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## **The writing culture of ancient Dadān: A description and quantitative analysis of linguistic variation**

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## Chapter 8 - Conclusions

The general aim of this work was to investigate the linguistic variation attested in the Dadanitic inscriptions in order to understand the reasons behind this variation. A better understanding of the variation in the inscriptions also sheds light on the role of writing in ancient Dadān and the role of a scribal school or writing culture at the oasis. The following will give an overview of the general conclusions of each chapter and move on to a discussion of the local writing practice at Dadān.

### 8.1 Part I Descriptive and grammar chapters

#### 8.1.1 Chapter 2 script

Chapter 2 gives an overview of the variation in letter shapes and script styles in the Dadanitic corpus. Following Macdonald (2010, 2015), it takes the position that the variation in letter shapes cannot be used to date the inscriptions relative to each other. Furthermore, it shows that there is no absolute relationship between the script style and purpose of an inscription. For example, formal inscriptions commemorating the *zll* ceremony are attested in both the least technically demanding pounded style (e.g. U 116) and in the most complex relief style (e.g. U 001). More general trends of distribution are discussed in Chapter 7 - A quantitative approach to variation.

#### 8.1.2 Chapter 3 formulae

Chapter 3 gives an overview of the different genres and compositional formulae attested in Dadanitic. The compositional formulae are an essential component of the Dadanitic writing culture. Defining the main compositional formulae helps to define which inscriptions and phrases are at the core of the local writing tradition and which are peripheral to it.

#### 8.1.3 Chapter 4 orthography and phonology

Dadanitic used *matres lectionis* -h and -w for -ā and -ū respectively. The *mater* -y for -ī seems to have developed within the time span documented by the Dadanitic inscriptions.

The often attested difference in representation of the diphthongs between the personal names and the content of the inscriptions, could suggest a difference in phonology between the personal names and the language of the inscriptions. If diphthongs had collapsed in the language of the inscriptions, but were preserved in the pronunciation of some of the personal names, this may have led to confusion as to how to represent the diphthongs in the Dadanitic orthography, leading to inconsistent representation of diphthongs in the personal names.

One of the more consistently varying phonemes is *z*, which is sometimes represented with *ṭ*. The spelling with *ṭ* mostly occurs in a specific group of inscriptions, mentioning ‘guarding’ activities *nṭr*, from the root \*NṢR. Other *ṭ* spellings occur in the *zll* inscriptions, and in several personal names. This occasional variation suggests that /z/ and /ṭ/ merged in the spoken language of at least some of the inhabitants of the oasis. Based on these relatively few examples, however, it remains difficult to say just how wide spread this feature was.

#### 8.1.4 Chapter 5 verbal morphology

Chapter 5 describes the verbal morphology of the Dadanitic inscriptions, including the variation attested for each form. The more prominent points of variation in verbal morphology are the variation

in dual agreement, causative type, spelling of the I-*w* causative and the spelling of the geminate causative.<sup>294</sup>

Especially remarkable is the use of the construction *'n* + subjunctive. The use of *'n* as a subordinator is considered an Arabic innovation (Al-Jallad 2015, 12).

### 8.1.5 Chapter 6 nominal and pronominal morphology

Chapter 6 describes the attested nominal and pronominal morphology and its variation in the Dadanitic inscriptions. Only the variation in dual agreement, which is also discussed in the chapter on verbal morphology, is used as a variable for the quantitative analysis in part II.

It is interesting to note that there is a difference in bound and unbound dual and plural suffixes (as already noted by Macdonald 2008, 194). There is some evidence for the preservation of case. Even though in most inscriptions it seems that the oblique form of the bound dual (-y) was leveled to the nominative as well, there is one inscription with a dual form *bnh* (Nasif 1988: 99, pl. CLVIII) with a suffix -ā in the nominative case. There is one attestation of a plural form *bnw* (JSLih 079) in the nominative case, suggesting a vocalic suffix -ū.

Finally there is a remarkable degree of variation in the form of the definite article. The *h(n)*- form is the most commonly used form, but there also seems to be one attestation of a *hl*- definite article (JSLih 021f). Finally there are several attestations of an assimilated *'l*- definite article (e.g. JSLih 276; AH 119), and one of an unassimilated form before a *'* (Ġabal Al-Ḥuraymāt 4).

## 8.2 Part II Variation chapter

Based on the description and grammatical analysis in part I, several of the more consistently varying features of the inscriptions were selected to perform a quantitative analysis of the variation on the corpus. These variables include both grammatical and stylistic features of the texts. The stylistic features, script style and genre, can give insight into the register of an inscription. The grammatical variables were chosen to give insight into the linguistic variation in the Dadanitic corpus. The grammatical features are: the type of causative form (*'* or *h*-causative), the form of the I-*w* causative (*'hwCC* or *'hCC*), the spelling of the geminate causative (*'hzll* or *'hzl*), the spelling of  $\sqrt{RDY}$  (*rḏy-h(m)* or *rḏ-h(m)*), the spelling of \**z* (as *z* or *t*) and agreement type. For the analysis the chi-square test (see § 7.1.1 Methodology - Statistics) was used to find statistically significant associations between variables.

This approach reveals two main causes underlying variation: language change and the use of different registers. There is one cluster of grammatical features that co-occur significantly with each other and with high register inscriptions. These variables are the causative type, the spelling of I-*w* causative forms, and the spelling of  $\sqrt{RDY}$ , referred to as 'cluster I' in Chapter 7 - A quantitative approach to variation. Of these features, the more archaic linguistic forms all co-occur significantly with each other and with high register inscriptions.

For the causative form and the spelling of  $\sqrt{RDY}$  it can be independently established which of the two variant forms is linguistically more archaic. Based on comparative data it is clear that the *h*-causative is more archaic than the *'*-causative. The fact that the development of the spelling of  $\sqrt{RDY}$  is attested within the corpus (see § 4.3 Triphthongs) clearly shows that the *plene* spellings of *rḏy* before the

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<sup>294</sup> These are the same variables that are used in the Chapter 7 - A quantitative approach to variation.

pronominal suffix are the more archaic forms. For the spelling of the *w*-causative it is less evident which variant represents the archaic form (see chapter 4.5 Diphthongs). The most plausible explanation seems to be to interpret the spelling with the medial *w* as representing a CD-stem which was eventually lost. So even though we cannot date any of the individual inscriptions relative to each other, the fact that we can independently establish the archaic nature of at least two of the linguistic variables, combined with the consistent pattern of association between all the archaic variants, strongly suggests that the variation in all three features is at least partly the result of diachronic change in the language of the inscriptions.

**Table 89 Overview of the grammatical variants with a positive significant relationship**

<i>h</i> -causative	<i>plene</i> spelling of <i>w</i> -causative
<i>h</i> -causative	<i>plene</i> spelling of $\sqrt{\text{RDY}}$
<i>plene</i> spelling of $\sqrt{\text{RDY}}$	<i>plene</i> spelling of <i>w</i> -causative

The strong association between these archaic linguistic forms and high register inscriptions shows that even though the archaic linguistic forms are the minority, they are not likely infiltrations from a spoken register into the written language. Such ‘mistakes’ would be expected to be more frequent in less carefully composed and constructed inscriptions. While the clustering of archaic linguistic forms suggests a historical component to their development, the association with high register inscriptions implies that prestige may also have played a role. The relationship between archaic forms and high prestige seems to be supported by the occasional mis-use of archaic linguistic features, such as the co-occurrence of an *h*- and a *’*-causative within the same inscription (Al-Sa‘īd 1419/1999: 4–24, no. 1, side 1-2) or inconsistent use of dual agreement (U 019 and AH 120), both of which suggests that the author of the inscription was trying to use a form he was not completely familiar with.

It is somewhat problematic, however, to assume that the use of archaic forms was solely driven by register. If archaic linguistic forms had such prestige, it is somewhat surprising that they are not more common and did not become the target forms of all inscriptions. This may suggest that the relationship between general dedicatory inscriptions and archaic linguistic forms is partly caused by the age of the inscriptions, and they are simply generally older than the other inscriptions. This cannot explain the occasional mis-use of archaic linguistic forms mentioned above, however. In this light it is worth noting that there seems to be a strong difference between *zll* inscriptions and other dedicatory inscriptions and their preference for archaic linguistic forms. Even though they seem to belong to the same register in terms of content, formulae, and execution, general dedicatory inscriptions show a preference for the use of archaic linguistic forms, while *zll* inscriptions show the opposite relationship to the same variables. This seems to suggest that, despite the central position of the *zll* inscriptions in the writing tradition at the oasis, the other dedicatory inscriptions are the genre associated with a prestigious archaic linguistic register. The preference for more progressive linguistic forms in the *zll* inscriptions may be due to several different reasons. They may simply be younger than the other dedicatory inscriptions and the archaic forms had lost, or were losing, their prestige, also as a formal register, by the time the *zll* inscriptions were produced. Alternatively it may say something about the nature of the ritual. The content of the inscriptions suggest the *zll* ceremony may have had a legal aspect, besides its religious significance, related to taxes or property rights. A connection to legal practice may have caused the language of the inscriptions to be closer to the linguistic register of documentary texts, which tends to be more progressive than that of monumental inscriptions (see

Chapter 7 - A quantitative approach to variation for a more extensive discussion of the language of the *zll* inscriptions).

In the variation of the spelling of \*z and the use of dual agreement on the other hand, the influence of register is more obvious. Even though the use of dual agreement does not correlate significantly with any of the variables in cluster I, it mimics their distribution across register: the more progressive neutralization of the dual correlates negatively with higher register inscriptions, while it correlates positively with lower register script styles; again confirming the connection between lower register inscriptions and more progressive linguistic forms. The attestation of mistakes in the use of the dual further confirm that at some point this type of agreement probably fell out of use in the spoken language of the oasis, but was remembered for a while as part of an archaic, higher register used in writing.

The spelling of \*z shows the opposite distribution in absolute numbers. In this case the more archaic form is the most commonly used variant. However, similar to relative distribution of the other variables across the different registers we also see that the more progressive form *ʔ* correlates significantly with lower register inscriptions. The low number of attestations, however, suggests that the *ʔ* spellings are infiltrations from the spoken language that crept into more casually composed inscriptions, possibly by accident.

### 8.3 Beyond variation

Chapter 1 discussed the role of writing at the oasis of Dadān. As Macdonald (2010) has shown, the Dadanitic script was probably also used for writing on soft materials, and the oasis was likely a literate society (Macdonald 2010, 12–14). This suggests that there was a need for scribes who would know how to draw up certain specialized documents, like contracts or letters, which required training to become familiar with the designated formulae. Looking at the production of the inscriptions, the high level of craftsmanship needed to produce the inscriptions in relief clearly shows that there was an industry surrounding the production of the inscriptions and that the people who made them received specialized training as well (Macdonald 2010, 7). From inscriptions JSLih 082 and AH 220 it is clear, that at least for some inscriptions both a craftsman *ʃn* and a scribe *sʔfr* were involved in their production. Therefore, there seem to have been professional scribes at the oasis that one could turn to when in need of a specific kind of inscription or written document. These scribes would be trained in the local scribal tradition, or scribal school. Given the size of the corpus and the oasis, these scribes were probably not trained in massive institutions. However, the presence of a family of scribes where knowledge was passed on from father to son would probably have been enough to establish a writing tradition and to pass on the knowledge of less common forms and registers as well.

Following the conclusion that we can posit the existence of a defined written register, apart from the spoken languages at the oasis, chapter 1 also explored the possible effects the existence of such a scribal school may have had on the language of the inscriptions and the linguistic variation attested in them. The results of part two have shown that while the archaic linguistic forms did not become the standard, they did have a certain prestige and were favored in some of the higher register inscriptions. The clustering of several more archaic linguistic forms also seems to imply a genuine historical dimension to the linguistic variation. The fact that the inscriptions seem to witness development of the language suggests that, while in some cases the use of archaic forms was deemed prestigious, the written language was not completely divorced from the spoken language and developed along-side it. The lack of absolute correlations between archaic and progressive forms indicates that there was not a

sudden, enforced change of writing practice, but a more gradual development. This allowed for different linguistic forms to remain in use side by side, which gave the authors of the inscriptions a choice of forms and styles they could employ.

This lack of absolute divisions, and the presence of fuzzy variation, does not support the existence of a scribal school with a strong regularizing effect on the language. Instead, it seems that variation was acceptable and possibly even desired in the production of the inscriptions. Macdonald has shown that even within beautifully produced inscriptions in relief, variation in letter shapes can be found (Macdonald 2010, 14). This seems to suggest that we might need to abandon the modern idea that perfect regularity is generally the desired aesthetic aim.

The presence of a large number of graffiti in and around the oasis supports the idea that literacy was not confined to only a small group of trained scribes. A parallel might be drawn here with the situation in Iron Age Judah. It is clear that as literacy in Hebrew began to spread, there was also an increase in inconsistencies in grammar and spelling, noticeable in the epigraphic material (Schniedewind 2013, 100). Based on this, Schniedewind concludes that as literacy spreads it becomes problematic for a scribal school to maintain control over the maintenance of a strictly defined written language. As less highly trained individuals are starting to use the written language, influence from the spoken register is bound to creep in. Such tension between, on the one hand professional scribes and on the other hand private individuals both leaving inscriptions, may explain to some extent the variation attested in the Dadanitic written record. The presence of a small group of trained scribes might have been enough to maintain a written register somewhat removed from the spoken register, and even the memory of some more archaic forms. Scribes could then employ such forms to lift the significance of a commissioned text. At the same time, the participation of private individuals in the writing practices of the oasis may have pushed the incorporation of more progressive forms in the written register. Their participation in the production of texts may also explain the occasional mis-use of an archaic form, or even incorporation of forms that were not even part of the less formal registers of writing (yet), such as the *ʔ* spelling for \*z.

A final point of contact between different linguistic forms may also have come from the documents written on perishable materials. As we know from, for example, the Sabaic material, the linguistic norms used to write personal letters is often a lot more progressive than that used to write monumental inscriptions. One can imagine how someone, who is not a highly trained scribe, leaving a graffito or small inscription may use some forms that are common in his day-to-day writing, but not necessarily part of the high register of inscriptions. Similar to the scenario sketched by Macdonald concerning the interaction of formal and informal forms of the script in such a situation (Macdonald 2015, 7).

From the association between archaic linguistic forms and higher register, and the occasional unsuccessful attempt at using them, it is clear that, while these forms fell out of use at some point, they had a certain prestige and they were remembered after they had fallen out of regular use in the spoken variety. The fact that archaic linguistic forms were remembered further supports the idea that the people who produced the inscriptions were educated, and that there was a strong cultural continuity at the oasis. The cultural continuity is, of course, very clearly visible in the homogeneity in

formulae used in the inscriptions. The physical presence of older inscriptions in the landscape undoubtedly also contributed to the memory of older linguistic forms and formulae.<sup>295</sup>

#### 8.4 Future directions

By incorporating statistical methods into the analysis of linguistic variation in Dadanitic, this work has demonstrated an effective approach to dealing with the fuzzy kind of variation attested in many other epigraphic corpora as well. This quantitative approach can help identify relationships that are especially close, despite the fact that their features may not correlate exclusively together to the exclusion of others. This can help bring out patterns in the data that would be easy to miss when comparing the occurrence of variables in a more impressionistic way.

More specifically to the study of Dadanitic, this methodology may yield fruitful results in the future study of paleography and variation in the use of phrases and word order. Despite the fact that the proposals to use paleographic variation to date the inscriptions so far have been unreliable (Macdonald 2015, 17–18), the diachronic dimension to linguistic variation found in this study brings up new questions about the possibility to link the variation in script to diachronic development as well. Approaching the fuzzy variation in letter shapes with similar quantitative methodology may shed new light on the development of the script and the reasons underlying the choice for more or less archaic letter shapes within individual phrases or inscriptions, if similar clusters of co-occurring variables can be found.

Despite the highly formulaic nature of the inscriptions, there is quite a lot of variation to be found in the inscriptions in terms of the order and amount of the different elements a text can consist of (see § 3.2.2.1.1.2 The objects). The sheer amount of possible variations in word order and the different levels of building blocks present within an inscription (genre, but also the elements *superscriptio*, *narratio*, *invocatio* within each inscription) that can also vary in their order and length, means that a differently structured database is needed to catalogue this variation than the one I built for the analysis of the linguistic variables analyzed in this study. However, as formulae are such an important part of writing traditions in general, understanding the variation attested in the Dadanitic inscriptions can make a serious contribution to furthering our understanding of the writing tradition of Dadān.

#### 8.5 Summary

In short, the language of the Dadanitic inscriptions changed during the time in which the corpus was produced. The fact that there is no clear break between linguistic habits shows that this change was gradual and probably not strictly regulated by a scribal authority. This seems to suggest that professional scribes were not the only ones able to write. The sophisticated production of the inscriptions and cultural setting at the oasis do point to the existence of a scribal school, however. As part of this education the professional scribes probably also familiarized themselves with archaic linguistic forms. For the professional scribes this was likely part of their training. It needs to be kept in mind, however, that less highly trained literate individuals also had access to such forms through the presence of inscriptions containing archaic forms in the landscape. While the more archaic linguistic forms appear to have had a certain prestige, they were not promoted to become the standard written form. Instead, it seems that after they fell out of use in the spoken language of the oasis they could be

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<sup>295</sup> Such conscious use of archaic forms may be compared to the use of Kufic script from about the 12<sup>th</sup> century CE (this was brought to my attention by Prof. P. Sijpesteijn (pc.)). Even though round scripts started to replace Kufic from the late 9<sup>th</sup> to the early 10<sup>th</sup> centuries CE in manuscripts and from the late 11<sup>th</sup> century also in monumental epigraphy, Kufic continued to be used sporadically in headings in Quran manuscripts and historical texts (Blair 2007, 600–601).

used optionally, possibly to add to the cultural or religious significance of an inscription. A certain degree of variation, both in letter shapes and linguistic form seems to have been an accepted part of the writing tradition at Dadān.