ORIGINAL ARTICLE

The *ẓll* of ancient Dadān: Ritual and documentary practice

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Abstract

In and around the site of ancient Dadān (modern-day al-ʿUlā), located in the Northwest of the Arabian Peninsula, many inscriptions are found in the local North Arabian script variety called Dadanitic (6th–1st centuries BC). Many of the Dadanitic inscriptions mention the *ẓll* ceremony for the main local deity Ḏūġābat, both unique to Dadān. While the *ẓll* inscriptions are the most common type of monumental inscriptions in the Dadanitic script, their function is still little understood. Previous interpretations of the *ẓll* inscriptions have primarily relied on the etymology of the root *ẓll*, 'to cover' or 'shade' (compare Arabic *ẓulal* 'shade'). This article takes a broader approach to the inscriptions and considers their formulaic structure, phrasing, the distribution of attested personal names in them, and the use of the root in other genres and corpora to arrive at a new interpretation of the ritual, suggesting that the *ẓll* inscriptions are better understood as documenting land leases. In this context the root ẒLL should be understood as 'to write, to put down in writing; to record'.

KEYWORDS

al-ʿUlā, Ancient North Arabian, Dadanitic, epigraphy, ritual practice

1 | INTRODUCTION

Dadanitic is the name of the local script that was used to carve inscriptions in and around the oasis of ancient Dadān, modern-day al-ʿUlā, in the north-west of the Arabian Peninsula between the 6th and 1st centuries BC.[1] Most of the currently known corpus consists of short graffiti, often containing only personal names. Many of the Dadanitic monumental inscriptions mention the performance of the *ẓll* ceremony for the main local deity Ḏūġābat.[2] Figure 1 and Table 1 give an overview of the number of attested inscriptions per genre.[3] While the *ẓll* inscriptions are the most common type of monumental inscriptions in the Dadanitic

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[1]Initially shorter chronologies were proposed for the production of the inscriptions. Winnett suggested the period between the 6th and 2nd century BC, with a slightly earlier end-date (Winnett 1937, pp. 49–51). Caskel, proposed a less accepted 'short chronology' between 160 BC and 150 AD (Caskel 1954, pp. 35–37). Recent archaeological and epigraphic finds have since confirmed the 'long' chronology, placing the beginning of the Liḥyanite presence in the area as early as the 6th–4th centuries BC (Rohmer & Fiema, 2016, based on the stratigraphy of a sherd of al-ʿUlā painted ware) and likely pushing the end of their presence into the first century BC (Stein, 2020, pp. 26–27, based on the Lihyanite kings' names attested in the Aramaic inscriptions found at Taymāʾ). For an overview of the dating of the material from ancient Dadān and Hegrā based on the available archaeological material from the region see Rohmer and Charloux (2015) and Rohmer (forthcoming). More information about the dating of ancient Dadān and its writing tradition is likely to come to light soon following the French-Saudi Dadān Archaeological Project, which started in 2020 under the supervision of Jérôme Rohmer and Abdulrahman al-Suhaibani.

[2]The vocalisation Ḏūġābat for ḏġbt is merely conventional. While it is generally assumed that the theonym consists of a relative *ḏ* and a noun of the root ĠYB (e.g., Caskel 1954, p. 44; Jaussen & Savignac 1909–1920, p. 383; Abū l-Ḥasan, 1999, p. 198; Al-Said 1419/1999, p. 359; Farès-Drappeau, 2005, p. 80), the vocalisation and interpretation of the second element are not agreed on (see Farès-Drappeau, 2005, p. 80 for an overview of the different interpretations until then). Al-Said (1419/1999, p. 359) and Abū l-Ḥasan follow the vocalisation Ḏūġaybah. Two Dadanitic inscriptions that seem to write a *y*, following the *ġ* in the theonym (AH 207 and 229) may confirm this proposal (Abu l-Hasan, 2002, p. 64 and pp. 122–123), even though generally Dadanitic leaves word-internal diphthongs unrepresented orthographically.

[3]Examples of *ẓll* and dedicatory inscriptions will follow below, in the main text of the article. *nṭr*-Inscriptions are mostly found at Jabal Iṯlib, at the site of Hegrā, to the north of Dadān. They seem to record the guarding activity that was performed at this location. The genre of non-graffiti includes building inscriptions and funerary inscriptions and texts that are currently too rare as a type to form their own subgroup, but they seem more elaborate than average graffiti. This group contains, for example, legal inscriptions (JSLih 065; JSLih 077) and a longer narrative text (JSLih 072), or short inscriptions with a curse or a date (e.g., AH 289, JSLih 054).

Number of inscriptions per genre

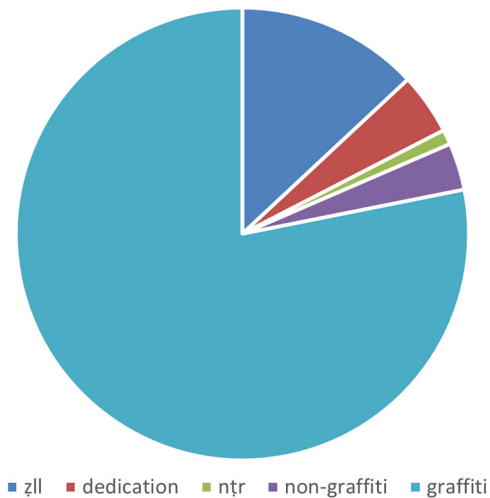■ ẓll ■ dedication ■ nṭr ■ non-graffiti ■ graffiti

FIGURE 1 Number of attestations of inscriptions per genre based on the inscriptions available in the online OCIANA database[4]

TABLE 1 Overview of the distribution of different genres of inscriptions

Type of inscription	Number of attestations
ẓll	244
Dedication	82
nṭr	20
Non-graffiti	63
Graffiti	1462

text and most of them are problematic, even within this narrow context of interpretation.

In the following, I will take a more holistic approach to the epigraphic object to help understand the meaning of the ẓll inscriptions. Combining insights from the different facets of the inscriptions, I propose that the ẓll inscriptions are better understood as having a legal or documentary function, besides their religious value, possibly documenting land rights or land leases.

2 | THE FORM OF A ẓll

Typically for epigraphic material, the Dadanitic inscriptions are highly formulaic. In general terms, the structure of the inscriptions follow the tripartite formulaic structure common to the epigraphic corpora written in Ancient South Arabian and Ancient North Arabian scripts, starting by mentioning the author or main actor of the text, indicated by a genealogy (Gn), followed by a verbal phrase that can typically be used to determine the genre or, as Avanzini (2017, p. 98) calls it, 'typology' of the text with possible elaborations. The inscriptions mostly end in an invocation for the author and his or her descendants, or a curse against the person who would damage the inscription (Al-Jallad, 2015, pp. 201–221; Avanzini, 2017, pp. 97–98). In his work on the Dadanitic inscriptions, Sima (1999, p. 49) termed these formulaic parts *superscriptio, narratio, invocatio*, following Knauf (1980). These elements are clearly present in a typical ẓll inscription, such as U 058, quoted below:[5]

U 058	1: ʾyd̲ / bn / ydʿ	ʾyd̲ son of ydʿ	Genealogy	*superscriptio*
	2: ẓll / h-ẓll	performed the ẓll ritual	Main verb	*narratio*
	3: {b-}khl / l-d̲ġ	{at} khl for Ḏūġābat	Elaboration	
	4: bt / bʿd / {n}ẖl-h	on behalf of his palm trees		
	5: w dt̲ʾ-h / b-bdr	and his crops of the season of the later rains at bdr		
	6: f r{d̲}-h / w ʾẖrt-h	so may he favour him and his descendants	Invocation	*invocatio*

script, their function is still little understood. The etymology of the root ẒLL, with the meaning 'to cover' or 'shade' (compare Arabic ẓulal 'shade'), has been prominent in previous interpretations of the inscriptions. This led to the interpretation of the ritual as the construction of sunroofs for a religious ceremony (Stiehl, 1971, pp. 5–7), or the construction and maintenance of a subterranean canal system (Sima, 1999; Van den Branden, 1969, pp. 49–50). Such interpretations rely primarily on a philological approach to the

This general structure of the ẓll inscriptions can be summarised with the following formula:

Gn [verb] [object] l-d̲ġbt b-LOC bʿdl/ʿly [property] b-[toponym] f-[invocation].

Despite the high level of formularity, this structure is not completely rigid. The only constant elements of a ẓll inscription are the Gn in the *superscriptio*, the verb in the

narratio and the final *invocatio*. Even though there are no attestations of *ẓll* inscriptions that are dedicated to another deity than Ḏūġābat this does not have to be made explicit by adding the prepositional phrase *l-ḏġbt*. All other elements can also be added or omitted as the inscriber saw fit.[6] The specific elements within the *narratio* and *invocatio*, and the order in which they occur, can also be varied.

Looking at the form of the *ẓll* inscriptions, they are very similar to other dedicatory inscriptions found in the Dadanitic corpus, which have the following formulaic shape:

Gn [verb] [object] *l*-DIN *f*-invocatio.

Their similarity in form and their common inclusion of the phrase *l-ḏġbt* make it obvious that the *ẓll* inscriptions were a type of dedicatory inscription. However, they clearly form a separate subgroup within the dedicatory inscriptions. There are several dedicatory verbs that seem to only have been used in combination with the *ẓll* inscriptions, while other verbs could be used with both *ẓll* and general dedications (see Table 1). In addition to this, some phrases, like the toponym *khl* to indicate where the ritual was performed and the elaboration to indicate on behalf of whom or what the dedication was being made are almost exclusively used with *ẓll* inscriptions. Maria del Carmen Hidalgo-Chacón Díez has clearly shown that all attestations of the toponym *khl* occur at al-'Uḏayb (Hidalgo-Chacón, 2014, pp. 20–22), suggesting that it was the ancient name for this site. Finally, the distribution in the landscape of the *ẓll* inscriptions is more restricted than that of other dedicatory inscriptions as they are mainly found at the sites named al-'Uḏayb or Jabal 'Ikmah (ancient *khl*) and Umm Daraj.

4 | PREVIOUS INTERPRETATIONS

Even though OCIANA currently uses the neutral translation 'he performed the *ẓll* ceremony' for the phrase *ẓll h-ẓll* and related forms,[7] several different explanations have been offered to try and give a more specific interpretation of the *ẓll*. Stiehl proposed 'sunroof' for *h-ẓll,* based on Arabic *ẓulal* 'shade'. She does comment that the syntax is a bit problematic. If the verb is a causative verb 'to shade, to make shady' the most likely function of the direct object would be to indicate the thing that is being shaded and not the object that is built to cast shade. She focuses on the common use of sunroofs in other ritual settings, and some abstract rock art in the vicinity of the inscriptions (see Figure 2) that may represent the woven sunroofs to support her interpretation (Stiehl, 1971, pp. 5–7).

FIGURE 2 The rock art at Jabal 'Ikmah hypothesised to be woven sunroofs, image from OCIANA[8]

Beeston agrees with Stiehl that the *ẓll* probably refers to some sort of cover (and compares it to their use in Sabaic ritual) but he suggests connecting the setting up of the roofs closer to the ritual itself, since it seems to be the primary focus of the inscriptions and at the heart of the ritual. Therefore, he proposes to connect it to temporary structures put up for a harvesting festival, similar to the practice in the Jewish harvest festival of Sukkoth (Beeston, 1974, pp. 172–173). This interpretation takes into account the frequent mention of crops and agricultural produce in the *ẓll* inscriptions and offers an interesting parallel use of impermanent structures in ritual context. However, this interpretation does not deal with the basic semantic/syntactic problem of Stiehl's initial interpretation.

Sima (1999, pp. 49–50; following Müller, 1982, p. 22) suggests to interpret *ẓll* as a subterranean canal system, crediting the first suggestion of such a connection to (Van den Branden, 1969, p. 71; through Sima, 1999, p. 6). While such canals were discovered at the site (Nasif, 1988), this interpretation requires quite a bit of semantic extension of the possible meanings of some of the dedicatory verbs, which would not work with their use in the general dedicatory inscriptions.[9] He translates *'gw*, for example, as 'to clear a subterranean water canal' from Classical Arabic *nagā* 'to save oneself, to become free' (Sima, 1999, p. 93). In AH 201, however, this same verb is used to indicate the dedication of a statue, in an inscription on a sandstone altar. Even though the context

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[6]The choice for a longer or shorter inscription obviously impacted the cost of an inscription. In case of a commissioned text, the cost to pay for the hours the mason spent or, if the author of the text carved it themselves, the time spent of one's own time.

[7]http://krcfm.orient.ox.ac.uk/fmi/webd/ociana, accessed 13 October 2021.

[8]The image is part of the record of inscription U 061 in the OCIANA database: http://krc.orient.ox.ac.uk/ociana/corpus/pages/OCIANA_0033125.html, accessed 08 October 2021.

[9]In his review of Sima's monograph, Robin argued that the connection to the maintenance of the subterranean canal system was unlikely, based on the high number of texts mentioning the *ẓll*, which would presumably exceed the maintenance needs of such a canal system, and the distance between the location of the inscriptions and the subterranean canals (Robin, 2003, pp. 774–775). He concluded, based on the repetition of the divine name Ḏūġābat in the texts, that it was more likely that the inscriptions related to a ritual context than to the maintenance of the canal system (Robin, 2003, p. 775). Even though Sima seems reluctant to connect his interpretation of *ẓll* as maintenance of the subterranean canal system to a religious context, he does mention this possibility based on the common phrase *l-ḏġbt* 'to Ḏūġābat' in the inscriptions (Sima, 1999, p. 99).

TABLE 2 Overview of the verbs attested in *ẓll* inscriptions and other dedicatory inscriptions

Verbs attested in *ẓll* inscriptions		Verbs attested in general dedicatory inscriptions	
ʾdq (1)	AH 087	**ʾdq (6)**	e.g., AH 222; JSLih 061; JSLih 063
ʾfy (9)	e.g., U 005; U 031; AH 015	ʾfqw (1)	JSLih 054
ʾgw (35)	e.g., U 038; AH 202; Al-ʿUḏayb 138	**ʾgw (35)**	e.g., AH 134; AH 201; AH 140
ẓll (116)	e.g., U 019; U 058; AH 003	ʾgy (1)	JSLih 177
ẓl (37)	e.g., AH 072; AH 080; U 006	ʾqd (1)	AH 222
hẓll (10)	e.g., U 041; U 116; AH 011	ʾrqw (1)	AH 204
fʿl (1)	AH 088	ʾṣdq (1)	JSLih 008
nḏr	U 010	**fʿl (8)**	e.g., Al-Saʿīd, 2011.1; Nasif, 1988, 86, pl. CXVI/e; Al-Ḥuraybah 06
		hdq (2)	Al-Saʿīd, 1419/1999, pp. 4–24, no. 1, side 1–2; JSLih 062
		hġnyw (1)	AH 197
		wqd (1)	Al-Ḥuraybah 08
		htb (1)	Al-Ḥuraybah 12
		hwdq (4)	Al-Ḥuraybah 13; AH 288; Al-Ḥuraybah 14; JSLih 049
		hwḍʾ (1)	Al-Ḥuraybah 12
		qrb (3)	JSLih 041; AH 209; Al-Ḥuraybah 09

Note: Verbs that occur in both types of inscriptions are represented in bold.

is a little damaged the translation Sima proposed for ʾgw does not seem to work here:

AH 201[10]	1: ʾsʾ / bn / zdl	ʾsʾ son of zdlh
	2: h / ʾgw / l-ḏ	dedicated to
	3: ġbt / ṣlm	Ḏūġābat this statue
	4: ḫ----{sʾ} / ḏh	of ḫ----{sʾ}
	5: f rḍ-h / w sʾ	so favour him and help
	6: ḏ-h	him

All the previous proposals have in common that they focused on the etymology of the name of the ritual and associated verb. This is clearly problematic; the highly formulaic and ritual context of the inscriptions makes it quite possible that the name of the ritual had become metaphoric and no longer referred to anything else than itself. In the following sections, I will bring the wider contents of the inscriptions into the discussion. This will be followed by a discussion of the distribution of the personal names that are attested in the *ẓll* inscriptions.

After this, the discussion will return to a more philological basis and consider the use of the root *ẓll* in other contexts within the Dadanitic corpus and in other Arabian epigraphic corpora.

5 | THE CONTENTS OF *ẓll* INSCRIPTIONS

In some of the *ẓll* inscriptions, the noun is modified. In some cases, this is done by placing it in construct with a following noun *h-nq*. Abū l-Ḥasan (1997, p. 60) interprets *nq* as the plural *nūq* of *nāqah* 'female camels'. Based on the location of the inscriptions, OCIANA suggests interpreting it as *nīq* 'mountain top'. They argue that, as the *ẓll* inscriptions at Jabal ʿIkmah are located at the bottom of a path up the mountain, and the inscriptions at Umm Daraj are found on top of the mountain, this would be an unlikely place to bring a camel, and *nq* more likely refers to the place itself.[11] In other cases, we find inscriptions dedicating two or three *ẓll*'s (see Table 2). Most intriguing are the inscriptions that specify the *ẓll* with the demonstrative pronoun *ḏh* 'this *ẓll*'.

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[10]The transcription and translation follow OCIANA: http://krc.orient.ox.ac.uk/ociana/corpus/pages/OCIANA_0033352.html, accessed 08 October 2021.

[11]See for example, the commentary to AH 001: http://krc.orient.ox.ac.uk/ociana/corpus/pages/OCIANA_0033109.html, accessed 08 December 2021.

TABLE 3 Overview of the different kinds of *ẓll* rituals that are mentioned in the inscriptions

Object	Translation	Attestations
h-ẓll	'the *ẓll* ceremony'	e.g., U 049; U 054; AH 062; AH 244
ẓll h-nq (9)	'the *ẓll* of the *nq*'	e.g., AH 001; AH 225; U 037; U 119
h-ẓll ḏh (11)	'this *ẓll* ceremony'	e.g., U 005; U 033; U 038; Al-ʿUḏayb 041; AH 061
ẓll (5)	'a *ẓll* ceremony'	AH 100; AH 015; AH 079; AH 091; Al-ʿUḏayb 138
ʾ-ẓll (2)	'the *ẓll*'	U 043; AH 138
h-ẓlln (1)	'the two *ẓll* ceremonies'	U 034
tlṯt ʾẓlt (1)	'three *ẓll* ceremonies'	U 032

In such inscriptions, like JSLih 276, *h-ẓll ḏh* seems to reference the inscription itself. Other uses of the demonstrative in Dadanitic inscriptions have a similar immediate referent, such as Al-Saʿīd, 1419/1999, pp. 4–24, no. 1, side 1-2; JSLih 276 and JSLih 066:

Al-Saʿīd 1419/1999: 4–24, no. 1, side 1–2	5: *hdq*	5: *he dedicated*
	6: **h-ṣlm**	6: **this**
	7: **[ḏ]h**	7: **statue**
JSLih 276	*f ʿrr / ḏġbt / ʿrr / ʾ-s¹fr / ḏh*	so may Ḏūġābat dishonor the one who mistreats **this inscription**
JSLih 066	1: *ʾbnh / ʾḫḏ*	*ʾbnh* took possession of
	2: **h-ṣfḥt ḏt**	**this cliff face**

This suggests that the inscription itself may be the *ẓll*, which would possibly yield a translation 'he had the inscription made' for the phrase *ʾẓll h-ẓll*. If this is the case, one might interpret the *ẓll* as the act of documentation, or receiving a receipt of something, in other words as an administrative action. This might be compared to the habit of making a legal claim to a cliff section for a future tomb by the Nabataeans (Nehmé, 2015, p. 1, texte 105). A copy of such texts, or a proper contract was likely kept somewhere in the local town or temple (Nehmé, 2005, p. 213). Possibly, the *ẓll* inscriptions are a similar kind of ledger. The contents of the inscriptions might give us some clue as to the purpose of such a ledger. As Beeston already pointed out, the *ẓll* is usually performed on behalf of crops or property, making a connection to a harvesting festival not unlikely.

As can be seen in Table 3, the objects on behalf of which the *ẓll* ritual is performed can roughly be divided into three categories: crops, such as palm trees or seasonal crops; property, fields, and specific locations; and finally on behalf of oneself or a family member. Based on the strong connection to agricultural produce and land, which may be interpreted as agricultural lands, it is tempting to connect the *ẓll* inscriptions to a harvesting tax comparable to the tithes, also attested in the Sabaic

and Minaic epigraphic record (*s²r* 'tithes') (e.g., CIH 567/1–6[12]; Maʿīn 9/2[13]), which were also dedicated to the gods, on behalf of agricultural produce (Table 4).

6 | PERSONAL NAMES AND THE *ẓll* INSCRIPTIONS

If the inscriptions were simply commemorating an annual harvesting festival, or even annual harvesting tax (given the dedicatory character of the inscriptions the two may have been practically the same), we would expect people to return and perform the ritual yearly. However, considering the names mentioned in the inscriptions, it becomes evident that only five people (out of 119 identifiable individuals) occur more than once (see Table 5).

The paucity of recurring individuals suggests that at least the commemoration of the *ẓll* in a rock inscription was not an annually returning ritual, but an event that only occurred once in one's lifetime for most people. In this way, the *ẓll* ritual might possibly be linked to the initial acquisition of the rights to use a plot of land or property, although this last hypothesis is somewhat complicated by the two inscriptions left by *qynh* son of *ʿbdḫrg s²nʾh*, which both seem related to the same location (*bdr*), even though only one of them specifies crops (Al-ʿUḏayb 073) and the other only some property (U 046). Moreover, as the overview of types of *ẓll* rituals in Table 2 shows, it was also possible to dedicate two or three *ẓll* rituals at the same time. This again confirms that, while not a regularly recurring event, it was a ritual someone might perform several times within their lifetime. So, while the lack of repeating personal names suggests that leaving a *ẓll* inscription was probably not a cyclical act,

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[12]See http://sabaweb.uni-jena.de/SabaWeb/Suche/Suche/SearchResult Detail?idxLemma=1272%26showAll=0 for a complete overview of the attestations of this form, accessed 07 December 2021.

[13]Through DASI: http://dasi.cnr.it/index.php?id=36%26prjId=1%26corId=0%26colId=0%26navId=967675078%26rl=yes, accessed 07 December 2021.

TABLE 4 Overview of the indirect objects mentioned in the *ẓll* inscriptions on behalf of which the inscription is made

Purpose of dedication	Translation	Attestations
nḫl (39)	Palm trees	e.g., U 038
ʾnḫl (2)	Palm trees (pl.)	Al-ʿUḏayb 071; 073
dt̠ʾ (32)	Seasonal crops	e.g., Al-ʿUḏayb 132; JSLih 077
dt̠ʾ (1)	Seasonal crops	AH 107
ʾdt̠ʾ (2)	Seasonal crops (pl.)	Al-ʿUḏayb 071; 073
ml (24)	Property	e.g., Ryckmans 3.30; AH 141
ml kn l-h (1)	The property that was his	AH 120
ḏ-kn l-h (21)	That which was his	e.g., U 050; U108; AH 069; AH 75
ḏ-l-h (3)	That which is his	U 092; U 080; AH 010
m-kn l-h (3)	What was his	U 044; U 059; AH 125
t̠brt (12)	Grain	e.g., U 112; U 069; AH 084
nʿm (4)	Cattle or property	U 094; AH 074; AH 076; AH 008.1
s²ym (3)	Field?	U 118; AH 100; AH 138
ḫrf (2)	Seasonal crops	U 041; U 059
gdw l-h (1)	The gifted property that belongs to her (?)	U 070
ʾrḍ [sic] (1)	Land	U 046
h-drt (1)	Enclosed area	U 003
mrbḍ (1)	Field	AH 073
-h (1)	Him(self)	U 102 bis
ʾb-h (1)	His father	U 034
nfs¹-h (1)	Himself	U 021

they do not provide clear evidence for an alternative scenario.

7 | VERBS USED TO DEDICATE A *ẓll*

The final text-internal element that might be explored are the verbs that are used to dedicate a *ẓll*. While the causative verbs of the same root as the noun do not shed much light on the interpretation of the ritual, some of the verbs shared with other dedicatory contexts and the two other verbs that are unique to the *ẓll* inscriptions might (see Table 6).

The verbs *ʾdq*, *fʿl* and *ʾgw* also occur in other dedicatory inscriptions. The verb *ʾdq* and the *h*-causative forms of the same root *hdq* and *hwdq* are mostly used for the dedication of objects. They occur six times in a dedication of a statue (*ṣlm*, *ṣlmn*; JSLih 061, 062, 063; Al-Saʿīd, 1419/1999, 4–24, no. 1, side 1–2; al-Ḥuraybah 09, 13), twice for the dedication of an incense burner (*h-mgmrt*; Private collection 2 and *h-mḥry* AH 288), once with a 'substitute' (*mtlt*; al-Ḥurabah 14), and once with a boy (*ġlm*; JSLih 049).

The verb *ʾgw* also occurs with the dedication of a statue in AH 202, it occurs once with *d̠ʾmn* as its object, which is otherwise used as a toponym in the inscriptions, and once with a veneration *h-hb* (AH 140).

The verb *fʿl* 'to make' occurs in several inscriptions without an explicit object, which is generally understood to mean that the inscription itself is the object that was made (Al-Saʿīd 2011.1, 2; Nasif, 1988: 86 pl. CXV/e). It is attested once with a statue as its object (U 039).

The verbs *ʾfy* and *ndr* are unique to the *ẓll* inscriptions. The verb *ʾfy* probably comes from the root *wfy* 'to complete, to fulfill' and does not add much to our understanding of the ritual. If the verb *ndr*, in this context is to be understood as 'to vow, to take an obligation upon oneself' (Lane, 1863, p. 2781c), this would work well with the interpretation of a *ẓll* as a record of land rights, as mentioned above, if we understand the acquisition of land rights to come with an regular obligation to pay for use of the land. This would be comparable, for example, to land leasing in Mesopotamia, where the temple would grant someone the right to work their land in return for a certain percentage of the yield (e.g., Stevens, 2006, p. 90). Following this interpretation, AH 023 might be understood as the woman who is mentioned at the beginning taking over the obligations that come with the land rights that her father took upon himself:

AH 023	1: *ʾmt*ʿ----	1: *ʾmt*ʿ…
	2: *bnt ʿt{k}*----	2: daughter of *ʿtk*…
	3: *t / h-ẓll /* ----	3: the *ẓll*…
	4: *dt̠[ʾ]-h / b-tr*----	4: her crops of the season of the later rains at *tr*
	5: *ḏ / ndr / ʾb {-h}* ----	5: which her father vowed…
	6: *l-d̠ġbt / ʾ*----	6: to Ḏūġābat …
	7: *[f] rḍ-hm w ʾḫ*	7: [so] favour them and their
	8: *rt-[h]m*	8: descendants

8 | THE USE OF **ẓll* IN OTHER CONTEXTS

While the *ẓll* inscriptions themselves can provide us with some hints at the interpretation of this enigmatic dedication, the clearest evidence for its meaning can probably be found in the use of the root in other contexts,

TABLE 5 Overview of the individuals who can be identified in more than one *ẓll* inscription and the objects on behalf of which they perform the *ẓll*

Person	Siglum	Transcription	Translation
ġs¹m daughter of *ʾmtbʿs¹mn*	Al-ʿUḏayb 059	3: *bʿd / dṯ-h* 4: *b-bnʾl*	On behalf of her crops of the season of the later rains at *bnʾl*
	U 001	Not mentioned	–
qynh son of *ʿbdḫrg s²nʾh*	Al-ʿUḏayb 073	4: *bʿd / ʾnḫl* 5: *-h / w-ʾdṯ-h / b-b* 6: *dr*	On behalf of his palm trees and his crops of the season of the later rains at *bdr*
	U 046	3: *bʿd / h-ʿrḍ* 4: *w-ḏ-kn / l-h / b-bdr*	on behalf of the land and that which was his at *bdr*
rḍwʾl son of *ʿbdh*	Al-ʿUḏayb 018	Not mentioned	–
	U 117	2: *bʿd / dṯ* 3: *ʾ-h / b-ṯr / w-nḫl-h / b-ṯr*	On behalf of his crops of the season of the later rains at *ṯr* and his palm trees at *ṯr*
ʿyḏ son of *ḥr*	U 034	3: *bʿd-h / w-bʿd* 4: *ʾb-h / w-bʿd nḫl-h*	On behalf of himself and on behalf of his father and on behalf of his palm trees
	U 032	Not mentioned	–
ʿyḏ son of *ydʿ*	U 033	3: *bʿ* 4: *d / nḫl-h / b-ṯr / w-* 5: *dṯ ʾ-h / b-ḏʿmn*	On behalf of his palm trees at *ṯr* and his crops of the season of the later rains at *ḏʿmn*
	U 058	4: *bʿd / {n}ḫl-h* 5: *w-dṯ ʾ-h b-bdr*	On behalf of his palm trees and his crops of the season of the later rains at *bdr*

TABLE 6 Meaning of the verbs used to dedicate *ẓll* inscriptions

Verb	Meaning	Attestations
ẓll (116)	Etymological	e.g., U 019; U 058; AH 003
ẓl (37)	Etymological	e.g., AH 072; AH 080; U 006
hẓll (10)	Etymological	e.g., U 041; U 116; AH 011
ʾfy (9)	WFY 'to pay, grant, fulfill an obligation'	e.g., U 005; U 031; AH 015
ʾdq (1)	WDQ 'to offer'	AH 087
ʾgw (35)	GYW or NGY 'to dedicate' or 'to announce'	e.g., U 038; AH 202; Al-ʿUḏayb 138
fʿl (1)	'to make'	AH 088
nḏr (1)	'to vow'	U 010

Note: The forms in bold face are also attested in other dedicatory inscriptions.

specifically, in Dadanitic graffiti and the parallel usage of the causative verb in Sabaic.

Interpreting the root *ẓll* as 'to write', could shed new light on the interpretation of a graffito from Taymāʾ (JSLih 382), which was initially published by Jaussen and Savignac (1909–1920) and republished by Eskoubi (1999):

JSLih 382   *ṣlmyḥb / ṯll*

Eskoubi suggested the translation 'ṣlm loves *ṯll*' (Eskoubi, 1999, pp. 218–219), interpreting *ṯll* as a personal

name. OCIANA does not offer a translation of the inscription.[14] Hani Hayajneh suggests to link the second form to the Dadanitic *ẓll* inscriptions and proposes a translation '*ṣlmyḥb* performed the *ẓll/ṯll* ceremony/has offered' (Hayajneh, 2016, p. 164). It is not very surprising to find the root *ẒLL* as *ṯll* in Dadanitic, as both spellings are also attested in the typical *ẓll* inscriptions from Umm Daraj and Jabal ʿIkmah (Kootstra, 2019, pp. 29–32). It seems problematic, however, to assume the author would use a different verbal stem, and none of the other formulaic elements common to the *ẓll* inscriptions, if he was trying to communicate his performance of the ritual. Instead, the graffito might be better understood as an example of the typical genre of graffito recording the act of writing: '*ṣlmyḥb* wrote'. This type of graffito finds many parallels in the Dadanitic corpus, usually with the verb *tqṭ* 'he inscribed' (e.g., AH 256, 266; JSLih 119):

AH 256	1: *ns²r / bn / tm*	1: *ns²r* son of *tm*
	2: *tqṭ*	2: inscribed

A similar graffito may have been recently found in the 2021 survey of the Jabal Khuraybah area that is part of the Dadān Archaeological Project of the Royal Commission for al-ʿUlā and the CNRS under the supervision of Jérôme Rohmer and Abdulrahman al-Suhaibani (Figure 3):

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[14] http://krc.orient.ox.ac.uk/ociana/corpus/pages/OCIANA_0035800.html, accessed 28 January 2022.

FIGURE 3 Rockface with DDN_00499_025 highlighted for clarity, photo courtesy of French-Saudi Dadān Archaeological Project, which started in 2020 under the supervision of J. Rohmer and A. al-Suhaibani. The photo was taken during the 2021 mountain survey by J. Pinot and R. Housse

DDN_S_00499_025	*[……] ẓl / ʾws¹l / ḥḏ[.]t ʾws¹l ḥḏ[.]t* inscribed

Finally, an interpretation of the root *ẓll* as 'to write, to record' fits well with a recent reinterpretation of the causative verb *hẓl* in several Sabaic inscriptions as 'to write down, to have written down', offered in the online Sabaweb dictionary.[15] The text in which the verb is attested seems to be a building inscription, which was found at Jabal Thanīn in modern-day Yemen (CIH 287, see quotation below). The same form is attested in VL 25/6.−7. and CIH 648/4.−4. in more fragmentary condition.

Previous interpretations of this verb in Sabaic also included meanings referring to the covering of a place (e.g., Biella, 1982, p. 225; Höfner et al., 1934, pp. 91–92), or more general meanings such as 'to make, to realize' (Jamme, 1971, p. 88), or 'to build' (e.g. Hartmann, 1909, p. 259).[16] Its' repeated occurrence with the verb *zbr* 'to write down'[17] in CIH 287 could suggest a slightly more

specific meaning of 'recording' for the verb *hẓl*. While a phrase 'to record and write down' may seem somewhat redundant to the modern reader, we find similar strings of closely related verbs in Sabaic and other South Arabian epigraphs, for example in construction texts.[18] The collocation of *zbr* and *hẓl* in CIH 287, seem to make use of a similar stylistic devise, combining two or more verbs of different roots but with related meaning.

In Minaic[19]:

M 185/1	*bny w-s³lʾ w-s¹ḥdt*	He built and dedicated and restored
M 203	*[……]s³lʾ w-bny w-s¹ḥdt*	He dedicated and built and restored

Sabaic[20]:

MAFY-ḏī-aṣ-Ṣawlaʿ 1 A + B/ A.1.-A.3.	*brʾ [ ] w-hqšb w-hḥdt*	He built and renewed and (otherwise) renewed
DAI 1998-Wasserbau 1/1–2	*ʿs¹w w-bny w-hwtr w-šqr w-hḥdt w-qny w-brl*	He constructed, built, laid the foundations, closed, renewed, acquired and took possession of'

If the interpretation of *hẓl* as 'to write, to record' in Sabaic is correct, it would form an important parallel to

CIH 287/1.−1.	*ʾs¹d hẓlw w-zbrn ḏ-mhrtn ʿdy nkl śrtn mrʾšms*	the men who wrote down(?) and wrote(?) some of the work(?) work/during the work (?) of the building of *mrʾšms*
CIH 287/2.	*nṣrm yhʾmn w-ṣdq bny hmdn hẓly w-zbrn*	*nṣrm yhʾnn* and *ṣdq* of the lineage of *hmdn* wrote down (here) and wrote
CIH 287/11.	*w-wzʾw hẓln šrḥʾl bn hrmm w-rbšmsm bn mlḫdm*	and then they wrote down(?): *šrḥʾl* son of *hrmm* and *rbšmsm* son of *mlḫdm*

the use of the root *ẓll* in relation to the act of writing or recording, even though in Sabaic context it seems to be most commonly used in building inscriptions.

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9 | DISCUSSION AND CONCLUSION

Following the proposal to interpret the *z̧ll* as a record related to agricultural lands and production, possibly in the form of land leasing obligations, based primarily on its usage in the inscriptions, we can now return to its etymology. While the root ẒLL is attested with a meaning to do with shade and protection across Semitic languages (e.g., Hebrew *z̧ll* (in causative stem) 'to throw shadows' (Koehler et al., 1995, para 8007); Akk. *ṣullulu* 'to roof (a building); to provide shade' (Oppenheim & Reiner, 2004, p. 16, Ṣ:239a); Geʿez *ṣallala* (Leslau, 1987, p. 555) this does not provide a very clear connection to the idea or writing or recording. If the interpretation as 'writ, record' is correct, this might be connected to Safaitic 'to remain', suggested by Ahmad Al-Jallad, based on the Arabic usage of the root *z̧alla yafʿalu kaḏā* 'he continued to do such a thing' (Al-Jallad, 2015, p. 355; Lane, 1863, p. 1914c). Again, the relationship is not obvious and would require some semantic leaps. Either from 'the thing that remains' to 'the record' and related verbal forms, possibly eventually to a more general meaning 'to write down', or from 'thing that remains' to 'trace' or 'mark' to 'to incise, to mark a surface' or 'to write'.

Even if the exact etymology of the term remains somewhat uncertain, the self-reference of some of the *z̧ll* inscriptions, the possible use of *z̧ll* as a D-stem verb in Dadanitic graffiti with a meaning 'to write' in parallel to the more common *tqt*, and the new interpretation of the causative verb *hz̧l* in Sabaic inscriptions as 'to write, to record', all suggest that the noun *h-z̧ll* should be interpreted as a reference to the inscription itself and translated as 'the inscription' in the Dadanitic context. The complete construction with the causative verb *ʾz̧ll h-z̧ll* and its equivalents, could then be translated most neutrally as 'he had the (*z̧ll*) inscription written down/recorded'.

The general interpretation 'to write down, to record' can be further fleshed out by taking into consideration the frequent mentioning of crops in the *z̧ll* inscriptions, which previously already contributed to the suggestion to connect it to a harvesting festival (Beeston, 1974, pp. 172–173). However, the low number of repeated personal names in the *superscriptio* of the inscriptions seems to preclude interpreting the inscriptions as the result of a cyclical ritual that all those involved in agriculture would participate in yearly, such as a harvesting festival. As a one-time ritual, related to agriculture, and often connected to specific toponyms, I would suggest instead that they may record certain rights to agricultural lands, possibly tied to regular economic obligations, such as a land lease from the temple administration, which were not part of the *z̧ll* ritual itself. Interpreting the *z̧ll* as taking future obligations upon oneself could explain the use of the verb *nḏr* 'he took a vow, took an obligation upon himself' in some of the *z̧ll* inscriptions. The few examples of recurring individuals and the few mentions of the recording of multiple *z̧ll* inscriptions within the same text, could refer to the possibility for an individual to participate in multiple such land leases within their lifetime.

The documentary value of the *z̧ll* inscriptions does not mean that the *z̧ll* inscriptions were not also religious, dedicatory texts. The way the inscriptions are structured, with the standard *superscriptio*, *narratio*, *invocatio* structure, the overlap in verbal forms with general dedicatory inscriptions, and the common addition of the phrase *l-ḏġbt* 'for Ḏūġābat', all very clearly show that the inscriptions were part of the ritual context of Dadān as religious offerings. If the interpretation of the texts as documenting land leases is correct, this suggests the involvement of religious institutions in land ownership and the agricultural economy of the oasis.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available in OCIANA at http://krcfm.orient.ox.ac.uk/fmi/webd/ociana.

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REFERENCES
Abū l-Ḥasan, Ḥ. A. D. (1997). *Qirāʾah li-kitābāt liḥyāniyyah min jabal ʿIkma bi-minṭaqat al-ʿUlā.* Riyadh: Maktabat al-malik fahd al-waṭaniyyah.

Abū l-Ḥasan, Ḥ. A. D. (1999). La divinité D-GBT dans les inscriptions Lihyanites. *Topoi, 9*(1), 197–200.

Abū l-Ḥasan, Ḥ. A. D. (2002). *Nuqūsh liḥyāniyya min minṭaqat al-ʿUlā.* Wizārat al-maʿārif.

Al-Jallad, A. (2015). *An outline of the grammar of the safaitic inscriptions* (SSLL 80). Brill.

Al-Said, S. F. (1419/1999). Dirāsah taḥlīliyyah li-nuqūš liḥyāniyyah ǧadīdah [I]. *Maǧallah Ǧāmiʿat al-Malik Saʿūd. Al-Ādāb, 2*(11), 1–38.

Avanzini, A. (2017). The formularies and their historical implications: Two examples from Ancient South Arabian epigraphic documentation. In L. Nehmé & A. Al-Jallad (Eds.), *To the Madbar and back again: Studies in the languages, archaeology, and cultures of Arabia dedicated to Michael C.A. Macdonald,* (pp. 96–115). Brill.

Beeston, A. F. L. (1972). Notes on Old South Arabian Lexicography VII. *Le Muséon, 85,* 535–544.

Beeston, A. F. L. (1974). Book review of Stiehl (1971). *Proceedings of the Seminar for Arabian Studies, 4,* 172–173.

Biella, J. C. (1982). *Dictionary of Old South Arabic: Sabaean Dialect* (Harvard Semitic Studies 25). Scholars Press.

Caskel, W. (1954). *Liḥyan und Liḥyanisch*. Westdeutscher Verlag.

Eskoubi, K. M. (1999). *Dirāsah taḥlīliyyah muqāranah li-nuqūš min minṭaqat (Ramm) ǧanūb ġarb Taymāʾ*. Wazārat al-Maʿārif (Wakālat al-āṯār wal-matāḥif).

Farès-Drappeau, S. (2005). *Dédan et Liḥyān: Histoire des Arabes aux confins des pouvoirs perse et hellénistique (IVe-IIe s. avant l'ère chrétienne)*. Maison de l'Orient et de la Méditerranée.

Hartmann, M. (1909). *Die Arabische Frage. Mit einem Versuche der Archäologie Jemens*. Verlag Rudolf Haupt.

Hayajneh, H. (2016). Dadanitic Graffiti from the Taymāʾ Region Revisited. *Arabian Epigraphic Notes*, 161–168.

Hidalgo-Chacón, D.M.C. (2014). Place names in the Dadanitic inscriptions of al-ʿUḏayb. *Adumātu*, *30*, 15–30.

Höfner, M., Mlaker, N., & Rhodokanakis, N. (1934). Zur altsüdarabischen Epigraphik und Archäologie II. *Wiener Zeitschrift für die Kunde des Morgenlandes*, *41*, 65–106.

Jamme, A. (1971). *Miscellanées d'ancient Arabe*. Washington, D.C.: Privately Published.

Jaussen, A., & Savignac, M. R. (1909–1920). *Mission archéologique en Arabie. I. (Mars-Mai 1907) De Jérusalem au Hedjaz, Médain Saleh. II. El-ʿEla, d'Hégra à Teima Harrah de Tebouk. Texte et Atlas. III. Les châteaux arabes de Quṣeir ʿAmra, Ḥarâneh, et Tûba.* (5 volumes). (Publications de la Société Française des Fouilles Archéologiques, 2). [Reprinted Cairo: Institut Français d'Archéologie Orientale, 1997]. Leroux/Geuthner.

Knauf, E. A. (1980). Eine Gruppe safaitischer Inschriften aus der Ḥesmā. *Zeitschrift des Deutschen Palästina-Vereins*, *96*(2), 169–173.

Koehler, L., Baumgartner, W., Richardson, M. E. J., & Stamm, J. J. (1995). *Hebrew and Aramaic Lexicon of the Old Testament I–V*. Brill.

Kootstra, F. (2019). *The writing culture of Ancient Dadan: A description and quantitative analysis of linguistic variation* [PhD. thesis]. Leiden University.

Lane, E. W. (1863). *An Arabic-English Lexicon*. Williams & Norgate.

Leslau, W. (1987). *Comparative dictionary of Geʿez (Classical Ethiopic): Geʿez-English, English-Geʿez, with an index of the semitic roots*. Otto Harrassowitz Verlag.

Müller, W. (1982). Das Frühnordarabische. In W. Fischer, *Grundriß der arabischen Philologie* (Vol. 1, pp. 17–29). Ludwig-Reichert-Verlag.

Nasif, A. (1988). *An historical and archaeological survey with special reference to its irrigation system*. Riyadh.

Nehmé, L. (2005). Inscriptions nabatéennes vues et revues à Madāʾin Ṣāliḥ. *Arabia*, *3*, 179–356.

Nehmé, L. (2015). *Les tombeaux nabatéens de Hégra*. Vol. 1: texte. 2 vols. Académie des inscriptions et belles-lettres.

Oppenheim, L. & Reiner, E. (Eds.). (2004). *The Assyrian dictionary* (Vol. 16). The Oriental Institute.

Robin, C. J. (2003). Review of Sima (1999). *Bibliotheca Orientalis*, *60*(5–6), 773–787.

Rohmer, J. (forthcoming). Early Hegra: Foreign powers and local kingdoms in Northwest Arabia: New insights into the political History of Dadan, Ḥegrā and Taymāʾ in the later 1st Millennium BC. In M. Luciani (Ed.), *The Archaeology of the Arabian Peninsula 2: Connecting the Evidence. Proceedings of the International Workshop Held in Vienna on April 25, 2016.* (OREA Series Vol. 2). Austrian Academy of Sciences Press.

Rohmer, J., & Charloux, G. (2015). From Liḥyān to the Nabataeans: Dating the end of the Iron Age in North-West Arabia. *Proceedings of the Seminar for Arabian Studies*, *45*, 297–320.

Rohmer, J., & Fiema, Z. (2016). Early Hegra: New insights from the excavations in areas 2 and 9 at Madaʾin Salih (Saudi Arabia). In M. Luciani (Ed.), *The archaeology of North Arabia. Oases and landscapes. Proceedings of the International Congress Held at the University of Vienna, 5-8 December, 2013.* (OREA Series Vol. 2, pp. 281–298). Austrian Academy of Sciences Press.

Sima, A. (1999). *Die lihyanischen Inschriften von Al-ʿUḏayb (Saudi Arabien)* (Epigraphische Forschungen auf der Arabischen Halbinsel 1). Verlag Maire Leidorf.

Stein, P. (2020). Section 2. Die reichsaramäischen Inschriften der Kampagnen 2005–2009 aus Taymāʾ. In M.C.A. Macdonald, *Taymāʾ II: Catalogue of the inscriptions discovered in the Saudi-German excvations at Taymāʾ* (pp. 20–81). Archaeopress.

Stevens, M. E. (2006). *Temples, tithes, and taxes: The temple and the economic life of ancient Israel*. Baker Academic.

Stiehl, R. (1971). Neue liḥyānische Inschriften aus al-ʿUḏaib. In F. Altheim & R. Stiehl (Eds.), *Christentum am Roten Meer* (Vol. 1). De Gruyter.

Van den Branden, A. (1969). Les inscriptions Lihyanites de R. Stiehl. *Al-Machriq*, *63*, 67–79.

Winnett, F. V. (1937). *A study of the Lihyanite and Thamudic inscriptions*. University of Toronto Press.