A Newly Discovered Letter of the Early Arabic Alphabet: A Distinction between Final *Jīm* and Final *Ḥā'*/*Khā'* and Its Nabataean Origins*

Marijn van Putten
Leiden University

(m.van.putten@hum.leidenuniv.nl)

Abstract

This paper studies the letter shape of the final jīm, ḥāʾ, *and* khāʾ *in seven early Quranic manuscripts. Examination of the shape of these letters in these manuscripts reveals a graphemic distinction between the jīm, which lacks the typical curved tail, and the* ḥāʾ *and the* khāʾ, *which do have this tail. This distinction is lost in later Quranic manuscripts. I argue that the distinction between* jīm *and* ḥāʾ/khāʾ *is a continuation from the Arabic script's origins in the Nabataean Aramaic script, which had distinct letter shapes for these signs. Contrary to what has been previously thought, the evidence adduced in this article shows that the merger happened in the Islamic period rather than in the pre-Islamic period.*

Introduction

The Arabic script as we know it today can be thought of as an "archigraphemic" system, in which one letter shape may stand for a variety of different signs.[1] In a nonfinal position, for example, the single denticle may stand for *bāʾ*, *tāʾ*, *thāʾ*, *nūn*, or *yāʾ* depending on its dotting, though in a final position the *nūn* and the *yāʾ* are distinct. In early manuscripts, where the dots are very often not marked, these signs are fully homographic.

Traditionally, the *jīm*, the *ḥāʾ*, and the *khāʾ* have been considered to have a single archigraphemic representation as well. For example, in undotted script *zawj* 'spouse' and *rūḥ* 'spirit' are completely homographic:

روح زوج

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1. T. Milo, "Arabic Typography," in *Encyclopedia of Arabic Language and Linguistics*, ed. Lutz Edzard and Rudolf de Jong (Leiden: Brill, 2011).

However, close examination of several early Quranic manuscripts shows that this was not always the case. The manuscripts examined in this article clearly use different signs for final *jīm* and for final *ḥāʾ/khāʾ*. I initially discovered the distinction in the Codex Amrensis 1.[2] I then conducted a systematic search of words that contained a final *jīm* on the Corpus Coranicum website, identifying several additional manuscripts. Finally, I supplemented this step by looking through the manuscripts described by Déroche that belong to the Hijazi, Kufic A, Kufic B, and unclassified categories.[3] I examined Kufic C and D to see whether these display the relevant distinction, but I did not analyze every sample in detail, as a cursory look clearly showed that these latter styles lack the distinction. I will show the presence of this distinction in six early Quranic manuscripts and discuss one further fragment that may also show the distinction, but for which I did not have access to a sufficient number of folios to confirm its presence. I will then point to several examples of manuscripts that have lost this distinction. Finally, I will make the case that the distinction in these early Quranic manuscripts is best understood as a continuation of the distinction between the *gimel* and the *ḥet* in the Nabataean Aramaic script, which persists in the transitional Nabataeo-Arabic script and in the pre-Islamic Arabic script proper.

The manuscripts, some of them consisting of multiple, separately held fragments, that I analyze in this article are the following (each listed with the abbreviation subsequently used in the article):

- Codex Amrensis 1 (CA). All images taken from the PDF edition of Cellard, *Codex Amrensis 1*.
- Bibliothèque nationale de France, Arabe 330g (A 330g). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).
- Chester Beatty Library, Is. 1615 II (B II). All images © The Trustees of the Chester Beatty Library, Dublin. Reproduced by permission.
- Chester Beatty Library, Is. 1615 I (B I). All images © The Trustees of the Chester Beatty Library, Dublin. Reproduced by permission.
- Doha Museum of Islamic Art, Ms. 68 (D). All images available on the Google Arts & Culture webpage.[4]
- A private folio published by Marcus Fraser (F). All images taken from Fraser, "Earliest Qurʾanic Scripts".
- Bibliothèque nationale de France, Arabe 330f (A 330f). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).
- Cambridge University Library, Add. 1146 (CUL). All images taken from the Cambridge Digital Library website (cudl.lib.cam.ac.uk).

2. É. Cellard, *Codex Amrensis 1* (Leiden: Brill, 2018).

3. F. Déroche, *Les manuscrits du Coran: Aux origines de la calligraphie coranique* (Paris: Bibliothèque nationale, 1983).

4. https://artsandculture.google.com/asset/pages-from-a-qur-an-in-hijazi/uQGEtts3PWw22w.

- Bibliothèque nationale de France, Arabe 6140b (A 6140b). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).
- Staatsbibliothek Berlin, Wetzstein II 1913 (W). All images taken from the Corpus Coranicum website (www.corpuscoranicum.de).
- Bibliothèque nationale de France, Arabe 6087 (A 6087). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).
- Codex Parisino-Petropolitanus, Hand C (CPP). Photographic reproductions taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr); tracings based on images held by Michael Marx.
- Türk ve İslam Eserleri Müzesi, ŞE 118 (ŞE). All images taken from Déroche, *Qurʾans of the Umayyads*, fig. 7.

In addition, I refer to the following manuscripts in my discussion of paleography:

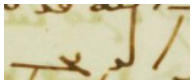
- Cairo National Library, photos from the Gotthelf Bergsträßer archive, Qāf 47 (Q). All images taken from the Corpus Coranicum website (www.corpuscoranicum.de).
- Bibliothèque nationale de France, Arabe 334a (A 334a). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).
- Bibliothèque nationale de France, Arabe 325k (A 325k). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).
- Bibliothèque nationale de France, Arabe 340f (A 340f). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).
- Bibliothèque nationale de France, Arabe 330c (A 330c). All images taken from the Gallica website of the Bibliothèque nationale de France (gallica.bnf.fr).

The Typology of the *Jīm/Ḥāʾ/Khāʾ*

Fraser has provided a typological description of the letter form of the *jīm/ḥāʾ/khāʾ*, comparing its shape on coins to that in five different Quranic manuscripts (BL Or. 2165, BnF Arabe 328a, a private folio likely related to the fragment CBL Is. 1615 I, the upper text of the Ṣanʿāʾ manuscript, and Tareq Rajab Museum, Kuwait, Qur-001-TSR).[5] Within his typology, he focuses on the length of the letter's horizontal portion and the roundness of the hook. However, he does not comment on the fact that in several of the Quranic manuscripts he

5. M. Fraser, "The Earliest Qurʾanic Scripts," in *Islamic Art, Architecture and Material Culture: New Perspectives*, ed. M. S. Graves, 121–32 (Oxford: Archaeopress, 2012).

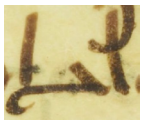
examined the letter has a shape that is fully horizontal, without any hook at all (e.g., Hand B and Hand C in the CPP and the private folio that is part of Is. 1615 I).



Q7:56 *al-riyāḥ* (A328a, 32v. l. 10)

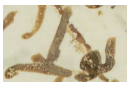
Q15:34 *fa-khruj* (F, v, l. 10)

Fraser highlights an interesting aspect of the development of the curved shape, which may have a large curve, a short curve, a long horizontal portion with a hook, or a very tight, short curve. His analysis will certainly be useful for further investigation into the typology of the development of the curved form.



Q4:12 *ʾakh* (Arabe 330g 51r, l. 10)

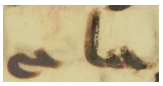
Q9:31 *al-masīḥ* (CA1)



Q3:27 *tūliju* (A 328a, 3r, l. 7)

Q4:6 *al-nikāḥ* (Arabe 330g 50v, l. 12)

Q10:22 *[rʃīḥ* (CA1)



Q33:5 *junāḥ* (A 6087 2v, l.22)

For our purposes, however, these subtle differences in the shape are unimportant, and the only difference that matters is that between the straight *jīm*/*ḥāʾ*/*khāʾ* and the curved one. For the straight shape, the baseline stroke can be variable in length. It is also the shape commonly found in Qurans of the Kufic C style.

Q4:100 *yakhruj* (Arabe 330g 53r, l. 10)

Q9:46 *al-khurūj* (Arabe 330g 64r, l. 14)

Q35:13 *yūliju* (Arabe 334a 7v, l. 6)

1. Codex Amrensis 1

The Codex Amrensis 1 (CA), recently edited and published by Cellard, is a Quranic manuscript written in a clear and rather regular style that Cellard identified as Late Hijazi ("Ḥijāzī Tardif") with elements similar to Kufic A.[6] Déroche classifies it as Hijazi I;[7] the Corpus

6. Cellard, *Codex Amrensis 1*, 7.

7. Déroche, *Manuscrits*, 59, no. 1.

Coranicum website estimates that this manuscript should be dated to around the first half of the second/eighth century on paleographical grounds. It has a horizontal orientation and regular, equidistant twelve lines per page, set in a horizontal layout. The fragment consists of a total of seventy-five folios. Although Cellard observes that there are two shapes for the *jīm/ḥāʾ/khāʾ*, she does not connect the variance to a distinction between *jīm*, on the one hand, and *ḥāʾ/khāʾ*, on the other.[8] Nevertheless, from the cases available, it is clear that there is a direct correlation: the straight shape is used for *jīm* and the curved shape is used for *ḥāʾ/khāʾ*.

The final *jīm* is attested twenty-four times, and on each occasion, it has the straight shape.

Table 1.1: Example Nos. 1-3 of the Straight *Jīm*
(for Nos. 4-24, see Appendix 1.1)

Q9:3 *al-ḥajj*

Q9:19 *al-ḥājj*

Q9:46 *al-khurūj*

The *ḥāʾ*, by contrast, appears in nearly all instances (thirty-nine times out of a total of forty) with a curved shape.

Table 1.2: Example Nos. 1-3 of the Curved *Ḥāʾ*
(for Nos. 4-39, see Appendix 1.2)

Q8:19 *al-fatḥ*

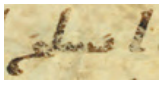
Q9:30 *al-masīḥ*

Q9:31 *al-masīḥ*

The *ḥāʾ* is written with a straight shape only once.

Q60:10 *junāḥ*

The *khāʾ* appears twice, once with a curve and once without.



Q9:5 *insalakha*

Q45:29 *nastansikhu*

8. Cellard, *Codex Amrensis 1*, 6.

Although the distinction is thus not quite absolute, with a single case each of a straight final *ḥāʾ* and *khāʾ*, it is clear that the distribution can hardly be due to chance. The statistical procedure known as Fisher's exact test[9] allows us to calculate the odds of the distribution, as attested above, having occurred by chance, rather than being the result of a distinction between *jīm* and *ḥāʾ*/*khāʾ*. The resulting *p* value is the probability that the correspondence is due to chance. A *p* value of .05 is equivalent to a chance of one in twenty (.05 = 1/20). Taking a *p* value of .05 to indicate a statistically significant correlation, we see that this manuscript (and the others discussed below) demonstrate highly significant correlations. In this case, the *p* value is smaller than .0001, indicating a highly significant correlation; that is, it is extremely unlikely that the apparently link between the shape and sign in this manuscript is merely coincidental.

2. BnF Arabe 330g and CBL Is. 1615 II

Déroche has described the manuscript Arabe 330g, found in the collection of Arabic manuscripts in the Bibliothèque nationale de France.[10] The manuscript is written in an unclassified script style, with some features recognizable as Hijazi. George identifies the manuscript as "intermediate between Hijazi and Kufic."[11] In an as yet unpublished study, Cellard contextualizes the script of the manuscript, noting clear similarities to manuscripts in the A.I style and in what she dubs the LH/A style (Late Hijazi/A.I). She proposes that this transitional style probably dates to the early Umayyad period.[12]

The fragment consists of twenty folios (folios 50–69 in the Arabe 330 collection). According to Cellard, the four folios of CBL Is. 1615 II, the twelve folios of the Saint Petersburg National Library's Marcel 16, and the six folios of Doha Museum of Islamic Art's MIA.2013.23 also belong to this manuscript.[13] I am very grateful to the Chester Beatty Library for providing me access to photographs of Is. 1615 II and permission to reproduce sections of these photos. Images from that portion of the manuscript are marked with B II below. I have been unable to examine the portions of the manuscript in Saint Petersburg and Doha. In the examined folios, the respective shapes of the *jīm* and the *ḥāʾ*/*khāʾ* are clearly distinct. The former generally does not curve downward and is somewhat shorter, whereas the latter does curve downward sharply and may even curve across one or several lines of text below it.

In eleven out of twelve instances, the *jīm* is written with a straight line, which sometimes is dotted and at other times is not. The straight shape occurs regardless of whether it is preceded by a connecting letter.

9. R. A. Fisher, "On the Interpretation of χ^2 from Contingency Tables, and the Calculation of P," *Journal of the Royal Statistical Society* 85, no. 1 (1922): 87–94.

10. Déroche, *Manuscrits*, 145–146.

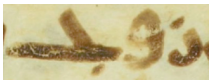
11. A. George, *The Rise of Islamic Calligraphy* (London: Saqi Books, 2010), 126, n. 88.

12. E. Cellard, "The Written Transmission of the Qurʾān during Umayyad Times: Contextualizing the Codex Amrensis 1," in *The Umayyad World*, ed. A. Marsham (Abingdon: Routledge, forthcoming).

13. Cellard, "Written Transmission."

Table 2.1: Example Nos. 1-3 of the Straight *Jīm*
(for Nos. 4-11, see Appendix 2.1)

Q4:20 *zawj* (51v, l. 4)



Q4:20 *zawj* (51v, l. 4)

Q4:100 *yakhruj* (53r, l. 10)

There is a single instance of a curved *jīm*.

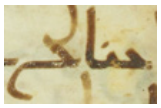
Q9:91 *kharaja* (66v, l. 13)

The final *ḥāʾ*/*khāʾ* occurs much more often (thirty-four times) than does the final *jīm*. Each time it has the curved shape. Given this extremely strong correlation between the two signs, there can be no doubt that they are, in fact, distinctive.

Table 2.2: Example Nos. 1-3 of the Curved *Ḥāʾ*/*Khāʾ*
(for Nos. 4-34, see Appendix 2.2)

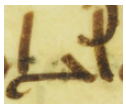
Q4:6 *al-nikāḥ* (50v, l. 12)

Q4:23 *junāḥ* (51v, l. 11)

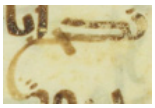


Q4:24 *junāḥ* (51v, l. 16)

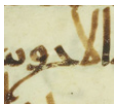
The *khāʾ* is not distinct from the *ḥāʾ* and likewise has a curved shape in each of its five appearances.



Q4:12 *ʾakh* (51r, l. 10)

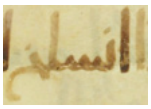


Q4:22 *nakakha* (51v, l. 7)



Q4:23 *al-ʾakh* (51v, l. 9)

Q7:175 *fa-nsalakha* (58r, l. 11)



Q9:5 *insalakha* (62r, l. 13)

For this manuscript, too, the results of Fisher's exact test show that the correlation is highly significant, with a *p* value below .0001.

3. CBL Is. 1615 I, Doha Museum of Islamic Art Ms. 68, and a Folio from a Private Collection

The manuscript Is. 1615 I, held at the Chester Beatty Library, displays the same LH/A style as does Arabe 330g. It belongs to the same manuscript as does the single folio published by

Fraser,[14] along with a folio held in the private collection of Vahid Kooros in Houston under the name TR:490-2007 and fourteen other folios in the Museum of Islamic Art in Doha, listed under Ms. 68, 69, 70 and 699. I am very grateful to the Chester Beatty Library for granting me access to photographs of Is. 1615 I and permission to reproduce portions of them. I have included both Ms. 68 (marked with D) and Fraser's folio (marked with F) in the discussion below. I have not been able to examine the folio kept in Houston nor the folios labelled Ms. 69, 70, or 699 in Doha. This manuscript, too, shows a distinction between *jīm* and *ḥāʾ*/*khāʾ*, although its distribution is somewhat different from that in the manuscripts discussed above.

In this manuscript, the shape of the *jīm* varies much more evenly between the straight version (twenty-two occurrences) and the curved one (seventeen). It is clear that in this codex both shapes were acceptable for the *jīm*.

Table 3.1: Example Nos. 1-3 of the Straight *Jīm*
(Example Nos. 4-22 in Appendix 3.1)

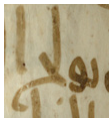

Q28:32 *takhruj* (1v, l. 11)


Q30:19 *yukhriju* (5r, l. 11)


Q30:19 *yukhriju* (5r, l. 12)

Table 3.2: Example Nos. 1-3 of the Curved *Jīm*
(Example Nos. 4-17 in Appendix 3.2)

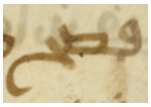

Q30:48 *yakhruju* (6r, l. 1)


Q31:29 *yūliju* (7r, l. 2)


Q31:29 *yūliju* (7r, l. 2)

By contrast, the *ḥāʾ* appears mostly with the curved shape, forty times out of a total of forty-four.

Table 3.3: Example Nos. 1-3 of the Curved *Ḥāʾ*
(Example Nos. 4-40 in Appendix 3.3)


Q28:34 *ʾafṣaḥ* (1v, l. 14)


Q30:46 *al-riyāḥ* (5v, l. 21)


Q32:28 *al-fatḥ* (7v, l. 20)

14. Fraser, "Earliest Qurʾanic Scripts."

A straight *ḥāʾ* is found only four times.

Q28:76 *tafraḥ* (2v, l. 17)

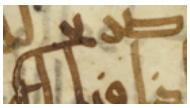
Q30:4 *yafraḥu* (4v, l. 22)

Q33:7 *nūḥ* (8r, l. 10)

Q33:55 *junāḥ* (9v, l. 21)

The *khāʾ* occurs seven times, always with a curved shape.

Q36:37 *naslakhu* (14r, l. 7)

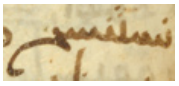


Q36:43 *ṣarīkh* (14r, l. 12)

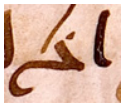
Q36:51 *nufīkha* (14r, l. 20)

Q39:68 *nufīkha* (20r, l. 2)

Q39:68 *nufīkha* (20r, l. 3)



Q45:29 *nastansikhu* (29r, l. 15)



Q12:77 *ʾakh* (D, r, l. 6)

Although this manuscript shows more variance in the shape of the *jīm*, the straight shape nonetheless predominates, and the *hāʾ* and the *khāʾ* almost never use the straight shape; the distribution remains highly significant, with a *p* value below .0001. This manuscript seems to represent a transitional stage between manuscripts that keep the two shapes distinct and manuscripts in which they have been merged. The scribe of this manuscript seem to have had a choice regarding the shape to use for the *jīm*.

4. BnF Arabe 330f

The manuscript Arabe 330f, identified by Déroche as belonging to the Kufic A.I style,[15] is yet another manuscript that, despite its rather limited attestations, points to a distinction between the *jīm* and the *ḥāʾ*. The distribution of the shapes of these two letters is similar to that of CBL Is. 1615 I: the *jīm* may be curved, but the *ḥāʾ* is always curved.

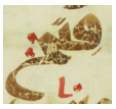
15. Déroche, *Manuscrits*, 5, no. 12.

Of the six instances of *jīm* in this manuscript, four are straight and two are curved.

Straight		**Curved**
		
Q33:37 *kharaj* (47v, l. 10)	Q33:37 *ʾazwāj* (47v, l. 11)	Q4:100 *yakhruj* (33v, l. 13)
		
Q33:50 *kharaj* (48v, l. 16)[16]	Q33:38 *[khara]j* (47v, l. 14)	Q9:64 *makhruj* (40r, l. 2)

The *ḥāʾ* appears eleven times, always with a hook.


Q4:102 *junāḥ* (34r, l. 12)


Q4:141 *fatḥ* (36r, l. 6)


Q4:157 *al-masīḥ* (37v, l. 9)


Q5:3 *dhubiḥa* (38v, l. 6)


Q5:4 *al-jawāriḥ* (38v, l. 17)


Q9:70 *nūḥ* (40v, l. 9)


Q12:87 *rūḥ* (45r, l. 2)


Q12:87: *[r]ūḥ* (45r, l. 3)


Q12:94 *rīḥ* (45v, l. 5)


Q34:26 *yaftaḥu* (49v, l. 5)


Q34:26 *al-fattāḥ* (49v, l. 5)

The number of examples in this manuscript is rather low in view of the amount of text it contains, but even in this limited sample there is a significant correlation between shape and sound, with a *p* value of .0063.

5. CUL Add. 1146 and BnF Arabe 6140b

A fifth manuscript that displays the distinction between *jīm* and *ḥāʾ*/*khāʾ* is CUL Add. 1146 (CUL) combined with BnF Arabe 6140b (A 6140b). To my knowledge, the two fragments have not yet been identified as belonging together, but they clearly belong to the same quire, with the bifolios of Arabe 6140b forming the outer bifolios and those of Add. 1146 the inner bifolios (see Table 5.1 on the next page). One bifolio is missing between the two fragments. The original manuscript must have originally consisted of four bifolios with

16. Although the letter here does have a hook, this hook clearly looks very different from the broad hook of the *ḥāʾ* below, and it seems possible that the hook was added when the text was retraced by a later hand.

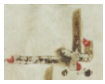
flesh facing the hair (assuming that no fifth bifolio surrounded 6140b). The manuscript is written in a clear and stable Kufic B.Ib style.[17]

Table 5.1: Comparison of the Dimensions and Contents of CUL Add. 1146 and BnF Arabe 6140b

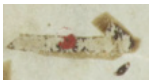
Folio	Range	Flesh/hair side	Measurements[18]
A 6140b, 5r	Q33:10–20	Hair side	347 × 275 mm
A 6140b, 5v	Q33:21–24	Flesh side	347 × 275 mm
A 6140b, 6r	Q33:24–33	Hair side	347 × 275 mm
A 6140b, 6v	Q33:33–37	Flesh side	347 × 275 mm
[Lost bifolio]	33:37–52		
CUL, 1r	33:52–57	Hair side	349 × 276 mm
CUL, 1v	33:57–68	Flesh side	349 × 276 mm
CUL, 2r	33:68–34:3	Flesh side	349 × 276 mm
CUL, 2v	34:3–11	Hair side	349 × 276 mm
[Lost bifolio]	34:11–26		
A 6140b, 7r	34:26–34	Flesh side	347 × 275 mm
A 6140b, 7v	34:34–43	Hair side	347 × 275 mm
A 6140b, 8r	34:43–52	Flesh side	347 × 275 mm
A 6140b, 8v	34:53–35:6	Hair side	347 × 275 mm

All four occurrences of *jīm* have the straight shape.

Q33:33 *tabarruj* (A 6140b, 6v, l. 1)



Q34:2 *yaliju* (CUL, 2r, l. 18)



Q34:2 *[yakhru]ju* (CUL, 2r, l. 19)

Q34:2 *yaʿruju* (CUL, 2r, l. 19)

17. Déroche, *Manuscrits*, 68, no. 17.

18. Déroche, *Manuscrits*, 68, says that the writing surface is 333 × 270 mm. I have been unable to reconstruct how he arrived at these measurements. Taking the dimensions of the page as the measure and then dividing the writing surface (height baseline to baseline; width rightmost stroke to leftmost stroke, ignoring backward-curving *yāʾ*), the measurements of the two fragments are almost identical and well within the measure of error one would expect using purely digital means to measure both.

Meanwhile, all three *ḥāʾ*s are curved.

Q33:55 *junāḥ* (CUL, 1r, l. 14)

Q33:81 *yuṣliḥ* (CUL, 2r, l. 5)

Q35:2 *yaftaḥ* (A 6140b, 8v, l. 9)

Because of the very small number of attestations, the correlation between shape and sound is not quite as significant in this manuscript as it is in the previous cases, but its *p* value of .0276 still falls well below the significance threshold of .05.

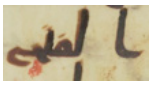
6. Wetzstein II 1913 and BnF Arabe 6087

Put together, the two fragments Wetzstein II 1913 and BnF Arabe 6087 contain about 85% of the Quranic text, and as such the combined manuscript one of the most complete early Quranic manuscripts. It was carbon-dated by the Corpus Coranicum project to 662–765 CE with 2σ (95.4%) probability. Déroche identifies Arabe 6087 as belonging to his Kufic B.Ia type.[19] This manuscript has undergone significant retouching on many of its pages. As a result, drawing conclusions regarding the distinction between *jīm* and *ḥāʾ*/*khāʾ* is somewhat more problematic.

Although the *jīm* still occurs fairly often with its straight shape, occasionally it features an extended horizontal line with a sharp hook at the end. Such instances of a *jīm* with a hook are almost certainly products of later retouching; this is quite visible, for example, in Q33:52, *ʾazwāj*. At other times, however, the distinction is not quite as clear.

Q33:52 *ʾazwāj* (A 6087, 5v, l. 8)

Even though the shape of the straight *jīm* has been corrected toward the general curved form, it is usually possible to distinguish it from the *ḥāʾ*/*khāʾ*, which, in this manuscript, usually has a very tight loop, as, for example, in Q32:28, *al-fatḥ*.



Q32:28 *al-fatḥ* (A 6087, 2v, l. 8)

Because the retouching added hooks to many straight shapes, I have decided to classify any final letter in which a significantly long horizontal line ends in a final hook as falling in the straight shape category, whereas final letters with a tight or large loop belong to the curved shape category. This method may mean that letter shapes that were originally straight with a final hook, not merely those that have been retouched to receive a hook, are

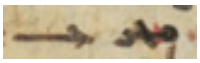
19. Déroche, *Manuscrits*, 67, no. 16.

counted as straight. The overall result may be to overestimate the proportion of straight letters as opposed to curved ones in both groups (*jīm* and *ḥāʾ*/*khāʾ*). Since the latter group is significantly more numerous, the distortion could have the effect of making the correlation appear weaker than it would have been before retouching. But despite this conservative approach, there is still an extremely strong correlation between the shape of the letter and the sound it represents.

Of the total 153 occurrences of *jīm*, 139 feature the straight shape.

Table 6.1: Example Nos. 1–3 of the Straight *Jīm*
(Example Nos. 4–139 in Appendix 6.1)


Q2:61 *yukhrij* (2r, l. 16)

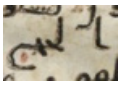

Q2:72 *mukhrij* (2v, l. 22)

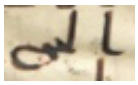

Q2:74 *fa-yakhruju* (3v, l. 3)

In only fourteen cases does the *jīm* have an unambiguously curved shape.

Table 6.2: Example Nos. 1–3 of the Curved *Jīm*
(Example Nos. 4–14 in Appendix 6.2)


Q2:158 *ḥajj* (5v, l. 17)


Q2:189 *al-ḥajj* (8r, l. 16)


Q2:196 *al-ḥajj* (8v, l. 13)

The *ḥāʾ* occurs a total of 247 times, of which 237 feature the curved shape.

Table 6.3: Example Nos. 1-3 of the Curved *Ḥāʾ*
(Example Nos. 4–237 in Appendix 6.3)


Q2:76 *fataḥa* (3r, l. 9)


Q2:87 *bi-rūḥ* (3v, l. 8)

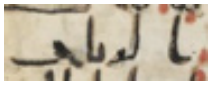

Q2:158 *[junā]ḥ* (6r, l. 18)

In ten cases out of 247, the *ḥāʾ* has a straight shape (which has in some cases evidently been retouched later).

Table 6.4: Example Nos. 1-3 of the Straight *Ḥāʾ*
(Example Nos. 4-10 in Appendix 6.4)


Q2:233 *[junā]ḥ* (11r, l. 20)

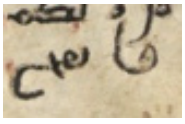

Q7:77 *yā-ṣāliḥ* (58v, l. 7)


Q18:45 *al-riyāḥ* (114r, l. 2)

The *khāʾ* occurs twenty-five times, and twenty-four of these involve the curved shape.

Table 6.5: Example Nos. 1-3 of the Curved *Khāʾ*
(Example Nos. 4-24 in Appendix 6.5)

Q2:107 *nansakh* (4v, l. 15)



Q7:77 *yā-ṣāliḥ* (58v, l. 7)

Q4:22 *nakaḥa* (27v, l. 6)

There is a single instance of a *khāʾ* with what is likely to have been originally a straight shape.

Q39:68 *nufikha* (159r, l. 4)

Because the number of attestations in the manuscript is so large, we can calculate the significance of the shape/sound correlation using the χ^2 test,[20] which requires a higher sample size, rather than Fisher's exact test. The distribution is once again highly significant, with a *p* value below .0001.

7. Codex Parisino-Petropolitanus (Hand C)

The manuscripts examined so far clearly make a distinction between *jīm* and *ḥāʾ*/*khāʾ*. However, this is certainly is not the case for all early Quranic manuscripts. Even some very early manuscripts, such as the Hijazi Codex Parisino-Petropolitanus[21] (henceforth CPP), lack the distinction in some of its hands. For example, Hand A of the CPP uses the curved form for both *ḥāʾ* and *jīm*.[22]

Q2:282 *junāḥ*

Q3:27 *tūliju*

Q3:97 *ḥijj*

Q3:117 *rīḥ*

20. K. Pearson, "On the Criterion That a Given System of Deviations from the Probable in the Case of a Correlated System of Variables Is Such That It Can Be Reasonably Supposed to Have Arisen from Random Sampling," *Philosophical Magazine*, ser. 5, 50 (1900): 156–175.

21. F. Déroche, *La transmission écrite du Coran dans les débuts de l'islam: Le codex Parisino-petropolitanus* (Leiden: Brill, 2009).

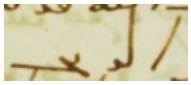
22. For the identification of the different hands of the CPP, see Déroche, *Transmission*, 31–45.

Hand B, on the other hand, clearly displays the straight shape for both the *ḥāʾ* and the *jīm*.

Q6:143 *azwāj*

Q7:69 *nūḥ*

Q7:58 *yakhruju*



Q7:56 *al-riyāḥ*

Hand C, however, distinguishes the shape of the *jīm* from the shape of the *ḥāʾ*/*khāʾ*, as the below overview shows. Part of Hand C belongs to the Saint Petersburg part of the CPP. I was granted access to photographs of these folios by Michael Marx, but I do not have permission to reproduce the photos. Instead, I provide black-and-white tracings of the letter shapes. These images are identified with M.

The *jīm* occurs thirteen times, all but once with the straight shape.

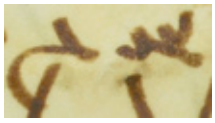
Table 7.1: Example Nos. 1-2 of the Straight *Jīm*
(Example Nos. 4-12 in Appendix 7.1)

Q43:12 *al-ʾazwāj* (60r, l. 11)

Q45:33 *maʿārij* (60v, l. 16)

Q65:11 *li-yukhrija* (67r, l. 20)

There is a single instance of a curved *jīm*.

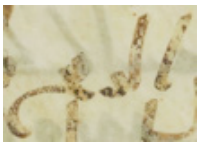


Q41:47 *takhruju* (57v, l. 7)

The *ḥāʾ* appears on twenty-one occasions, of which nineteen feature a curved shape.

Table 7.2: Example Nos. 1-3 of the Curved *Ḥāʾ*
(Example Nos. 4-19 in Appendix 7.2)

Q42:24 *yamḥu* (59r, l. 3)



Q42:33 *al-rīḥ* (59r, l. 16)

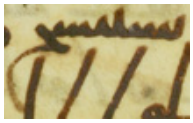
Q42:40 *ʾa[ṣla]ḥa* (59v, l. 1)

There are two instances of a straight *ḥāʾ*.

Q60:10 *junāḥ* (65r, l. 10)

Q56:96 *fa-sabbiḥ* (M, 45v, l. 2)

The *khāʾ* is found twice, both times curved.



Q45:29 *nastansikhu* (64r, l. 17)

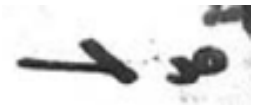
Q69:13 *nufīkha* (69r, l. 8)

In Hand C of the CPP, as in the manuscripts discussed above, the correlation of shape and letter is highly significant, with a *p* value below .0001.

8. TIEM ŞE 118

I have identified a final potential manuscript that seems to display the distinction between *jīm* and *ḥāʾ*. This manuscript, ŞE 118, is housed at Türk ve İslam Eserleri Müzesi (TIEM) in Istanbul. I have not been able to access the complete manuscript and was able to examine only a single page, 6r, which is reproduced by Déroche.[23] This page contains an exceptionally high number of final *jīm*s and *ḥāʾ*s for a single page, and their shape corresponds perfectly to the proposed distinction. Still, since the sample remains small in absolute terms, containing only five examples, it is impossible to be sure whether the correspondence is due to chance (Fisher's exact test yields a *p* value of .1). Additional folios would have to be examined to prove or disprove the presence of the distinction in the manuscript.

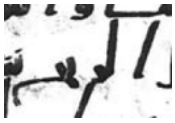
Both of the two *jīm*s are straight.



Q25:53 *maraj* (l. 15)

Q25:53 *[ʾu]jāj* (l. 16)

By contrast, all three *ḥāʾ*s have the curved shape.



Q25:48 *al-riyāḥ* (l. 9)

Q25:53 *milḥ* (l. 15)

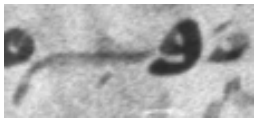
Q25:58 *sabbiḥ* (l. 22)

23. F. Déroche, *Qurʾans of the Umayyads: A First Overview* (Leiden: Brill, 2014), fig. 7.

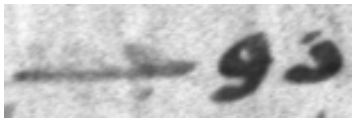
Notes on Paleography in Light of the Distinction

Above I have identified several manuscripts that feature a distinction between final *jīm* versus final *ḥāʾ/khāʾ*. Although the distinction is present in a fair number of relatively early manuscripts, these are nonetheless outnumbered by manuscripts without the distinction. Several paleographical observations can be made about the manuscripts. First, several of the manuscripts I have examined fall into the rather heterogeneous, but nevertheless distinct group of manuscripts written in the A and LH/A scripts and the LH/A-A hybrid style identified by Cellard.[24] The Codex Amrensis 1 belongs to the LH/A-A group, Arabe 330g and Is. 1615 I belong to the LH/A group, and Arabe 330f belongs to the A group.

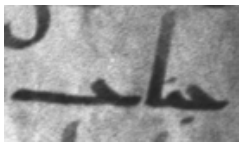
These groups are distinct from each other but clearly share several paleographical similarities. Typical of manuscripts in this style group, for example, is the downward-curving tail on the final and isolated *ṭāʾ*.[25] One might, therefore, speculate that the distinction between *jīm* and *ḥāʾ/khāʾ* is also typical of this style. But although the distinction seems to be relatively more prevalent in manuscripts of this group, there are still manuscripts within it that clearly lack the distinction. The two other Kufic A.I manuscripts discussed by Déroche,[26] Arabe 330d and Arabe 330e, both use only the straight shape regardless of the consonantal value of the *jīm/ḥāʾ/khāʾ*. Arabe 326b, part of the hybrid LH/A-A style and very close to the Codex Amrensis 1, contains only a single case of *jīm* and a single case of *ḥāʾ*, but both have a long, straight shape with a final sharp curve, with no apparent distinction. In the LH/A group, the distinction is not present in Qāf 47 of the Bergsträsser photo archive,[27] even though it does employ both shapes:



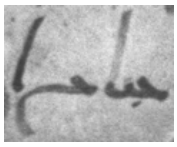
Q4:20 *zawj* (Q, 13v, l. 10)



Q4:20 *zawj* (Q, 13v, l. 10)



Q4:25 *junāḥ* (Q, 14r, l.6)



Q4:101 *junāḥ* (Q, 18v, l. 18)

Hand C of the Codex Parisino-Petropolitanus is so far the only Hijazi hand with the distinction that I have identified, and strikingly none of the other hands in this manuscript maintain the distinction. This is a clear indication that the decision to make or ignore the distinction was up to the scribe.

24. Cellard, "Written Transmission."

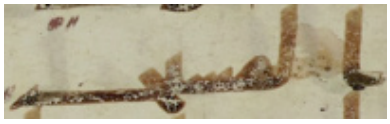
25. This similarity was already observed by Cellard (*Codex Amrensis* 1, 7; "Written Transmission").

26. Déroche, *Manuscrits*.

27. To this manuscript also belongs Berlin, Staatsbibliothek Ms.or.fol.4313.

The two manuscripts Wetzstein II 1913/BnF Arabe 6087, written in the B.Ia style, and CUL Add.146/BnF Arabe 6140b, written in the B.Ib style, are to my knowledge the only examples of manuscripts in these two respective styles to display the distinction.

Although the curved shape eventually came to dominate, yielding the modern shape of the *jīm/ḥāʾ/khāʾ*, both forms continued to coexist for some time. Even after the emergence of the later, calligraphic proportioned Kufic hands, we still see the straight shape in use, which suggests that scribes who did not differentiate between the *jīm* and the *ḥāʾ/khāʾ* in terms of shape continued to employ both. In fact, the shape used for the *jīm/ḥāʾ/khāʾ* is one of the factors that distinguishes the Kufic styles C and D, as Déroche has pointed out.[28] Style C uses the straight *jīm* shape for both *jīm* and *ḥāʾ/khāʾ*, whereas style D uses a tightly curved *ḥāʾ/khāʾ* for both *jīm* and *ḥāʾ/khāʾ*. BnF Arabe 334a, an example of a manuscript in style C.Ib,[29] always uses the straight *jīm* shape:

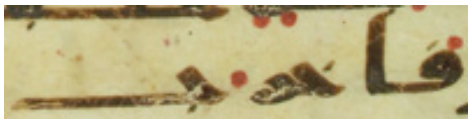


Q5:17 *al-masīḥ* (A 334a, 3v, l. 9)

Q35:13 *yūliju* (A334a, 7v, l. 6)

The style identified by Déroche as O.I, exemplified by the early Umayyad Qurans, seems in its ornamentation to have clear affinity with the Dome of the Rock inscription.[30] Manuscripts of this style, such as Marcel 13 and BnF Arabe 330e, likewise consistently have the the straight shape for *jīm/ḥāʾ/khāʾ*, but both shapes are still (indiscriminately) in use, as can be seen in Arabe 330c:

Q15:22 *al-riyāḥ* (A 330c, 11r, l. 10)



Q15:34 *fa-khraj* (A 330c, 11r, l. 25)

By contrast, BnF Arabe 325k, a manuscript in style D.I,[31] uses the *ḥāʾ/khāʾ* shape:

Q12:87 *zawj* (A 325k, 106r, l. 4)

Q17:24 *janāḥ* (A325k, 110r, l. 6)

28. F. Déroche, *The Abbasid Tradition: Qurʾans of the 8th to the 10th Centuries AD* (Oxford: Oxford University Press, 1992), 40, 43. This distinction is not absolute: some Quranic manuscripts in the Kufic C style have a curve, but their horizontal portion is still much longer than it is in style D, and thus quite distinct.

29. Déroche, *Manuscrits*, 79, no. 50.

30. Déroche, *Qur'ans of the Umayyads*, 80.

31. Déroche, *Manuscrits*, 84, no. 59.

The other very common Kufic style of later manuscripts, the B.II style, likewise exclusively uses the *ḥāʾ/khāʾ* shape in all environments. See, for example, BnF Arabe 340f:[32]

Q7:32 *ʾakhraja* (A 340f, 80r, l. 16)

Q7:40 *tufattaḥu* (A 340f, 81r, l. 12)

Establishing how long the distinction between *jīm* and *ḥāʾ/khāʾ* remained in use and when the curved shape superseded the straight one requires further investigation.

The Nabataean Origin of the Distinction

As seen above, the distinction between *jīm* and *ḥāʾ/khāʾ* is clearly attested in several early Quranic manuscripts in a variety of styles, but it is permanently lost in later styles such as Kufic C, D, and B.II. The next question, then, is where the distinction between the *jīm* and the *ḥāʾ/khāʾ* comes from. It is clear, from the very earliest extant Quran manuscripts, that there were writing traditions that did not distinguish the two signs as well as others that did. There are two possible origins of the distinction. Either there was free variation between two shapes, and some scribes appropriated this free variation to make a distinction between the *jīm* and the *ḥāʾ/khāʾ*, or the distinction was carried over from an ancient scribal tradition that was eventually lost.

The first possibility has in its favor the fact that there are other letters whose shape in the final position can vary freely. As is well known, Arabic script has two different variants of the final *yāʾ*: a returning *yāʾ* and an s-shaped *yāʾ*. The two shapes seem to have had no apparent functional difference, and they can be found in the same text and even in identical words on a single page. See, for example, the two variant forms of the word *fī* on a single page (pg. 258) in the Codex Amrensis I:[33]

Q9:110

Q9:111

If the final *yāʾ* could vary freely between the two forms with no apparent difference in use, it is easy to imagine that the two shapes of the *ḥāʾ* might have represented a similar case, with the straight form and the curved form in free variation. However, there are some problems with this theory. First, there is no obvious explanation as to why some

32. Déroche, *Manuscrits*, 72, no. 34.

33. This variation is already found in Nabataeo-Arabic, although in later texts the returning *yāʾ* seems thus far more common than the s-shaped *yāʾ*. See L. Nehmé, "A Glimpse of the Development of the Nabataean Script into Arabic Based on Old and New Epigraphic Material," in *The Development of Arabic as a Written Language*, ed. M. C. A. Macdonald, 47–88 (Oxford: Archaeopress, 2010), 51.

manuscripts would have appropriated this free variation in order to make a distinction between the *jīm* and the *ḥāʾ/khāʾ*. If differentiation was truly a concern, one wonders why they did not employ a threefold distinction or, for example, treat *jīm* and *ḥāʾ* the same, as opposed to *khāʾ*. Second, all of these manuscripts already use dots, so it is not clear why a differentiated final form would have been necessary to distinguish the letters, as the dots would have served the same function (and in fact, the straight *jīm* is quite often dotted). Third, there are only very few words that are ambiguous if the *jīm* and the *ḥāʾ/khāʾ* are not differentiated (only the pair *rūḥ* and *zawj* comes to mind). A clear motivation to consciously distinguish these letters therefore seems to be lacking. And finally, there is no precedent of scribes' using the two variants of final *yāʾ* to make what would be a very sensible distinction—namely, that between final *ī* and final *ā*, which are otherwise homographic. Therefore, among early Islamic Arabic scribes, it does not seem to be the case that optional final variants were employed to make specific phonemic distinctions that the Arabic script had lost the ability to make (or that it never had, for that matter).

This brings us to the second possible explanation, the retention of a distinction from pre-Islamic times. Gruendler and Nehmé have shown conclusively that the Arabic script developed from the Nabataean Aramaic script and that we can trace the development of the script from Nabataean toward Arabic as a continuous evolution in the epigraphic record.[34] Therefore, it does not make much sense to speak of Nabataean *or* Arabic script: Arabic is quite simply the last stage in the development of the Nabataean script.[35]

In the history of the development of the Arabic script, the word-final position seems to be especially prone to retaining graphemic distinctions that are lost in other positions. The *yāʾ* and the *nūn*, which have both merged with *bāʾ* and *tāʾ/thāʾ* in the word-internal position, remain distinct from them in the final position. The same applies to the *qāf* and the *fāʾ*, which are distinct in the final position but homographic in the internal position. Both of these word-internal neutralizations can be observed in transitional Nabataeo-Arabic inscriptions.[36] It thus seems quite possible that an original distinction between the *jīm* and the *ḥāʾ/khāʾ* might have been neutralized in the word-internal position but retained in the word-final position, as we find in the manuscripts examined above.

In Classical Nabataean, as in other forms of Aramaic script, the *gimel* and the *ḥet* are distinct. Moreover, the *ḥet* is employed in Nabataean to write both the *ḥ* and *kh* sounds of Arabic (e.g., <ḥrtt> for *ḥāritha* and <ḥlyfw> for *khalīf* but <ʾbgr> for *ʾabjar*).[37] If, as I argue here, the distinction between *jīm* and *ḥāʾ/khāʾ* is inherited from Nabataean, this feature of Nabataean would explain why there is a graphemic distinction between the *jīm* and the *ḥāʾ/khāʾ* but not between the *ḥāʾ* and the *khāʾ*.

34. B. Gruendler, *The Development of the Arabic Scripts: From the Nabatean Era to the First Islamic Century according to Dated Texts* (Atlanta: Scholars Press, 1993); Nehmé, "Glimpse."

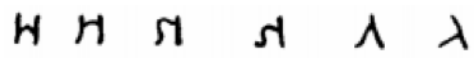
35. M. C. A. Macdonald, "Ancient Arabia and the Written Word," in *The Development of Arabic as a Written Language*, ed. M. C. A. Macdonald, 5–28 (Oxford: Archaeopress, 2010), 21–22.

36. Nehmé, "Glimpse," 52–53.

37. A. Negev, *Personal Names in the Nabataean Realm* (Jerusalem: Hebrew University, 1991), nos. 448, 494.

In early forms of Nabataean, the *gimel* and the *ḥet* are fairly clearly differentiated, although both have a variety of forms, ranging from shapes quite close to those used in Imperial Aramaic to shapes quite similar to what we find in the Arabic script today. The image below shows the approximate development over time of the letter shapes attested in Nabataean, from left to right.[38]

Nabataean *gimel*



Nabataean *ḥet*

Although the most advanced shape of the *ḥet* is identical to the least advanced shape of the *gimel*, the two signs remain distinct in the transitional Nabataeo-Arabic inscriptions, since these two stages never co-occur.[39] Nehmé does not comment specifically on the development of these two signs in the word-final position,[40] and it is clear that eventually they merge completely in the word-internal position. An examination of their evolution from transitional Nabataeo-Arabic into the Arabic script shows that—as far as we can tell from the incomplete epigraphic record—the originally upheld distinction in the final position appears to have developed eventually into the differentiated signs that we find in the manuscripts that I have discussed above.

Final *ḥet*

The final *ḥet* is much better attested than is the final *gimel*. The more or less classical shape of the final *ḥet* can be seen in JSNab 17 (267 CE) and LPNab 41 (3rd c. CE).[41]

JSNab 17: *b-yrḥ*

LPNab 41: *tnwḥ*

A more advanced form is attested in the inscription published by Stiehl (356 CE), where the shape of the *ḥet* is almost identical to the straight *jīm* in the early Islamic Quran

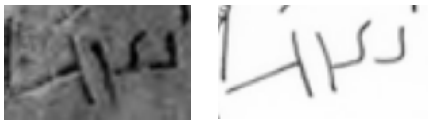
38. Image taken from J. Cantineau, *Le Nabatéen: I. Notions générales, écriture, grammaire* (Osnabrück: Otto Zeller, 1978), 29.

39. Nehmé, "Glimpse," 49.

40. Nehmé, "Glimpse."

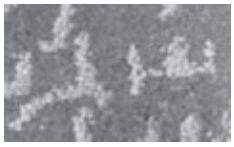
41. Tracings and photos taken from Nehmé, "Glimpse."

manuscripts, with the exception that the left leg stands at a somewhat oblique angle to the baseline.[42]



Stiehl inscription: *b-yrḥ*

When we then consider inscriptions that are recognizably closer to the Arabic script, such as Ḥimà-Sud PalAr 1, published by Robin, al-Ghabbān, and al-Saʿīd and dated to 470 CE,[43] we again find the phrase *b-yrḥ* 'in the month' with a similarly advanced shape, but here it has a distinct downward curve.[44]



Ḥimà-Sud PalAr 1: *b-yrḥ*

An even stronger downward curve occurs in the inscription Ḥimà-al-Musammāt PalAr 5, which contains the name *ʿabd al-masīḥ*.[45]

Ḥimà-al-Musammāt PalAr 5: *ʿbdʾlmsyḥ*

Finally, in an as yet unpublished pre-Islamic Arabic inscription found between Tabuk and Hegra and studied by the amateur epigraphist group Farīq al-Ṣaḥrāʾ,[46] we find the *ḥāʾ* in its

42. R. Stiehl, "A New Nabatean Inscription," in *Beiträge zur alten Geschichte und deren Nachleben: Festschrift für Franz Altheim zum 6.10.1968*, vol. 2, ed. R. Stiehl and H. E. Stier, 87–90 (Berlin: de Gruyter, 1970). Tracings and photos taken from Nehmé, "Glimpse."

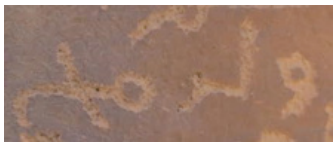
43. C. Robin, A. I. al-Ghabbān, and S. F. al-Saʿīd, "Inscriptions antiques de la région de Najrān (Arabie séoudite méridionale): Nouveaux jalons pour l'histoire de l'écriture, de la langue et du calendrier arabes," *Comptes rendus de l'Académie des inscriptions 2014*, no. 3 (2014): 1087–1089.

44. Image taken from Robin et al., "Inscriptions antiques," 1044.

45. Robin et al., "Inscriptions antiques," 1125–1127. As this inscription is undated, it is not completely clear that it is pre-Islamic, but paleographically it seems early.

46. It is not absolutely certain that this inscription is pre-Islamic, but the formulae and orthography suggest that it is at least non-Islamic, and very early.

most advanced form with a clear loop, recognizable from the Islamic-period shape, in an inscription that mentions *wa-l-rumḥ* 'and the spear'.[47]



Farīq 4: *wlrmḥ*

Final *gimel*

The final *gimel* is significantly rarer, as there is no common Nabataean phrase parallel to *b-yrḥ* 'in the month' that would have this letter in the final position. The earliest attestation that I am aware of is once again an inscription found and photographed by the Farīq al-Ṣaḥrāʾ group, which was subsequently deciphered and published by Nehmé as UJadhNab 538.[48] The inscription contains the phrase *ḥajj al-faṭīr* 'feast of leavened bread' <ḥg ʾlpṭyr>. This inscription is written in a clear transitional Nabataeo-Arabic script and dates to 303 CE. In this inscription, we see that the *gimel* lacks the curve found in the transitional Nabataeo-Arabic *ḥet* and instead stands in a straight line parallel to the baseline.[49]

UJadhNab 538: *ḥg*

The next attestation is probably UJadhNab 486, an undated inscription written in the transitional Nabataeo-Arabic script.[50] Nehmé suggests that it should be read as *ʾlḥzrᶜ* (or *ʾlḥzry*). I agree with her observation that it is possible and even probable that the word represents the name *al-khazraj* and that it is a clear example of the final *gimel* of Nabataeo-Arabic without a curve, as seen in early manuscripts. The *gimel* stands at a fairly sharp angle to the baseline, but it is distinct from the *ḥet* of, for example, the Stiehl inscription, which forms more of an upright triangle shape than do this *gimel* and the *gimel* in UJadhNab 538 above.

UJadhNab 486: *ʾlḥzrg*

47. Image taken from http://alsahra.org/?p=17938.

48. L. Nehmé, *The Darb al-Bakrah: A Caravan Route in North-West Arabia Discovered by Ali I. al-Ghabban* (Riyadh: Saudi Commission for Tourism and National Heritage, 2018), 185. See also http://alsahra.org/?p=17692.

49. All images taken from Nehmé, *Darb al-Bakrah*.

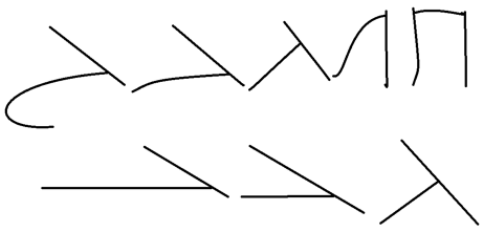
50. Nehmé, *Darb al-Bakrah*, 182.

This name *al-khazraj* is attested two more times in pre-Islamic inscriptions written in Arabic in a script that can be called the Arabic script proper, rather than a transitional script. In one of the two inscriptions the *rāʾ* and the *zāy* have a clear lunate shape typical of the Islamic period, suggesting that this inscription was produced fairly close to the Islamic era, likely in the sixth century CE. These inscriptions also lack the distinct downward or even backward curve that we find in the *ḥet* in inscriptions from approximately the same period. These Arabic inscriptions, too, were discovered and photographed by the Farīq al-Ṣaḥrāʾ group and are reproduced below.[51]

Farīq 5: *ʾlḥzrg*

Farīq 6: *ʾlḥzrg*

It is clear from the examples I have presented, then, that the *jīm* and the *ḥāʾ*/*khāʾ* were still graphemically distinct from each other in the pre-Islamic Nabataeo-Arabic script, and we can see a clear development toward the modern shapes. The pre-Islamic contrast between these two signs had simply not yet been lost in the early Islamic period, and traces of it can be found in the manuscripts that I have examined above. A schematic development of the letter shapes of the *ḥet* toward the *ḥāʾ*/*khāʾ* and those of the *gimel* toward the *jīm* is presented below with the *ḥet*/*ḥāʾ* on the top line and the *gimel*/*jīm* on the bottom one, running from the most archaic form on the right to the most advanced form on the left.



Conclusion

The examples above show clearly that while the shapes of the letters *ḥāʾ*, *khāʾ*, and *jīm* merged in the word-internal position, throughout the pre-Islamic history of the Arabic script, from its Nabataean Aramaic beginnings until the early Islamic period, the word-final *ḥāʾ*/*khāʾ* and the word-final *jīm* remained distinct graphemes, at least within certain scribal traditions. Even in traditions that did not observe the distinction, the script continued to use both forms well into the second if not third century CE, as the use of the two forms is one of the features that distinguishes the Kufic C and D styles. Given the proven presence of

51. Images taken from http://alsahra.org/?p=17938.

the distinction in early Quranic manuscripts, it seems unlikely that this spelling convention would be limited exclusively to Quranic writing. Future research should certainly be undertaken to examine the use of straight and curved *ḥāʾ/khāʾ/jīm* shapes in early papyri and inscriptions to establish whether they are used to distinguish these two signs.

It is also worth investigating how the distinction should be understood for paleographical dating of Quranic manuscripts. Although it is clear that scribes who distinguished the two letters coexisted with scribes who did not (especially in view of the Codex Parisino-Petropolitanus), eventually the distinction was lost in most styles in which it appears (A.I, B.Ia, B.Ib, LH/A). It seems that manuscripts that retained this pre-Islamic contrast are likely to be earlier examples of these styles compared to manuscripts that no longer show the distinction. Determining how far we can take this conclusion and what it can tell us about the relative chronology of such early manuscripts will require further work.

Appendix 1.1: Codex Amrensis 1,
Example Nos. 4-24 of the Straight *Jīm*


Q9:64 *mukhrij*


Q9:83 *li-l-khurūj*


Q9:91 *ḥaraj*


Q10:22 *al-mawj*


Q10:31 *yukhraju*


Q10:31 *yukhraju*


Q10:103 *nunji*


Q11:42 *mawj*

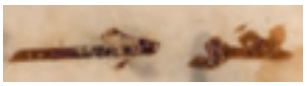

Q14:32 *fa-ʾakhraja*


Q15:34 *fa-ʾakhraja*


Q41:47 *takhruju*


Q43:12 *al-ʾazwāj*


Q46:17 *ʾukhraja*


Q47:29 *yukhrija*


Q48:17 *[al-ʾa]ʿraj*

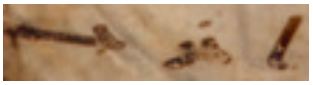

Q48:17 *ḥaraj*


Q48:29 *[ʾa]khraja*


Q50:5 *[marī]j*


Q50:42 *al-khurūj*


Q57:20 *yahīju*


Q59:2 *ʾakhraja*

Appendix 1.2: Codex Amrensis 1,
Example Nos. 4-39 of the Curved *Ḥāʾ*

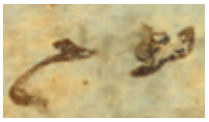

Q9:70 *nūḥ*


Q9:120 *ṣāliḥ*


Q10:17 *yufliḥ*


Q10:22 *[r]īḥ*


Q10:22 *bi-rīḥ*


Q10:71 *nūḥ*


Q10:77 *yufliḥu*


Q10:81 *yuṣliḥu*


Q11:10 *la-farḥ*


Q11:32 *yā-nūḥ*


Q11:34 *ʾansaḥa*


Q11:36 *nūḥ*


Q11:42 *nūḥ*


Q11:45 *nūḥ*


Q11:36 *yā-nūḥ*

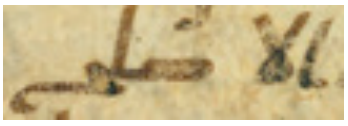

Q11:36 *ṣāliḥ*


Q11:38 *yā-nūḥ*

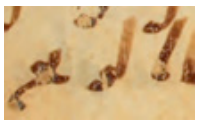

Q11:62 *yā-ṣāliḥ*


Q11:81 *al-ṣubḥ*


Q11:81 *[a]l-ṣubḥ*


Q11:8 *al-ʾiṣlāḥ*


Q14:18 *al-rīḥ*


Q15:22 *al-rīḥ*


Q15:22 *lawāqiḥ*

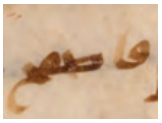
Q15:85 *fa-ṣfaḥ*

Q15:85 *al-ṣafḥ*

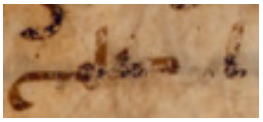
Q15:99 *fa-sabbiḥ*

Q41:12 *bi-maṣābīḥ**

Q42:40 *[ʾaṣla]ḥa*



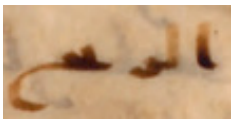
Q43:89 *fa-ṣfaḥ*



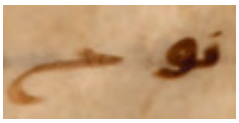
Q47:2 *ʾaslaḥ*

Q50:12 *[nū]ḥ*

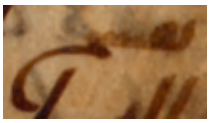
Q50:39 *sabbiḥ*



Q51:41 *al-rīḥ*



Q51:47 *nūḥ*



Q58:11 *yafsaḥ*

* Note that this word is missing a denticle. One would have expected مصسـح .

Appendix 2.1: BnF Arabe 330g and CBL Is. 1615 II,
Example Nos. 4-11 of the Straight *Jīm*

Q9:3 *al-ḥajj* (62r, l. 9)

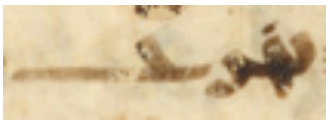
Q9:13 *bi-ʾikhrāj* (62v, l. 9)

Q9:19 *al-ḥājj* (62v, l. 19)

Q9:46 *al-khurūj* (64r, l. 14)

Q9:64 *mukhrij* (65r, l. 3)

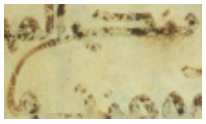
Q10:22 *al-mawj* (69v, l. 2)

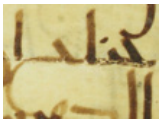


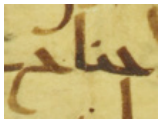
Q86:7 *yakhruju* (B II, 1r, l. 12)

Q87:4 *ʾakhraja* (B II, 1r, l. 18)

Appendix 2.2: BnF Arabe 330g and CBL Is. 1615 II, Example Nos. 4-34 of the Curved *Ḥāʾ/Khāʾ*

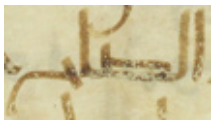

Q4:25 *yankiḥa* (51v, l. 17)

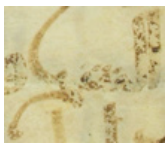

Q4:101 *junāḥ* (53r, l. 13)


Q4:102 *junāḥ* (53r, l. 19)

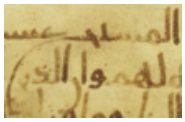

Q4:114 *ʾiṣlāḥ* (53v, l. 18)

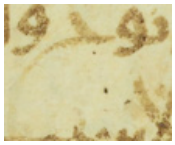

Q4:128 *junāḥ* (54r, l. 17)

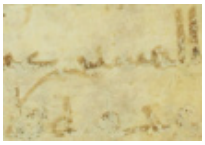

Q4:128 *al-ṣulḥ* (54r, l. 17)


Q4:128 *al-shuḥḥ* (54r, l. s18)


Q4:141 *fatḥ* (54v, l. 16)

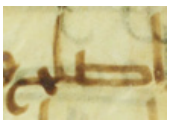

Q4:157 *al-masīḥ* (55r, l. 19)


Q4:163 *nūḥ* (55v, l. 7)

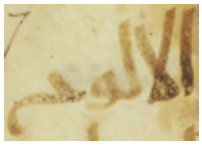

Q4:171 *al-masīḥ* (55v, l. 19)

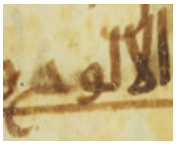

Q4:171 *[r]ūḥ* (55v, l. 20)


Q4:171 *al-masīḥ* (55v, l. 22)

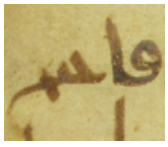

Q7:142 *ʾaṣliḥ* (56v, l. 4)

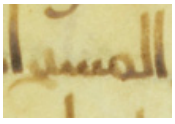

Q7:145 *al-ʾalwāḥ* (56v, l. 9)

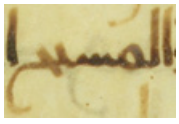

Q7:150 *al-ʾalwāḥ* (57r, l. 1)


Q7:154 *al-ʾalwāḥ* (57r, l. 7)


Q8:19 *al-fatḥ* (59v, l. 18)


Q8:61 *fa-njaḥ* (61v, l. 1)


Q9:30 *al-masīḥ* (63v, l. 2)

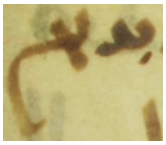

Q9:31 *al-masīḥ* (63v, l. 4)

Q9:70 *nūḥ* (65r, l. 14)

Q9:81 *fariḥa* (66r, l. 16)

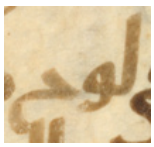
Q9:120 *ṣāliḥ* (68r, l. 11)

Q10:17 *yufliḥu* (69r, l. 12)

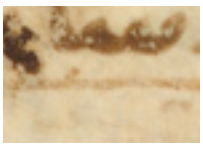


Q10:22 *bi-rīḥ* (69v, l. 1)

Q10:22 *rīḥ* (69v, l. 2)

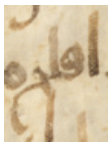


Q86:22 *lawḥ* (B II, 1r, l. 9)

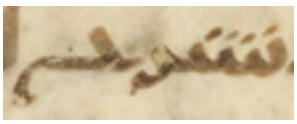


Q87:1 *sabbiḥ* (B II, 1r, l. 17)

Q87:14 *ʾaflaḥa* (B II, 1v, l. 4)



Q91:9 *ʾaflaḥa* (B II, 2v, l. 3)

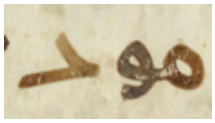


Q94:1 *nashraḥ* (B II, 3r, l. 1)

Q97:4 *al-rūḥ* (B II, 3r, l. 19)

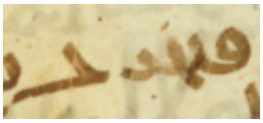
Q110:1 *al-fatḥ* (B II, 4v, l. 18)

Appendix 3.1: CBL Is. 1615 I, Doha Museum of Islamic Art Ms. 68, and Folio from the Vahid Kooros Collection, Example Nos. 4–22 of the Straight *Jīm*



Q31:32 *mawj* (7r, l. 6)

Q32:5 *yaʿruju* (7r, l. 18)



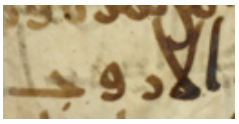
Q32:27 *fa-nukhriju* (7v, l. 10)

Q33:37 *ʾazwāj* (9r, l. 14)

Q33:38 *ḥaraj* (9r, l. 15)

Q33:52 *ʾazwāj* (9v, l. 13)

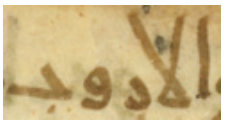
Q34:2 *yaʿruju* (10v, l. 3)



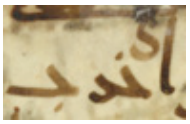
Q36:36 *al-ʾazwāj* (14r, l. 5)

Q38:77 *fa-khruj* (18r, l.7)

Q40:11 *khurūj* (20v, l. 6)



Q43:12 *al-ʾazwāj* (26r, l. 1)



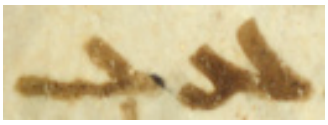
Q46:17 *ʾukhraja* (30r, l. 4)

Q47:29 *yukhrija* (31v, l. 14)

Q47:37 *yukhrij* (32r, l. 3)

Q48:17 *ḥaraj* (32v, l. 10)

Q48:17 *al-ʾaʿraj* (32v, l. 10)

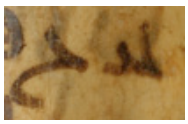


Q48:17 *ḥaraj* (32v, l. 10)

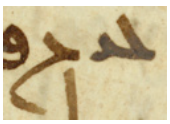
Q48:17 *ḥaraj* (32v, l. 11)

Q15:34 *fa-khruj* (F, v, l. 10)

Appendix 3.2: CBL Is. 1615 I, Doha Museum of Islamic Art Ms. 68, and Folio from the Vahid Kooros Collection, Example Nos. 4–17 of the Curved *Jīm*



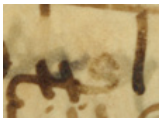
Q33:37 *ḥaraj* (9r, l. 14)



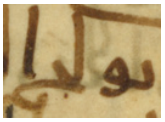
Q33:50 *ḥaraj* (9v, l. 9)

Q34:2 *yaliju* (10v, l. 2)

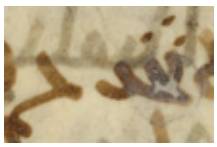
Q34:2 *yakhruju* (10v, l. 3)



Q35:12 *ʾujāju* (12r, l. 20)

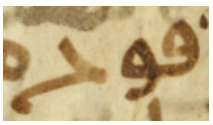


Q35:13 *yūliju* (12r, l. 22)



Q37:64 *takhruju* (15v, l. 8)

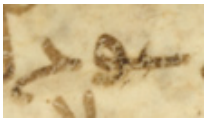
Q38:58 *ʾazwāj* (17v, l. 18)



Q38:58 *fawj* (17v, l. 18)

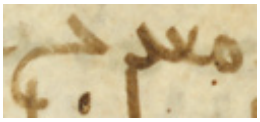
Q39:21 *[yukhri]ju* (18v, l. 18)

Q39:21 *yahīju* (18v, l. 18)



Q39:28 *ʿawij* (19r, l. 2)

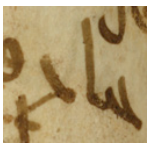
Q41:47 *takhruju* (23v, l. 22)



Q43:33 *maʿārij* (26v, l. 2)

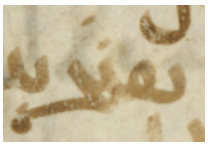
Appendix 3.3: CBL Is. 1615 I, Doha Museum of Islamic Art Ms. 68, and Folio from the Vahid Kooros Collection, Example Nos. 4–40 of the Curved *Ḥāʾ*


Q32:29 *al-fatḥ* (7v, l. 21)

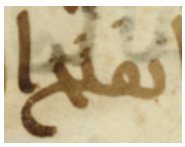

Q33:5 *junāḥ* (8r, l. 6)

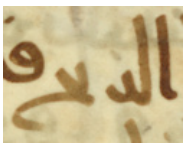

Q33:71 *yuṣliḥ* (10r, l. 18)

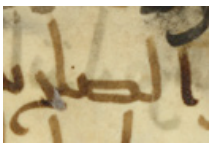

Q34:12 *al-rīḥ* (10v, l. 16)


Q34:26 *yaftaḥu* (11r, l. 12)


Q34:26 *al-fattāḥ* (11r, l. 13)


Q35:2 *yaftaḥ* (12r, l. 3)

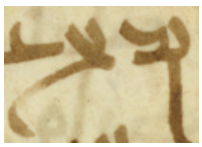

Q35:9 *al-riyāḥ* (12r, l. 13)

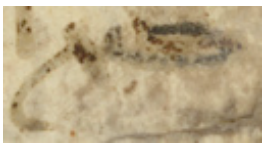

Q35:10 *al-ṣāliḥ* (12r, l. 15)

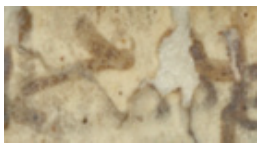

Q35:12 *milḥ* (12r, l. 20)


Q37:75 *nūḥ* (15v, l. 13)

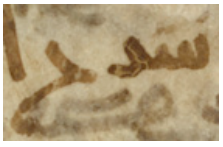

Q37:79 *nūḥ* (15v, l. 15)


Q37:107 *bi-dhibḥ* (16r, l. 5)

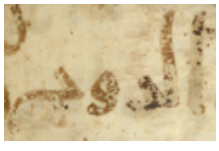

Q37:177 *ṣabāḥ* (16v, l. 13)


Q38:12 *nūḥ* (17r, l. 1)


Q38:36 *al-rīḥ* (17v, l. 3)


Q39:22 *sharaḥa* (18v, l. 19)

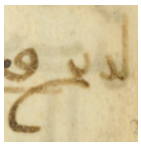

Q40:8 *ṣalaḥa* (20v, l. 2)


Q40:15 *al-rūḥ* (20v, l. 10)

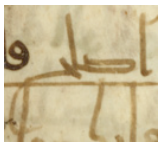

Q40:31 *nūḥ* (21r, l. 10)


Q40:55 *sabbiḥ* (21v, l. 16)

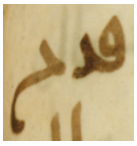
Q41:12 *bi-maṣābīḥ* (22v, l. 23)



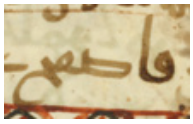
Q42:33 *[a]l-rīḥ* (25r, l. 9)



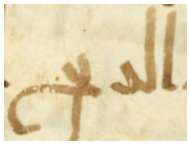
Q42:40 *ʾaṣlaḥa* (25r, l. 15)



Q42:48 *fariḥa* (25v, l. 3)



Q43:89 *fa-ṣfaḥ* (27r, l. 7)



Q45:5 *al-riyāḥ* (28v, l. 6)

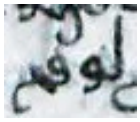
Q46:15 *ʾaṣliḥ* (30r, l. 1)

Q46:24 *rīḥ* (30r, l. 17)

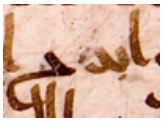
Q47:2 *ʾaṣlaḥa* (30v, l. 19)

Q47:2 *ʾaṣlaḥa* (31r, l. 3)

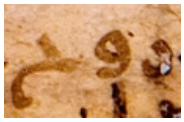
Q15:22 *al-rīḥ* (F, v, l. 3)



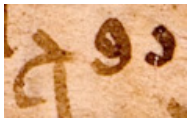
Q15:22 *lawāqiḥ* (F, v, l. 3)



Q12:80 *ʾabraḥa* (D, r, l. 12)



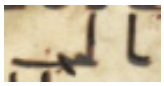
Q12:87 *rūḥ* (D, r, l. 21)

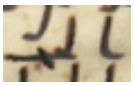


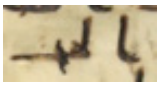
Q12:87 *rūḥ* (D, r, l. 21)

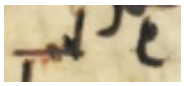
Q12:93 *rīḥ* (D, v, l. 5)

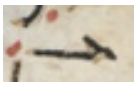
Appendix 6.1: Wetzstein II 1913 and BnF Arabe 6087, Example Nos. 4-139 of the Straight *Jīm*

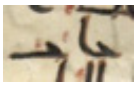

Q2:196 *al-ḥajj* (8v, l. 8)

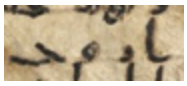

Q2:196 *al-ḥajj* (8v, l. 14)

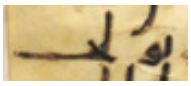

Q2:197 *al-ḥajj* (8v, l. 18)


Q2:197 *al-ḥajj* (8v, l. 19)

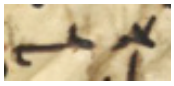

Q2:217 *[ʾikhrā]j* (10r, l. 2)


Q2:258 *ḥājj* (13r, l. 14)


Q3:15 *ʾazwāj* (16r, l. 14)


Q3:27 *tūliju* (16v, l. 17)

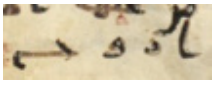

Q3:27 *tūliju* (16v, l. 18)

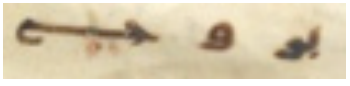

Q3:27 *tukhriju* (16v, l. 19)

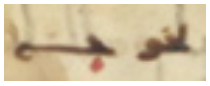

Q3:97 *ḥijj* (20r, l. 18)

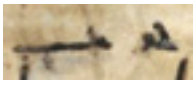

Q4:20 *zawj* (27v, l. 2)

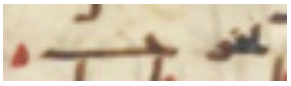

Q4:20 *zawj* (27v, l. 2)

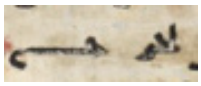

Q4:57 *ʾazwāj* (29v, l. 24)

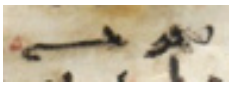

Q4:78 *burūj* (31r, l. 15)


Q4:100 *yakhruj* (33r, l. 1)

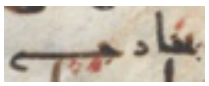

Q5:6 *kharaja* (38r, l. 21)

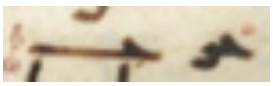

Q5:110 *tukhriju* (45r, l. 7)


Q6:95 *yukhriju* (50r, l. 19)


Q6:95 *mukhrij* (50r, l. 20)

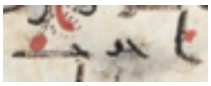

Q6:99 *nukhriju* (50v, l. 5)

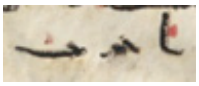

Q6:122 *bi-khārij* (51r, l. 17)

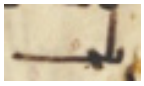

Q7:2 *ḥaraj* (54v, l. 15)


Q7:13 *fa-khruj* (55r, l. 9)


Q7:18 *ukhruj* (55r, l. 14)


Q7:27 *ʾakhraja* (55v, l. 10)

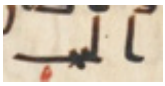

Q7:32 *ʾakhraja* (55v, l. 24)

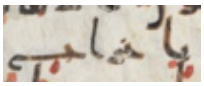

Q7:40 *yalija* (56v, l. 5)

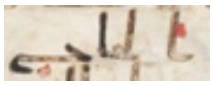

Q7:57 *nukhriju* (57v, l. 7)

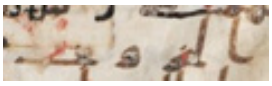

Q7:58 *yakhruju* (57v, l. 8)


Q7:58 *yakhruju* (57v, l. 9)

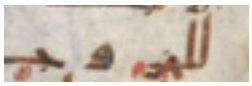

Q9:3 *al-ḥajj* (69r, l. 4)

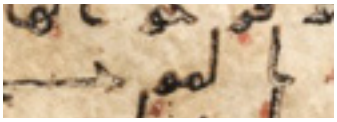

Q9:13 *bi-ʾikhrāj* (69v, l. 10)

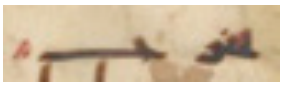

Q9:19 *al-ḥājj* (70r, l. 2)


Q9:45 *al-khurūj* (71v, l. 20)


Q9:46 *mukhrij* (72v, l. 20)


Q9:83 *li-l-khurūj* (74r, l. 7)

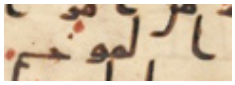

Q10:22 *al-mawj* (78r, l. 22)

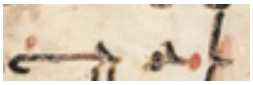

Q10:31 *yukhriju* (79r, l. 3)

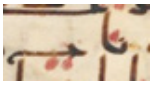

Q10:31 *yukhriju* (79r, l. 3)

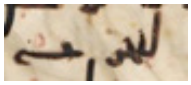

Q10:103 *nunji* (82r, l. 20)


Q11:42 *mawj* (84v, l. 21)

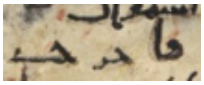

Q11:43 *al-mawj* (85r, l. 3)

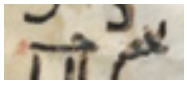

Q12:31 *ukhruj* (90r, l. 6)

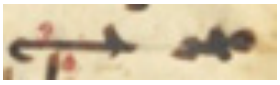

Q12:42 *nāj* (90v, l. 13)

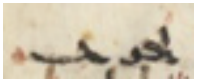

Q14:1 *li-tukhrija* (96v, l. 11)

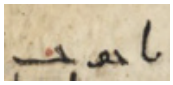

Q14:5 *ʾakhrij* (96v, l. 21)

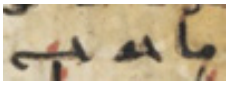

Q14:32 *fa-ʾakhraja* (98r, l. 23)


Q16:69 *yakhruju* (104r, l. 17)


Q17:80 *mukhrij* (110v, l. 3)

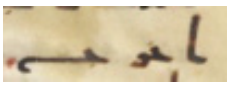

Q18:5 *takhruju* (111r, l. 1)


Q18:94 *yaʾjūj* (116r, l. 1)

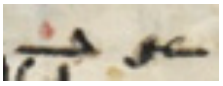

Q18:94 *maʾjūj* (116r, l. 2)


Q18:99 *yamūju* (116r, l. 12)


Q19:11*[fa-khara]ja* (116v, l. 23)

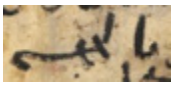

Q19:66 *ʾukhraju* (118v, l. 8)

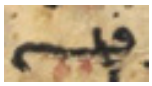

Q20:88 *fa-ʾakhraja* (121v, l. 18)


Q20:108 *ʿiwaja* (122r, l. 23)


Q21:96 *yaʾjūj* (126v, l. 4)


Q21:96 *[maʾ]jūj* (126v, l. 5)


Q22:27 *bi-l-ḥajj* (127r, l. 22)

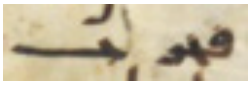

Q22:27 *fajj* (127r, l. 23)

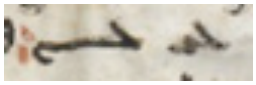

Q22:61 *yūliju* (129r, l. 2)

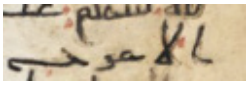

Q22:61 *[yūli]ju* (129r, l. 3)


Q22:78 *ḥaraj* (129v, l. 15)

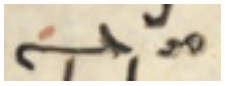

Q23:30 *takhruju* (130r, l. 19)

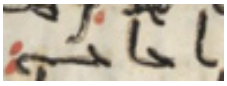

Q23:72 *fa-kharāj* (131v, l. 21)


Q24:61 *ḥaraj* (135v, l. 8)


Q24:61 *al-ʾaʿraj* (135v, l. 9)

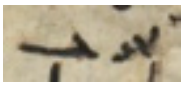

Q24:61 *ḥaraj* (135v, l. 9)


Q25:53 *maraj* (138r, l. 3)


Q25:53 *ʾujāj* (138r, l. 4)


Q26:7 *zawj* (139r, l. 5)


Q27:12 *takhruj* (143r, l. 16)


Q27:25 *yukhriju* (143v, l. 19)


Q31:29 *yūlij* (A 6087, 1r, l. 11)


Q31:29 *yūlij* (A 6087, 1r, l. 12)


Q31:32 *mawj* (A 6087, 1r, l. 19)


Q32:5 *yaʿruj* (A 6087, 1v, l. 14)


Q32:27 *fa-nukhrij* (A 6087, 2v, l. 5)


Q33:37 *kharaj* (A 6087, 4v, l. 21)


Q33:37 *ʾazwāj* (A 6087, 4v, l. 21)


Q33:37 *ḥaraj* (A 6087, 4v, l. 23)

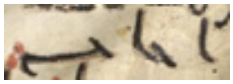

Q33:50 *kharaj* (A 6087, 5v, l. 2)


Q33:52 *ʾazwāj* (A 6087, 5v, l. 8)

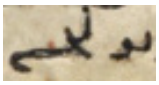

Q34:2 *yalij* (A 6087, 6v, l. 15)

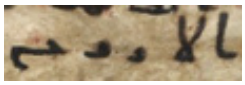

Q34:2 *yakhruj* (A 6087, 6v, l. 15)

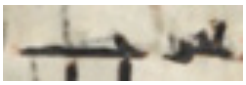

Q34:2 *yaʿruj* (A 6087, 6v, l. 16)

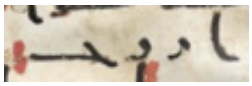

Q35:12 *ʾujāj* (146v, l. 21)

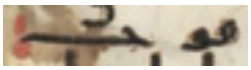

Q35:13 *yūliju* (146v, l. 23)


Q35:13 *yūliju* (146v, l. 24)

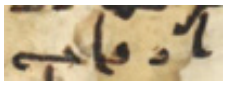

Q36:36 *al-ʾazwāj* (149r, l. 22)

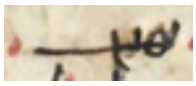

Q37:64 *takhruju* (151v, l. 15)


Q38:58 *ʾazwāj* (155r, l. 12)


Q38:59 *fawj* (155r, l. 12)

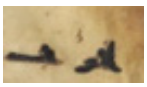

Q38:77 *fa-khruj* (155v, l. 9)

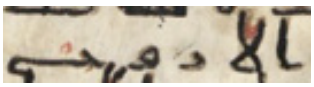

Q39:6 *ʾazwāj* (156r, l. 9)


Q39:31 *yuhīju* (157r, l. 1)


Q39:28 *ʿawija* (157r, l. 18)


Q40:11 *khurūj* (160r, l. 1)


Q41:47 *takhruju* (165v, l. 1)

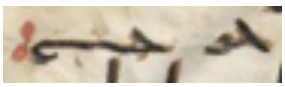

Q43:12 *al-ʾazwāj* (168v, l. 20)

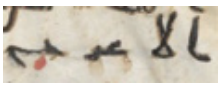

Q43:33 *maʿārij* (169v, l. 10)


Q46:17 *[ʾukhra]ja* (175r, l. 2)

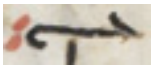

Q47:29 *yukhrija* (177v, l. 6)

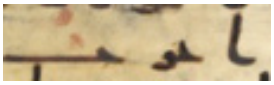

Q47:37 *yukhrij* (177v, l. 24)


Q48:17 *ḥaraj* (179r, l. 2)


Q48:17 *al-ʾaʿraj* (179r, l. 3)


Q48:17 *ḥaraj* (179r, l. 3)

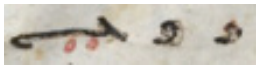

Q48:17 *[ḥara]j* (179r, l. 3)

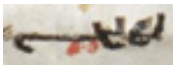

Q48:29 *ʾakhraja* (179v, l. 20)


Q49:5 *takhruju* (180r, l. 11)

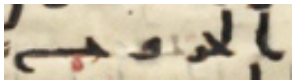

Q50:5 *marīj* (181r, l. 14)


Q50:6 *furūj* (181r, l. 16)


Q50:7 *zawj* (181r, l. 18)


Q50:7 *bahīj* (181r, l. 18)

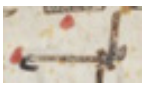

Q50:11 *[al-khur]ūj* (181r, l. 23)


Q50:42 *al-khurūj* (182r, l. 13)

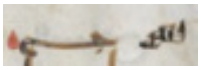

Q55:15 *mārij* (188r, l. 6)


Q55:19 *maraj* (188r, l. 8)

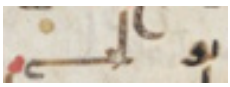

Q55:22 *yakhruju* (188r, l. 10)


Q57:4 *yaliju* (190v, l. 5)


Q57:4 *yakhruju* (190v, l. 5)

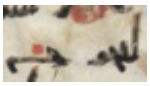

Q57:4 *yaʿruju* (190v, l. 6)


Q57:6 *yūliju* (190v, l. 9)

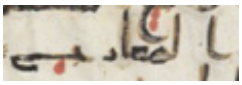

Q57:6 *yūliju* (190v, l. 10)


Q57:20 *yahīju* (191v, l. 8)


Q59:2 *ʾakhraja* (193v, l. 23)

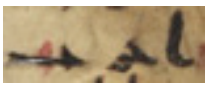

Q65:11 *li-yukhrija* (200r, l. 4)


Q67:8 *fawj* (201r, l. 20)


Q70:3 *al-maʿārij* (204r, l.3)


Q70:4 *taʿruju* (204r, l. 3)

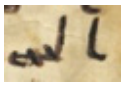

Q79:29 *ʾakhraja* (207v, l. 2)

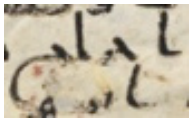

Q79:31 *ʾakhraja* (207v, l. 3)

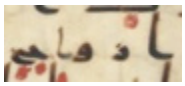

Q86:7 *yakhruju* (209v, l. 15)

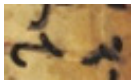

Q87:4 *ʾakhraja* (209v, l. 23)

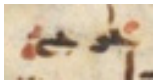
Appendix 6.2: Wetzstein II 1913 and BnF Arabe 6087, Example Nos. 4–14 of the Curved *Jīm*


Q2:197 *al-ḥajj* (8v, l. 18)


Q2:240 *ʾikhrāj* (11v, l. 23)

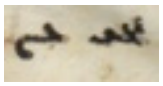

Q6:142 *ʾazwāj* (53r, l. 8)

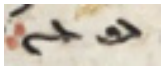

Q3:27 *tukhriju* (16v, l. 19)


Q9:91 *kharaj* (74v, l. 4)

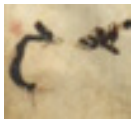

Q15:34 *fa-khruj* (100r, l. 9)


Q17:13 *nukhriju* (107v, l. 12)

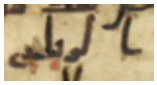

Q20:22 *takhruj* (119v, l. 24)

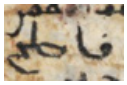

Q24:61 *ḥaraj* (135v, l. 9)

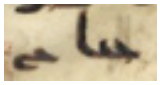

Q33:33 *tabarruja* (A 6087, 4r, l. 24)

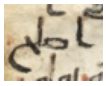

Q39:31 *yukhriju* (156v, l. 24)

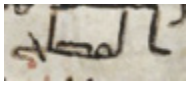
Appendix 6.3: Wetzstein II 1913 and BnF Arabe 6087, Example Nos. 4-237 of the Curved *Ḥāʾ*

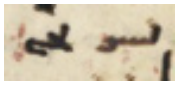

Q2:164 *al-riyāḥ* (6v, l. 8)

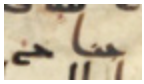

Q2:182 *fa-ʾaṣlaḥa* (7v, l. 11)


Q2:198 *junāḥ* (8v, l. 22)


Q2:220 *ʾiṣlāḥ* (10r, l. 14)

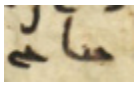

Q2:220 *al-muṣliḥ* (10r, l. 16)


Q2:229 *tasrīḥ* (10v, l. 18)

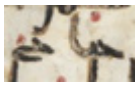

Q2:229 *junāḥ* (10v, l. 21)

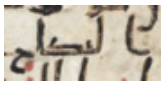

Q2:230 *tankiḥa* (10v, l. 24)

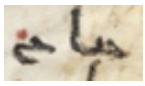

Q2:230 *junāḥ* (10v, l. 25)

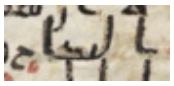

Q2:233 *junāḥ* (11r, l. 21)

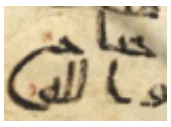

Q2:234 *[junā]ḥ* (11v, l. 2)

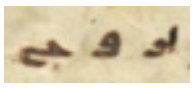

Q2:235 *junāḥ* (11v, l. 3)

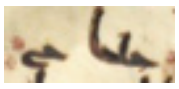

Q2:235 *al-nikāḥ* (11v, l. 7)

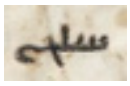

Q2:236 *junāḥ* (11v, l. 10)


Q2:236 *al-nikāḥ* (11v, l. 16)


Q2:240 *junāḥ* (11v, l. 24)

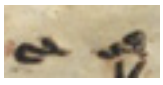

Q2:253 *bi-rūḥ* (12v, l. 18)

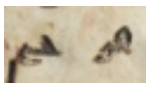

Q2:282 *junāḥ* (15r, l. 8)

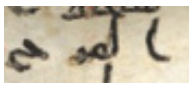

Q3:41 *sabbiḥ* (17v, l. 7)


Q3:45 *al-masīḥ* (17v, l. 15)

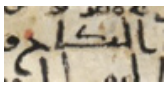

Q3:117 *rīḥ* (21r, l. 20)

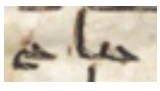

Q3:140 *qarḥ* (22r, l. 23)

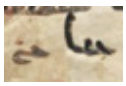

Q3:140 *qarḥ* (22r, l. 23)

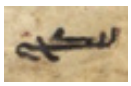

Q3:137 *al-qarḥ* (24r, l. 17)


Q3:185 *zuḥziḥa* (25r, l. 5)


Q4:6 *al-nikāḥ* (26r, l. 15)

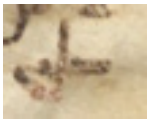

Q4:23 *junāḥ* (27v, l. 14)

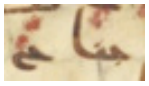

Q4:24 *junāḥ* (27v, l. 21)


Q4:25 *yankiḥa* (27v, l. 24)

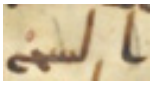

Q4:101 *junāḥ* (33r, l. 5)


Q4:102 *junāḥ* (33r, l. 15)

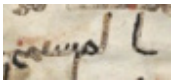

Q4:114 *[ʾi]ṣlāḥ* (33v, l. 24)


Q4:128 *junāḥ* (34v, l. 10)

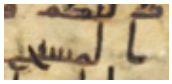

Q4:128 *al-ṣulḥ* (34v, l. 11)

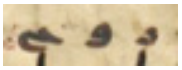

Q4:128 *al-shuḥḥ* (34v, l. 11)

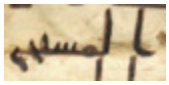

Q4:141 *fatḥ* (35v, l. 1)

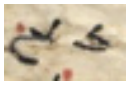

Q4:157 *al-masīḥ* (36r, l. 18)

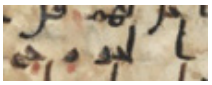

Q4:163 *nūḥ* (36v, l. 10)


Q4:171 *al-masīḥ* (37r, l. 6)

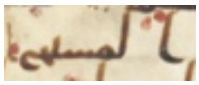

Q4:171 *rūḥ* (37r, l. 7)

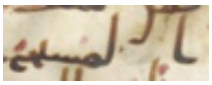

Q4:172 *al-masīḥ* (37r, l. 11)

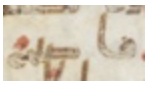

Q5:3 *dhubiḥa* (37v, l. 20)

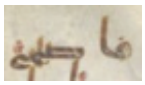

Q5:4 *al-jawāriḥ* (38r, l. 3)


Q5:13 *iṣfaḥ* (38v, l. 22)

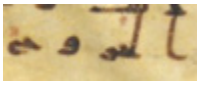

Q5:17 *al-masīḥ* (39r, l. 9)


Q5:17 *al-masīḥ* (39r, l. 11)

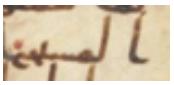

Q5:30 *fa-ʾaṣbaḥa* (39v, l. 21)


Q5:31 *fa-ʾaṣbaḥa* (40r, l. 1)

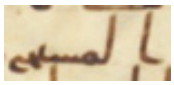

Q5:39 *ʾaṣlaḥa* (40r, l. 21)

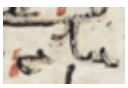

Q5:45 *al-jurūḥ* (40v, l. 24)

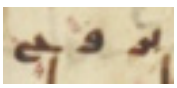

Q5:52 *bi-l-fatḥ* (41v, l. 2)

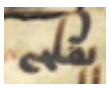

Q5:72 *al-masīḥ* (42v, l. 14)

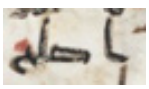

Q5:72 *al-masīḥ* (42v, l. 14)

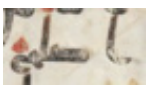

Q5:75 *al-masīḥ* (42v, l. 21)

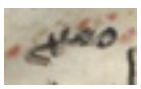

Q5:93 *junāḥ* (43v, l. 21)


Q5:110 *bi-rūḥ* (45r, l. 2)

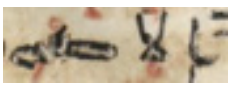

Q6:21 *yufliḥu* (46v, l. 7)

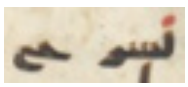

Q6:48 *ʾaṣlaḥa* (47v, l. 18)


Q6:54 *ʾaṣlaḥa* (48r, l. 9)

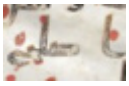

Q6:54 *mafātiḥ* (48r, l. 18)


Q6:93 *yūḥa* (50r, l. 8)

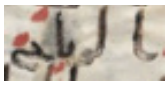

Q6:96 *al-ʾiṣlāḥ* (50r, l. 21)


Q6:125 *yashraḥ* (52r, l. 2)

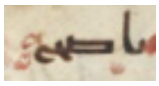

Q6:135 *yufliḥu* (52v, l. 5)


Q7:35 *ʾaṣlaḥa* (56r, l. 10)

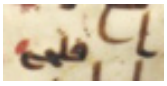

Q7:40 *yufattaḥu* (56v, l. 3)

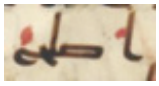

Q7:57 *al-riyāḥ* (57v, l. 4)

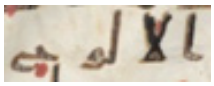

Q7:62 *ʾanṣaḥu* (57v, l. 16)

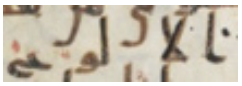

Q7:68 *nāṣiḥ* (58r, l. 4)

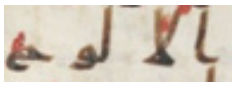

Q7:69 *nūḥ* (58r, l. 7)

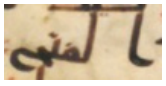

Q7:89 *iftaḥ* (59r, l. 15)

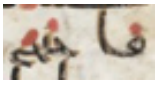

Q7:142 *ʾaṣliḥ* (61r, l. 16)

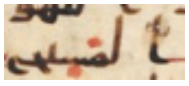

Q7:145 *al-ʾalwāḥ* (61v, l. 2)

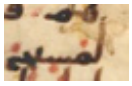

Q7:150 *al-ʾalwāḥ* (61v, l. 19)

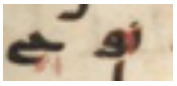

Q7:154 *al-ʾalwāḥ* (62r, l. 6)


Q8:19 *al-fatḥ* (65r, l. 22)

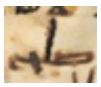

Q8:61 *fa-jnaḥ* (68r, l. 6)

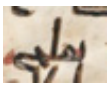

Q9:30 *al-masīḥ* (70v, l. 13)


Q9:31 *al-masīḥ* (70v, l. 17)


Q9:70 *nūḥ* (73r, l. 14)


Q9:81 *fariḥa* (73v, l. 24)

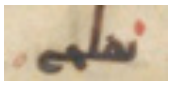

Q9:120 *ṣāliḥ* (76v, l. 5)

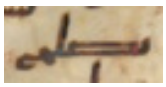

Q10:17 *yufliḥu* (78r, l. 7)


Q10:22 *bi-rīḥ* (78r, l. 21)

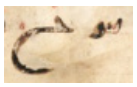

Q10:22 *rīḥ* (78r, l. 22)

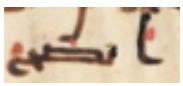

Q10:71 *nūḥ* (80v, l. 17)

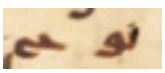

Q10:77 *yufliḥu* (81r, l. 11)

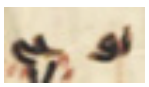

Q10:81 *yufliḥu* (81r, l. 17)

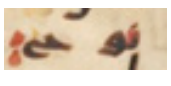

Q11:10 *la-farḥ* (83r, l. 13)

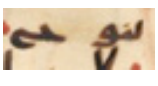

Q11:32 *yā-nūḥ* (84r, l. 23)


Q11:34 *ʾanṣaḥa* (84v, l. 4)


Q11:42 *nūḥ* (84v, l. 22)


Q11:36 *nūḥ* (84v, l. 8)

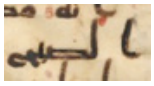

Q11:45 *nūḥ* (85r, l. 7)

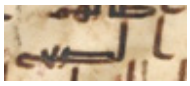

Q11:46 *yā-nūḥ* (85r, l. 9)

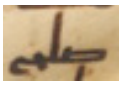

Q11:46 *ṣāliḥ* (85r, l. 10)


Q11:48 *yā-nūḥ* (85r, l. 14)

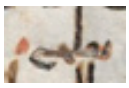

Q11:62 *yā-ṣāliḥ* (86r, l. 2)

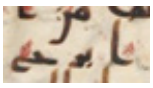

Q11:81 *al-ṣubḥ* (86v, l. 21)


Q11:81 *al-ṣubḥ* (86v, l. 22)


Q11:89 *ṣāliḥ* (87r, l. 15)


Q11:90 *nūḥ* (87r, l. 18)

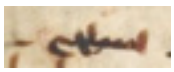

Q12:23 *yufliḥu* (89v, l. 12)

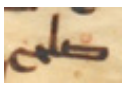

Q12:80 *ʾabraḥa* (92v, l. 4)


Q12:87 *rūḥ* (92v, l. 19)

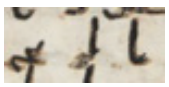

Q12:87 *rūḥ* (92v, l. 19)

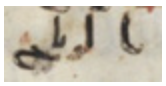

Q12:94 *rīḥ* (93r, l.9)

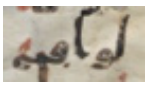

Q13:13 *yusabbiḥu* (94v, l. 12)


Q13:23 *ṣalaḥa* (95r, l. 24)


Q14:9 *nūḥ* (97r, l. 8)


Q14:18 *al-rīḥ* (97v, l. 10)

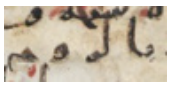

Q15:22 *al-riyāḥ* (99v, l. 19)


Q15:22 *lawāqiḥ* (99v, l. 20)


Q15:85 *[fa-]ṣfaḥ* (101r, l. 10)


Q15:85 *al-ṣafḥ* (101r, l. 10)


Q15:98 *fa-sabbiḥ* (101r, l. 21)


Q16:2 *bi-l-rūḥ* (101v, l. 3)

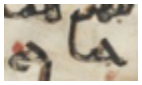

Q16:77 *ka-lamḥ* (104v, l. 16)


Q16:102 *rūḥ* (106r, l. 2)

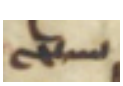

Q16:106 *sharaḥa* (106r, l. 11)

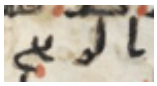

Q17:3 *nūḥ* (107r, l. 14)

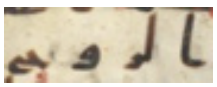

Q17:17 *nūḥ* (107v, l. 20)


Q17:24 *junāḥ* (108r, l. 10)

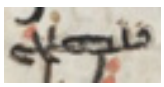

Q17:44 *tusabbiḥu* (108v, l. 21)

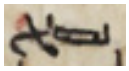

Q17:44 *yusabbiḥu* (108v, l. 22)

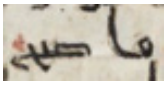

Q17:69 *al-rīḥ* (110r, l. 5)

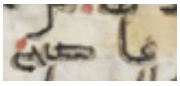

Q17:85 *al-rūḥ* (110v, l. 10)


Q17:85 *[al-rū]ḥ* (110v, l. 11)


Q18:40 *fa-tuṣbiḥa* (113v, l. 17)

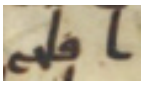

Q18:41 *yuṣbiḥa* (113v, l. 18)


Q18:42 *fa-ʾaṣbaḥa* (113v, l. 19)


Q18:35 *fa-ʾaṣbaḥa* (114r, l. 2)

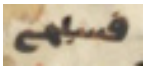

Q18:60 *ʾabraḥu* (114v, l. 17)

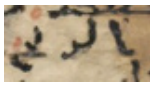

Q20:25 *ishraḥ* (120r, l. 3)


Q20:64 *ʾaflaḥa* (120v, l. 24)

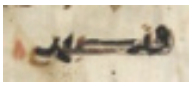

Q20:69 *yufliḥ* (121r, l. 6)

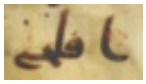

Q20:69 *nabraḥa* (121v, l. 24)

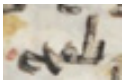

Q20:130 *fa-sabbiḥ* (123r, l. 11)

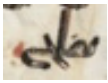

Q21:81 *al-rīḥ* (126r, l. 3)

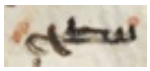

Q22:42 *[nū]ḥ* (128r, l. 13)

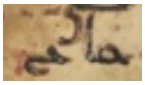

Q22:63 *fa-tuṣbiḥu* (129r, l. 6)

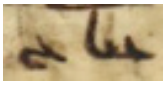

Q23:1 *ʾaflaḥa* (129v, l. 22)

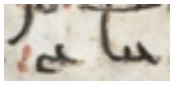

Q23:104 *taflaḥu* (132v, l. 12)

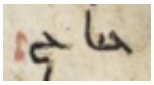

Q23:117 *yufliḥu* (133r, l. 5)


Q24:3 *yankiḥu* (133r, l. 14)

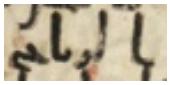

Q24:29 *junāḥ* (134v, l. 2)

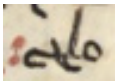

Q24:58 *junāḥ* (135r, l. 25)

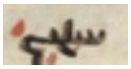

Q25:60 *junāḥ* (135v, l. 6)


Q25:61 *junāḥ* (135v, l. 16)

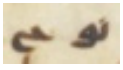

Q25:37 *nūḥ* (137v, l. 2)


Q25:48 *al-riyāḥ* (137v, l. 20)

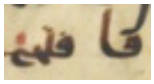

Q25:53 *milḥ* (138r, l. 4)

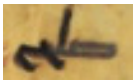

Q25:58 *sabbiḥ* (138r, l. 12)

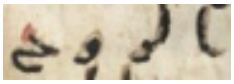

Q26:105 *nūḥ* (140v, l. 18)

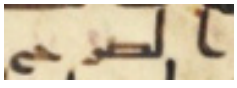

Q26:106 *nūḥ* (140v, l. 19)

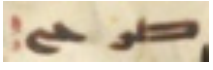

Q26:116 *yā-nūḥ* (141r, l. 2)


Q26:118 *fa-ftaḥ* (141r, l. 3)


Q26:142 *ṣāliḥ* (141r, l. 23)


Q26:193 *al-rūḥ* (142r, l. 19)

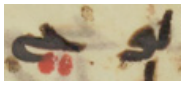

Q27:44 *al-ṣarḥ* (144v, l. 5)

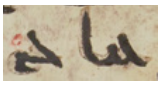

Q27:44 *ṣarḥ* (144v, l. 6)


Q32:28 *al-fatḥ* (A 6087, 2v, l. 7)


Q32:28 *al-fatḥ* (A 6087, 2v, l. 8)

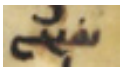

Q33:5 *junāḥ* (A 6087, 2v, l. 22)

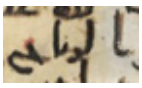

Q33:7 *nūḥ* (A 6087, 3r, l. 5)


Q33:51 *junāḥa* (A 6087, 5v, l. 5)


Q33:55 *junāḥa* (A 6087, 5v, l. 22)


Q33:71 *yuṣliḥ* (A 6087, 6v, l. 2)


Q35:2 *yaftaḥ* (146r, l. 17)

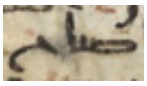

Q35:9 *al-riyāḥ* (146v, l. 9)


Q35:10 *al-ṣāliḥ* (146v, l. 13)

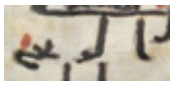

Q35:12 *milḥ* (146v, l. 20)


Q37:75 *nūḥ* (151v, l. 24)

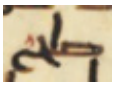

Q37:79 *nūḥ* (152r, l. 3)

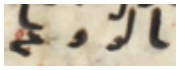

Q37:177 *ṣabāḥ* (153r, l. 23)


Q38:12 *nūḥ* (153v, l. 19)


Q38:36 *al-rīḥ* (154v, l. 12)


Q40:5 *nūḥ* (159v, l. 7)


Q40:8 *ṣalaḥa* (159v, l. 18)


Q40:15 *al-rūḥ* (160r, l. 8)

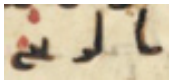

Q40:31 *nūḥ* (160v, l. 23)


Q40:55 *sabbiḥ* (162r, l. 3)


Q41:12 *bi-maṣābīḥ* (163v, l. 18)

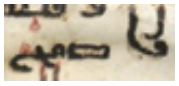

Q39:22 *sharaḥa* (157r, l. 3)

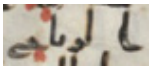

Q42:24 *yamḥu* (167r, l. 13)

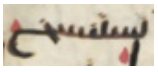

Q42:33 *al-rīḥ* (167v, l. 6)


Q42:40 *[ʾa]ṣlaḥa* (167v, l. 19)

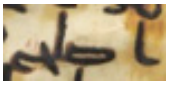

Q42:48 *fariḥa* (168r, l. 15)

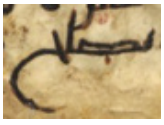

Q43:89 *fa-ṣfaḥ* (171r, l. 17)


Q45:5 *al-riyāḥ* (172v, l. 7)


Q45:29 *nastansikhu* (173v, l. 10)


Q46:24 *rīḥ* (175r, l. 24)


Q47:2 *ʾaṣlaḥa* (176r, l. 13)

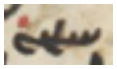

Q47:5 *yuṣliḥu* (176r, l. 24)


Q50:12 *nūḥ* (181r, l. 23)


Q50:38 *sabbiḥ* (182r, l. 8)

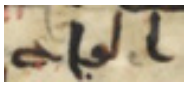

Q51:41 *al-rīḥ* (183r, l. 7)

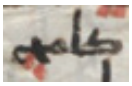

Q51:46 *nūḥ* (183r, l. 12)

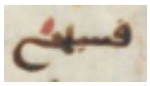

Q52:48 *sabbiḥ* (184v, l. 4)


Q53:52 *nūḥ* (185v, l. 5)

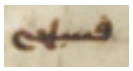

Q54:9 *nūḥ* (185v, l. 22)

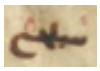

Q54:13 *ʾalwāḥ* (187r, l. 3)

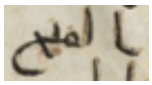

Q54:50 *ka-lamḥ* (187v, l. 15)


Q56:74 *fa-sabbiḥ* (190r, l. 6)


Q56:89 *fa-rawḥ* (190r, l. 16)

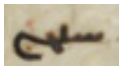

Q56:96 *fa-sabbiḥ* (190r, l. 21)


Q57:1 *sabbaḥa* (190r, l. 22)


Q57:10 *al-fatḥ* (190v, l. 21)

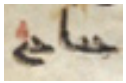

Q58:1 *yafsaḥ* (193r, l. 9)

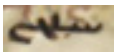

Q58:22 *[bi-rū]ḥ* (193v, l. 17)


Q59:1 *sabbaḥa* (193v, l. 21)


Q59:9 *shuḥḥ* (194r, l. 4)


Q59:24 *yusabbiḥu* (194v, l. 19)

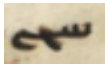

Q60:10 *junāḥ* (196r, l. 12)

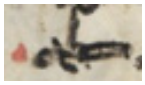

Q61:1 *sabbaḥa* (196v, l. 5)


Q61:13 *fatḥ* (197r, l. 10)


Q62:1 *yusabbiḥu* (197r, l. 17)

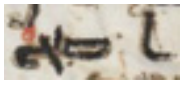

Q64:1 *yusabbiḥu* (198v, l. 3)

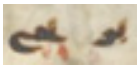

Q64:16 *shuḥḥ* (199r, l. 14)


Q66:4 *ṣāliḥ* (200r, l. 24)


Q66:11 *nūḥ* (200v, l. 20)


Q67:5 *bi-maṣābīḥ* (201r, l. 14)


Q67:30 *ʾaṣbaḥa* (202r, l. 8)


Q69:6 *bi-rīḥ* (203r, l. 12)


Q69:52 *fa-sabbiḥ* (203v, l. 23)

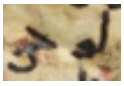

Q70:4 *[al-rū]ḥ* (204r, l. 4)


Q71:21 *nūḥ* (205r, l. 11)

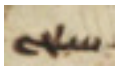

Q71:26 *nūḥ* (205r, l. 18)

Q81:17 *al-ṣubḥ* (208r, l. 15)

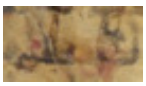
Q84:7 *kādiḥ* (209r, l. 9)



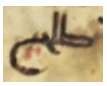
Q85:22 *lawḥ* (209v, l. 11)



Q87:1 *sabbiḥa* (209v, l. 21)



Q87:14 *ʾafl*aḥa (210r, l. 3)

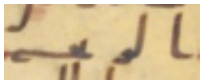


Q56:29 *ṭalḥ* (189r, l. 24)

Appendix 6.4 : Wetzstein II 1913 and BnF Arabe 6087, Example Nos. 4-10 of the Straight *Ḥāʾ*

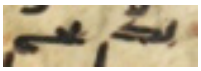
Q19:58 *nūḥ* (118r, l. 16)

Q20:130 *sabbiḥ* (123r, l. 10)

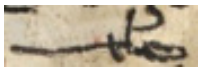


Q21:31 *al-rīḥ* (127v, l. 9)

Q27:63 *al-riyāḥ* (144v, l. 17)



Q37:107 *bi-dhibḥ* (152r, l. 24)

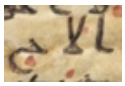


Q46:15 *ʾaṣliḥ* (174v, l. 20)

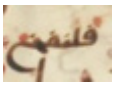
Q78:38 *al-rūḥ* (207r, l. 4)

Appendix 6.5: Wetzstein II 1913 and BnF Arabe 6087,
Example Nos. 4-24 of the Curved *Khā'*

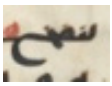
Q4:12 *[ʾa]kh* (26v, l. 24)



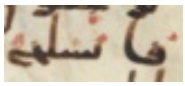
Q4:23 *al-ʾakh* (27v, l. 10)



Q5:110 *fa-tanfukhu* (45r, l. 5)

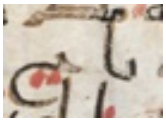


Q6:73 *yunfakhu* (49r, l. 9)

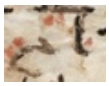


Q7:175 *fa-nṣalakha* (63v, l. 8)

Q9:5 *insalakha* (69r, l. 11)

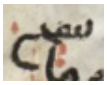


Q12:59 *bi-ʾakh* (91v, l. 2)

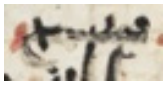


Q12:77 *ʾakh* (92r, l. 20)

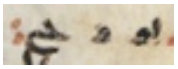
Q18:99 *nufikha* (116r, l. 12)



Q20:102 *yunfakhu* (122r, l. 16)



Q22:52 *fa-yansakhu* (128v, l. 7)

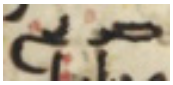


Q23:100 *barzakh* (132v, l. 8)

Q23:101 *nufikha* (132v, l. 8)

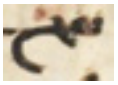
Q32:9 *nafakha* (A 1v, l. 18)

Q36:37 *naslakhu* (149r, l. 24)

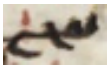


Q36:43 *ṣarīkh* (149v, l. 7)

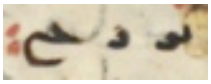
Q36:51 *nufikha* (149v, l. 18)



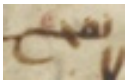
Q39:68 *nufikha* (159r, l. 2)



Q50:20 *nufikha* (181v, l. 9)



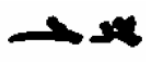
Q55:20 *barzakh* (188r, l. 9)



Q69:13 *nufikha* (203r, l. 20)

Appendix 7.1: Codex Parisino-Petropolitanus (Hand C), Example Nos. 4-12 of the Straight *Jīm*

Q57:4 *yaliju* (M, 45v, l. 9)



Q57:4 *yakhruju* (M, 45v, l. 10)

Q57:4 *yaʿruju* (M, 45v, l. 10)

Q57:6 *yūliju* (M, 45v, l. 13)

Q57:6 *yūliju* (M, 45v, l. 13)

Q57:20 *yahīju* (M, 46v, l. 6)

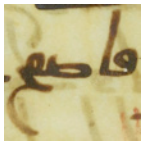
Q67:8 *fawj* (68v, l. 1)

Q70:3 *al-maʿārij* (69v, l. 11)

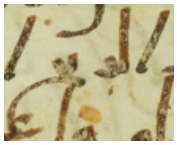
Q70:4 *taʿruju* (69v, l. 11)

Appendix 7.2: Codex Parisino-Petropolitanus (Hand C), Example Nos. 4–19 of the Curved *Ḥāʾ*

Q42:48 *fariḥa* (59v, l. 14)

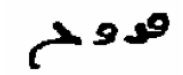


Q43:89 *fa-ṣfaḥ* (62r, l. 12)



Q45:5 *al-riyāḥ* (63r, l. 20)

Q56:74 *fa-sabbiḥ* (M, 45r, l. 12)

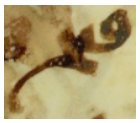


Q56:89 *fa-rawḥ* (M, 45r, l. 21)

Q57:1 *sabbaḥa* (M, 45v, l. 4)

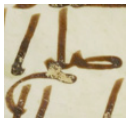
Q57:10 *al-fatḥ* (M, 46r, l. 1)

Q61:1 *sabbaḥa* (65r, l. 23)

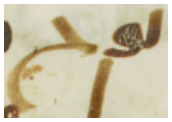


Q61:13 *fatḥ* (65v, l. 19)

Q62:1 *yusabbiḥu* (66r, l. 2)



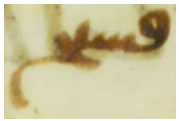
Q66:4 *ṣāliḥ* (67v, l. 13)



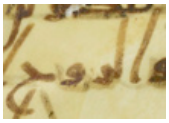
Q66:10 *nūḥ* (68r, l. 5)

Q67:10 *bi-muṣābīḥ* (Q67r, l. 20)

Q69:6 *[bi-r]īḥ* (69r, l. 3)



Q69:52 *fa-sabbiḥ* (69v, l. 7)



Q70:4 *al-rūḥ* (69v, l. 12)

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