Many Judaeo-Arabic texts use Arabic vocalisation signs. In the vast majority of such texts, vocalisation is sporadic, and rarely includes case endings, tanwīn or other elements typical of fully vocalised classical Arabic texts. A much smaller group of Judaeo-Arabic texts – most if not all of which were originally composed in Arabic script and later transcribed into Hebrew characters – are consistently vocalised with Arabic signs. Examples include Judaeo-Arabic fragments of the Qurʾān (Halle DMG Arab 5), of al-Ḥarīrī’s *Maqāmāt* (L-G Ar. 2.73), and of medical (Mosseri I.126.2, IX.124, X.30.1) and grammatical works (T-S NS 301.25). In addition, there are fully vocalised manuscripts that use a combination of Tiberian vowels with Arabic signs such as waṣla and tanwīn, which are not found in the Tiberian system; for example, a complete copy of the Qurʾān in Judaeo-Arabic (Ox. Bodl. Hun. 529).

Few studies of Arabic vocalisation in medieval Judaeo-Arabic texts exist. E. Rödiger included a relatively detailed analysis of the Arabic vocalisation in his description of the Judaeo-Arabic Qurʾān fragment Halle DMG Arab 5, highlighting a number of instances of non-standard vocalisation. Recently, E.-M. Wagner has studied Arabic vocalisation marks in Judaeo-Arabic letters and legal documents written by Ḥalfon b. Manasse, an early 12th century Jewish court scribe. Wagner suggests that this scribe may have become familiar with Arabic vocalisation practices through copying Arabic books into Hebrew characters, subsequently pioneering the use of Arabic signs in Jewish documentary texts.

A study of Arabic vocalisation in Judaeo-Arabic texts is important for a number of reasons. Firstly, by identifying instances of non-classical vocalism such study can contribute to our knowledge of the phonology of medieval Arabic, in both its Jewish and its Muslim varieties, given that vocalisation marks

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1 For a transcription (without vowels) and a facsimile of this manuscript, see Paudice, 2009, pp. 230–239, 252–257. For a study of the manuscript, see Rödiger, 1860.
in texts transcribed into Hebrew characters could have been copied from Arabic Vorlagen. Secondly, it can inform our ideas on medieval Jewish education in Classical Arabic and its scribal conventions, shedding light on the level of Jews’ knowledge of Arabic vocalisation rules, the kinds of people who might have had this knowledge, the periods when Arabic vocalisation marks were used by Jewish scribes in texts of different types, and the role Judaeo-Arabic texts consistently vocalised with Arabic vocalisation signs might have had as teaching materials for learning Classical Arabic pronunciation and vocalisation rules. To answer the latter set of questions, a systematic study of Judaeo-Arabic manuscripts with Arabic vocalisation signs is required, based on a corpus of sources that includes texts that were transcribed from Arabic as well as those that were originally written in Judaeo-Arabic.

This article makes a small contribution to the programme of research outlined above by analysing the Arabic vocalisation in Judaeo-Arabic manuscripts transcribed from Arabic Vorlagen, based on my work on a corpus of Classical Arabic grammars copied in Hebrew characters and preserved in the Cairo Genizah and in the Firkovich Collections in the National Library of Russia. The article consists of an edition of a grammatical fragment vocalised with Arabic signs, accompanied by a study of its spelling and vocalisation in the context of linguistic features reflected in other Judaeo-Arabic grammars of Classical Arabic and vocalised Judaeo-Arabic texts.

1 T-S NS 301.25

T-S NS 301.25 is a well-preserved one-folio fragment measuring 20.5 cm x 12.5 cm. The folio carries two unrelated texts: on recto, a grammar of Classical Arabic is copied in Judaeo-Arabic, in a 12th–13th century Egyptian handwriting; on verso, in a different Egyptian 12th–13th century hand, there is a dirge for a communal official who bore the title Nagid.

The grammar on T-S NS 301.25 recto has been identified by Dr Almog Kasher from Bar-Ilan University as a passage from Kitāb al-Jumal fī al-Nahw by Abū al-Qāsim ʿAbd al-Raḥmān b. Ishāq al-Zajjājī, a 10th century Arab grammarian. Kitāb al-Jumal fī al-Nahw is an introduction to Classical Arabic

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5 I thank Dr José Martínez Delgado (University of Granada) for drawing my attention to the sources in the Firkovich Collections. I thank Dr Almog Kasher (Bar-Ilan University) for his comments on this article, as well as his cooperation and expert advice on the Arabic grammatical tradition. For studies of Judaeo-Arabic grammars of Classical Arabic, see Basal, 2010 and Vidro and Kasher, 2014.
6 I thank Dr Amir Ashur of Tel Aviv University for assessing the manuscript’s handwriting.
7 Published in Allony, 1991, pp. 460–461. I thank Dr Michael Rand for his help with the poem.
grammar written for beginners, in which Al-Zajjājī presents the rules of grammar accompanied by multiple examples and explains grammatical terminology. Numerous Arabic script copies of and commentaries on Kitāb al-Jumal exist, testifying to its popularity in the Muslim world, especially in al-Andalus. Kitāb al-Jumal was well known to Andalusian Jewish grammarians, as is shown by quotations from it identified in Jonah ibn Janāḥ’s Kitāb al-Luma’ and in Isaac ibn Barūn’s Kitāb al-Muwāzana bayn al-Lughal-ʾIbrāniyya wa-lʾArabiyya.9

Copied in the 12th–13th century, T-S NS 301.25 is one of the earliest surviving manuscripts of Kitāb al-Jumal.11 The preserved text belongs to The Chapter on Knowing the Markers of Inflection (bāb maʿrifat ʿalāmāt al-ʾiʿrāb) and forms the closing section of the chapter.12 Below this, The Chapter On Verbs is announced but is not copied, leaving a large empty space at the bottom of the page. The text is consistently vocalised with Arabic signs.

2 Edition13

11 The earliest identified copy in the Arabic script is dated 1207 CE (Binaghi, 2015, p. 173).
13 A transcription of this fragment, without vocalisation signs and identification, can be found on the Friedberg Genizah Project (FGP) website, https://fjms.genizah.org/.
14 In Cheneb, 1927, p. 21 and Al-Hamad, 1996, p. 6 the elision of the final nun in 2fsg verbs is also mentioned, exemplified by ﺛُوَارَعَ. This passage is worded and placed slightly differently in the editions. The omission of this passage in the early Judaeo-Arabic copy, together with its instability in the editions, suggests that it is a gloss which made its way into the main body of the text.
15 Originally ﻣَأْلاَعَ، corrected to ﻣَأْلاَعَ (see n. 16), with the plene spelling of the short /i/ of the genitive, may have originated in the process of dictation or of ‘inner dictation’ when copying from a model. Alternatively, the spelling لُلْلَّذْمَ could be explained by the graphic similarity between the Arabic ضني and ﺫَاضْنِ.
16 Originally لُلْلَّذْمَ، corrected to لُلْلَّذْمَ.
17 This vowel sign is barely legible and uncertain.
18 Originally ﻣَأْلاَعَ، corrected to ﻣَأْلاَعَ.
19 The expected form is ﺗُواتِرَةً.
20 This vowel sign is barely legible and uncertain.
21 Ink traces are preserved above the final وَالِ، but the vowel is uncertain.
3 Analysis

3.1 Spelling and vocalisation reflecting non-standard pronunciation

Although T-S NS 301.25 is a copy of a grammar of Classical Arabic, and its spelling and vocalisation were undoubtedly intended to represent Classical Arabic, some of its readings indicate non-standard pronunciations. These include:

a. פָגָמ (l. 2), with a sukūn instead of the expected fatḥa for the Classical Arabic fa-jamīʿu, probably reflects a sandhi-type elision of the short /a/.26

b. The numeral three is vocalised תַלֵא (l. 4) in place of the Classical Arabic wa-talātun. In the second occurrence of the same numeral in line 6, the initially written תַלֵא is corrected by overwriting to תַלֵא.

c. The spelling דסָעַ (l. 5) instead of tisʿatu reflects a voiced or an unaspirated pronunciation of /t/. The same pronunciation is attested in medieval Judaeo-Arabic letters from the Maghreb in the spelling of the name Tustarī as דסתרי.27

d. In בֹח (l. 9) the preposition ב is vocalised ba- instead of bi-. Similar vocalisation can be found in Halle DMG Arab 5, a Judaeo-Arabic Qurʾān fragment vocalised with Arabic vowel signs, in which fatḥa is occasionally marked where kasra is expected in Classical Arabic, especially but not exclusively on the prepositions ב and ל.28 In Judaeo-Arabic texts vocalised with Tiberian signs, the preposition ב is occasionally vocalised with a shewa: בְּדַאך (T-S Ar. 53.12 r.), בְּכֵאר (T-S Ar. 53.12 v.). Inasmuch as the main sound value of shewa in the Tiberian reading tradition is a short /i/, and since the phonetic conditions in the above given examples are not conducive to realising the shewa as short /i/, it has been assumed that the vocalisation of the Judaeo-Arabic preposition ב with a shewa either

22 Ink traces are preserved above the final nun, but the vowel is uncertain.
23 The sukūn is partially rubbed and is uncertain.
24 The final aleph may have been crossed out.
25 Two dots are visible above the aleph and the het.
27 See Wagner, 2010, p. 35 and n. 23 there.
reflects the Palestinian substrate pronunciation, in which the shewa stands for a short /e/, or is a Hebraism. The vocalisation of this preposition with a fatha found in manuscripts with Arabic vowel signs may hint that the intended value of the shewa here is, in fact, a short /a/ reflecting the reading ba-, possibly by hypercorrection.

3.2 Inflectional vowels

The majority of case endings in T-S NS 301.25 are correct. Exceptions are:

a. הבָּמַע (l. 1) should probably have the genitive case marker /i/ and not the accusative /a/. Although the preceding text is missing, the phrase according to the editions is

وحذفالنون أيضا علامة للجمل في تثنية الأفعال وجمعها

‘The elision of the nun is also a marker of jazm, in the dual and plural verb forms.’

It is likely that the reading in our fragment was the same, as is supported by the preserved examples לֵא לֶבֶן יִפְעַל וַלְּיִפְעַל (l. 1). If so, the genitive case ending is expected after the preposition פי.

b. לְרַפְעַל (l. 3), where the genitive rather than the nominative ending is expected after the preposition.

c. לָא לָוִיבָלֵעַ (l. 8), where a fatha on the second radical, and a nunated nominative ending -un are expected: muʿribun. The active participle form muʿrib is highly unlikely in this context and appears to be a mistake. The accusative ending may be due to an erroneous parsing of יִכְּוִב עַבְד אַלֹה as ‘incomplete’ kāna and of עַבְד אַלֹה as its object.

Confusion in the marking of case endings is also attested in a Kufan grammatical primer preserved in T-S Ar. 31.254, T-S 24.31 and T-S AS 155.132, where the name ‘Abd Allāh after a preposition is occasionally vocalised with a fatha – for example, עַבְד אַלֹה (T-S 24.31 r.) – as well as in the Qurʾān fragment Halle DMG Arab 5 and in Judaeo-Arabic texts with Tiberian vocalisation.

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30 For examples of substituting /a/ for the Classical Arabic /i/ by hypercorrection, see Khan, 2010, p. 206.
3.3 The marking of long vowels

In a number of cases in T-S NS 301.25, long /ā/ is represented by an aleph vocalised with a sukūn; for example, אָלָא (l. 1, l. 5), אָלָאָמ (l. 2), אַלָאָמ (l. 3), אָלָאָמ (l. 5), אַלָא (l. 8) and אִל (l. 8, example uncertain). This spelling is found in about half of the cases of long /ā/ in the fragment; in the rest of the cases the aleph is unvocalised, and other long vowels are never marked with a sukūn on the respective matres lectionis. The marking of all three matres lectionis with a sukūn is attested in Islamic manuscripts, and was known to Jewish scribes. It is used in Judaeo-Arabic fragments L-G Ar. 2.3, 2.4, 2.10, 2.142 of Kitāb al-Af āl Ḏawāt Ḥurūf al-Līn by Judah Hayyūj – for example, אֶלכָלאָם (L-G Ar. 2.3 v.) and אֶלכָלאָם (L-G Ar. 2.4 v.) – as well as in an Arabic script Pentateuch commentary by Abū al-Faraj Furqān in BL Or. 2545, where a sukūn can be found on matres lectionis both in the original Arabic words (mainly for the long /ī/ and /ū/) – for example, בַאֲב (BL Or. 2545, f. 8 v.) – and in transliterations of Hebrew words – for example, נַסְתַﬠִיְן (BL Or. 2545, f. 87 r.). This function of the sukūn was carried over to the Tiberian shewa in some Judaeo-Arabic texts, such as a copy of the Qurʾān in Hebrew characters in Ox. Bodl. Hunt. 529, where most long /ī/ and /ū/ vowels are represented by yod or waw with a shewa while the aleph of the long /ā/ is left unvocalised – for example, אֶלָא (f. 1 v.) – and a liturgical fragment T-S Ar. 8.3, where the aleph of the long /ā/ is the only mater lectionis vocalised with the shewa – for example, אֶל (f. 13 r.).

3.4 The marking of the initial hamzat al-qaṭ˚ and hamzat al-waṣl

Only hamzat al-qaṭ˚ is found in T-S NS 301.25, written on top of the aleph א irrespective of its vowel, as seen in אַלָאָמ (al-ʾašyāʾ, l. 9) vs. אַלָאָמ (al-ʾiʿrābi, l. 2). The hamza is marked inconsistently and is missing in such forms as אַלָאָמ (l. 3), אֶלָא (l. 5), אֶל (l. 7) and אַלָא (l. 2). On the other hand, it is used a number of times on the aleph of the definite article after a word ending in a vowel, where it is not pronounced according to the rules of Classical Arabic: אֶלָאָמ (l. 5) and אֶלָאָמ (l. 6). A parallel phenomenon, understood in secondary literature as pseudo-Classical or morphophonemic spelling, is attested in Judaeo-Arabic texts with Tiberian vocalisation signs, where alif al-waṣla after a vowel is often vocalised as if it were pronounced as a glottal stop: אַלָאָמ (T-S Ar. 53.12 v.).

37 See Khan, 1992, pp. 108–109 and n. 20 there.
38 See Khan, 2010, p. 205. See also Blau and Hopkins, 1988, p. 239, §14.2.
3.5 Nunation

The marking of nunated vowels in T-S NS 301.25 is largely in accord with Classical Arabic norms, with the exception of some cases where non-nunated vowels are found instead, for example:

אַרְבָּעֵשֵׁה֤ עַלְמָהּ אֲחַאְבּ֑וֹן קַלָּרַפּ֖וֹק (3)

לֹא יִתְנָהְמֶה מִפָּשָׁא (8)

In other grammars, too, tanwīn is occasionally unmarked where it is clearly intended. Thus, in T-S Ar. 5.45 the forms זידֻ, עמרֻ and בכרֻ stand for Zaydun, ʿAmrun and Bakrun:

ורכלה אלתניניּ תקוהּ אלָוּתמֶה

‘It has the tanwīn, e.g. Zaydun (אדו) and ʿAmrun (תעמל).’ (T-S Ar. 5.45, P1 r.)

In the Kufan grammatical primer tanwīn damma is never marked: for example, קאמֶה זידֻ (T-S Ar. 31.254 r.) and אלָוּתמֶה זידֻ (T-S 24.31 r.). Both tanwīn fathā and tanwīn kasra are found in the fragments alongside their non-nunated counterparts, but the signs are used indiscriminately: רפִיתֵאָלָל (T-S Ar. 31.254 r.) vs. רפִיתֵאָלָל (T-S Ar. 24.31 r.); לְקֵתֵאָלָל (T-S Ar. 31.254 r.) vs. לְקֵתֵאָלָל (T-S Ar. 24.31 r.); לְקֵתֵאָלָל (T-S Ar. 31.254 r.) vs. לְקֵתֵאָלָל (T-S 24.31 v.). At the top of T-S Ar. 31.254 short discontinuous passages of Arabic grammar are copied in Arabic script. In these passages a similar confusion between nunated and non-nunated vowels can be detected: tanwīn damma is not used, whereas tanwīn fathā and tanwīn kasra are invariably used at the end of words irrespective of their syntactic position, as well as for final non-inflectional vowels:

אַסְמִאֵלְוָל קַלָּרַפּ֖וֹק אָלְמָהּ אֲחַאְבּ֑וֹן קַלָּרַפּ֖וֹק (3)

לֹא יִתְנָהְמֶה מִפָּשָׁא (8)

The lack of *tanwīn ḍamma* in these grammatical fragments resembles the vocalisation of the Qurʾān fragment Halle DMG Arab 5, in which *tanwīn fatḥa* and *tanwīn kasra* are marked as expected, whereas *tanwīn ḍamma* is not attested and the simple *ḍamma* is used instead.\(^{42}\)

When *tanwīn* is marked, its graphic representation varies somewhat among different Judaeo-Arabic grammars of Classical Arabic. In the section on orthographic signs in T-S Ar. 5.45, P1 r., *tanwīn* is recorded as two oblique strokes, as in figure 1.

*Figure 1. Tanwīn* as two oblique strokes (T-S Ar. 5.45, P1 r.)\(^{43}\)

Unsurprisingly, this sign placed above or below the final consonant is used in the corpus for *tanwīn fatḥa* and *tanwīn kasra* respectively. For *tanwīn ḍamma* more variants are attested. The most common one is a *ḍamma* with an oblique stroke to the left, as in figure 2; in more cursive notation, the stroke connects to the *ḍamma*’s tail (see, e.g., SPB RNL Evr Arab II 185, f. 4 r.).\(^{44}\)

*Figure 2. Tanwīn ḍamma* as *ḍamma* with oblique stroke (T-S NS 301.25)\(^{45}\)

*Tanwīn ḍamma* can also be written with a double *ḍamma*, occasionally accompanied by the Hebrew *qubbuṣ*, as in figure 3.

*Figure 3. Tanwīn ḍamma* as double *ḍamma* with Hebrew *qubbuṣ* (T-S Ar. 31.30 v.)\(^{46}\)

\(^{42}\) Rödiger, 1860, p. 486.

\(^{43}\) Image courtesy of the Syndics of Cambridge University Library.


\(^{45}\) Image courtesy of the Syndics of Cambridge University Library.

\(^{46}\) Image courtesy of the Syndics of Cambridge University Library.
The writing of tanwīn ḍamma with two ḍammās one on top of the other, mentioned in Muslim treatises on Arabic orthography, has not been found in Judaean-Arabic grammars but can be seen in a Judaean-Arabic copy of the Qurʾān copied in Iraq or Iran in 1575–1625 (see, for example, Ox. Bodl. Hunt. 529, f. 2 v.).

In addition to the tanwīn sign, nun or aleph in combination with simple vowels can be used to indicate tanwīn in all three cases. Examples of nun are:

‘Abū Zaydin’ (T-S Ar. 5.45, P1 v.)

‘… the genitive case is with tanwīn and kasra is without tanwīn, for example, Zaydin (איד) has tanwīn.’ (T-S Ar. 5.45, P1 r.)

Examples of aleph are:

‘An example of the nominative is Zaydun (איד), an example of the accusative is Zaydan (איד), and the example of /i/, which is the genitive, is Zaydin (איד).’ (T-S Ar. 5.45, P1 v.)

‘The vowels are: /a/ which is the accusative, e.g. Zaydan (איד), or the nominative, which is /u/, e.g. Zaydun (איד), or genitive, which is /i/, e.g. Zaydin (איד).’ (T-S Ar. 5.45, P1 r.)

The writing of the tanwīn with an aleph can also be found in the example קאם Zaydun (איד), where aleph should probably be interpreted not as a hypercorrection but as a marker of the tanwīn but not of the case ending.

3.6 Function of the text

T-S NS 301.25 is unique in the corpus of Classical Arabic grammars in Judaean-Arabic in that it is consistently vocalised with Arabic vocalisation signs. In all other grammars, Arabic vocalisation is used but is sporadic. This may hint at the fragment’s function. Al-Zajjājī’s Kitāb al-Jumal was composed in

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47 See Abū al-ʿAbbās Ahmad Al-Qalqašandi (Egypt, 1355–1418), Kitāb Šubh al-Aʿšā (Shams al-Dīn, 1987, p. 161).
49 See also Blau, 1955 on the use of aleph to indicate nunation but not case in certain types of nominal sentences.
order to provide learners with basic knowledge of the Classical Arabic lan-

guage and grammar, and was traditionally used in the classroom for begin-
n ing students. It is clearly with the same purpose – that of learning the basics of Classical Arabic and its grammar – that this fragment was transcoded into Hebrew characters. That the single currently identified part of this grammar in Hebrew characters is the chapter on inflection, and the following chapter on verbs was not copied even though enough space remained on the page to do so, may indicate that only a portion of this book was transcribed and vocalised, possibly as a vocalisation exercise. Indeed, it seems fitting to use a basic text on grammatical cases, which mainly deals with vowels and ends with a summary of all case markers, as teaching material on the topic of Arabic vocalisation and as a sample text to practice one’s vocalising skills. The imperfect vocalisation of the fragment may indicate that this is not an expert’s work to be copied by future students, but the product of a learner who has not yet attained full mastery of this subject.

4 Conclusions

In this article I have edited and analysed a Judaeo-Arabic fragment of Abū al-
Qāsim ‘Abd al-Rahmān b. Ḥishāq al-Zajjājī’s basic grammar of Classical Ara-
bic, Kitāb al-Jumal fī al-Nahw, preserved in T-S NS 301.25 and consistently vocalised with Arabic vowel signs. T-S NS 301.25 was undoubtedly intended to represent Classical Arabic, but nonetheless its spelling and vocalisation hint at the scribe’s substrate pronunciation and imperfect knowledge of the Arabic case system. The present analysis complements earlier studies of Judaeo-Arabic fragments vocalised with Tiberian vowel signs and describes different ways of indicating vowel length and nunation, which are not regularly marked in manuscripts with Tiberian vocalisation or in those sporadically vocalised with Arabic signs. It is suggested that the fragment is a vocalisation exercise performed by a learner of Classical Arabic and its grammar.

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