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The Arabic of the Islamic conquests: notes on phonology and morphology based on the Greek transcriptions from the first Islamic century

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Abstract
This paper attempts to reconstruct aspects of the phonology and morphology of the Arabic of the Islamic conquests on the basis of Greek transcriptions in papyri of the first Islamic century. The discussion includes phonemic and allophonic variation in consonants and vowels, and nominal morphology. The essay concludes with a discussion on possible Aramaic and South Arabian influences in the material, followed by a short appendix with remarks on select Arabic terms from the pre-Islamic papyri.
Keywords: Old Arabic, Semitic linguistics, Greek transcriptions, Islamic conquests, Arabic grammar

1. Introduction

Transcriptions are crucial to the understanding of the pronunciation of a dead language. Our knowledge of second millennium Canaanite was greatly enhanced by spellings in Egyptian and cuneiform, Ugaritic by cuneiform transcriptions, and Greek transcriptions played a major role in our understanding of the historical phonology of Aramaic. Greek transcriptions of pre-Islamic Arabic (Old Arabic) are abundant and have also played an important role in forming our picture of that language's phonology (Al-Jallad 2017). However, until recently, the integration of transcriptions into the reconstruction of the Arabic of the early Islamic period has not enjoyed the same attention. Descriptions of the language by eighth-century Arabic Grammarians formed the lens through which all material from this period has been viewed. Yet several important studies on the Arabic pre-dating the grammatical tradition raise questions about the validity of this approach, and my work on Old Arabic, I believe, has revealed a language that is in many ways significantly different to that to which the Grammarians were witnesses.[2] There is, therefore, no reason to assume that the language spoken by the Arab conquerors was identical to the register studied and codified over

1 I first thank my colleague Marijn van Putten who read carefully a draft of this paper, correcting errors in the sigla in addition to his usual insightful comments. I also owe thanks to the enthusiasm of the scholarly community on Academia.edu for participating in a session surrounding this paper and discussing with me many of its points. I would especially like to thank Dr David Kiltz, Dr Julien Dufour, Dr Harald Samuel, Dr Maarten Kossmann and Dr Emily J. Cotrell for their helpful corrections and suggestions. All errors are my own.
2 See for example Al-Jallad (2015a; 2017) and Al-Jallad and al-Manaser (2015).

a century later. Thus, the Greek transcriptions of Arabic during the first century of the Arab Conquests represent a precious source of data for the pronunciation, and even some aspects of the grammar, of Arabic before the establishment of a normative grammatical tradition.

Isserlin (1969) was the first to utilize Arabic transcriptions in Greek – from the papyri of the town of Nessana, which had a pre-Islamic Arab element as well – to understand the language as it must have been pronounced in day-to-day speech. One of his very valuable observations was that there was a clear difference in the pronunciation of the pre-conquest and post-conquest Arabic names, indicating that the conquerors did indeed bring a new strand of Arabic with them. While transcriptions from the Aphrodito papyri (PL4) were incorporated in the discussion, no systematic study of it was carried out. Greek transcriptions were utilized to a small degree in Hopkins' (1984) important study of the Arabic papyri from this period as well. Recently, Kaplony (2015) published a long paper (81 pages) containing a glossary of nearly every Arabic word that occurs in Greek transcription in the papyri from the sixth–eighth centuries CE. Despite its length, his remarks on phonology and orthography do not go beyond the facts presented in Isserlin's study. Unlike Isserlin, and myself, however, Kaplony lumps the pre-conquest and post-conquest material together, which only obscures the linguistic features of the latter dialect. Nevertheless, Kaplony's glossary (pp. 13–77) laid important groundwork for a full study of this material. This paper sets out to accomplish this, by describing the phonetics behind the transcriptions, allophony, conditioned sound changes, and the scant morphological facts contained in this corpus.

Before beginning, I will make a few assumptions explicit. I assume that the transcriptions of the Arabic reflect the way scribes heard these words being pronounced rather than being based on a written source. The great variation in spellings suggests as much. Second, I assume that these pronunciations – most of which are simply personal names and common administrative terminology – reflect a spoken register rather than a poetic or performance language. Thus, while the morphology of a personal name may harken back to an earlier stage of the language, I assume that its pronunciation provides information about the synchronic phonetic system.

2. Vowels

2.1. Short vowels

*2.1.1. *a*

Short *a in Old Arabic was stable for most of its history. It is not until the sixth century CE, and only in Petra, that we begin to witness the raising of this vowel in pretonic position to [e] or perhaps [ə] (Al-Jallad 2017, §4.1.1). In both PL 4 and P.Ness 3, *a is regularly spelled with ε when it precedes a stressed /ī/. The question as to whether or not this reflects a change to [ə] or [e], however, remains open.[3] Whatever the case, this reduced vowel seems to have been rounded before the biliabial /w/.

$$a > ə \;/\; C[^{-back}]\_C[^{-back}]ī$$

3 For consistency's sake, I will render reduced *a written with epsilon as shewa [ə].

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PL4 1383, 1	Σζεριχ	/šərīk/	709 CE
PL4 1441, 53	Σελημ	/səlīm/	709 CE
PL4 1447, 121	Ιεζιδ	/yəzīd/	685–705 CE
PL4 1447, 114	Νεσζιδ	/nəšīd/	685–705 CE
P.Ness 3 86, 2	Ειζηδ	/yəzīd/or /yizīd/	601 CE–700 CE
P.Ness 3 93, 55	Βεσιρ	/bəšīr/	685 CE
P.Ness 3 92, 3	Γεμηλα	/gəmīlah/	685 CE

a > o OR u / w_C[$^{-back}$]ī

PL4 1447, 39	Αλουλιδ	/al-wulīd/	685–705 CE

While the spelling of this particular form makes it appear as if the vowel were syncopated entirely, the fact that no syncope is observed in Ιεζιδ and Νεσζιδ – both from the same document – makes it more likely that the spelling ου is meant to approximate the sequence /wo/ or /wu/. A similar realization is encountered in the Petra Papyri, where the name αλκουαβελ (PP 17 8, 165), which likely reflects an underlying */al-qowābel/.

The spelling of *a with Alpha is found when the vowel is contiguous with a back consonant, including /r/. If we understand this phenomenon in general as a process of reduction, then it would suggest the reduced vowel pretonically had three allophones: [e] or [ə] in non-back and non-labial environments, [u] or [o] before a labial, and [a] before a back consonant.

PL4 1386, 9	Σαειδ	/saʕīd/	709 CE
PL4 1408, 4	Αχιμ	/ḥakīm/	709–714 CE
PL4 1412, 7	Αβδελαζιζ	/ʕabdəlʕazīz/	699–705 CE
PL4 1434, 93	Αβιβ[α]	/ḥabīb[a]/	715–716 CE
PL4 1433, 378	Ρασζιd	/rašīd/	706–707 CE
P.Ness 93, 53	Χαριμ	/karīm/	685 CE

*2.1.2. *i and *u*

The high vowels *i and *u are almost consistently realized as [e] and [o], respectively, in the pre-Islamic material, but the original values sometimes obtain in stressed closed syllables (Al-Jallad 2017, §4.1.2–3). Nevertheless, in the Graeco-Arabic inscription A1, the value [i] for *i obtains in all environments (Al-Jallad and Manaser 2015). In the conquest dialects, both realizations seem to be in free variation, although the original values [u] and [i] are more often encountered in P.Ness.

*i = e

PL4 1434, 112	Αλκασεμ	/al-qāsem/	714–716 CE
PL4 1441, 50	Μελεχ	/məlek/	706 CE
P.Ness 3 60, 12	Χαλεδ	/ḫ̱āled/	674 CE

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*i = i

CPR III 1 32, 2	Αβδελμαλικ	/ʕabdəlmalik/	714–16 CE
PL4 1431, 16	Ναειβ	/nāʔib/ or /nāyib/	706 CE
PL4 1447, 78	Αλιραχ	/alʕirāq/	685–705 CE

*u = [o]

PL4 1383, 3	Αλμωγεειρα	/almoġīrah/	714–716 CE
PL4 1447, 140	Σωλεειμ	/soleyyim/	685–705
PL4 1434, 71	Οσαμα	/ʔosāma/	714–716 CE
PL4 1441, 52	Ομαρ	/ʕomar/	706 CE

*u = [u]

PL4 1441,65	Μουσλημ	/muslim/	706 CE
PL4 1447, 101	Ουβηειδ	/ʕubeyyid/	685–705 CE
P.Ness 3 92, 18	Γουμαα	/gumaʕah/	685 CE
P.Ness 3 92, 39	Ουμαια	/ʔumayyah/	685 CE
P.Ness 3 92, 8	Σουφ[ιαν]	/sufyān/	685 CE

In one case, *u seems to have merged with *i, realized as [e] or [ə], Μεσλεμ (P.Ness 3 58,10; 706 CE), if we derive this name from an original /muslim/. The significance of this single attestation is difficult to assess. It could come from a dialect in which *u and *i were realized as [ə], as in many modern dialects, or it could simply be an aberrant spelling based on the mishearing of the name by the scribe. The fact that the same name is attested in PL4 1380, 33 as Μουσλημ would speak to the latter scenario. Finally, it is possible that the name should be derived from an original *maslam.

2.2. Long vowels and diphthongs

As previous scholars have noted, the long vowels appear to have retained their original values, and are nearly always transcribed in an expected fashion: /ā/ = α; /ī/ = ι; /ū/ = ου. One notable variant is the case of *ī, where it is sometimes written with η when contiguous with a pharyngeal consonant: Ραβη (P.Ness 3 60, 13; 66, 8). The significance of this spelling is dependent upon our interpretation of the phonetic value of η. In the Papyri of Petra and in the Greek inscriptions of the Near East, η and ε, rather than ι, have merged to a vowel [e]. The same seems to be true of the Nessana Papyri as well, and therefore we may be witnessing here the sporadic lowering of the long vowel on account of the pharyngeal consonant. Nevertheless, Ραβι (P.Ness 3 64, 9) is also attested, and Γεμηλα (P.Ness 3 92.3) provides clear evidence of the use of Eta for [ī] in this corpus.

*2.2.1. The diphthongs *aw and *ay*

The various renditions of Arabic *ay indicate that the sound did not have a transparent equivalent in the Greek of Late Antiquity and therefore scribes approximated it through various means, αι, ει, and αει. Similar methods are known from the pre-Islamic period, but the use of αει is unattested. Following

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Isserlin (1969: 25–6), this inconsistency indicates that the diphthong obtained, and had not collapsed to a long vowel.

PL4 1434, 246	Καεις	/qays/	714–716 CE
PL4 1434, 26	Σζωειρ	/šoʕayr/	685–705 CE
P.Ness 3 92, 27	Σουλαιμ	/sulaym/	685 CE
P.Ness 3 61, 10	Ζαιδ	/zayd/	675 CE
P.Ness 3 64, 9	Σααραειν	/šah[a]rayn/	674 CE

The diphthong *aw is consistently represented with Greek αυ, which was at no point in its history realized as ō. Thus, we can be certain that the sound obtained in the Arabic of these transcriptions (Isserlin 1969: 25–6).

PL4 1447, 101	μαυλε[4]	/mawlē/	685–705 CE
P.Ness 3 67, 11	Αυφ	/ʕawf/	689 CE
P.Ness 3 92, 41	Θαυβαν	/ṯawbān/	685 CE

2.3. Conditioned sound changes

2.3.1. Syncope

As noted above, the *a vowel appears to have been reduced in pretonic open syllables to perhaps a schwa, which then had three allophones. The common phrase "commander of the faithful" is consistently written as Αμιραλμουμνιν (e.g. CPR 19, 28; PL4 1349, 20, and passim), which can only be vocalized as /ʔamīralmūmnīn/, in contrast with Classical Arabic *ʔamīru-l-muʔminīna (Hopkins 1984: 3). This indicates that the unstressed high vowel *i was syncopated in a pretonic open syllable. This sound change is very common in the modern dialects of Arabic, e.g. Levantine Arabic *sāmʕīn* '(they) have heard' from earlier *sāmiʕīna*. A similar rule could have been operative in the dialect of the QCT (Quranic Consonantal Text), as forms of the tD-stem (=form V) may suggest, thus: *muzzammil* < *mutzámmil* < *mutazámmil*; *yaḏḏakar* < *yatḏakkar* < *yataḏakkar*.[5] On the applicability of this rule to the transcription of the name *Muḥammad*, see below.

2.3.2. Vowel insertion in the vicinity of gutturals

Many contemporary dialects of Arabic insert an a-vowel after a pharyngeal, uvular/velar, and glottal fricative, the so-called Gahawa-Syndrome (de Jong 2011). A similar phenomenon seems to be attested in our material, but only in the vicinity of the pharyngeal fricatives. This limited distribution could signal a more restricted version of the Gahawa-Syndrome, or simply be an attempt to represent these sounds orthographically. One should note, however, that this phenomenon is not found with the glottal fricative or stop, nor is it attested at all in the

4 On the reflex of *the alif-maqṣūrah*, see §4.6.

5 Dr Julien Dufour points out to me (academia.edu session) that the traditional grammarians explain this rule through the rules of *iḍġām* 'assimilation', and that the deletion of the pretonic /a/ is the result of the assimilation of two consonants with similar articulatory features. According to such an analysis, the two processes would not seem to be related.

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pre-Islamic material. Additionally, the vowel is not always [a]; in P.Ness 3 92, 2 and 93, 39, an [o] vowel and [e] vowel, respectively, is inserted before the pharyngeal. The variation in quality suggests harmony with the other vowel contiguous with the guttural consonant. This may hint at the fact that we are dealing with a phonetic, rather than an orthographic, issue.

P.Ness 3 92, 9	Μασαουδ	/mas^{a}ʕūd/	685 CE
P.Ness 3 92, 13	Νοομαν	/noʕ^{o}mān/	685 CE
P.Ness 3 93, 39	Μαδεεγ	/maḏ^{e}ḥeg/	685 CE

The spelling of the name al-Ḥāriṯ as αλααρεθ in P.Ness 3 (60.11; 62.10; 63.6; 92.41) – all from the final quarter of the seventh century – is difficult to explain phonetically. In such cases, it could be that the scribe intended to indicate the *ḥ* through the use of an extra Alpha. However, one cannot rule out with certainty that an a-vowel was inserted between the coda of the article and the *ḥ*, and so αλααρεθ would reflect /alaḥāreṯ/.

2.3.3. The raising of ā to ē

The conditioned raising of ā to ē is unattested in the pre-conquest dialects, and is rare in the conquest dialects, too. Only a few clear examples are found in the corpora examined in this study.[6] These attest both regressive and progressive assimilation.

PL4 1441,65	Ζηε{δ}	/ziyēd/	706 CE
PL4 1441, 50	Μελεχ	/mēlek/	706 CE
P.Ness 3 92, 13	Αβδελεση	/ʕabdəlʕēṣī/	685 CE

The normal reflex of the so-called *alif-maqṣūrah* in these corpora is *ē*; however, this should not be interpreted as an example of raising, as this sequence goes back to an etymological *ay (§4.6).

3. Consonants

I will only discuss consonants for which the Arabic pronunciation is unclear. Regarding the practice of representing the Arabic voiceless stops with Greek φ, θ, χ, I do not think this has to do with spirantization in Arabic (pace Isserlin 1969), but rather suggests that these sounds had not yet become fricatives in the Greek of the Near East. For a full discussion of this issue, see Al-Jallad (2017, §3.1). Finally, I think it is impossible to say anything about the consonantal status of the glottal stop (hamza) based on the transcriptions.

3.1. The velar and pharyngeal fricatives

Generally speaking, the velar fricatives are represented with the Greek aspirated consonants, χ = ẖ and γ = ġ, while the pharyngeal fricatives are not overtly

6 Kaplony (2015: 7) interprets the name Αζζαεθ in P.Ness 3 57, 28 as *az-zayyēt*, but this is very uncertain. It is possible, too, to take it as *az-zāyet*. See the discussion in the appendix following this article.

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represented. This contrasts with the pre-Islamic situation, where the velar fricatives are not represented by Greek consonants either.[7] This distinction is especially significant at the town of Nessana, where the voiceless velar fricative *ḫ* of the Arabic names of the native population is not represented consonantally in Greek transcription, while in names of the conquerors, this sound is represented usually by χ, e.g. Αλαφαλλου /ḫalafall[āh]/ (P.Ness 3 22, 22; 566 CE) vs. Χαλεδ (P.Ness 3 60, 12; 674 CE). This may suggest that the velar consonants were pronounced further back in the dialects of the conquests than the pre-Islamic dialects.[8] In very rare cases, the voiceless pharyngeal fricative is written with χ, e.g. Χαδιδ /ḥadīd/ (PL4 1432, 65), μησαχα /misāḥah/ (PL4 1441, 90). This is never found in the pre-Islamic transcriptions, as far as I am aware, but is the general convention in the Damascus Psalm Fragment, the dating of which remains disputed (Violet 1901; Mavroudi 2008).

3.2. The realization of š

The phoneme *s^2 was originally realized as a voiceless lateral fricative (Kogan 2011: 71–80), a sound which seems to have obtained in Arabic in the earliest periods (Al-Jallad 2015a: 44–5; 2017, §3.8). The Arabic to which Sibawayh was witness realized the sound as a voiceless palatal fricative [ç] (Al-Jallad 2014a: 54–5), while the sound is realized as a palato-alveolar fricative [ʃ] in nearly all modern dialects. The Arabic in Greek transcription does not seem to reflect a [ç] pronunciation, as one would expect the sound to be represented with χ or simply not transcribed, as with the reflexes of *h and *ḥ. In PL4, the sound is almost consistently represented with the digraph σζ, which is also used to represent Northwest Semitic š [ʃ].

PL4 1383, 1	Σζεριχ	/šərīk/	709 CE
PL4 1447, 114	Νεσζιδ	/nəšīd/	685–705 CE
PL4 1433, 378	Ρασζιδ	/rašīd/	706–707 CE
PL4 1433, 127	Σζουραε	/šuraiḥ/	706–707 CE

In P.Ness 3, the few names containing a reflex of *s^2 transcribe it with σ. This is probably due to the experience scribes in this town had with transcribing Semitic names. In the Near East, Aramaic š is always transcribed with Greek σ, e.g. Σεμουελου = Samuel; Σεμισιααβος = /šemišyahab/ (Wuthnow 1930: 107). If the pronunciation of Arabic s^2 had already become [ʃ] in the conquest dialect, then it would have also been represented with σ, just as with Aramaic names.

P.Ness 3 93, 55	Βεσιρ	/bəšīr/	685 CE
PL4 1447, 114	Νεσζιδ	/nəšīd/	685–705 CE

7 For a long list of examples and discussion see Al-Jallad 2017, §3.2.

8 I follow Isserlin (1969: 23) in this observation, who came to the conclusion that the phoneme was being pronounced "more noticeably" following the conquests.

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3.3. The realization of g

In the pre-Islamic period, *g is only represented by γ, which suggests that its original value [g] obtained.[9] Spellings in PL4 reflect attempts to indicate another pronunciation, either a palatal stop or palato-alveolar fricative. Coupled with evidence from Sibawayh and loanwords into Berber (Al-Jallad 2014a: 54–6), the most likely pronunciation of this phoneme in the conquest dialects was a palatal stop, ǵ [ɟ].[10]

PL4 1447, 86	Γιαμ	/ǵamʕ/	685–705 CE
PL4 1447, 86	Γιαφαρ	/ǵaʕfar/	685–705 CE

In P.Ness 3, however, the sound is only given with Gamma. This may reflect an aversion to the use of digraphs, as with the representation of σ. Nevertheless, the notation of this sound with γ rather than ζ suggests that it was not pronounced as the voiced counterpart to [ʃ], as in some modern dialects. It is also questionable whether scribes would have transcribed a palatal affricate with γ, especially since the Greek of the Near East seems to have maintained the pronunciation of this glyph as [g] (Al-Jallad 2017, §3.2).

3.4. The realization of ṣ

As discussed in detail in Al-Jallad (2014a), Sibawayh's description of *ṣ suggests that it was affricated. One of the primary sources for this argument is found in the spelling of the town Nessana in P.Ness 3 as Νεστανα in the Islamic period (P.Ness 3 61, 11; 62, 12; 63, 6; 66, 6; 67, 10, etc.). In addition to this, we may also consider the tribal name Αλφαξα (P.Ness 93.66). Kaplony took it from the root *fḥš*, meaning an abomination (2015: 61). While certainly possible, I know of no other examples where the combination of /ḥ/ and /š/ is given with Ksi. I would instead connect it with the very common root *fṣy* 'to deliver', which is found as a personal name in Safaitic. The spelling φαξα would then render [faʿṣā] < perhaps *faṣāʾ. A more uncertain example of ṣ with Ksi is Ουαξεν in P.Ness 3 92, 6. This name could be derived from the root *wṣy* 'to enjoin upon someone such a thing' in an active participial formation with nunation, so /wāṣen/.

One attestation of a voiced variant exists: ανζαρ [ʔanzʿār] < *ʔanṣār (PL4 1447, 39, 43, 84, 88). This is no doubt conditioned by proximity to the /n/.

3.5. The realization of *q

There is no evidence for a voiced realization of *qāf* in any of these documents. Even if Greek γ was no longer pronounced exactly as [g], the absence of even its occasional use to transcribe *q is remarkable and suggests the sound was consistently realized as voiceless. This is further supported by the fact that the sound is rarely given with χ. Isserlin (1969: 22) suggests the rare spellings

9 On the proto-Semitic value of this phoneme, see Kogan 2011: 55. Also see Woidich and Zack 2009 on the question of the pronunciation of *g in the Egyptian dialects.

10 Isserlin (1969: 21) describes this sound as "fricative (palatalized)" but it is unclear as to what phonetic realization he means by this description. On the Berber evidence see van Putten and Benkato 2017.

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with χ could point towards an "aspirate or glottalized variant". The former seems possible, but the glottalized variant would be, by definition, unaspirated, and so it is difficult to imagine a situation where χ would be deemed suitable for its transcription.

PL4 1434, 44	Αλκασεμ	/al-qāsem/	714–716 CE
PL4 1434, 246	Καεις	/qays/	714–716 CE
PL4 1447, 78	Αλιραχ	/al-irāq/	685–705 CE

3.6. Realization of *ḍ and *ẓ

There is no evidence for the systematic merger of *ḍ and *ẓ in the Old Arabic epigraphy and transcriptions from Syria.[11] Based on Greek transcriptions, it seems that *ḍ was realized as a voiceless lateral emphatic, perhaps [ɬˁ], and ẓ as a voiceless emphatic interdental [θˁ] (Al-Jallad 2015a: 43–4). It is not until the sixth century CE that we begin to see possible signs of a merger, where both are written with ζ, indicating possibly a pharyngealized lateral fricative (Al-Jallad 2017, §3.7.4). Neither of these realizations is encountered in the Arabic of the conquests.[12] The reflex of *ḍ is attested securely only twice, both times in names of social groups:

P.Ness 3 93, 54	Αλχαδρα	/al-ḫaḍrāʔ /	685 CE
P.Ness 3 92, 22; 93, 44	Αδραμουθ	/ḫaḍramūt/	685 CE

The use of Delta suggests that the sound was pronounced rather differently from the pre-Islamic reflexes. We can determine that it was voiced, unlike the Sigma representations. However, whether or not it was still a lateral is difficult to determine. It is conceivable that an underlying [ɮˁ] would be rendered with Delta, especially considering the aversion to digraphs exhibited by the scribes at Nessana. On the other hand, Delta is the natural way to represent the emphatic voiced interdental pronunciation [ðˁ], which would suggest the merger of the lateral and *ẓ* had already occurred. At least with the case of Αδραμουθ, the word is not a native Arabic one, and so the pronunciation may reflect a South Arabian language (this word will be discussed further in §5.3).

In the name of the social group Ατραλκαις /ḥaṯr-al-qays/ (P.Ness 3 93, 58; 685 CE), what appears to be a reflex of etymological *ḍ is written with τ. Since τ was normally used to represent *ẓ in Old Arabic, this may reflect a merger of the two sounds to the value of *ẓ, which was voiceless. The merger of *ẓ and *ṭ is attested in a few unpublished Safaitic[13] inscriptions and is a sound

11 Note that some occasional examples of this merger are found in Safaitic, most notably to *ḍ*, so *ʾyḍ* for *qyẓ* and *ḍʿnt* for *ẓʿnt* (Al-Jallad 2015a: 53).

12 The use of Zeta for *ẓ* is found in the pre-conquest Nessana material, however: e.g. the name Αζοναιν (passim), which is best connected to the common root √ẓnn, and the possible name Ζαμζαμα /ḍamḍam/(?) (P.Ness 3 28, 2; 572 CE).

13 These were discovered by the OCIANA Bādia Survey in spring 2015 and will appear online and in the Leiden University dissertation of Phillip Stokes. A clear example is the spelling of the deity *rḍy* as *rṭy*.

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change common in some pre-Hilalian Maghrebian Arabic dialects (Al-Jallad 2015b).

The spelling of *ẓ* is identical in transcription with *ḍ* in our material, which could suggest that the two sounds had already merged.

PL4 1362, 6; 1378, 7 Ανδαλα /ḥanḍalah/ 710 CE

4. Morphology

4.1. Definite article

Before the mid-sixth century, the coda of the definite article almost never exhibits assimilation to the following coronals and its onset is consistently given as α.[14] This seems to suggest that the article contained a consonantal onset. This hypothesis is supported by spellings in Semitic scripts, where the article is written sometimes as *ʾl*, with a genuine glottal stop (Al-Jallad 2017, §5.5). By the mid-sixth century CE in the dialect of Petra, the onset of the article and its vowel seem to have become weakened. There, the article is sometimes written as ελ /el-/ or simply λ /l-/. A similar, but not identical, situation is found in the texts from the Islamic period. The article appears as αλ in isolation, but as ελ as the second member of a theophoric name, suggesting that its onset and nucleus were weakened in this prosodic position. Curiously, however, the form αλ remains in other constructs and in word initial position. Table 1 compares examples from the Islamic period to the pre-Islamic Graeco-Arabica.

PL4 1349, 20	Αμιραλμουμνιν	/ʔamīr al-mūmnīn/	710 CE
PL4 1434, 26	Αειναλγερ	/ʕayn al-gerr/	714–716 CE
PL4 1447, 78	Αλιραχ	/al-ʕirāq/	685–705 CE

Unlike the pre-Islamic attestations, the coda of the article in the conquest Arabic assimilates to a following coronal consonant. The most frequent example is in

Table 1. Arabic compound names with the definite article in pre-Islamic and Islamic periods.

Pre-Islamic		Islamic	
Αβδαλγου (PAES III.a 56)	/ʕabdalg[ā]/	Αβδελαζιζ (PL4 1412, 7)	/ʕabdəlʕazīz/
Αυσαλλας (PAES III.a 67)	/ʔawsallāh/	Αβδελμελεχ (PL4 1398, 1)	/ʕabdəlmelek/
Αβδαλμιθαβου (P.Ter 48)	/ʕabdalmīṯab/	Αβδεραμαν (P.Ness 92-43)	/ʕabdəraḥmān/
Αβδαλλας (PAES III.a 144)	/ʕabdallāh/	Αβδελλα (P.Ness 92, 7)	/ʕabdəllāh/

14 An important exception is the word αδαυρα /ad-dawra/ 'this region' in the Graeco-Arabic inscription A1 (Al-Jallad and al-Manaser 2015). The non-indication of gemination seems to be a peculiarity of this author's hand.

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the name Αβδαραμαν (e.g. PL4 1433, 45), which, curiously, never writes the doubling of the /r/. Whether this should be explained through the Greek or Arabic is unclear. The onset of the article is also elided after a long vowel:

P.Ness 3 92, 31	Αβιλααϛ	/ʔabī l-ʕāṣ/	685 CE
P.Ness 3 60, 12	δουλκ(α)δ(α)	/ḏū l-qaʕdah/	674 CE

Similar elision occurs sporadically in the pre-Islamic period as well (Al-Jallad 2017, §5.5).

4.2. Case

The anthroponyms and short phrases contained within these documents do not provide much in the way of syntax, and therefore the status of case inflection is unclear. None of the discussions of case in the early centuries of Islam has utilized these transcriptions. A few evidence-based studies of case in Arabic suggest that the system had collapsed in the early centuries CE, at the latest, but these have focused on the northern Old Arabic dialects.[15] The Arabic transcribed in the papyri under study here clearly represents a different strand of the Arabic language, and so we should be careful not to extend conclusions about the pre-Islamic material to these corpora.

What is immediately clear is that the dialect under consideration has lost final short vowels. This suggests, at the very least, the demise of case in the majority of nominal forms. However, case inflection would not have immediately disappeared in situations where it was expressed by final long vowels or in construct position. The evidence in transcription seems to suggest that it is exactly in these environments where case inflection survived. Incidentally, it is in these very environments that we witness an active case system in the QCT, while in other situations nominal inflection seems to have disappeared.[16]

While examples are limited to the word "father", it is significant that this term appears as Αβι when it is in a genitive syntactic position (when it follows the abbreviations β and υι 'son'), and Αβου otherwise.

15 For example, the Graeco-Arabic inscription A1 reveals that only the accusative case was retained (Al-Jallad and al-Manaser 2015) and the same system seems to have been operative in Safaitic (Al-Jallad 2015a: 69–71), and also, earlier, Diem (1973) based on Nabataean transcriptions. Note that this article appeared before the discovery of the ʿEn ʿAvdat inscription (Bellamy 1990), which seems to exhibit a living case system. On the difficulty of coming to conclusions about the case system in Nabataean Arabic based on personal names, see Blau 1972: 183–4.

16 For example, the spelling of final ʾ nouns, such as samāʾ in the Quran, have a consistent form, *smʾ*. If case survived in these situations, the loss of the glottal stop would have given rise to a homo-organic glide, producing *smw* /samāwu/ in the nominative, *smy* /samāyi/ in the genitive, and *smʾ* /samā (?)/ in the accusative. The spelling *smʾ* suggests that final short vowels were lost before the loss of the glottal stop. On the other hand, case survives unambiguously in dual and plurals, and in nouns such as *ʾabū*, *ʾabī*, etc.

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Nominative

PL4 1362, 24	Αβου Σουφουαν	/abū sufwān/	710 CE
PL4 1441, 55	Αβου Αμρου	/abū ʕamrū/	706 CE
PL4 1441, 85	Αβου Σαειδ	/abū saʕīd/	706 CE
P.Ness 3 3, 45	Αβου Ρασεδ	/abū rāšed/	684 CE

Genitive

PL4 1408, 4	Αβδελαλε υἱὸ(ν) **Αβι** Αχιμ	/ʕabdəlʕāle (bin) **ʔabī** ḥakīm/	709 CE
PL4 1434, 93	Μααμετ υἱ(οῦ) **Αβι** Αβιβ	/maḥamed (bin) **ʔabī** ḥabīb/	714–716 CE
P.Ness 3 92, 31	Οβαιδαλλα β(ιν) **Αβι**λαας	/ʕobaydallāh b(in) **ʔabī** l-ʕāṣ	685 CE

4.3. Case in construct forms

The loss of word-final short vowels would not necessarily have affected words in construct, since the vowel there is not word-final strictly speaking.[17] There is only one example of the preservation of case inflection in this environment:

PL4 1447, 37	Ομμου Ιωσεφ	/ʔommu yōsef/	685–705 CE

The case vowel is sometimes preserved in construct position in anthroponyms and toponyms from the pre-Islamic period: Θαιμομαλεχος /taymo-mālek/; Αβδοαρθα /ʕabdo-ḥārṯah/; Βηροσσαβα /berossabaʕ/ (Al-Jallad 2017, §5.3). However, the exact phrase "mother of X" Ουμαυατ /ʔumm-ġawwāṯ/ (PAES III.a 48) is attested without any case vowel, suggesting that the nominative vowel was frozen in the terms in which it occurs. The attestation of the phrase Ομμου Ιωσεφ suggests the opposite: it would appear that the case vowels were present in construct position, where they were protected from syncope.

4.4. Genitive constructions with the article

All other examples of genitive constructions contain a definite article on the second noun and there are no traces of a case vowel. The exact same distribution is attested in the pre-Islamic period, compare Θαιμομαλεχος to Θαιμαλλας (Al-Jallad 2017, §5.3). This phenomenon can be explained through the operation of a sound rule where intervocalic ʔ is syncopated. When the glottal stop was a root consonant, it could be easily restored through paradigmatic levelling; however, as a morpheme, there would have been less pressure to do so. The same rule, as I have explained earlier (2014b, 459), would account for the shape of the causative stem:

taymV'allāh > taymāllāh > taymallāh
yu'af"il > yūf"il > yuf"il

17 Kaplony (2015: 11) interprets Ομμου as Ommū, with a long vowel, in analogy with ʾAbū, etc. I know of no forms of Arabic that have undergone such an analogy.

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The fact that the article is always αλ in such compounds suggests that it was either the construction levelled to the genitive or accusative reflex rather than the nominative, which would have produced the unattested θαιμουλλα, just as in the causative.

P.Ness 3 92, 36, 40	Αμιραλμουμνιν	/ʔamīr al-mūmnīn/	685 CE
PL4 1434, 25	Αειναλγερ	/ʕayn al-gerr/	714–716 CE

4.4.1. Otiose final vowel in non-construct position

P.Ness 3 93, 35 Αχχι

This word seems to be the transcription of the Arabian tribe ʕAkk. The final Iota is damaged, and context does not shed light on what it could be. There is no reason to assume an Arabic genitive here. For the moment, nothing meaningful can be said about this curiosity.

4.5. The dual

The dual is attested thrice in the phrase 'the two months of Rabīʕ' Σααραειν Ραβι/η /šaharayn rabīʕ/ (P.Ness 3 60, 13; 64, 9; 66, 8). While the dual is in construct, it retains the final *n*, suggesting that the distinction between construct and non-construct forms was eliminated in this category, a feature common in the Arabic papyri pre-dating the tenth century (Hopkins 1984: 100–08) and a change typical of modern Arabic.[18]

4.6. Reflex of word-final *ay

The reflex of the word-final diphthong *ay, which would become the *alif-maqṣūrah* in Classical Arabic orthography, consistently exhibits a non-ā reflex in the pre-Islamic Graeco-Arabica (Al-Jallad 2017, §5.1.1; 2015a: 47). The same situation holds true in the Islamic period. The dialects of the conquests show no evidence for the collapse of this sequence to ā.

P.Ness 3 72, 4 (passim)	Μαυλε	/mawlē/	684 CE
PL4 1362, 6; 1378, 7	ιαειε	/yaḥyē/	710 CE
P.Ness 3 92, 44	ιαλε	/yaʕlē/	685 CE

The representation of this sound consistently with ε suggests that it was realized differently from word-internal diphthongs, the spelling of which clearly indicates an [ai] realization. It seems, therefore, that word-final *ay collapsed to ē.

4.7. Wawation

One of the characteristic features of Old Arabic is the addition of an otiose *w* to personal names and, perhaps, even nominal forms, the so-called "wawation".[19] In the pre-Islamic Graeco-Arabica, this ending is realized as /o/ (length

18 The parallel Arabic document gives the same phrase as شهري ربيع *šhry rbyʿ*, proving a distinction between the written and spoken language!

19 See Diem 1973 on the connection with the Arabic case endings, and Blau 2006 for a connection with the *u* endings in some contemporary Yemeni dialects of Arabic.

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uncertain, Al-Jallad 2017, §5.11). Its single attestation in the Islamic period suggests, instead, a higher realization as /ū/:[20]

PL4 1447, 80 Αμβρου /ʕAmrū/ 685–705 CE

4.8. The feminine ending

In the nomadic dialects of Old Arabic, namely those expressed in the Safaitic and Hismaic script, the sound change affecting the feminine ending *at* > *ah* did not operate. Thus, nouns terminate in a *t* regardless of their syntactic position. The situation is less clear in Nabataean Arabic. I have argued elsewhere that in the earliest stages of the dialect, the ending retained the /t/ in all environments, but by the second century BCE, the sound change *at* > *ah* had operated (Al-Jallad 2017, §5.2.1). The dialect of these transcriptions belongs to the latter category as there are no examples of the *t* of the feminine ending retained in non-construct position, so Γεμηλα (P.Ness 3 92, 3) /gəmīlah/ < *gamīlatu; ανδαλα (PL4 1362, 6) /ḥanẓala/ < *ḥanẓalatu.

5. Vocabulary

5.1. The term *Masgida*

One of the few attestations of a non-onomastic term is the term 'mosque'. When fully written out, it seems consistently to terminate in an a-vowel, Μασγιδα (PL4 1439, 4, and in broken contexts PL4 1368.6; 1403.4). Since none of the other Arabic material is inflected, it seems hard to understand the final /a/ here as a Greek genitive ending.[21]

It has long been recognized that the term *masgid* was a loan from Aramaic (Jeffery 1938: 263). The term is attested in the Nabataean inscriptions as *msgdʾ* /masgedā/ (where it is usually translated as an 'altar' or 'cult-stone').[22] I would suggest that the pronunciation found in the transcriptions of this term accord with the Aramaic pronunciation of the term, and that the final a-vowel is in fact a representation of the emphatic state in Aramaic. The fact that early Arabic continued to pronounce this loanword in its original Aramaic form can be supported by its form as a loanword into both the Berber languages of North Africa, as *tamǝzgida*,[23] and into Iberian Romance as *mezquita*. The absence of the Arabic definite article, along with the presence of the non-etymological final /a/, in all three sources suggests an equivalence between the two, and hence the identification of the latter as the Aramaic definite article.

20 There is no reason to see in this a Greek genitive, since none of the other names are Hellenized. Incidentally, the spelling of the name غمرو as Αμβρου with a beta further proves that the Greek transcriptions were not based on Arabic spellings.

21 This would be the only common noun in our corpus to take a Greek ending and, even in the Petra Papyri, where common nouns are more usual, they are not Hellenized.

22 See Cantineau (1978, II: 116) 'stele votive, autel'.

23 Note that Kossmann (2013: 176–7) identifies this word as belonging to the earliest stratum of Arabic loanwords into Berber.

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5.2. The prophetic name

As discussed above, a process of pretonic vowel reduction seems to have been active in at least some dialects of the conquest. Here, I will consider if this rule can explain the spellings of the prophetic name *Muḥammad*, which appear in transcription as: Μαμετ, Μααμεδ, and Μααμετ (Kaplony 2015: 11–12). If the first /a/ vowel was reduced to schwa and then deleted, the name could have been realized as *mḥámmad*. If, however, the schwa was not deleted, then it could have been lowered under the influence of the following pharyngeal consonant, yielding: *maḥámmad* < *məḥámmad. A similar process could be behind the transcription μααρεβ (P.Ness 3 92, 44), probably /maḥāreb/ from *muḥārib. Both of these options can explain the spellings of the first two syllables as Μα /mḥa/ or Μαα /maḥa/.[24] The final /e/ vowel may be due to a sound rule of raising an /a/ to /e/ in a word-final syllable, as is common in some Levantine dialects of Arabic and in the Damascus Psalm Fragment (e.g. φατεχ /fateḥ/ < *fataḥ 'he opened') (Violet 1901). A single word subject to this change appears to be attested in P.Ness 3 93, 39: εσμηρ, if this is to be identified with Arabic *ʔasmar (Kaplony 2015: 44). Finally, the spelling of the final *d* with τ simply speaks to the unaspirated nature of [d], which may have had an unaspirated voiceless allophone in word-final position. The absence of gemination, however, cannot be explained orthographically.

Despite these explanations, the corpus is filled with terms that have a pretonic *mu* syllable and word-final /d/, and in none of these do we find a similar sound rule operating, e.g. P.Ness 3 92, 28 Μουζαεμ /muzāʕem/ and P.Ness 3 92, 18b Σαιδ /saʕīd/. If we are to maintain an Arabic source, then the name would have to have been drawn from a dialect distinct from the one of our transcriptions. This greatly reduces the possibility that we are dealing with an Arabic-internal phenomenon.

In light of these considerations, we may consider another source. As has been suggested in the past (Ohlig 2007: 327–76), the spelling Μαμετ resembles the C-stem participle in Aramaic, *maqtel*. Thus, it could in fact be the case that the name was originally drawn from Aramaic, and retained this pronunciation, just as the word *masgida*, in the first century of Islam, only later to be reworked into a normative Arabic pronunciation. Without taking a stance on the sense this name had, that its morphological structure fits Aramaic sources is hard to deny. However, we must not discount the South Arabian connection. The attestation of this name in Najrān in 523 CE in a Jewish context is significant (Robin 2004: 876–7), and so the name could have passed through a South Arabian medium to Arabic, rather than directly from Aramaic.[25]

24 Dr Julien Dufour informs me (academia.edu session) that several modern dialects of southern Arabia exhibit a phenomenon termed "backward transparency of gutturals", where the short vowel to the left of a guttural mirrors the vowel to the right, so *kabīr* vs. *biʕīd*. The same rule would apply to *muḥammad*, producing *maḥammad*, but would leave unexplained names such as Σαειδ (PL 4 1386, 9) /saʕīd/, which should appear in transcription as Σιειδ. If such a rule is behind the spelling of the prophetic name, then we must argue that it finds its source in another Arabic dialect, distinct from the remainder of the anthroponyms in the corpus.

25 In an undated notice on a Syriac fragment on the Arab Conquests from the sixth century, the name Mohammad is spelled as *mwḥmd*, clearly pointing towards a /u/ vowel in the

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5.3. South Arabian terms

There are a surprisingly small number of Yemenite names attested in both corpora.

Σεραβηλ (P.Ness 3 93, 42)

One clear ASA name is Σεραβηλ (P.Ness 3 93, 42), which must be connected with the name known from the Arabic sources as *šuraḥbīl*, but pronounced as *šeraḥbēl*. In the South Arabian inscriptions, the name is spelled as *s²rḥbʾl*. Thus both the Arabic form and the form in transcription attest the loss of the glottal stop.[26] Whether the /e/ vowel in the first syllable should be understood as the result of the reduction of /u/ to schwa or is simply reflective of the original Sabaic pronunciation is unclear.

Αδραμουθ (P.Ness 3 92, 22; 93, 44)

As discussed earlier, the South Arabian toponym, *ḥadramawt* in Classical Arabic and *ḥḍrmt* in Ḥaḍramitic, appears twice. The word is presumably of South Arabian origin, rather than Arabic proper. The spelling of the last syllable as μουθ /mut/ or /mūt/ suggests one of two things. Since diphthongs did not collapse in the dialect of the conquests, this spelling indicates that the diphthong of the Classical Arabic pronunciation of this word is secondary, and that the original word contained either an original short or long /u/. The second possibility is that the Ḥaḍramitic language, from which presumably this Arabic form was drawn, collapsed the original diphthong to ū. While both forms *ḥḍrmt* and *ḥḍrmwt* are attested in Sabaic, only *ḥḍrmt* has appeared in Ḥaḍramitic proper, but this does not seem to be the result of a sound change *aw to ū, as diphthongs are mostly preserved in Ḥaḍramitic.[27] This suggests that the first solution is correct, but even so it leaves us with a term with a very dubious etymology.

The folk-etymologies of this term in Islamic traditions derive from the transparent interpretation of the elements *ḥaḍr* 'to arrive; place' and *mawt* 'death'.[28] Given that the Ḥaḍramitic spelling is likely original, the second element is unlikely to be interpreted as a derivative of *mawt*. I would instead interpret it

first syllable (on this text, see Hoyland 1997: 116–7). Even if we assume that this text was contemporary with the Arab Conquests, the defective writing of the Syriac, as well as the unclear path of transmission from the original Arabic source to the writer of this text, challenges how much weight to give this spelling. Could a pretonic schwa next to an /m/, /məḥammed/, have been interpreted as a rounded vowel? Or does this in fact indicate that the pronunciation *muḥammad* was in use even in this early period, but not widely? The unknown provenance of the text and the inability to date the notice itself require us to withhold judgement on the significance of this unique spelling. I thank Ian D. Morris for bringing this spelling to my attention.

26 If the glottal stop was preserved, one would expect a hiatus between two i- class vowels, cf. the similar example in the Petra Papyri ναραρ /nahar/ 'rivulet'.

27 For example, the word for 'day' is *ywm* rather than *ym*, and 'house' is *byt* not *bt*.

28 The only etymologies that survive in the Arabic tradition for this term seem to be folk-etymologies, such as 'death has come', resulting from the transparent interpretation of the two elements of the toponym according to their meanings in Arabic. Others interpreted it as originating in a personal name from the mythological genealogies of the Islamic period, namely, of Ḥaḍramawt bin Ḥimyar (Beeston et al. 2012).

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as the reflex of Proto-Semitic *mutum 'man, husband'[29], and take *ḥaḍra* as 'place, area' in construct with it. The toponym would then mean 'land of man' (i.e. inhabited area) in contrast with the desert or other uninhabited areas.[30] This seems like a more natural etymology than any that have been suggested thus far. Nevertheless, the Sabaic spelling of this name does have a diphthong in the final syllable – so how are we to explain this? I suggest that Sabaic speakers folk-etymologized this word, perhaps because they lacked the generic noun *mut*, to the *ḥaḍr* 'place' of *mawt* 'death'. It was, then, from the Sabaeans that the author of Genesis learned the word and rendered it as חֲצַרְמָוֶת. The Classical Arabic word would have also been drawn from the Sabaic, rather than Ḥaḍramitic. The Sabaeans are the main South Arabian people mentioned in the Hebrew Bible and in cuneiform sources, as early as 738 BCE (Retsö 2003: 173–6), and therefore, it is natural that information from South Arabia, including toponymy, would come through a Sabaic medium.

A final question pertaining to this etymology remains: from which language is our proposed *ḥaḍramut drawn? The natural suggestion would be Ḥaḍramitic, but as one of the reviewers of this article has pointed out, the word *mt* for man has not yet appeared in the South Arabian epigraphy. The term does, however, appear in Gəʕəz, a language that must have its origins ultimately in South Arabia in the prehistoric period. It could be the case that the name is not etymologically Ancient South Arabian, but derives ultimately from the South Arabian precursor of Gəʕəz. In support of this, one can also note the /a/ vowel in between the two elements, which is reminiscent of the Gəʕəz construct state.

The absence of *mt* 'man' in the epigraphy of the region is not necessarily an argument against an Ancient South Arabian etymology. Toponyms usually represent an older linguistic layer, and the Proto-Semitic word could have easily been lost in the prehistoric period of Ancient South Arabian. A comparable example is the original word for 'man' in Arabic marʾun,[31] which has been completely replaced by a new term ragul or raggāl in most spoken Arabic dialects.[32]

Appendix: Notes on some of the terms discussed in the glossary of Kaplony (2015)

I have made several amendments to the vocabulary in the Kaplony's glossary in the body of this paper. However, since he included several terms from the Petra

29 Hebrew *mətîm* 'men'; Ugaritic *mt*; Gəʕəz *mət*; Akkadian *mutum*.

30 Words referring to settlements and inhabited areas are common in toponyms, e.g. Arabic *al-ḥaḍr* = Hatra 'settlement', but perhaps the Aramaic *ḥṭrʾ* is derived from 'enclosure' *ḥṭrʾ*, cf. Arabic *ḥiẓār* 'wall, partition, screen', but this would not explain the Arabic form of the name. Toponyms with a derivative of man in second position are also known, for example, the village near Hebron *Beth Gabra* 'house/area of (strong) men', Arabic *bēt ǧibrīn*. In fact, the suggested etymology is paralleled by the name of Germany, Deutschland.

31 In the QCT this is spelled *ʾmrʾ*, and vocalized in Classical Arabic as imruʔun. It is attested as a component of personal names in Safaitic as *mrʾ*, possibly */marʔ/, and in the Namārah inscription as *mrʾlqyš*, where the glottal stop could be interpreted as either the final consonant of the first element or the onset of the definite article.

32 The new term derives from the word for 'foot', probably referring to an infantryman.

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Papyri, which fall outside the scope of the current study, I will engage with those in this appendix. Note also that Kaplony claims to follow the interpretations of Al-Ghul 2006 over the edition of P.Petra 17 (Al-Jallad et al. 2013); however, in most of the difficult cases, his appendix gives the interpretation of the edition instead of the one suggested by Al-Ghul 2006, without explicitly stating so. These include, following his transcriptions, *al-Uğum*; *al-barāḥ*; *al-Baṣṣa*; *al-maḍīqa*; *al-Qaṣab*; *qalb*; *al-naṣba* (with an Aramaic source as well!); *marbaṣ* (the only one with a citation); and *al-Mawfaʿah*. The terms of which Al-Ghul's 2006 interpretation is preferred are only five: *Ḥagiyāt*, *Ḥaram*, *arbāḍ*, *ʿUrsīyāt, al-Qaṣāqiṣ*. The remaining terms have similar or identical interpretations in both Al-Ghul 2006 and Al-Jallad et al. 2013.

Ελθαις (P. Petra 23, 8): The vocalization [et-tays] or [et-tēs] ignores the fact that the assimilated article is written as such in other examples. This pre-Islamic attestation reflects the non-assimilating article (Al-Jallad 2014b: 13–5; forthcoming, §5.5), and emphasizes the need to keep the pre-Islamic and conquest period material separate. A more likely vocalization is */el-tays/.

Αλγομε (P.Ness 3 76, 46): This is surely the diminutive form *al-gumayʕ rather than al-gōmeʕ, allegedly from al-gāmiʕ.

Γωρα (PL4 1447, 115): The derivation from *Ǧāra* seems unlikely. Instead, this word is probably a reflex of Arabic *gawr*, perhaps with the feminine ending, so */gōrah/ < gawrah. If correct, then this represents the single example of *aw > ō in our corpus. Perhaps, then, the word should be derived from Aramaic rather than Arabic.

Ϝναυ (P.Petra 23, 8): This pre-Islamic term was not considered in this study. The diphthong αυ does not yield ō in Greek, which points away from the suggested vocalization as [ḥinō]. Instead, the transcription suggests the pronunciation */ḥVnaw/ or */ḥVnw/.

Αρβαθ (P.Petra 17, 107): This pre-Islamic term was not considered in our study. The connection of this word with the root *rbḍ* invokes an ad hoc representation of *ḍ* with Theta. The edition (Al-Jallad et al. 2013: 31–2) proposes the vocalization /ḫarbat/, which matches the present toponymy and does not require ad hoc consonantal representations.

Αζζαειαθ and **Αζαεθα** (P.Ness 3 84, 1; 57, 28): This pre-conquest name is not treated in this study. The vocalization given by Kaplony [az-zayyēt] strains the evidence. The first name is probably the agentive /az-zayyāt/ and the second perhaps derived from the participle /a[z]-zā(ʔ/y)et/, if it is not simply a misspelling.

Δουβαβ (P.Ness 3 31, 34; 92, 28): Kaplony connects this with Arabic *ḍubāb*, meaning 'little lizard', but this is far from certain. It is equally possible that the name is *ḍubāb* 'a common fly' or a derivation of the root *dbb*, which can refer to any beast.

Μασβουδα (P.Ness 3 92, 29): It is unclear why Kaplony derives this word from the Arabic *maḍbūṭ*, since it requires two ad hoc consonant representations in the context of P.Ness 3. Instead, it seems better to take it as a passive participial form of the root $\sqrt{sbd}$ 'to shave off one's hair', thus */masbūd/ 'shaven' (Lane 1292b).

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Δαρεβ (P.Ness 3 24, 7): This pre-Islamic name is connected to Arabic *ḍārib* 'beating' without discussion. Since in the pre-Islamic material from Nessana, *ḍ is represented with Zeta in all other cases, a connection with Arabic *dārib* 'an eagle accustomed to chase'; the name *drb* is attested several times in the Safaitic inscriptions (Harding 1971, s.v.).

Θαμθαμ (P.Ness 3 92, 30): Kaplony connects this name with the pre-Islamic ζαμζαμα (P.Ness 3 28, 2) without discussion. I see no contextual reason to consider these two names to be one and the same. The former can be connected with Arabic *tamtām* and *tamtamah* 'a stutter or speech impediment'.

Αλχαφφα and variants (P.Petra 17, 94): The identification of this term as 'cave', presumably from *kahf*, requires an ad hoc loss of /h/ and an ensuing gemination of the /f/. There is no evidence for either of these processes in the transcriptions and therefore this interpretation seems unlikely. The edition (Al-Jallad et al. 2013: 38–40) interprets it as an Aramaicism, *kappah*, a 'vaulted structure', probably referring to grain depositories.

Sigla

CPR III:	Grohmann 1924, vol. 2.
Lane:	Lane, E. W. 1863–93
PL4:	Bell, H.I. 1911
P.Ness 3:	Kraemer, C.J. Jr. 1958

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