South-east Arabian inscriptions

The current state of research

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The aim of this paper is to provide a description of the issues related to the numerous undeciphered inscriptions found in Dhofar, Oman, and to a lesser extent in the Yemeni governorate of al-Mahra, Soqotra, and northern Oman, on the walls of caves in the monsoon hills and on rocks and pebbles in the adjacent dry areas. Known as the *Dhofar Inscriptions*, they are re-labelled here as *South-east Arabian Inscriptions*, as the former definition does not account for the fact that they are found not only in Dhofar, but also in other geographical areas. As will be illustrated below, the presence of these inscriptions is consistent with the presence of speakers of the Modern South Arabian Languages (MSAL), either currently or historically. Their study has long been neglected, although their discovery on the part of western travellers dates back to the end of the 19th century. Whilst dealing with the history of scholarship concerned with these inscriptions, this paper also aims to present recent advances in the field. Its structure consists of five sections: The first one presents the script(s) and the context in which the inscriptions are found, as well as the challenges associated with their interpretation. A review of the relevant literature follows in the second section. In the third section, previously unpublished materials from a private image collection are presented. The fourth section is devoted to the presentation of results obtained by the radiocarbon dating of three inscriptions. The fifth section sets forth and discusses some research avenues in light of the facts presented in the preceding sections. Finally, the conclusions section provides remarks on future research in the field.

Keywords: Dhofar inscriptions, South Semitic script, radiocarbon dating, decipherment, Modern South Arabian.

1. Introduction and presentation of the field of investigation

In southeastern Arabia, not differently from other parts of the Arabian Peninsula, it is possible to find numerous inscriptions and petroglyphs. The inscriptions in question, found mainly in the caves of the

monsoon hills of Dhofar and to a lesser extent in the Dhofari Negd, Soqotra,[1] Oman proper and the Yemeni governorate of al-Mahra, differ from the vast majority of the Arabian inscriptions in that, despite exhibiting a writing system that is unmistakably related to the well-known ancient Arabian writing systems (also known as South Semitic script), their contents cannot be readily deciphered. As for the nature of these inscriptions, Ali al-Shahri and Geraldine King stated that they are "tantalising and fustrating (sic) as the similarity of many of the letters to those occurring in other Semitic scripts, suggests that decipherment and translation should not be a difficult task. Such optimism, however, has proved to be unfounded" (al-Shahri & King 1993: 2). The inscriptions located in the monsoon hills and the dry areas of Dhofar were documented extensively by al-Shahri and King in 1991 and 1992.[2] Personal fieldwork in the monsoon hills, which was carried out in December 2017 and January 2018, and again in November/December 2018 and November/December 2019, revealed the existence of a number of petroglyphs and inscriptions which escaped these two excellent scholars. One could then surmise that there exists a far greater number of materials than has been documented. As for Soqotra and al-Mahra, the records are virtually non-existent. Al-Shahri and King assert that the script employed in these inscriptions can be found in two slightly diverging variants, which they label Script 1 and Script 2 (1993: 1). Two summarising tables of these scripts can be found in the appendices of their report (1993: 484-485). For the convenience of the reader, they appear here:

[1] It is necessary to mention that recent epigraphic research in Soqotra highlighted the presence of other inscriptions in well-known scripts and languages, which do not fall within the scope of the present paper. See Strauch (2012).

[2] See also al-Shahri (1994).

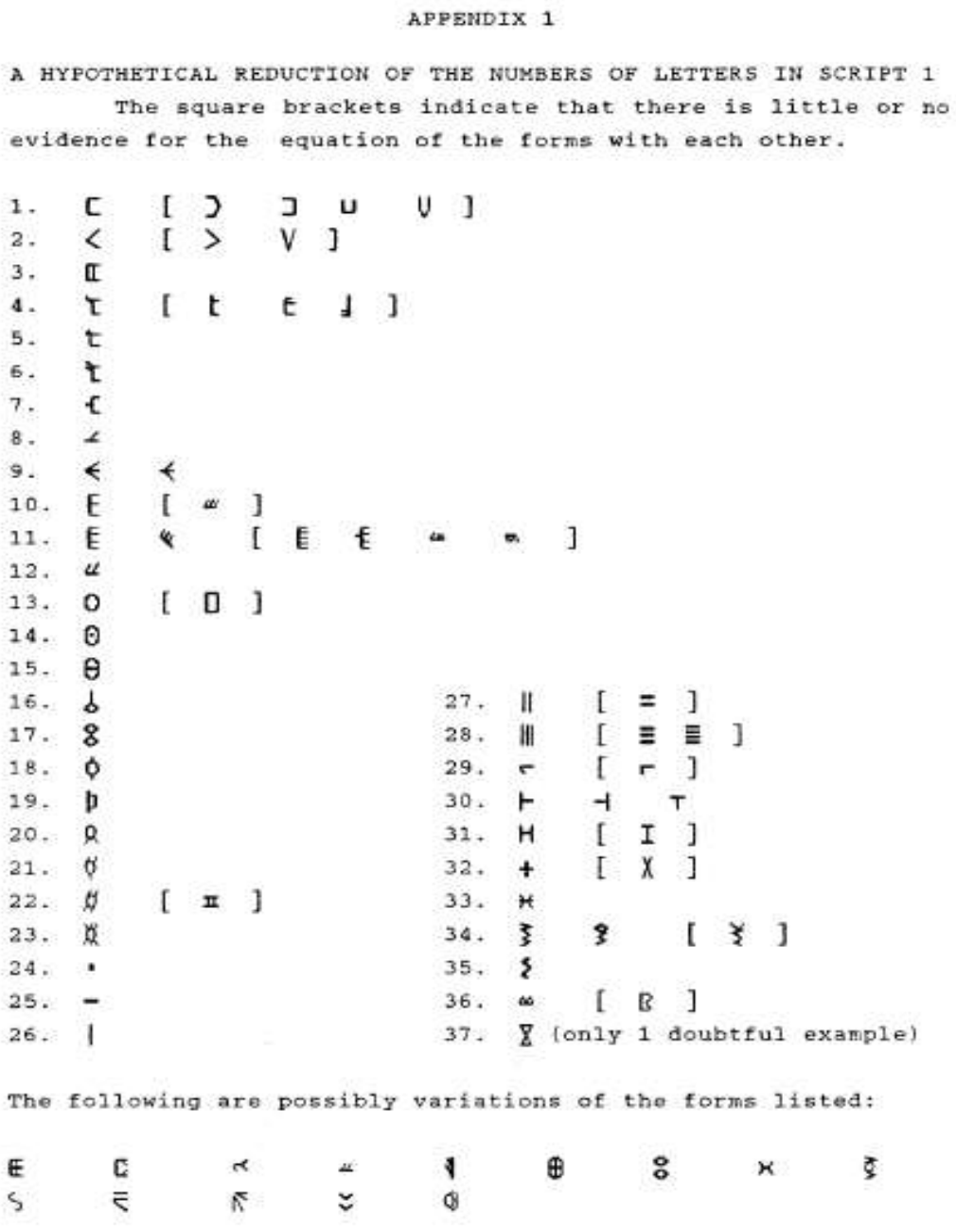

Figure 1. The so-called "script 1."

APPENDIX 2

A HYPOTHETICAL REDUCTION OF THE NUMBER OF LETTERS IN SCRIPT 2

The square brackets indicate suggested equations of the forms with each other.

Word dividers | [‘]

The following are possibly variations of the forms listed:

The following are few in number and are possibly mis-readings:

There is possibly an example of a form 𐩱. see § 7.2.14.

Figure 2. The so-called “script 2.”

A great majority of the inscriptions in the monsoon hills of Dhofar are painted in a black or, less frequently, a red pigment (al-Shahri & King 1993: 6). The composition of these pigments has not yet been ascertained, although their reaction to radiocarbon dating (see Section 4) proves that they are based on organic matter (plant, in all likelihood). Ali al-Shahri believes he has identified a way to reproduce these pigments at home (p.c.). However, he has not disclosed any details of this matter (al-Shahri 1994: 258-9). The inscriptions found outside the monsoon hills of Dhofar are pecked onto rocks,

and the above-mentioned authors state that these are "written with fairly shallow incisions and stray marks around the edge of the letters" and "they were inscribed by direct hammering rather than more accurate chiselling" (al-Shahri & King 1993: 6). The monsoon hills caves where inscriptions are found are generally very shallow, but vary in size, some being 100 metres long and 15 metres high, and others measuring only 4 metres in length and 1 metre in height (see below). Conversely, the inscriptions found in the Negd, are found on either loose boulders or the capstones of the so-called *triliths* (*Ibid.*).[3] The very few known inscriptions in al-Mahra, Soqotra and Oman are similarly found on loose rocks or stone walls.

As for the scripts, Ali al-Shahri and Geraldine King's 1993 report provides full details about their peculiarities and intricacies. In sum, the main difficulties stem from the interpretation of some of the signs, notably signs number 3, 13, 14, 25, 26, 27 and 28 in Script 1, and signs number 4, 23, 32 and 33 in Script 2 (Figures 1 and 2). The A-shaped signs (number 3 in Script 1, and number 4 in Script 2 bear a strong resemblance to the sign for /b/ in late Sabaic (al-Shahri & King 1993: 13). However, this sign is the most frequently occurring one in Script 1 (*Ibid.*), and this argues against its identification with /b/, as from a cross-linguistic perspective, one would not expect a bilabial stop to be the most common sound[4] of a language represented by a script that employs less than 40 signs and is therefore, in all likelihood, an *abjad* or alphabetic script. Additionally, there is, in both variants, a character which strongly resembles /b/ in the varieties of the Ancient South Arabian scripts other than late Sabaic (Ibid.: 12,44). This character also bears a resemblance, albeit with a different orientation, to the sign for /ṣ/ in some Ancient North Arabian scripts, namely Dumaitic and Taymanitic. Then again, one can hardly argue for /ṣ/, an "emphatic" sound, to be the most common sound of a language (see Section 2). The O-shaped signs (number 13 and 14 in script 1) are both known to represent /ʕ/, and occasionally /g/ or /ḍ/ in various Arabian scripts (Ibid.: 17-18). Evidence regarding these two signs, which differ from each other in that one of them has a dot in the centre, is often contradictory, as in certain patterns occurring several times in the corpus they appear interchangeably, while in other contexts they appear side by side (Ibid.: 32-33). In addition, assigning the value of /ʕ/ to the plain O-shaped sign would be problematic, as it often appears after the trident-shaped character (number 9 in both Script 1 and 2)

[3] These structures, whose purposes are currently not entirely clear, are constituted by three long stones leaning onto each other vertically and capped horizontally by another stone, and are found in the dry areas of Dhofar as well as, to a lesser extent, in the Yemeni Mahra (Garba 2019; al-Shahri 1991b; 1994 *passim*). Ali al-Shahri argues that they should be named *tetraliths*, as they usually consist of four stones (1991b :188-194).

[4] Compare the quantitative analysis of the frequency of 34 consonant in the Swadesh lists for 6901 languages in Everett (2018): [b] ranks 12 out of 34, whilst sonorants and voiceless stops sit at the top 6 positions.

which is known to stand for /ḥ/ in practically all the other ancient Arabian scripts: this would produce a phonetically impossible sequence of a voiceless and a voiced pharyngeal fricative *[ħʕ] (Ibid.: 40). Al-Shahri and King suggest that the plain O-shaped sign may represent [g] and provide the reading of a portion of text which would yield a Safaitic name (*ibid.*). The relative rarity of /ḍ/ means that its identification with the above-mentioned sign, occurring a great number of times in Script 1, and 67 times in Script 2 (Ibid.: 18,47-48) is unlikely. The line-shaped signs (number 25, 26, 27 and 28 in Script 1, and 23 in Script 2) are problematic in that the frequency of their occurrence and their position within character sequences do not indicate that they could be numeral signs. With regards to the single vertical line-shaped sign, the authors affirm that it is likely word divider in Script 2 (Ibid.: 50,55). As for Script 1, they list what this character stands for in other ancient Arabian scripts without advancing any hypothesis (Ibid.: 21). The other line-shaped signs, namely the double and triple vertical and horizontal lines, are left unexplained (Ibid.: 21,51). Since the A-shaped sign and the various line-shaped signs are either unknown to other ancient Arabian scripts, or are far less frequent, they may be considered as "diagnostic" of the south-east Arabian scripts. It is important to point out that the issues related to the decipherment of these scripts are not limited to single signs. Additional problems include:

a. The cave walls onto which the inscriptions have been painted are often badly damaged by soot and water, so that whole portions of text might have been damaged beyond repair (al-Shahri & King 1993: 5), and those found in the dry areas are often weathered, so that their reading is difficult;
b. Apparently, there are no "familiar" Semitic hallmarks, such as *bn*, *bnt* or *ʾb* except in a few inscriptions found on pebbles and boulders in the Negd;
c. Very few commonly occurring patterns have been identified. See al-Shahri & King (1993: 27-31).

Although there is little doubt that the origin of the script(s) is Semitic, very little about them can be affirmed with an acceptable degree of certainty. It is, however, noteworthy that they can be found wherever Modern South Arabian languages are spoken at present (Hatke 2019: 9). This, of course, provides a clue as to where to look for decipherment aid, although other avenues, set forth in Section 4 below, should also be considered.

2. Previous scholarship

The first mention in the literature of a south-east Arabian inscription is found in Theodore and Mabel Bent's book *Southern Arabia* (1900). During their stay in Soqotra, they reported the existence of a large upright rock in the vicinity of the Qalansiyah (to be precise, near a village called Haida) on which a "Himyaritic" or "Ethiopic" inscription could be seen (Bent 1900: 351,438). The book contains a copy of

this inscription, which includes one of the "diagnostic" characters mentioned above, namely the vertical double line-shaped sign. In 1932, Bertram Thomas reported for the first time the existence of the triliths in Dhofar and published some inscriptions he found on their capstones (Thomas 1932: 126-128). These inscriptions contain both the line-shaped and the A-shaped signs. Similarly, Wilfred Thesiger reported the existence of inscriptions on the structures he, too, called triliths, although he did not publish any drawing or picture of them (1959: 90-91). In 1970 Brian Doe reported another inscription in Soqotra, in the vicinity of Eriosh, containing the A-shaped sign (Doe 1970: 5).

It is, however, not until 1991 that the inscriptions gained some degree of international recognition, when Ali al-Shahri published a paper entitled *Recent Epigraphic Discoveries in Dhofar* (1991a), in which he provided a brief description of the script and the sites. In the same year, al-Shahri published a paper concerned with the triliths and their epigraphic significance (1991b). This led the British epigrapher Geraldine King to join forces with him and carry out an extensive survey of the sites in the Dhofar monsoon hills and the adjacent dry areas, whose findings were subsequently published in the form of a report entitled *THE DHOFAR EPIGRAPHIC PROJECT: A Description of the Inscriptions Recorded in 1991 and 1992* (al-Shahri & King 1993). This report is to be considered, to date, the most complete description of these epigraphs and their scripts. The report first introduces the geographical and geological context of the sites, and reviews the very scant mentions of the epigraphic materials in question. Subsequently, the authors proceed to describing each sign of the two variants of the script: the vertical script (Script 1), which is the variety used in most inscriptions, and the horizontal script (Script 2), which, compared to Script 1, exhibits some differences in terms of stance and sign shape. In the third place, the patterns occurring more than once are reported, and a discussion about the possible values of the signs in context is offered. There follows a concise account of the differences between Script 1 and Script 2, and a description of the pictograms and petroglyphs found in the sites. A substantial part of the report is then devoted to the concordance of the inscriptions.

Lastly, a bibliography, an abbreviation list, the maps of the sites, and the facsimiles of the inscriptions and drawings are presented. During the last decade of the 20th century, some of the original pictures of the Dhofar inscriptions taken during the 1991-1992 expedition were published in al-Shahri's sizeable tomes (1994; 2000). These books, while concerned mainly with the Jibbali/Shehret language and the traditions and culture of its speakers, also contain a great deal of discussion about the Dhofar epigraphic materials, albeit from a rather personal perspective. In 2000, the British scholar Michael MacDonald mentioned the inscriptions in his paper entitled *Reflections on the linguistic map of pre-Islamic Arabia*. In this paper, he dismissed their importance by stating that "They are in a previously unknown form of the Arabian script and have so far defied decipherment but, even when eventually

they can be read, the short, informal nature of the texts suggests that they may not be particularly informative" (MacDonald 2000: 68-69). In 2001, the Indian epigrapher Muhamed Abdul Nayeem produced a book entitled *Origin of ancient writing in Arabia and new scripts from Oman* (Nayeem 2001), in which he claimed to have deciphered some of the inscriptions published by al-Shahri and King. This book is structured in two sections: the first one is an excursus on the history of writing systems in Arabia, while the second one is a description of Nayeem's interpretation of the inscriptions. Sadly, his claims fail to convince the reader for the following reasons:

a. He does not hesitate to resort to double readings of signs, in order to make sense of the inscriptions. For example, the A-shaped sign in the inscription KMG21 (al-Shahri & King 1993: 28; Nayeem 2001: 137-138) is assigned the tentative double reading /d/ ~ /ṣ/ (Nayeem 2001: 138). Given the high frequency of this sign, its identification with an "emphatic" [5] stop, seems unlikely. Quite predictably, he interprets the inscription in question as "First name and tribal name – seem to be a new name (sic)" (Ibid.). Elsewhere, the same sign is read as /m/, without any comment or explanation (Nayeem 2001: 142).
b. In his transliteration, he often assigns the value of /d/ to the double line-shaped sign (Nayeem 2001: 139,142). However, the rationale for this is not made clear.
c. In general, the author does not hesitate to resort to personal names recorded in ancient languages from all over the Arabian Peninsula in order to make some sense of the inscriptions: he identifies names of Safaitic, Lihyanitic, Thamudic, Minaic and Sabaic origin (Nayeem 2001: 135-145, passim).

In addition, that author proposes that the scripts be named Sa'kalhanic A and B, after the ancient Hadramitic name of the land roughly corresponding to present-day Dhofar (Nayeem 2001: 114). While the proposal does not seem unreasonable at first glance, one should bear in mind that the *-han* portion of the place-name *Sa'kalhan* is a definite article (Stein 2011: 1051).[6] Hence, labelling the script as Sa'kalhanic would be the equivalent of calling *Alyemeni somebody or something from Yemen, on the basis of the toponym *al-Yemen*. Moreover, growing archaeological and epigraphic evidence suggests that the inscriptions are also found in rather distant areas from the historical region of Sa'kalhan, and

[5] "Emphasis" is an umbrella term which describes certain phonologically distinctive phenomena of secondary articulation in the Semitic languages. It is variously realised as pharyngealization or glottalization, according to the single subgroups and languages. In some cases, like in the Modern South Arabian languages, emphasis hesitates between pharyngealization and glottalization.

[6] Therefore, it would be best transcribed as Sa'kal^{han}.

aside from the great number of items found in the Dhofar hills, there is no evidence that the script originated there. Since the publication of the above-mentioned materials, these inscriptions have attracted very little interest in the otherwise productive field of Semitic epigraphy: An article written by David Insall (1999) presents two inscriptions found at Shenah, in north-eastern Oman, which are said to be comparable to those found in Dhofar: Geraldine King (1999) produced a short note which essentially confirms Insall's opinion. Much later, Paul Yule (2013) provided additional details of the above-mentioned sites and did not shy away from affirming that a connection with the Modern South Arabian languages is not to be ruled out (Yule 2013: 401; 2018). Angelo Fossati brought up again the subject in his rather technical paper which is, however, mainly concerned with the rock art of northern Oman (2017: 86-88). The US scholar William Zimmerle is known to be conducting research on the inscriptions, but apart from a photograph book (Zimmerle 2017), nothing has been published so far regarding their interpretation. Other recent studies include Le Quellec et al (2018) and al-Jahwari (2018). The former is concerned with novel recording technologies for painted inscriptions and shows how these can be applied to the south-east Arabian inscriptions of Dhofar.[7] The latter provides some details and images of an inscription found in northern Oman, in the Ja'alan Bani Bu Hasan area of the Sharqiyah governorate, which exhibits the typical traits of the south-east Arabian inscriptions, including the "diagnostic" signs mentioned above.

3. Previously unpublished inscriptions from Wadi Khurūt, al-Mahra, Yemen

The materials in this section of the paper are presented by courtesy of Dr Geraldina Santini, who kindly agreed to the publication of some of her photographs. The below images were produced during an archaeological survey of the Yemeni governorate of al-Mahra, in 1992. During an inspection of the wadi Khurūt, which lies to the north of the governorate capital al-Ghayḍa, Dr Santini's attention was drawn by some rocks on ground which bore various petroglyphs and inscriptions. She then photographed them. In the context of this discussion, three of her photographs have proved to be highly relevant, as the inscriptions depicted therein contain signs found in the other undeciphered south-east Arabian inscriptions. In particular, the third image presented below exhibits the "diagnostic" A-shaped sign. Although these materials have not been published so far, the existence in Yemen of a script comparable

[7] The authors of this paper recently teamed up with other scientists to produce a description of the radiocarbon dating of a painted geometric pattern found in the eastern part of the Qara range. The four samples of black pigment analysed date roughly 1500 years BP (Rowe et al 2023). It is, however, disappointing that the team did not choose to date at least one of the inscriptions.

with that of the Dhofar monsoon hills was not totally unknown: al-Shahri and King mention a personal communication from Mikhail Piotrovsky regarding this issue (1993: 2).

Figure 3. Wadi Khurūt inscription 1.

Figure 4. Wadi Khurūt inscription 2.

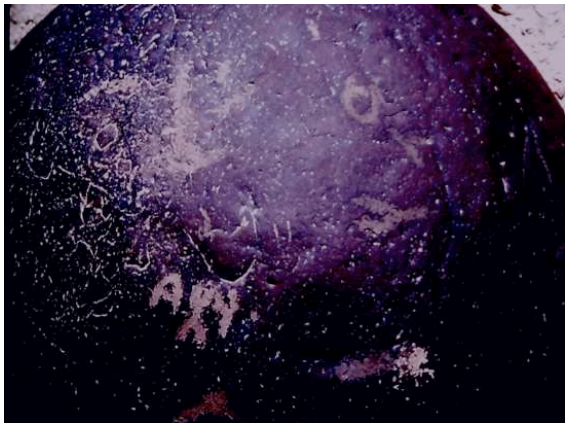

Figure 5. Wadi Khurūt inscription 3.

From a palaeographic point of view, the three inscriptions reported above exhibit strong similarities in terms of characters shape and orientation with those from the Dhofari Negd (al-Shahri & King 1993; al-Shahri 2000: 93-95).

4. Description and radiocarbon dating of three south-east Arabian inscriptions

Rock art is notoriously difficult to date, for a number of reasons: In the first place, it is often found in inhospitable environments. Secondly, pigments used in rock art are commonly derived from inorganic mineral matter, and thus not datable by radiocarbon analysis. It seems, however, that the pigment used in most south-east Arabian inscriptions is a black-charcoal paste. The less-often red pigment, whose exact composition is not fully understood to date, similarly is derived from organic matter,[8] given its reactivity to radiocarbon dating.

The first inscription analysed has been interpreted by previous scholarship as a sequence of three inscriptions in Script 1 and, as a consequence, assigned the three different sigla KMH[9] 19, KMH 20 and KMH 21 (al-Shahri & King 1993: 131). It is found in a shallow cave in the area of Agdirṓt, in the province of Rakhyut, western Dhofar, and the pigment used is a red plant-based dye.

[8] See al-Shahri (1994: 258-9).

[9] KM stands for King Maḥāš (the latter is Ali al-Shahri's family laqab). The following letter (H in this case) stands for the area in which these inscriptions were found. See al-Shahri & King (1993: 4).

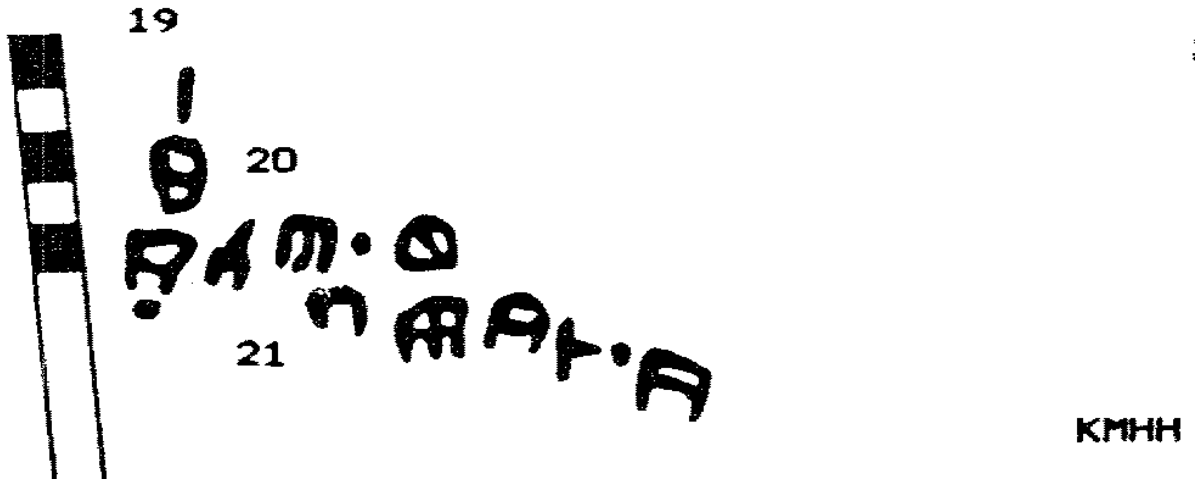

Figure 6. Inscriptions KMH 19-20-21.

The second inscription analysed in this paper similarly exhibits Script 1 and was made by applying the charcoal-black paste mentioned above to the wall of a shallow cave in Ittin, just outside Dhofar's capital Salalah.

Figure 7. Previously undocumented inscription from Ittin, Salalah.

The third inscription, an example of Script 2 having the siglum KMHH 9 (al-Shahri & King 1993: 133), is found in the same cave in which KMH 19, 20 and 21 are also found, and like the latter, was made by using a very dark red pigment.

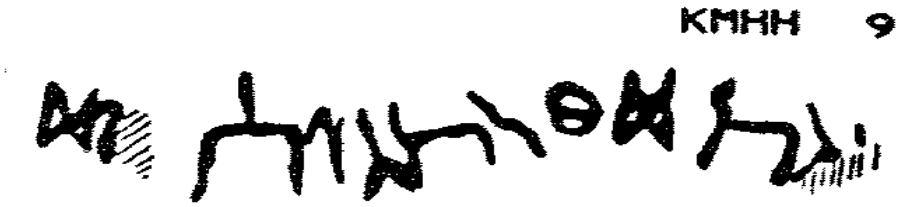

Figure 8. Inscription KMHH 9.

The samples were collected in December 2019 by the author of this paper, by scraping lightly around the outer rim of the characters, so as not to damage the inscriptions and hinder further analysis, using a sterile scalpel blade, and stored in sterile glass vials with a screw cap. The vials were subsequently stored in an anti-shock padded case until their delivery to the Mass Spectrometry Laboratory of the Center for Physical Sciences and Technology, Vilnius, Lithuania, in February 2020. The samples were then prepared using an Automated Graphitization Equipment AGE-3 (IonPlus AG) and analysed by a single stage Accelerator Mass Spectrometer (AMS) according to the following methods: IAEA C3 and IAEA C9. The results in radiocarbon years had then to be calibrated in order to account for the variability in the production rate of ^{14}C in Earth's upper atmosphere (Staff & Liu 2021: 507). This was achieved by using the OxCal computer software (Ramsey 1995) coupled with the latest atmospheric data of the IntCal20 calibration curve (Reimer et al 2020). The final results, expressed in years Before Present (BP), are calibrated in the figures 9, 10 and 11, with a 95.4% degree of probability at S2.

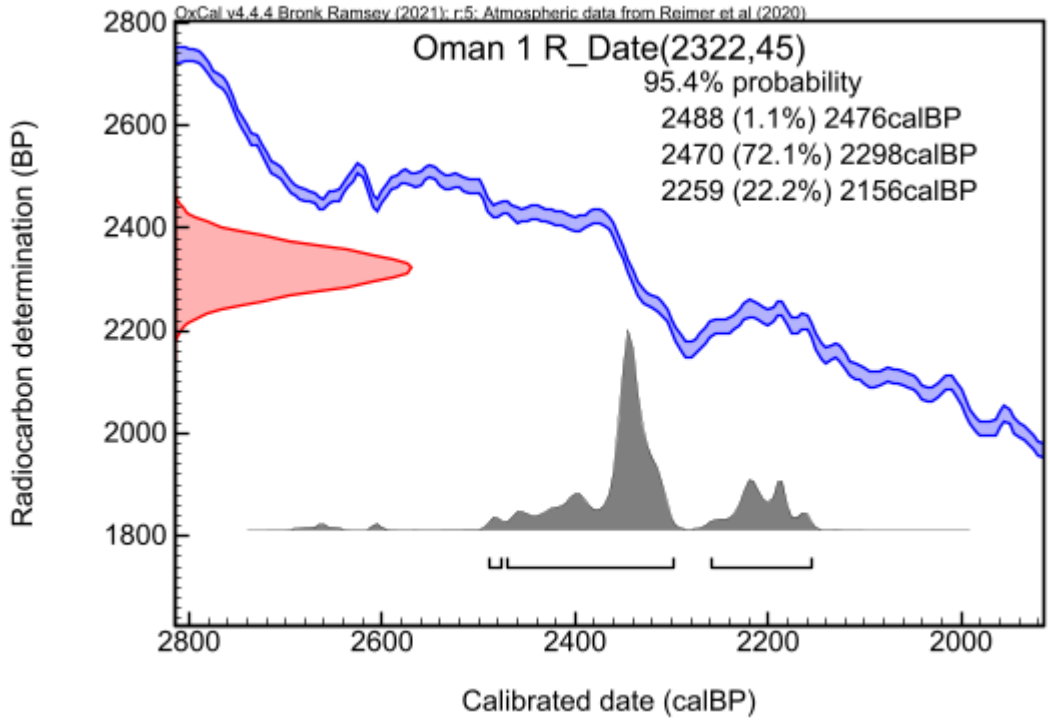

Figure 9. Calibrated radiocarbon analysis of inscriptions KMH 19-20-21.

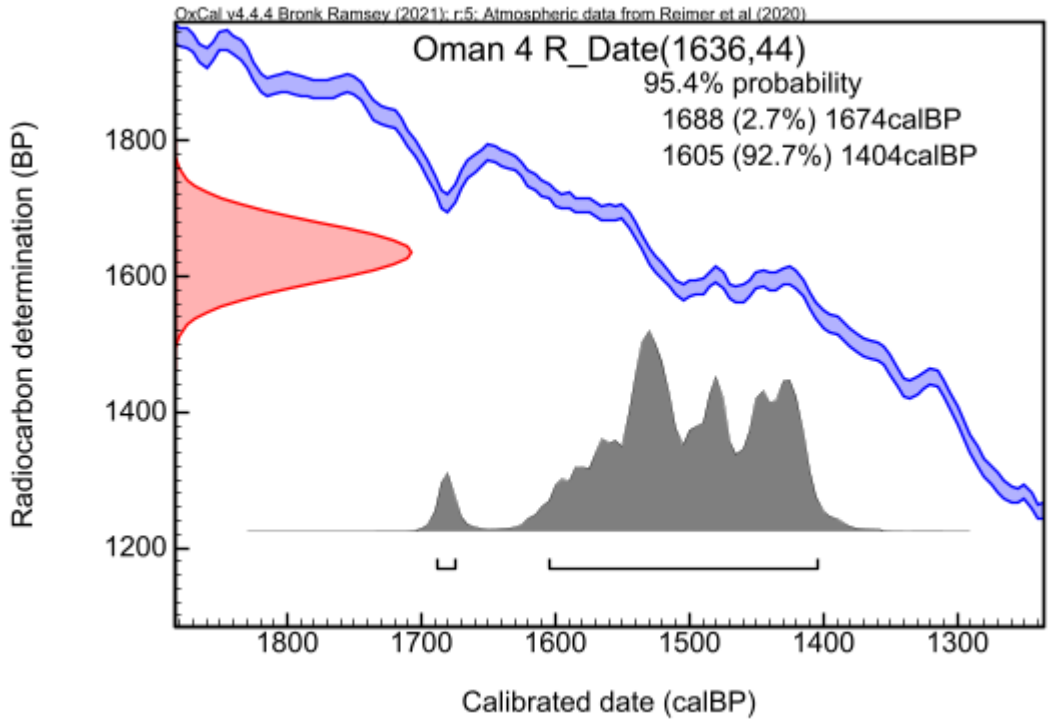

Figure 10. Calibrated radiocarbon analysis of a previously undocumented inscription from Ittin, Salalah.

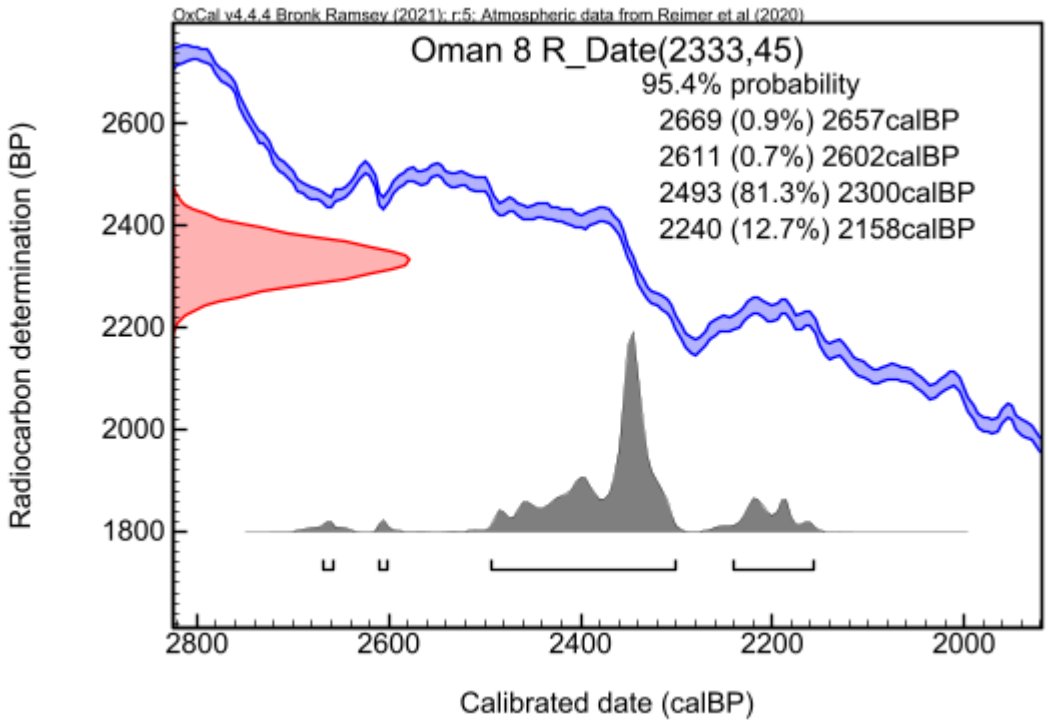

Figure 11. Calibrated radiocarbon analysis of inscription KMHH 9.

5. Discussion

Whilst most of the inscriptions in the ancient Arabian writing systems script can be interpreted to varying degrees of accuracy,[10] south-east Arabian inscriptions present the scholar with a peculiar problem: two closely related varieties of this well-known writing system which cannot be readily interpreted. The results from the radiocarbon analysis of a small number of items enable us to set a provisional *terminus post quem* at the 4th century BCE (inscriptions KMH 19, 20 and 21, and KMHH 9, figures 9 and 11), but this is likely to change if and when a large-scale study on these inscriptions is carried out. However, there being no scope for decipherment at present, one must limit oneself to the observation and description of some facts which, to date, have defied notice as much as the inscriptions themselves have defied decipherment. As has been stated in Section 2 above, earlier epigraphic literature has described the south-east Arabian inscriptions as informal and short texts, but a prolonged observation of the corpus and first-hand experience of the sites reveals a rather different scenario: It is true that a majority of the items are very short. However, it is not uncommon to

[10] Although some varieties do call for a more in-depth interpretation. See al-Jallad (2018).

encounter longer texts which, moreover, appear to carry some degree of formality. Let us consider the following:

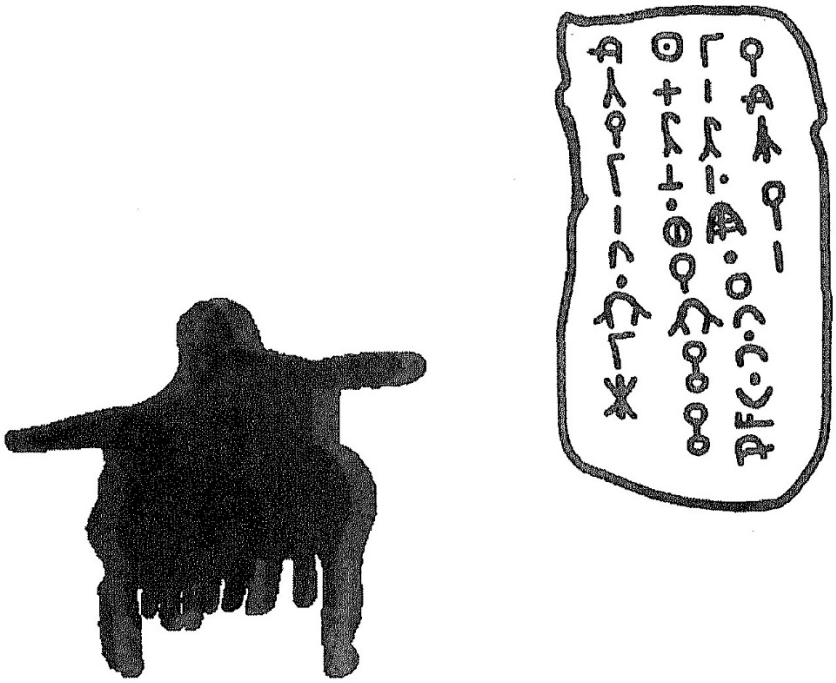

Figure 12. Inscription reported in al-Shahri's book "The Language of Aad" (al-Shahri 2000: 104).[11]

The number of characters in this inscription, the petroglyph depicting a head of livestock associated with it and the encircling of the text, point to a formal statement. Whether an ownership transfer agreement, a description and/or a warning to potential thieves, or a depiction of ritual significance, this epigraph and the accompanying image seem to be neither informal nor impromptu. Other items similarly do not fall neatly within the realm of informality:

[11] The original inscription and the accompanying drawing are made with a red pigment.

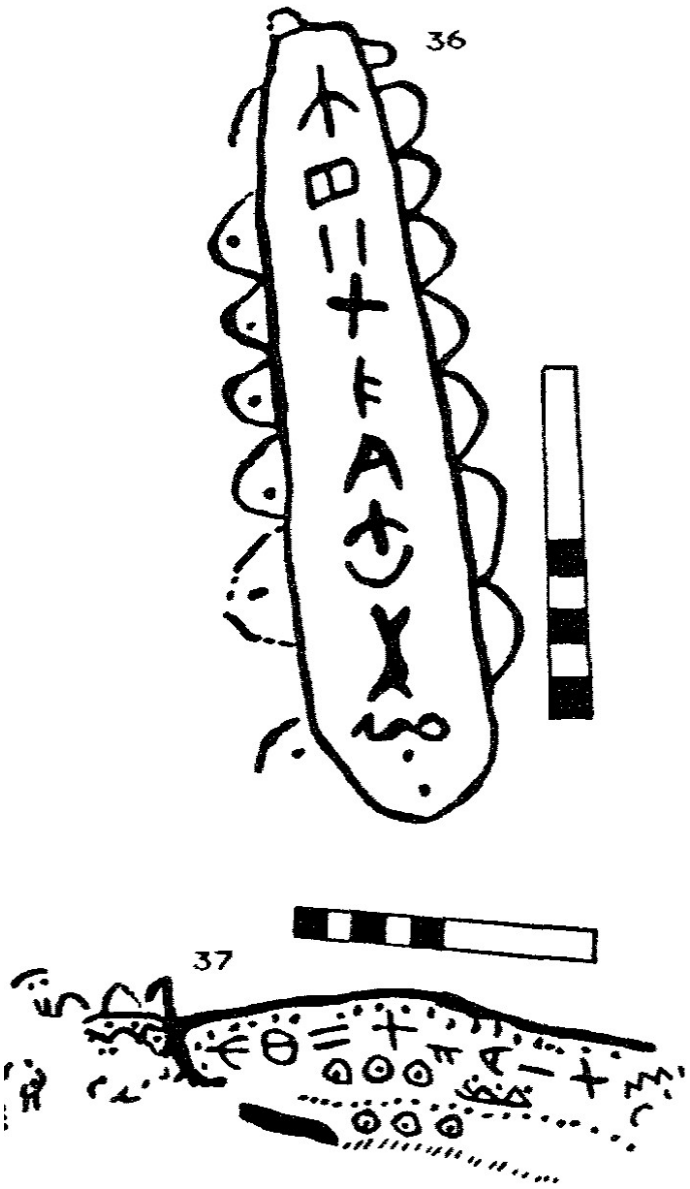

Figure 13. Inscriptions KMB 36 and KMB 37 (al-Shahri & King 1993: 65).

In regard to these items, al-Shahri and King state: "The inscription is written in a cartouche with loops attached" (1993: 65). Again, the encircling of the text, which in this case is complemented by an even more elaborate motif than that of figure 12, points to a planned action and a thought-out statement. In other cases, one encounters rather long texts exhibiting no visual traces of formality:

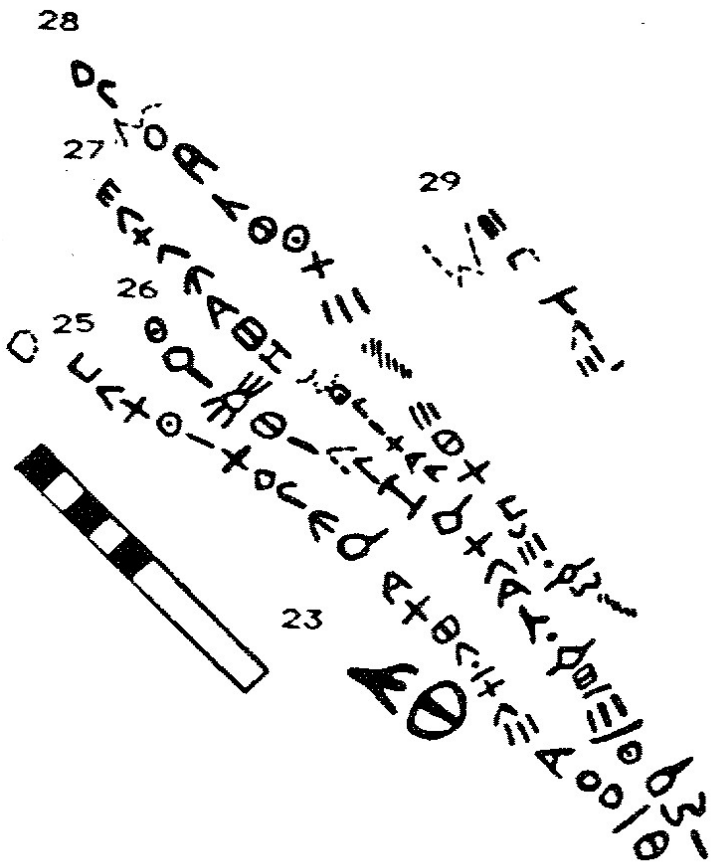

Figure 14. Inscription KMB 23 to 29 (al-Shahri and King 1993: 64).

Notwithstanding the likely informal nature of the above epigraph, one can hardly believe that such a long sequence contains only personal names. Nevertheless, as stated above (Section 2), earlier epigraphic literature expressed little interest in gaining an understanding of south-east Arabian materials, no doubt partly because of the challenges associated with their decipherment. It would, then, be tempting to point to some avenues to the solution of this issue. Difficult though this may prove to be, one can try to sketch a list of cultural and linguistic *milieux* which might be worth comparing with the epigraphic materials in question, without making any conclusive statements. The first and probably most likely such a *milieu* is the sub-group of Semitic languages known as Modern South Arabian languages, which have been spoken in the areas in questions since pre-documentary times. Gaining a full understanding of the movements of the MSAL-speaking people is an unfeasible endeavour due a dearth of attestation, but folk tales and traditions of these people, as well as a few mentions in the records of the old south Arabian kingdoms (Hatke 2019) point to a long presence in the region. Worthy of note is a 1940s travel account of the Mahra region of the then British federation of South Arabia written by a major in the British army, Tadeus Altounyan, which reports a conversation with the Sheykh of al-Ghayḍa (the capital of the present-day al-Mahra governorate, in Yemen), during

which the latter affirmed that the Mehri language[12] once had its own writing system, and subsequently lost it to the religious prominence of the Arabic script (Altounyan 1947: 238). Also, the affiliation of the south-east Arabian scripts to the ancient Arabian writing systems script might speak to the Semitic affiliation of the language(s) depicted. In any case, one must bear in mind that the areas in question, including Soqotra and Oman proper, have been involved in the millennia-old Indian ocean trade network. The area corresponding to present-day Dhofar in particular was (and still is) the frankincense-bearing region *par excellence*, and given the great socio-economic interest in acquiring the precious resin on the part of the Old World polities, the presence of one or more non-Arabian and non-Semitic ethno-linguistic elements should not be ruled out *a priori*.

In hypothesising that the language(s) represented by the south-east Arabian inscriptions may be of non-Semitic origin, one must search in several directions: It has been known for some years that the port settlement of Sumhuram[13] at Khor Rori, Dhofar, Oman, maintained direct trade with South Asia (Pavan 2016: 6) and was home, at some point during its history spanning the eight centuries between the 4th century BCE and the 4th century CE, to an expatriate community of Indians (Casson 1989; Lischi 2013). Among other artifacts unearthed during excavations which corroborate the above claim, archaeologists excavated a potsherd dated to the 1st century CE bearing an inscription representing a personal name in the Tamil Brahmi script (Ibid.: 233-234). This discovery proves that people of non-Semitic origin were living in the area in pre-modern times, and whilst we are unable to fathom the magnitude and social relevance of this community, the old Dravidian languages that were spoken in southern India at the turn of the Common Era would have to be taken into account in any future attempt at decipherment as, whilst it is true that these languages possessed a script of their own (Tamil Brahmi), we cannot assume that the native Indian community at Sumhuram used the same writing system, and although not extremely likely, a scenario in which these people resorted to an Arabian script to write their own non-Semitic language is not to be excluded.

Another historically possible source of non-Semitic peoples in the region is the Horn of Africa: In fact, the Russian linguist and Semitic scholar Alexander Militarev hypothesised the presence of a Cushitic lexical substrate in the MSAL (Militarev 1984). However, he later reanalysed the lexical items in question as a part of the wider Afro-Asiatic background of Semitic.[14] Notwithstanding, the movement of people across the waterway currently known as the Gulf of Aden is well documented

[12] That is, one of the Modern South Arabian languages, along with Jibbali/Shehret, Soqotri, Harsusi, Bathari and Hobyot.

[13] Sumhuram has been identified as the *Moscha Limén* of the *Periplus Maris Erythraei* (Lischi 2013: 227).

[14] Personal Communication.

since ancient times (Hatke 2021), although no hard evidence of a massive Cushitic presence in ancient Arabia has been found to date. Interestingly, however, recent archaeological surveys in Somaliland carried out by local specialists revealed some inscriptions which bear a strong resemblance to the south-east Arabian inscriptions, including the "diagnostic" characters, and similarly to the Dhofar inscriptions, they are found in caves.[15] However, the current political situation in Somaliland and Somalia makes it difficult to carry out an extensive survey to ascertain how relevant these inscriptions might be to the interpretation of the south-east Arabian inscriptions.

Thirdly, it has been hypothesised, based on linguistic facts, that a pre-documentary phase of the Modern South Arabian languages might have been influenced by the Austronesian language variety at the basis of the Malagasy language (Castagna 2018): not only does Modern South Arabian exhibit a few loanwords possibly of native Proto-Malagasy origin related to the sea and the winds (a plausible semantic field), but it also features at least one plant-name of Malagasy origin, namely 'Baobab tree' in Jibbali/Shehret *enkiźé*, probably from the phrase **an kazo za* 'the *za* tree,' where *za* means Baobab[16] in modern Malagasy (Castagna 2022), which points to a counter-movement of Austronesian people out of Madagascar and into south Arabia. This seems to find a confirmation in a statement of the medieval traveller Ibn al-Mujawir (Smith 2008: 137-138), and in light of these facts, it seems reasonable to include the Malagasy language and its reconstructed unattested phases in the list of linguistic and cultural *milieux* mentioned above. However, one might regard the above statements as controversial, as a long chronology (i.e. before the mid-first millennium CE) for the Austronesian colonisation of Madagascar has been refuted on grounds that the Sanskrit loanwords in Malagasy, acquired through Old Malay and/or Old Javanese when the ancestors of the Malagasy were still in Borneo, have been shown to date from the 5th century CE (Serva & Pasquini 2020). Moreover, two out of three radiocarbon dates provided in this study show that the inscriptions are considerably older that the Austronesian colonisation of Madagascar. Whilst this study does intend to challenge the above-mentioned views, the author believes that entirely ruling out, on their basis, an at least partial proto-Malagasy influence on the language(s) of the south-east Arabian inscriptions would amount to disregarding the movements of the proto-Malagasy *before* the full-scale colonisation of Madagascar: it has been shown that the ancestors of the Malagasy knew the east African lands and, possibly, Madagascar itself long before they colonised it, at which point they must have been already an ethnically and genetically mixed group, having sojourned extensively in the region and travelled back and forth between the western and the eastern parts of

[15] Some of these inscriptions can be viewed on the following website: https://africanrockart.org/somaliland/.

[16] The Baobab tree can be found in Dhofar in small and scattered pockets along the coast.

the Indian ocean, since the 3rd century BCE (Adelaar 2016). Moreover, it has been suggested that before the main colonisation event, Austronesians seamen followed, among others, a coastal route from Insular Southeast Asia to Africa which comprised southern Arabia, labelled "the Sabaean lane" (Beaujard 2019: 595). In spite of this, however, it is likely that these ancient Austronesians never gained a significant foothold in southern Arabia, and genetic evidence suggests that a more significant influx of people from Borneo in that region occurred after Madagascar was colonised (Brucato *et al.* 2019; Chambers and Edinur 2021: 257-258).[17]

Lastly, one must turn one's back to the sea and gaze inland. Yet, not in search of the Arabs (and the many meanings and peoples associated with this ethnonym: Retso 2003) but the non-Arab outcast ethnic groups that have lived in Arabia since time immemorial, like the Solluba,[18] who, before their assimilation into the Arab tribes during the first half of the 20th century, were believed to be found all over Arabia (Doughty 1936: 325) and have their own language which differed radically from Arabic (Jarvis 1938: 154). This is not a suggestion that the alleged Solluba language might have any connection with the language of the south-east Arabian inscriptions. Rather, it is a reminder that any attempt to decipher them should factor in the historical presence in Arabia of autochthonous non-Semitic (and perhaps non-Afro-Asiatic) languages, some of which might underlie some (or all) of the inscriptions: if this were the case, the lack of reference linguistic material would make deciphering them an arduous task at best.

6. Conclusions

The primary aim of this paper has been to review the available data on the study of the south-east Arabian inscriptions and, by providing the new (if modest) insight of the radiocarbon dating of three inscriptions, to kindle the interest of the scholarly communities in this neglected but fascinating and promising subfield of Arabian epigraphy. This study also aims to set forth a research agenda, which entails checking the south-east Arabian inscriptions against, at least, the following language varieties:

a. Old Tamil
b. Cushitic languages of the Horn of Africa (including their reconstructed past phases)

[17] But long before the migration (and counter-migration) of Hadrami Arabs to south-east Asia.

[18] In regard to the origins of the Solluba, see Betts (1987) and Simpson (1994).

c. Malagasy (including its reconstructed past phases)

In addition to the above, one might want to bear in mind the following facts:

a. The inscriptions might conceal more than one language.
b. It has been recognised that the MSAL exhibit a great number of lexical items which cannot be traced back to any known language family (Kogan 2015: 546). Thus, if assuming that the MSAL have been in contact with the language(s) of the inscriptions, or *are* the language(s) of at least some of the inscriptions, those lexical items must in the first place be singled out, documented and studied.
c. In spite of the formal resemblance with the other ancient writing systems of Arabia, one should not take for granted that the characters of the south-east Arabian inscriptions have the same phonetic values as their well-understood counterparts from the rest of the Arabian Peninsula. One might compare the Cherokee syllabary, which incorporates some letter-shapes of the Latin alphabet and assigns them completely different phonetic values from their models (Hatke 2019: 10).

Although we should be ready to resign ourselves to either the impossibility of deciphering this epigraphic material or waiting for a south Arabian counterpart of the Rosetta Stone to come to light, we should do our best not to succumb to a tendency to self-referentiality which characterises a good number of studies in Semitic: as we deal with one of the most influential language families of the western hemisphere, we occasionally lose sight of the role of the many non-Semitic neighbours which influenced the noble objects of our studies. Nor should we shy away from this field of enquiry because of the many difficulties with which it confronts us: on the contrary, those who are interested in this issue and possess the necessary expertise should join forces and attract funding by developing a feasible research project. Whilst drawing conclusions on the study of the south-east Arabian inscriptions and their intricacies is beyond the scope of this paper, one can effectively conclude this excursus by citing a traditional Modern South Arabian proverb: *ɛ aġad yəḳɔ́ṣ́ ḥɔ́gət fɛlɔ́ yəšeṣɔ́fɔ / ḏ-yäsyūr, yḳayź ḥōjät w-lī yäššṣayf* 'He who travels about will gain wealth or knowledge' (Jibbali/Shehret and Mehri respectively) (al-Shahri 2000: 94,270; Sima 2005: 80-81).[19]

[19] The concept of 'traveling about' is, according to al-Shahri, to be intended not exclusively as a physical action, but also as an intellectual endeavour.

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