a level more shallow than *Jim, Ha’,* and *Kha’,* but with substantial lateral reach.

(Sample #6, Sample #14)

In the Andalusian script, the angular transition from an upstroke to the main head stroke is typically shunted outwards towards the edge of the letterform, in turn providing the basis for a more shallow movement across the head and into the recurve and resulting in the appearance of a “flattened” head. In Maghrebi samples, the *Ya’* typically maintains the transition closer to the middle of the head. The letterform is usually headed simply, and its tail declines gradually except in cases where their ends are affixed with an elaborate ornamentation, typically indicating the end of an *Ayah.*

**Initial Ya’**
While the isolated and terminal \( Ya' \) letterforms are uniquely composed (excepting \( Alef \) Maqsura, which simply takes the form of an unmarked \( Ya' \)), the initial and medial positions are fully homogenous with the composition of \( Ba' \), \( Ta' \), \( Tha' \), and \( Nun \).

(Sample #4, Sample #5, Sample #16, Sample #17)

**Medial \( Ya' \)**
The medial position of the letter Ya’ is treated invariably as a member of the family of letterforms including Ba’, Ta’, Tha’, and Nun. Even in its role as the only vowel in this group, there are no samples in which calligraphers attempted to distinguish this letter from the others.

(Sample #4, Sample #5, Sample #16, Sample #17)

**Terminal Ya’**
While it is possible to distinguish between Andalusian and Maghrebi \( Ya' \) in the isolated position through careful study of the angle on the heads of the letterforms, the alterations made in the terminal position in order to connect the \( Ya' \) to preceding letters homogenizes the styles so that the same determinations cannot be made. The most common approach for attaching the letter to its preceding connectors is through flattening its head so that the connector carried along the line-floor simply enters straight into the \( Ya' \).

(Sample #6, Sample #14)

The remainder of the letterform, from the recurve through the tail, remains largely unaltered in the conversion of the head. In some cases, there is a notable expansion of the letterform’s lateral reach as a form of flourish, but as is the case with most stylizations of this sort, this is too varied to be truly standardized or defining of a terminal \( Ya' \).

**Conclusion**

This paper began its life with hope to provide novel academic claims as to the history of the Andalusian script. The narrative of a script simply rising from isolation and disappearing
without a trace a few centuries later seemed too simplistic to be true. While it is the case that this simple tale most likely glosses over a tremendous amount of what truly happened to the Andalusian script, the fact of the matter is that scholarship does not currently possess the ability to overturn these old stories, at least not yet. There are doubtlessly accounts from Andalusian calligraphers themselves which could help to construct historical claims over the script which remain untranslated and outside the current interests of scholars, all that is needed to bring these things to light is an ever so slight shift in how texts are approached.

It is not expected that this single paper will be the propulsive force necessary to steer the whole of conversation. As stated before, this paper stands as the starting point of a project that will be iterated upon again and again. Between the lack of access to a wider range of manuscripts and a need to defer to earlier appraisal of some works in order to establish a baseline sample for the Maghrebi and Andalusian scripts, there is undoubtedly a need to revisit many of the given pieces as a methodology better solidifies. Even if in the current project’s lifetime there comes forth no real change in the study of the Maghrebi and Andalusian scripts, the hope is the newly-digitized samples entering into general access will provide fuel for continuation, or at least reconsideration, to others down the line.

Another preconceived notion destabilized through the production of this paper was the lingering idea that one could easily separate the Andalusian script from the Maghrebi script, and in turn reify the former as a distinctive and discrete school of calligraphy. This idea was predicated on the assumption of strong stylistic uniformity across the Maghrebi script, where divergent examples would be easily spotted. What turned out to be the case was that the Maghrebi calligraphic style and its variants exist on a spectrum of notable attributes, with works
accentuating some parts of their appearance while electing to omit others. Unlike the heavily regulated letterforms of Naskhi scripts, whose forms and flourishes are regulated to an exacting degree with accounts for almost every conceivable aspect of writing, Maghrebi variants operate by mutable guidelines that can be pushed up against or even broken, as long as other aspects of the script are followed. It is due to this dynamic that a study of the Andalusian script required a letter-by-letter discussion in order to account for all of the permutations that would possibly allow for the distinguishing of the style from the broader Maghrebi script, but it is also because of this that it is wrong to describe the Andalusian style as a distinct calligraphic tradition, in the same way that Thuluth stands as separate from other Naskhi variants. There are Maghrebi texts that are as far away from the basic understanding of the Maghrebi style as some Andalusian texts.

Moving forward, the next step in the process of discussing these scripts is the continued project of digital sample uptake and extraction. While this immediate plan is in part motivated by the continued threat of COVID-19 restricting access to physical manuscripts and further sources, it is necessary to continue aggregating resources regardless for a future reappraisal and expansion on the profiling standards included here. One major area that is left wanting in this paper is a discussion of ornaments and diacritic marks, where pieces differed so wildly that a much larger sample size of texts would be needed in order to fully establish if there are any trends in the markings.

The value in such an open field is that it is impossible to resist forging ahead. Each step forward in the study of the Andalusian and Maghrebi scripts will be the product of genuine interest and renewed methodology. For as insignificant as the Andalusian script appears to be to
scholars in the grand narrative of Islamic calligraphy, the ability for the Andalusian script to reflect the flaws and needed innovations in the academic approach to calligraphy will doubtlessly be valuable in the future. In pursuit of these reflections, continued effort must be applied to its study, and this paper stands as a crucial pathway in driving study forward.

**List of Extracted Sources**

Rather than listing sources by type (manuscript, reproduction, etc.), this paper will list the samples based upon the level of certainty regarding a text’s origins, categorized between a prior confirmation or estimation of origin and deduced origin. Each is assigned a number by which they are referred to in the captions of the extractions featured throughout the text, for purposes of quick access and reference.

**Prior Confirmation of Origin**

1. *Qur’an*, calligraphy anonymous, Grenada, late 1300s

   (Worthpoint archival of Ebay auction,
   
   https://www.worthpoint.com/worthopedia/koran-islamic-manuscript-andalus-arab-115655204)

2. *Qur’an*, calligraphy anonymous, Andalusia, late 1400s

   (Worthpoint archival of Ebay auction,
   
   https://www.worthpoint.com/worthopedia/islamic-manuscript-andalus-arab-islam-110761548)

3. *Qur’an*, calligraphy anonymous, Andalusia, late 1400s
4. *Qur’an*, calligraphy anonymous, Andalusia, held in Athaar Collection, 1100s or 1200s

(https://athaar.org/makhtutaat/?page_id=129)

5. *Qur’an*, calligraphy anonymous, Grenada or Valencia, early 1200s

(Part of a presentation on typography, https://spark.adobe.com/page/9SHX7BBb4E8GU/)

6. *Qur’an*, calligraphy anonymous, Andalusia, 1100s

(Part of an essay on Maghrebi calligraphy, also includes several other samples that could be traced to more primary sources,

https://brewminate.com/islamic-calligraphy-in-medieval-manuscripts/)

7. *Qur’an*, calligraphy anonymous, Seville, held at the National Library of Israel, 1100s

(http://gizra.github.io/CDL/#/B996E13B-ADA2-C7E2-8DAF-5BFC40D2738A)

8. *Qur’an*, calligraphy anonymous, Andalusia, held by the Rogers Fund, late 1200s or 1300s

(Image hosted by the Metropolitan Museum of Art,

https://www.metmuseum.org/art/collection/search/450486)


(Manuscript from the National Library of Medicine,


10. *Qur’an*, calligraphy anonymous, Cordoba
11. *Treatise on Agriculture*, Ibn Luyun, calligraphy anonymous, Almería

(Manuscript featured in *Beginner’s Guide to Islamic Calligraphy*, shown as scan in *Islamic Monthly* article about documentary,

https://www.theislamicmonthly.com/unsung-story-andalusi-calligraphy/)

12. *Qur’an*, calligraphy anonymous, Marrakesh, held in Erich Lessing’s Collection, 1200s

(Featured in multiple blog posts,

http://historiadesigneteoria.blogspot.com/2010/02/chapter-4-islamic-calligraphy.html)

13. *Qur’an*, calligraphy anonymous, North Africa

(Part of a presentation on graphic design,

http://guity-novin.blogspot.com/2010/02/chapter-4-islamic-calligraphy.html)

14. *Qur’an*, calligraphy anonymous, North Africa

(Stock photo, attribution not referential to any collections,


15. *Qur’an*, calligraphy anonymous, North Africa, held in De Agostini Picture Library and Collection
16. Qur’an, calligraphy anonymous, Morocco, 1400s

(Part of a 2019 series of auctions around middle eastern art held by Chiswick Auctions,

17. Prayer Book, calligraphy anonymous, North Africa, 1790s

(Worthpoint archival of Ebay auction,

Deduced Origin

18. Qur’an, calligraphy anonymous, Andalusia, late 1100s or early 1200s

(Sotheby’s auction lot,

(Andalusian origin determined via the tailing on Alef)

19. Qur’an, calligraphy anonymous, North Africa, 1100s

(Sotheby’s auction lot,

(Maghrebi origin determined via the lack of downstroke before tail or connector on Fa’ and Qaf, as well as the heading, tailing, and recurve on Alef)

20. Qur’an, calligraphy anonymous, North Africa, late 1100s to 1200s
(Sotheby’s auction lot,

(Maghrebi origin determined via the tailing of Alef, as well as the form of the medial Fa’)

21. Qur’an, calligraphy anonymous, Andalusia, late 1100s to early 1200s

(Art scan by FineArtAmerica user “Eastern Accents,” they were contacted for more information about the image but never responded,

(Andalusian origin determined via the Alef stylization)

Works Cited


Representing a renewed popular interest in Andalusia and its many art forms, this crowdfunded documentary provides a strong, accessible historian of the Andalusian script as it is held by current scholarship. Also important is video documentation of artists reviving the techniques associated with producing Andalusian-script pieces


This short summation of the history and stylings of the Andalusian script stands as one of the few engagements with the style as a distinct entity, and it is from this initial historical survey that much discourse on the script is predicated. Notably though, Jussila’s work forgoes a full identification of how the script is distinct from the Maghrebi style, and returns to earlier heuristic models to generate space of discussion on this topic.

Al-Tabbaa’s Arabic-language survey provides value in recounting and distilling the reports of Ibn Khaldun in reference to the presence and political role of Andalusian calligraphy.


This comprehensive background on Islamic calligraphy contains a variety of illustrations and images with analysis which allows for a clear, evidence-based tracing of the links between the Andalusian script and Kufic in particular.


Possessing the only models and extractions previously had regarding the Maghrebi script, Boogert’s work and method stands as the reflective center of this study and its argument generation/methodology.


Utilized in conjunction with *A Beginner’s Guide to Andalusi Calligraphy*, this text investigates modern attempts at the revival of Andalusian artistic practices, and thus provides importance to the project at hand: The need to study lost forms from Andalusia will help to bolster and reignite study and development of its modes in the present day.


Aiming to give a general overview on the study of Islamic art with a particular focus upon methods through which to investigate often-marginalized dimensions of the topic. The text first provides important discussions over predominant methods by which to investigate Islamic material culture (particular attention will be paid to the ways in which W. J. T. Mitchell’s critical approach to images), and later discusses trends within Islamic calligraphy’s development and dissemination.


Explicitly compiled with the goal of shedding light upon neglected aspects of Islamic art, this collection of papers both provides an explicit investigation of Islamic and
Arabic-language calligraphy and also lays a methodological groundwork in how to approach topics with little preceding scholarship.

Ghazi, Bushra Yasmin. فن الخط العربي. Chicago, IL: IQRA.

These entry-level texts on Islamic calligraphy provide insight into traditional pedagogical approaches to the medium, including a focused outlining of traditional scripts which will help contribute to providing an extensive background of the art form.


This text is an important update to the scientific-analytic vocabulary used to discuss and present Islamic calligraphic scripts, and thus its approach and means of analysis will be applied as a paradigm of study to the Andalusian script to better explicate its divergence from other writing styles.

“Ian Whiteman.” Ian Whiteman.


While other texts often focus upon the ways in which broader dynamics in the Islamicate world reflected upon Andalusia, Salma Khadra Jayyusi focuses in many ways upon the influence that Andalusia has had upon the Middle East and Islam in general.


Mohamed Lamouni’s work, in being a regionally-focused overview of Islamic calligraphy, has a particular interest in the Maghrebi script and other Kufic-based angular scripts which provide the groundwork for most approaches to the development of Andalusian calligraphy.


Perratore’s study of the broad strokes of Andalusian art culture, including its creation, reception, and preservation allows for a better orientation and contextualization of the Andalusian script within this environment, and helps to eliminate theories that would conflict with this understanding of Andalusian arts and culture.


A singularly important example of Islamic material study as applied to a central manuscript, the approach taken by Rice has value in its application to the study of the few extant pieces of Andalusian-script calligraphy, allowing for the connection of political, historical, and artistic threads of discussion and argumentation.


In both parts of this work, Yasser Tabbaa provides a crucial paradigm which helps to explain an element which led to the decline of the Andalusian script, that being a focus on the transition from angular, Kufic-type script to cursive, Naskh-type ones. While little is done to focus on the particular impact that this would have had upon Andalusia, Tabbaa’s works help to demonstrate the shifting trends at the “locus” of innovation in Islamic calligraphy, and the widespread impacts of these changes.