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Michael C.A. Macdonald

University of Oxford

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On the uses of writing in ancient Arabia and the role of palaeography in studying them

Michael C.A. Macdonald (University of Oxford)

Abstract

Literacy was widespread in large areas of ancient Arabia, as shown by the huge numbers of graffiti by both settled people and nomads. But, it is still extremely difficult to establish a reliable chronology for the literate periods of pre-Islamic Arabian history. This has led to a misuse of palaeography in an attempt to create chronological sequences based on letter forms from undated inscriptions and documents, on widely different kinds of surface, with different purposes, and often separated by large distances. This practice is not confined to Arabian inscriptions but is widespread in Semitic epigraphy.

This article offers a new taxonomy for inscriptions and graffiti, examines the misuse of palaeography in Semitic epigraphy and suggests some more useful ways in which palaeography could be used in this field.

Keywords: Ancient North Arabian, Chronology, Graffiti, Inscriptions, Literacy, Palaeography

1 Introduction

From the point-of-view of literacy, pre-Islamic Arabia was one of the most extraordinary places in the ancient world. The northern, central, and south-western areas of the Peninsula have already produced well over 65,000 inscriptions and graffiti on stone, metal, wood and pottery, and it is obvious that this is only the tip of the iceberg. Clearly a very high proportion of both the settled and the nomadic populations in ancient Arabia was literate, and individuals made ample use of durable materials to practise their skills.

But pre-Islamic Arabia also had the unique distinction of developing its own family of alphabets. Sometime after the invention of the alphabet in the second millennium BC, the alphabetic tradition split into two families. One was the North West Semitic, or Phoenico-Aramaic, script from which, with one exception, all traditional alphabets in use today derive.[1] The other was the South Semitic,[2] tradition which was used exclusively in the Arabian Peninsula, until

[1] By 'traditional' alphabets, I mean those in which the letter forms have developed from those of the original linear alphabet devised in the second millennium BC, as opposed to later independent inventions such as the Osmanian alphabet in Somalia or the N'ko alphabet invented for Mandekan in West Africa (see Crystal 1987: 195, and Daniels & Bright 1996: 593, respectively), or Morse code, or Semaphore.

[2] In the past (e.g. Macdonald 2009 III: 32, 64, n. 21), I have followed Robin's renaming of this family as the 'Arabian' script family (e.g. Robin 1991: 127). However, while logical,

it was eventually exported to Ethiopia where its last surviving descendant is still used for Geʿez, Amharic, and several other languages of Ethiopia (see Macdonald 2008: 216). In addition, at certain times in some parts of the Peninsula, languages and scripts from beyond its boundaries were in use, notably Akkadian cuneiform, Imperial Aramaic, 'Gulf Aramaic' (Puech 1998), Nabataean, and Greek. However, there is a severe imbalance in the epigraphy of pre-Islamic Arabia, as we know it today. We have large numbers of inscriptions, and far larger numbers of graffiti but, unlike Egypt or Mesopotamia, the everyday documents which, in those areas, were usually written on papyrus, damp clay or broken pottery, are still almost entirely lacking in the North of Arabia and have only recently appeared in the South in the form of thousands of incised texts on palm-leaf-stalks and sticks (Ryckmans 1993; Ryckmans, Müller, & Abdallah 1994; Stein 2005a; b; 2010).

Finally, we have remarkably few firmly established dates for the historic periods in the literate areas of pre-Islamic Arabia. Archaeological work around the edges of the Peninsula is slowly helping to redress this, but, with one or two notable exceptions,[3] it is only relatively recently that large-scale excavations have begun in the heart of the Peninsula, Saudi Arabia.[4] Thus, unlike most ancient societies, Arabia has no firmly based chronology into which its written documents can be fitted. Instead, there is a patchwork of possible chronological indicators, mostly based not on hard evidence but on assumed, but unprovable, synchronisms with events or historical trends outside Arabia, or on other assumptions, some of which I shall examine below. Only very slowly, are firm dates for archaeological levels being achieved and all too often it is difficult or impossible to link these to the use of writing at a particular stage of a particular society.

I would suggest that the types of material available and the huge gaps in our knowledge mean that there is little point in asking the sort of questions which would be normal in a study of literacy in another society. Instead, quite different questions arise which make the study of literacy and its uses in ancient Arabia peculiarly fascinating. Given the nature of the material and of the gaps in our knowledge, I would suggest that a rather different methodology is required from those used in the past, if we are to ask the sort of questions for which the material is capable of providing answers. In particular, it is necessary to look carefully at the different kinds of documents available – and the ways that different types of writing were used in them – within the context of the societies which produced them, rather than as artefacts reproduced on the printed page which can be discussed and compared in the abstract, as has happened so often in the past (see Macdonald 2009 IV: 177-178).

given its geographical range until late antiquity, this name has the disadvantage that it can be easily confused with the Arabic script (which, of course, derives from the Northwest Semitic script family), especially since in some languages (e.g. German and Italian) the distinction between 'Arabic' and 'Arabian' is impossible. I am grateful to Peter T. Daniels for arguing fiercely, but enjoyably, with me over the unsuitability of the term 'Arabian' in this context.

[3]The most notable exception is Professor ʿA.Ṭ. Al-Anṣāry 1982's excavations at Qaryat al-Fāw in the 1970s and 1980s, which however have not been fully published (see Al-Anṣāry 1982).

[4]Thus, for instance, the Saudi-French excavations at Madāʾin Ṣāliḥ, the Saudi-German excavations at Taymāʾ, the Saudi-Italian-French excavations at Duma, etc.

2 'Purpose' and 'Register'

When discussing scripts and the documents in which they are used, some terms can often be used in confusingly different ways by different writers. I will therefore begin by explaining very briefly what I mean by the terms I shall be using in this article (see also the summary in Appendix 1).

First, it is important to distinguish between the *purpose* of an inscribed or written document and the *register of script*[5] in which it is executed, see Appendix 1.

2.1 Purpose

I would define a 'public' document as one which records or communicates information which is not aimed solely at one or more specific individuals. Thus, for instance, inscriptions recording the erection of a building, announcing a law, honouring a citizen on the base of a statue, or recording the deceased's name on a gravestone, would all fall into this category, as would the so-called 'confession' and 'expiation' inscriptions in ancient South Arabia since they are public announcements of personal penitence displayed in temples. Similarly, a 'public' document written in ink on papyrus, parchment, a potsherd, a wooden tablet,[6] etc., or incised with a blade or point into wax, wood, clay, etc. might be a legal document (including wills and contracts),[7] a text of religious significance, a literary work, an official letter, etc., designed for public, official or otherwise non-personal purposes. Even a literary work or Book of Hours copied for a particular person would still be a public document because the content was in the public domain and was not personal to that specific individual.

I would also class graffiti as **'public'** statements since, although they represent individual self-expression and are not couched in an official form, they are placed in contexts in which the author can have no control over who sees or reads them. Thus, in this context, even the walls *inside* a private house are still a "public place". Writing your feelings on a wall – even your bedroom wall – is not the same as confiding them to your diary. The expectation that their graffiti will be read by others must be greater among those who leave them in urban spaces than among those who carve them on desert rocks away from traditional routes, but even in the latter case the writer must still be aware of the possibility that they will be read by strangers (see Macdonald 2009 I: 81).[8] Similarly, the colophons written by scribes at the end of manuscripts they have copied, which often express personal feelings,[9] are still public documents since

[5]In Macdonald 2009 I: 77, n. 91, I defined this as follows: 'Just as linguists distinguish different "registers" in the spoken forms of a language, which are used according to the particular circumstances in which the speaker finds himself, so also, I would suggest, there are registers in the form of script which a person will use in different circumstances....'

[6]For instance, the official letter from Bar Kokhba written in ink on a wooden tablet, found in the Cave of Letters in Naḥal Ḥever, *P.Yadin* 54 (= 5/6Ḥev 54), see Yadin et al. 2002: 305-311. Pl. 56, and the description in Yadin 1961: 41.

[7]Although, wills and contracts concern the affairs of individuals, in order to carry legal force they have to be public documents which are normally framed in an authorized form and which can be scrutinised by officials in the case of disputes.

[8]It is clear from the numerous Safaitic inscriptions which record the discovery of someone else's graffito (*w wgd s*^{1}*fr* N), that these, often intimate, expressions of personal feelings could be read by others.

[9]See, for instance, the colophon quoted by Parkes (2008: 69): *explicit secunda pars summe fratris*

the authors place them in the public domain where anyone may read them.

By contrast, I would class as **'personal'** such documents as personal or business letters, whether written by a scribe on behalf of an individual or in the author's own hand, personal notes, aides-memoire, business accounts, private or business lists, exercises, etc. Such documents are usually on papyrus, broken pottery, wax tablets, wooden tablets,[10] palm-leaf stalks and sticks, etc. Once again, it is important to emphasise that this terminology refers exclusively to the purpose of the document, not its script.

2.2 Register of script

A **'formal'** or calligraphic register of a script would normally be used in both public inscriptions and graffiti (see below), and public documents on soft materials. Examples would be Syriac *Esṭrangelā*[11] and both rounded and angular Kufic, all of which are found in both inscriptions and manuscripts.

By contrast, I would call **'informal'** the register of script used almost entirely for texts in ink, or for those cut with a stylus into wax or with a blade into wood, by professional scribes, civil servants and literate private individuals. These people seem only to have used the *formal* registers in very particular circumstances. The fact that a register is 'informal' does not preclude its use in 'public' documents, thus the text of a government decree, an order from a vizier, an official letter, will all be written on papyrus or incised on wooden sticks, etc. in the 'informal' script.[12] It is the *register* of the script, not the *purpose* of the document, which is being described.

I hope that this terminology avoids the confusions sometimes caused by such words as 'monumental' and 'cursive', which appear to mean different things to different people. I will try to avoid the former altogether since it is, at the same time, insufficiently precise (it refers both to the *purpose* of an inscription and to a *register of a script*) and too restricted, since it is inappropriate to describe the formal script used in a manuscript as 'monumental' even if it is of the same type as that used in inscriptions. I would use the term 'cursive' only in its most restricted and correct sense – at least in English[13] – to refer to a script in which some or all of the letters are joined to others (see also

thome de aquino ordinis fratrum predicatorum, longissima, prolixissima, et tediosissima scribenti; Deo gratias, Deo gratias, et iterum Deo gratias!

[10] For example many of the Latin texts in ink on wooden tablets found at Vindolanda on Hadrian's Wall (Bowman & Thomas 1994).

[11] On the coexistence of *Esṭrangelā* and an informal version of the Syriac script, see Healey 2000: 63-64.

[12] Another example would be the colophons at the end of Syriac manuscripts. The manuscript is usually written in the 'formal' *Esṭrangelā* and the colophon in the 'informal' minuscule script. But both are 'public documents' because their subject matter is in the public domain, i.e. it is the *purpose* of a piece of writing not the script register which determines whether it is private or public. See, for instance, the manuscript of AD 509 described and illustrated in Land 1862: 70-71, Pl. 5, no. 12 (an example of the text), and no. 11 (the colophon). This colophon is particularly interesting because the scribe has mixed *Esṭrangelā* and minuscule letter forms.

[13] *The Oxford English Dictionary* (`http://www.oed.com/view/Entry/46151`, consulted 22nd January, 2015) still has its 1893 definition "Of writing: Written with a running hand, so that the characters are rapidly formed without raising the pen, and in consequence have their angles rounded, and separate strokes joined, and at length become slanted." However, the more up-to-date *Oxford Dictionaries* define 'cursive' as 'written with the characters joined' (`http://www.oxforddictionaries.com/definition/english/cursive`, consulted 22nd January, 2015). Similarly, *Webster* (4th ed. see Agnes 1999: s.v.).

Ryckmans 2001: 223). Thus, the normal forms of the Nabataean, Syriac and Arabic scripts are cursive in both their formal and informal registers, whereas Imperial Aramaic and Ancient South Arabian (in the forms which have survived) were non-cursive in both registers.[14]

The forces which produce change in the letter forms of formal and informal scripts derive from the interaction of the purpose of the text, the register of the script and the material on which, and the implement with which, it is written.

2.3 Formal versions of scripts favour the reader over the writer

This is because the formal version of a script is used for public documents which are expected to endure and (theoretically) to be available to many readers,[15] whether they are inscriptions or manuscript copies of sacred or secular texts. Since they are fully, or potentially, on public view, aesthetic considerations often play a part in their development. Thus, the desire that each example of the same letter will have an identical shape throughout the text will mean that it is carefully produced in a standard way, whether it is incised or carved in relief on stone, cast in metal, or written with ink on soft materials (e.g. parchment, papyrus, or paper). Elegance, clarity and uniformity are the prime objectives in the formal versions of a script and therefore scribes and monumental masons are taught standard ways of forming each letter and, in the case of cursive writing, each letter in each context. In the case of scribes copying manuscripts in the formal register of a script, this training requires the pen to be lifted from the page far more often than is necessary in the informal versions of the same script (see below), in order to keep the shape of each example of each letter as consistent as possible.[16]

If one of the guiding principles in the use of the formal register of a script is to keep accidental change to a minimum, it follows that evolutionary changes through time in the ductus[17] of letters and other aspects of the script will be

[14] It may be noted that, whereas Nabataean became an increasingly cursive script – compare, for instance, the *ʾṣlḥ* inscription (Dalman 1912: 99–101, 172), with the Turkmaniyyah (CIS ii 350) – the indigenous Aramaic script of the Ḥawrān (often confusingly lumped together with Nabataean) was predominantly non-cursive, at least in its formal register, which is all that has been found so far (e.g. LSINab 2, LPNab 6, 7, 11, 22, 24, etc., and compare the scripts in Macdonald 2003: figs 30-36). See Macdonald 2003: 54- 56 for a discussion of the differences between these two scripts. In exceptional circumstances and for specific purposes, the letters of a normally cursive script can also be written separately, as for instance in some Syriac inscriptions (e.g. LSISyr 8, 14, 15, 19, etc.).

[15] It is difficult to know to what extent public inscriptions were intended to be read. The Bīsutūn inscription is only the most extreme example of texts which are clearly for show, see Macdonald 2009 I: 83. Stein (2013: 194) has suggested that the Ancient South Arabian formal script was designed, not for ease of reading, but to create a 'visual impression' 'in a public place'; and one wonders whether this might not equally apply to Greek public inscriptions written in *stoichedon*.

[16] See Parkes 2008: 62-64, 71-100.

[17] 'Ductus' is another term which is often used to mean different things. I am using it in the sense admirably set out by J. Ryckmans, 'le "ductus", c'est-à-dire le nombre, la direction et le mode de réalisation des différents traits qui composent chaque caractère' (1994: 251). See also the detailed explanation of 'basic *ductus*' and 'personal *ductus*' in Parkes 2008: 59-60: 'The act of tracing strokes (*ductus*) is a fusion of two formative processes. The basic *ductus* establishes the order and number of the strokes, and the directions of the traces required to produce configurations that form the shapes of letters in the alphabet of a particular script. A personal *ductus* determines the way in which an individual scribe executed these traces, and is a characteristic of his or her handwriting.

greatly retarded. Change in a formal script is therefore generally based on deliberate decisions made by those commissioning the documents or in charge of their production.[18]

2.4 Informal registers of scripts favour the writer over the reader

This is because they are used for documents in which the speed of writing together with the comfort and convenience of the writer are more pressing considerations than elegance, uniformity, and sometimes even clarity. In the linear alphabets used in the ancient Near East, this register of a script was used for correspondence, both official and private, legal documents and the written ephemera of everyday life. Once again, the nature of an informal register used for handwriting is admirably expressed by Parkes:

> Rapid or cursive handwriting is protean by nature: letter shapes are recognizable but not invariable, since scribes gave priority to the momentum and continuity of the movements that governed the direction of the traces. Although the need for speed and ease of movement was not confined to private individuals writing in haste, spontaneous reactions are much more obvious in their handwriting, since they were free from the restraints imposed on the handwriting of slaves, or of clerks producing official documents (which form the bulk of the surviving examples of cursive handwriting from antiquity). However, the character of the movements in the ductus that determined the ways in which the strokes were transformed in rapid writing, depended on the materials used for writing. …
>
> Writing with a reed pen on papyrus or parchment (or even wood sealed with a light application of warm wax) gave scribes greater flexibility of movement. They did not have to lift the pen so often (and then only slightly), and the resulting fluency enabled them to accelerate the movement of the traces more easily. They were able to combine the different strokes required for a particular letter shape, often modifying it, and recorded approach and finishing movements that were subsequently recognized as auxiliary elements of the letter form. Rapid writing also promoted ligatures between adjacent letters, which altered the structures of the letters involved, and ultimately produced new shapes which were different from those of the same letters in other collocations. …
>
> Spontaneous reactions by different generations of scribes under pressure to write rapidly contributed to a constant process of cursive

Changes in the personal *ductus* of different generations of scribes are an important factor in the general development of handwriting.'

[18] This can be seen very clearly in the stylistic changes in the Ancient South Arabian formal script used in inscriptions. Here, the successive changes in letter forms are almost certainly the result of aesthetic decisions rather than an internal development of the script, and seem to be adhered to throughout the Ancient South Arabian kingdoms. One can contrast this with the development of the letter forms in the minuscule script which is characteristic of a scribal school, and those of the Nabataean script which clearly developed through writing in ink, a process of which we only see 'snapshots' in the official inscriptions and graffiti (see below).

> development that is present in rapid handwriting in all periods. When scribes increased the momentum of their handwriting, they resolved complex traces into simpler, more fluent rotatory movements with fewer pen lifts. Cursive resolution generates the kind of uninterrupted continuity in rapid handwriting that distinguishes it from a set hand, since scribes often recorded the transitions between the traces required to construct the letter shapes, as well as those between individual letters. Cursive resolution has produced different species of 'joined-up' handwriting in different periods. (Parkes 2008: 72-73).

Informal registers of scripts are therefore usually subject to much more rapid change than formal registers, though under certain circumstances – for instance in the Achaemenid administration – strict supervision and training can retard such change and a considerable uniformity can be achieved over a long period and a wide geographical area.

However, different media will effect the *nature* of the changes that occur (see Parkes 2008: 72-73) and, as a general principle, one might suggest that informal scripts used habitually for writing with *ink* tend towards the compression of letter forms into shapes which can be drawn with minimal lifting of the pen and often the joining or running together of letters for the same reason, while those requiring incision into wax or soft wood tend to result in disarticulation of letters into separate strokes (see below).

2.5 Registers in reading and writing

As I have explained elsewhere (2009 I: 52–56, 65–74), reading and writing are separate skills and in many communities were not taught together. In a society in which literacy is far from universal, where reading is learnt for particular purposes, and writing is taught only to a minority, those who can read fluently learn to recognize the different shapes letters take in different registers of the script, e.g. the formal registers in manuscripts or inscriptions, and the informal in letters or documents. They hold these shapes in their memories but if they do not write very often, or habitually write only in one register – e.g. literate individuals or some scribes accustomed only to writing personal documents – they will have little or no practice in shaping the letter forms of another register. If such a person wants to carve a graffito he will instinctively attempt to use the formal register (see below), but would have to translate his *reading* knowledge of the letter forms into writing, just as most people today would have to if they tried from memory to write accurately in the letter forms of a type face.[19] This may help to explain some of the curious letter shapes sometimes found in graffiti and the occasional insertion of those from an informal register.[20]

[19]Independently, Stein (forthcoming) has explored this idea in detail in relation to ancient South Arabian society, with most interesting results. I am most grateful to him for sending me this lecture before its publication.

[20]Interestingly, the exact opposite seems to occur in the period around AD 100, when 'texts from the military sphere' on wooden writing tablets from Vindolanda on Hadrian's Wall employ 'capital and cursive hands in the same text' (Bowman 1991: 130). 'It was of course common for military documents to be written in a mixture of capital and cursive scripts … the capital script being used for the most part in headings' (Bowman & Thomas 1994: 48). However, there are

3 Graffiti in Literate and in Non-Literate Societies[21]

Graffiti are personal statements carved, written or painted on a surface in a public place. Thus I would class as a graffito, a statement written on a wall such as 'Due to public apathy tomorrow has been cancelled' since it clearly represents a personal point-of-view, while I would class 'Demo 2 o'clock Tuesday' written on the same wall, not as a graffito but as a public announcement.[22]

Within the present context, that of the development of scripts, it is necessary to distinguish between (a) **'graffiti of a literate society'**, i.e. one in which literacy is used for the daily purposes of communication and record, and (b) **'graffiti of a non-literate society'** in which these functions are performed by word-of-mouth, memory, or other means which do not involve the written word.[23]

In those sedentary and urban societies in which literacy is moderately widespread, graffiti of type (a) will be carved, written or painted by individuals in public places and form one of a large number of different manifestations of literacy in such a society. Graffiti in Greek, Latin, Nabataean, Dadanitic,[24] and the Ancient South Arabian scripts, would be examples of this type, regardless of whether they are found on a wall in a city or a rock in the desert.

It might be thought that type (b) represents a contradiction in terms. But between approximately the mid-first millennium BC and the third century AD,[25] there were nomadic societies in southern Syria and Arabia in which large numbers of people had learned to read and write in forms of the South Semitic alphabet (Macdonald 2009 I: 74-97). These distinctive scripts developed within these nomadic societies and, as far as we can tell, appear to have been little used by others. However, in contrast to settled, and particularly urban societies, the choice of writing materials available to nomads in antiquity was generally limited to the rocks of the desert. Literacy was therefore of little

also some surprising uses of capitals in otherwise 'cursive' documents, e.g. Bowman & Thomas 1994: nos 118 and 206.

[21] In Macdonald 2009 IV: 180, I used the terms 'urban' and 'non-urban' graffiti but I now think that this misplaces the emphasis, since the difference is not so much *where* the graffiti are placed as their relationship to the use of writing in the society in which they are produced.

[22] It is true that this announcement lacks the 'official form' of most public documents (see section 2). Nevertheless, it was clearly intended as a public announcement and cannot be classed as anything else. See also J.L. Franklin, Jr's distinction between 'self-indulgent' and 'informative' graffiti (1991: 87-92). The two graffiti quoted here appeared on a wall in Oxford in the late 1960s.

[23] My definitions of literacy, literate and non-literate societies (taken from Macdonald 2009 I: 49-50) can be found in Appendix 1.

[24] Formerly called 'Dedanite' and 'Lihyanite'. For the reasons for the new terminology see Macdonald 2009 III: 33.

[25] These chronological limits are very approximate since it is impossible to date most of the texts carved by these nomads. Thus, while we have a handful of texts, in a script known as Safaitic, from southern Syria, north-eastern Jordan and northern Saudi Arabia, which can be dated to the first three centuries AD, we have no clear dating for any of the Hismaic texts of southern Jordan and north-west Saudi Arabia, and only two dates for the large number of so-called "Thamudic" texts: one, in the "Thamudic B" script from near Taymāʾ, can be dated to the mid-sixth century BC since it mentions the "king of Babylon", which must certainly refer to the last king, Nabonidus, who spent ten years in Taymāʾ. The other is the "gloss" in "Thamudic D" (JSTham 1) carved vertically beside the Arabo-Aramaic inscription JSNab 17 which is dated to AD 267. Needless to say, we have no idea how long before the sixth century BC or how long after the third century AD these nomads were using writing, though it is customary to point out that none of the texts found so far contains any reference to Christianity.

practical use in these societies and would not have displaced speech and memory as the means of communication and record. Instead, writing seems to have been used almost entirely as a pastime for those doing jobs which involved long hours of enforced, usually solitary, idleness in the desert, such as guarding the herds while they pastured, or keeping watch for game or enemies. Of course, we can never know for certain what caused each of thousands of individual nomads to carve their names, statements, and/or prayers on the desert rocks, but enforced idleness at least provided the opportunity. The scores of thousands of texts which these men, and occasionally women, carved[26] are graffiti, in that they are texts of self-expression on public surfaces (rocks in the desert). The Safaitic, Hismaic, and Thamudic B, C and D graffiti would be of this type. The conditions which produced this type of graffiti in antiquity normally existed only in deserts,[27] though of course these texts are occasionally found in settled, even urban areas, such as Umm al-Jimāl, Palmyra, or Pompeii.[28]

3.1 'Graffiti of a literate society'

Because graffiti of a literate society are personal documents, it has often been assumed, using a false logic, that the type of script used in them must be closer to an informal than to a formal register of writing. Thus, to take an example at random, Werner Caskel claimed that public inscriptions in what he calls the 'Late Lihyanite' script sometimes 'take over cursive forms from the graffiti.'[29]

However, if one studies the graffiti of most literate societies, it quickly becomes clear that their authors almost always try to use the formal register of the script (when one exists), as if the very act of carving a text in a public place requires the use of the register associated with public inscriptions. In the West, this means that carved graffiti are almost always in capital letters,[30] and this is probably the reason why angular unpointed Kufic remained in use in public contexts, including graffiti, long after it had been displaced by other forms of the Arabic script for informal texts on soft materials, both public and personal. Indeed, it is doubtful whether it was ever in general use for secular texts on papyrus.

Thus, in a literate society, both public inscriptions and graffiti are normally carved or written in the formal register of a script, and the differences between the two lie more in execution than intention.[31] The amateur who carves his name on a wall is usually trying unconsciously to use the same form of the script as the professional mason, but is simply less skilled, and is using a reg-

[26] Very occasionally painted graffiti have been found in shelters and caves in southern Jordan, see for instance Campetti & Borzatti von Löwenstern 1983: pl. XLVIIIb.

[27] See Macdonald 2009 I: 82-85.

[28] See Calzini Gysens 1990; Macdonald 2009 II: 311, n. 50, and p. 5 of the *addenda*.

[29] Caskel 1954: 27 'Außerdem entlehnt sie, auch hier wieder unregelmäßig, einige kursive Buchstaben den Graffiti.' Of course, he is here using the term 'cursive' to mean 'informal', since we have only minimal evidence of 'joined-up' writing in the Ancient North Arabian scripts at Dadan (see Macdonald forthcoming).

[30] As noted by Ryckmans 1993: 30. In most cases, this even applies to spray-paint graffiti.

[31] It is here that the comparison with the use of capital letters for graffiti in the West ceases to be exact, since today capital letters do not in themselves constitute a formal register of the Roman script and are used together with lower case letters in most informal writing. But this is a peculiarity of late mediaeval and modern Greek, Roman and Cyrillic scripts and did not apply in antiquity to the Greek, Roman or Semitic alphabets. The phenomenon in some of the Vindolanda tablets, mentioned in note 20 above, is however, quite different.

ister he is used to *reading* but not to writing. This needs to be borne in mind when one encounters unusual letter forms in such graffiti. For the formal register of a script is normally more conservative than the informal registers with which it co-exists. Thus, an unusual shape in a graffito may not always be a genuinely evolved form (in the sense that it is part of a process of development) but may represent a botched attempt at a shape which existed only in the formal repertoire and of which the amateur may well have had only a reading knowledge.[32] Alternatively, an amateur might not be able to recall the correct shape of a particular letter in the formal register and so might substitute the equivalent letter shape from one of the informal registers of the script, and might even try to modify it to make it look more 'formal'.

Thus, graffiti of a literate society do not usually provide evidence of the *informal* registers of a particular script, since they are attempts to use the *formal* version. For the same reason, graffiti of a literate society do not in themselves constitute a coherent category in discussing a script and so it is meaningless to make a palaeographical distinction, as Caskel did, between 'the script of the graffiti' and that of the public inscriptions, since the same register of script was being used in both. It follows that in a graffito any divergences from the formal letter shapes will tend to be individual rather than generic, i.e. they will differ from text to text. Carving a graffito is a personal, individual act and one would hardly expect there to be a special version of the script reserved for it.

3.2 'Graffiti of a non-literate society'

With graffiti of a non-literate society however the case is completely different. Here, there is only one register since the authors were using the only form of the script available in their society. This type of script is unlikely to have been taught in schools – there would have been no point in doing so – but would have been passed on, like the rules of a children's game, in a casual manner from one individual to another.[33] As far as we know, it was used almost entirely for graffiti[34] and, to all intents and purposes, only on one type of surface: rocks and stones. Such a script is likely to develop in ways which are very different from those of scripts used in settled societies, where writing is taught in formal conditions and had multifarious uses on a variety of surfaces.[35]

This is clearest perhaps in the Safaitic graffiti, which were carved on the rocks of the deserts of southern Syria, north-eastern Jordan and northern Saudi Arabia possibly between the first century BC and the fourth century AD. They are the best documented and best understood of the Ancient North Arabian graffiti of non-literate societies and they represent the most extreme example

[32] In Macdonald 2009 I: 77, n. 91, I quoted the 'phrase *lapidarias litteras scio* in Petronius' *Satyrica* (58.7) [which], if it reflects reality, warns us that "public inscriptions in the Roman world provided a large-scale and abundant (if not richly amusing) reader for any child who learnt his letters informally" (Horsfall 1991: 62)'. I would suggest that in ancient Arabia even those who learnt to write in the informal register would often have learnt to read the formal register but would only have had occasion to write in it on exceptional occasions.

[33] See Macdonald 2009 I: 85-87; 2009 II: 386–387 for discussions of this.

[34] There are, of course, very occasional examples of its use for other public purposes, usually funerary, for instance HCH 1–99; JSTham 1 (the Thamudic D summary of JSNab 17, the epitaph of Rqwš mother of Kʿb at Ḥegrā/Madāʾin Ṣāliḥ); the names of the dead on the graves in the cave tomb at Dayr al-Kahf (Macdonald 2006); etc.

[35] On this type of graffiti see Macdonald 2009 I: 74-96.

of the development of a script used only for graffiti on a particular kind of surface, in this case mostly the twisted and irregular faces of basalt rocks and boulders.

Although the Safaitic graffiti are carved in a multitude of different 'hands' with no evidence of any school style, they show a remarkable consistency within a range of basic letter shapes over three or four centuries. This is probably because, after its introduction,[36] the script was quickly adapted to the one particular purpose for which it was used – incising, chiselling, or hammering on rocks using sharp stones. In Safaitic, writing is always continuous with no word-dividers or spaces between words. The script has no fixed direction and can run from left to right, from right to left, in horizontal and vertical boustrophedon, downwards, upwards, round in circles, or can meander around the surface and onto other faces of the stone or even other stones,[37] cross and re-cross previous parts of the text, etc.[38] Nor does it matter which way up a letter is carved, i.e. it is never upside-down.

This is writing with the minimum of rules, and it tends to favour the writer over the reader. When carving the text, the author could take up a comfortable position and use the area of the surface which was within easy reach, carving from whatever angle was least taxing. The text is continuous and because there is no reason to write in successive lines all beginning at the same 'margin', and because no letter is ever upside-down or back-to-front,[39] there was no need to alter position when he ran out of space in one direction. The fact that the script never developed word-dividers or spaces between words – a feature of texts by members of settled communities in the formal registers of the Ancient North Arabian scripts, and both registers of the Ancient South Arabian – when taken together with these other features, again suggests that clarity for the reader was not the primary force in the development of the Safaitic script.[40]

There is certainly a wide variation between the script of the texts produced by the most and by the least skilled, and there are a few letters such as *ġ* and *ḳ* for which there are different (though clearly related) shapes. But there is nothing which could be described as a palaeographical development, for the conditions for such a development simply did not exist. The script had arrived at a form which was eminently suited to the purpose for which it was used and in these circumstances it is difficult to see what pressures would have produced palaeographical change. Instead, as we shall see below, occasional whimsical or decorative variants were created in particular texts, but had no consequences

[36] On this, see most recently Macdonald 2009 I: 78–82.

[37] An example of this was found by the Safaitic Epigraphic Survey Programme and will be published in the Online Corpus of the Inscriptions of Ancient North Arabia.

[38] The only layout which is very rare is the one which we regard as normal, i.e. unidirectional writing in successive lines all running from the same margin, but see for example WH 2786, 3395 and possibly SIJ 351, if Winnett's reading is correct.

[39] It is true that certain letters, such as b and m normally stand with their openings in the direction in which the text is going, but it is not unusual to find them turned at 90° or 180°. It should also be noted that word dividers are occasionally found in Thamudic B texts, which may reflect their authors' knowledge of writing habits in oases such as Taymāʾ and Dadan the scripts of which both employ them.

[40] Of course, of itself, the lack of spacing or word dividers is not evidence of this. They were not, for instance, used in Sanskrit, or generally in Greek texts before the Roman period. However, vowels are shown in these alphabets and this greatly reduces the possible ambiguities caused by *scriptio continua*.

on the development – or rather, stability – of the script itself.[41]

Nevertheless, ignoring this fact, attempts have been made to distinguish 'older' and 'later' phases of the Safaitic script. Shortly after the texts were first made known to the Western scholarly world, the brilliant Prussian Consul at Damascus, J.G. Wetzstein, suggested that hammered or chiselled texts might be older than those which had been incised with a sharp stone (1860: 67). Although this was soon shown to be incorrect by the discovery of texts which had been hammered over incised ones (de Vogüé 1868-1877: 139) and others in which both techniques were employed (Dussaud & Macler 1901: 22), H. Grimme was still repeating the theory almost 70 years later and elevated the hammered letters into (an imaginary) 'Kapitalschrift'.[42]

Another theory, which has survived even longer, is based on the assumption that the Safaitic alphabet derived directly from the ASA formal script. From this it is assumed that 'squarer', more angular, Safaitic letter forms must be closer than the 'normal' shapes to their equivalents in the formal ASA alphabet, and therefore must be older.[43] Thus, even great scholars like Littmann (1904: 106, 142; 1940: 96) and Winnett (1957: 11-12, 95) were misled into assuming that the so-called Safaitic 'square script' must be the most ancient form of the Safaitic alphabet. A glance at Figs 1 and 2, with the commentary in Appendix 2, will show that the 'square' forms have no greater resemblance to their counterparts in the ASA formal alphabet than their 'normal' equivalents and are simply angular or decorative versions of the latter. Moreover, there is no chronological significance in the use of 'square' or 'normal' forms since both are quite commonly found in the same inscription, where they are either mixed indiscriminately, or one part of the text is carved in the square script and the rest in normal letter forms (see fig. 2 and Appendix 2). There are also cases where the same author will write one text in the square script and another in the common letter forms.[44]

Thus, graffiti of a non-literate society exhibit a very unusual type of script-development in which the only pressures for stability or change are created by the exigencies of the writing materials (the surfaces of the rocks and the inscribing tools), and the personal taste, fantasy and skill of the individual inscriber. There was no external pressure to maintain a particular set of letter forms written in a certain way, as there would be in a school, a monastic scriptorium, a chancery, or a monumental mason's workshop. There were no clients with changing aesthetic preferences. Once the script had been adapted to the only writing materials available, there was no reason for it to develop further, and, given that there were no schools, the small variations in letter form made by each individual as a result of taste, whimsy, degree of skill, or the tools or surface he was using, remained personal idiosyncrasies affecting no one else's writing, rather than forming stages in an evolution of the script.

[41]For examples of fantasy in the forms and arrangement of letters in Safaitic inscriptions see Al-Khrayshesh 1995: nos 2 and 5; and Macdonald 2009 I: 94–95, and fig. 7.

[42]Grimme 1929: 12. His 'Kapitalschrift' was not the so-called 'square-script' (on which see the next paragraph and Appendix 2). He regarded this as different again. See his remarks on the Safaitic texts from Umm al-Jimāl at the end of the same paragraph.

[43]For a discussion of the 'square script' see Macdonald 2006: 291-294.

[44]See for instance, HCH 39–41 which are virtually identical texts by the same man. HCH 41 is partly in the square script and nos 39 and 40 are in the common forms.

4 The Chisel, the Blade and the Pen

4.1 The chisel and the pen

As we have just seen, in a society in which the only texts are carved in stone, once a script has been adapted to the needs of those who use it there is little practical impetus for it to change, though it may be modified for aesthetic or playful purposes. On the other hand, in a society in which documents are also habitually written with pen and ink, the engine of functional, rather than ornamental, change in letter forms is likely to be the pen rather than the chisel.

The earliest change is probably from boustrophedon to unidirectional writing. In scripts where the letters are not joined, boustrophedon makes perfect sense to both the writer and the reader of a carved text,[45] and asymmetric letters (e.g. 'E' as opposed to 'A') do not have a fixed axis. If one can fit one's inscription into a single line, all well and good, but if there is insufficient space then it is natural to turn and go back the way one came 'as the plough is turned at the end of a furrow, or the shuttle sent back in weaving', particularly if there are only a few letters remaining.[46] I have argued elsewhere that unidirectional writing is only really useful if you are writing in ink and do not want to risk smudging what you have just written.[47] However, in most scripts, the change from boustrophedon to unidirectional writing is visible to us only in the earliest *inscriptions*[48] and obviously predates by a long time any surviving manuscripts, so the reason I have suggested for this change can be no more than an inference.

The development of ligatures,[49] final forms of letters, of compression in letter forms, and different letters with similar or identical shapes, are all the result of the exigencies and freedoms of writing with pen and ink and there would be no impulse for a script to develop in this way if it were used purely by those carving inscriptions or graffiti on stone with no contact with a 'pen-script'.

In Nabataean,[50] for instance, the script used in inscriptions is simply a more

[45] It is interesting to compare the many and varied uses of boustrophedon in early Greek inscriptions, on which see the masterly discussion in Jeffery 1990: 43-50.

[46] Jeffery 1990: 46. Note that 'even in the last quarter of the sixth century Attic masons, for whom the system of continuous left-to-right had long been the established convention, still used the *boustrophedon* system for the last few letters of an inscription, in preference to isolating them at the head of a new line' (*ibid.* and see p. 75–76 for examples).

[47] Macdonald 2009 I: 90. Jeffery also notes that in archaic Greece boustrophedon 'could not hold out for ever against the admitted fact that to write continuously from left to right is the most practical method for a writer in ink on leather or papyrus. Had we now any such cursive documents surviving from the early sixth century, we should almost certainly see in them the germ and early growth of continuous left-to-right script; for it is significant that our earliest datable examples of this system are painted inscriptions on vases...' (1990: 48). Her statements on writing from left to right would, of course, apply equally, *mutatis mutandis*, to writing from right to left.

[48] For the proto-Canaanite inscriptions see Naveh 1982: 40-42, and Sass 1991: 97. For the Greek alphabets and the Semitic prototypes from which they were borrowed, see Jeffery 1990: 45: 'the Greeks who adopted the North Semitic alphabet were never really well-grounded in the process of writing continuously retrograde, and so from the beginning, when more than one line was required, they used instinctively the *boustrophedon* system, regarding the signs as reversible profiles.'

[49] For my use of this term see Appendix 1.

[50] I would distinguish between the Nabataean form of the Aramaic script and the local Aramaic script of the Ḥawrān which is often lumped together with it, but which has significant differences, not least a strong tendency to avoid ligatures in formal inscriptions (the only register which is so far known). For a discussion and illustration of this distinction see Macdonald 2003: 52–56, figs 28–36.

formal (sometimes calligraphic)[51] version of the *informal* script used for writing in ink. The changes in the letter forms and the increasing use of ligatures seen in the formal script only make sense as the transference to stone of features developed through writing swiftly with pen and ink. There would have been no reason for them to have developed independently within the process of carving on stone.[52] But this continuous evolution of the informal version, in documents most of which have disappeared, is only visible to *us* as a series of isolated and randomly selected stages shown in the calligraphic dress of the formal version used in inscriptions. It is like a series of snap-shots of a person at different ages, but always dressed in his or her 'Sunday best'.

4.2 The chisel and the blade

But, in contrast to the Nabataeans, there are societies where formal and informal scripts seem to have had distinct parallel developments. As we have seen, in South Arabia informal versions of the script were engraved with a blade on palm-leaf stalks and short sticks,[53] a process which one might have thought was much closer to inscribing on stone than to writing with a pen. Yet, in ancient South Arabia, separate formal and informal scripts co-existed and, though they ultimately stemmed from a single origin,[54] they followed very different courses of development, under different pressures.

For stone-masons, the only pressure for change in letter forms would have been the varying aesthetic perceptions of their patrons and master masons. Thus, in the *musnad*, or formal South Arabian script, the letter forms remain extraordinarily stable over approximately a millennium and a half with, in most cases, changes being made not to the basic shape of the letter but only to the way in which it was ornamented (Fig. 3).

On the other hand, for those using the informal script, speed, ease of incising and the need for compression in the limited and awkwardly shaped space available, must all have affected the development of letter forms.[55] As a result, the contrast between the dramatic evolution of the *zabūr* and the conservatism of the *musnad* over the same period is striking (Fig. 3).

[51] See, for instance, the scripts of the 'Turkmaniyyah' inscription at Petra (CIS ii 350) or the Ruwwāfah inscription in north-west Arabia (Milik 1971; Macdonald 2009 VIII).

[52] For a more detailed discussion of this see Macdonald 2003: 51-54.

[53] See Ryckmans 1986: 187-188; 1993: 20-23; Ryckmans et al. 1994: 27-29; Stein 2005b: 124-133; 2008: 775-777; 2010: 24-27, for descriptions of the writing surfaces, the tools and the process of incising.

[54] By this I mean that they are both clearly forms of the South Semitic script family. In the past, I have questioned whether the minuscule script (*zabūr*) was *necessarily* derived from the formal script of the inscriptions (*musnad*) as proposed by J. Ryckmans (2001: 224, 226). However, Peter Stein has assured me (pers. comm.) that his study of many hundreds of the sticks has convinced him that Ryckmans' derivation of the *zabūr* from the *musnad* is fundamentally correct, even if it needs to be modified slightly in detail, and I am happy to accept his judgement.

[55] See Parkes 2008: 72 on incising on wax tablets. 'The wax surface offered more resistance than that of papyrus or parchment, and strokes were inscribed with a stylus. Writing required a considerable degree of pressure and traction .... This extra traction limited the movements of arm, elbow and shoulder, and a stylus could not be applied with the degree of dexterity or rhythm possible with a pen. ... The point of a stylus produced strokes of uniform dimensions, and a scribe had to lift it frequently in order to change the direction of a trace. This frequent lifting of the stylus produced a "stabbing" movement in the *ductus*.' On the possibility of the use of wax tablets in ancient South Arabia see note 64 below.

It is also worth noting that of the approximately 7000 inscribed palm leaf stalks and sticks known so far, none bears a text in boustrophedon. Even the oldest,[56] in which the letters have the *musnad* forms, bears a text of three unidirectional lines.[57] By contrast, some two or more centuries later, boustrophedon is common in the earliest formal inscriptions on stone such as those of Yiṯaʿʾamar Watar bin Yakrubmalik and Karibʾil Watar which are now almost certainly datable to the late eighth and early seventh centuries BC respectively.[58] It has been suggested that boustrophedon was employed in inscriptions with extremely long lines as an aid to the reader (Naveh 1982: 49). However, while it would certainly have had this advantage, it seems to me unlikely that this was the primary reason for its use in these texts since it was also employed in inscriptions with short lines.[59]

I would suggest that the reason for the difference lies in the way these different types of inscription were produced. The direction of a non-cursive text makes little difference to the mason who is copying a model. On the other hand, incising a small curved surface with a sharp blade is a much more awkward process and I would suggest that for a right-handed person it is easier to carve from right-to-left than in the opposite direction which involves turning the hand and the blade to a position which gives less traction and is less comfortable. Of course, this does not make it *impossible* to incise from left-to-right, but I would suggest that for those right-handed people fortunate enough to be using a sinistrograde script, it was enough to make boustrophedon more trouble than starting a fresh sinistrograde line. In the earliest texts on sticks, the *musnad* forms of the letters were used, so letter shape is unlikely to have influenced the direction.

Thus, if, as seems to be the case with other non-cursive alphabetic scripts, boustrophedon preceded unidirectional writing as the norm in the early use of the ASA alphabet, then it must very quickly have been found to be inconvenient for incising on palm-leaf stalks, and have been abandoned in favour of unidirectional sinistrograde lines. For texts carved on stone, we can only speculate that, since there was no such inconvenience, boustrophedon continued to be used until perhaps the practice of unidirectional writing in everyday documents incised on palm-leaf stalks finally influenced the layout of public inscriptions on stone, just as the layout of pen and ink documents seems to have done in other cultures.

4.3 The blade and the pen

Ryckmans suggests with regard to the informal South Arabian script (*zabūr*) incised on palm-leaf stalks and sticks, that 'peut-être en raison de la résistance du support le scribe a tendance à décomposer en coups de lame distincts et isolés le tracé des courbes, des oeillets ou d'autres éléments de lettres. La cohésion originelle de certains caractères s'en trouve désarticulée.... Ce processus d'éclatement des traits va s'accentuer et le tracé des caractères va se réorganiser progressivement sur ces nouvelles configurations....' (1994: 251).[60] If I

[56]This is Leiden 24, which was dated by ^{14}C to between 1073 and 902 BC (Drewes et al. 2013)
[57]I am most grateful to Peter Stein (pers. comm.) for the information in the last two sentences.
[58]See the convincing arguments in Nebes 2007.
[59]For instance, at random, CIH 383, RES 4226, etc.
[60]He adds that the letters in Ethiopian manuscripts are formed from several separate strokes

have understood him correctly, this is a very interesting idea, and logically what one might expect. However, as far as I can tell, only *d* and *ḏ* in the *zabūr* are regularly formed from 'coups de lame distincts et isolés', with a few scattered examples of other letters which may well be due to accidents or the idiosyncrasies of a particular scribe.[61]

Ryckmans also once suggested that 'l'écriture sur bois conservait la souplesse de ses formes en partie ... parce qu'elle se calquait sur l'écriture utilisée sur des supports plus "rapides", comme la tablette à cire ou le parchemin'.[62] However, incising letters on small curved surfaces made of soft wood[63] makes very different demands on the inciser from those of writing with pen and ink. I agree that it is easy to envisage most of the letter forms of the *zabūr* as having developed in writing with pen and ink, but on the other hand whatever kind of blade was used to incise the sticks,[64] it was clearly supple enough, and the surface soft enough, to create the curves and flowing lines of the *zabūr*, or to copy them if they were originally developed through writing in ink. It seems to me, however, that the key point is the lack of ligatures. Ligatures are only an advantage to someone who can write more quickly in ink if he does not have to lift the pen between letters. There is no reason why they should develop in a script used only for incising. In the development of the *zabūr*, the letters for the most part acquire tails sweeping to the left as part of the sinistrograde ductus of the script. However, the fact that throughout its development the *zabūr* remained a non-cursive script[65] suggests that it was used almost entirely for incising texts on sticks rather than for writing in ink where it would have been almost impossible not to turn the 'tails' of the letters into ligatures. Had

and suggests that this might be an argument against his proposal (1994: 251, n.2). However, as suggested above, the reason for constructing letters in this way in copying manuscripts in a formal script is quite different from that which may have produced the changes in the letter forms in the South Arabian minuscule, and thus would not, as such, be an argument against Ryckmans' explanation.

[61]These are most prevalent in Ryckmans' Phase IIIb, which Ryckmans describes as a 'hybrid writing style' (2001: 230) and which may be the product of a particular scribal centre. See the discussions in Stein 2010: 45, n. 184; 2013: 192; Drewes et al. 2013: 206.

[62]Ryckmans 1986: 188. It should be noted, however, that on a wax-covered tablet one is still incising, rather than writing.

[63]It should be emphasized that the surface of fresh palm-leaf stalks when the covering has been removed and of freshly cut sticks when the bark has just been peeled off, is fairly soft and only hardens as it dries out. Thus, while the resistance to the blade would perhaps be greater than that of wax to the stylus, it is in no way comparable to attempting to incise dry wood. The different effects of incising fresh and dry wood can be seen by comparing genuine ancient *zabūr* texts with the inscriptions incised by modern forgers on ancient, previously uninscribed, sticks. I am most grateful to Peter Stein for this information (pers. comm.). See also Drewes et al. 2013: 200.

[64]The best evidence for methods of writing in daily life in pre-Islamic South Arabia is a number of ivory styli illustrated on Ryckmans, Müller, & Abdallah 1994: 82, pl. 5A. As Ryckmans points out (1993: 21-22; Ryckmans, Müller, & Abdallah 1994: 28) these could not have been used for incising on wood and presuppose the use of tablets hollowed out and filled with wax. He also notes, however, that the other styli found so far, in iron, bronze or lead-tipped wood, have points the shapes of which would not be capable of producing the fine incised lines on the sticks and palm-leaf stalks which he attributes to the use of 'une lame très effilée' (Ryckmans, Müller and Abdallah 1994: 28). The question of what implement was used to inscribe the sticks and palm-leaf stalks would seem still to be open, and the function of the styli that have been found so far does not yet appear to be settled.

[65]For my use of this term see Appendix 1. The impulse towards the cursive can occasionally be seen even in less careful texts on sticks, where although there are no ligatures, the tail of one letter sometimes accidentally runs into or even across the first line of the next, as, for instance, in some cases in Stein 2005b: 150, Abb 3.

this happened, one would have expected to see a transfer of the ligatures to the script used on sticks, just as the increasing number of ligatures in Nabataean were transferred from documents in ink to inscriptions on stone. However, at present this explanation must remain speculation since up till now we have not a single example of writing in ink from ancient South Arabia and we cannot know whether this absence of evidence is evidence of absence.[66]

If, as seems likely, the vast majority of the inscribed palm-leaf stalks and sticks were carved by professional scribes (Ryckmans 1994: 257-258; Stein 2005b: 147-150; 2010: 32-33), we need also to take into account the effects of schooling on the development and use of the script. For instance, was a standardized form of the *zabūr* taught to trainee scribes and, if so, how far did individuals depart from it? Do the changes in letter forms signify an orderly and gradual evolution, kept to a minimum by master scribes, or the more fragmented development of innumerable individual hand-writings? If the texts which have appeared on the market have all come from one archive at Nashshān, it would seem probable that we may have the products of a single scriptorium stretching over some 1500 years. Once we have more (and more refined) absolute dates for the sticks to test further Ryckmans' proposed sequence of letter forms, we may then have for the first time the conditions for a true palaeographical study of the development of one of the ASA scripts.

5 Palaeography

Palaeography originated as the study of the handwriting of Greek and Latin manuscripts, and was only later extended to texts in other scripts. It is concerned with every aspect of writing, of which the comparative dating of letter forms, individually and in context, is only one part. The latter is only possible when there is a large corpus of already dated material, produced with similar tools on comparable surfaces,[67] and for similar purposes,[68] which has come from a defined area in which a tradition of writing in a particular way has been

[66]There are a handful of examples of letters painted on bone and as part of the decoration on pots (see Stein 2005b: 131, n. 47), but these use forms of the *musnad*. The classic study of writing materials at the time of the Prophet and later is Grohmann 1967: 66-131. On the writing materials available and used in ancient Arabia, see the excellent discussion in Stein 2005b: 121-133. In an earlier survey, Maraqten (1998: 292) stated that palm-leaf stalks (*ʿusub*), when dry, could be written on 'with pen and ink, just like writing on papyrus', but gives no references and does not state whether there is any evidence of this practice in pre-Islamic Yemen. His reference (293) to writing on palm-leaves (*jarāʾid*), for which ink would presumably have been used, appears to relate to the Islamic period and is anyway contained in an anecdote parts of which al-Hamdānī clearly considered apocryphal (*hāḏā ḥadīṯ fī-hi ḥayf*, Al-Hamdāni 1986: 222). Finally, Maraqten refers to the line *ʿarafta ʾl-diyāra ka-raqmi ʾl-dawāti // yaẓbiru-hā ʾl-kātibu ʾl-Ḥimyarī* in a poem of Abū Dhuʾayb al-Hudhaylī as an example of writing in ink in Yemen (304). However, the term *al-dawāh* surely means a case of writing implements, which in most regions would have held pen and ink, but which presumably could have held simply a stylus or blade. Ryckmans (1963: 458, n. 3) cites a reference to *raqq* 'parchment' in South Arabia in a poem attributed to Qudam b. Qādim (said to be fifth century AD). However, note that his statement (*loc. cit.*) that the *Periplus* mentions the import of papyrus to South Arabia is incorrect since the word κύπερος in § 24 refers not to papyrus but to the medicinal plant *Cyperus rotondus* or *Cyperus longus* (see Casson 1989: 153).

[67]For instance, with pen and ink on papyrus, parchment, leather, or paper; or with a sharp blade on wood; or with hammer and chisel on stone, etc.

[68]Thus, for instance, there are clear differences between 'book hands' used for the copying of manuscripts for libraries, and the hands of scribes employed to produce and copy everyday documents.

passed on from one generation to the next.[69] This means that ephemeral personal idiosyncrasies in the hands of two writers who are already known to be contemporary can be identified, and distinguished from fundamental changes that reflect the historical development of the script tradition.[70]

Thus, there are clearly two essential prerequisites for any dating on palaeographical grounds. Firstly, one must have, or be able to create, a sequence of material, comparable in purpose and execution, in a chronological order based *entirely* on good 'external' (i.e. non-palaeographical) evidence. There may be a number of reasons for the differences between two attempts at producing a particular letter shape, but if they are not in a comparable context[71] and one does not even know which is the older, it is unsafe to explain these differences purely as a chronological development.[72]

The second prerequisite is that one must have a large number of documents covering the whole period so that it is possible to distinguish those features which represent real trends in the development of the script from ones which are simply due to local or temporary circumstances (the scribe was getting tired, his fingers were numb with cold, atmospheric conditions were affecting the writing surface, etc.). Once again, it has to be emphasized that this can only be done within a pre-existing chronological sequence of the documents which is firmly based on non-palaeographical data.

Thus, because a large number of dated manuscripts from the monastic scriptoria and dated documents from the chancelleries of mediaeval Europe have survived, it is possible to place them in chronological sequences and to trace the changes which the scripts underwent over a long period of time in the same or neighbouring environments. Such a framework is a fundamental prerequisite for attempting to assign an undated and/or unprovenanced text to a position in the sequence.

It will be obvious from this that there are remarkably few occasions in Semitic epigraphy – at least in the linear alphabets – when the circumstances would be appropriate for chronological judgements to be made on the basis of letter forms. However, over the last two centuries, this has not deterred innumerable attempts to 'adapt' palaeography for the dating of Semitic texts.

5.1 'Comparative palaeography'

The most drastic misuse of palaeographical method is what has been called 'comparative palaeography'.[73] This seeks to make an evolutionary sequence

[69] Thus, scribal schools, monastic scriptoria, the chancelleries of states with centralized and well-organized bureaucracies, etc.

[70] Ada Yardeni has already made this point very well: 'The evolution of the script is marked by systematic changes in the letter forms taking place within a certain script-style, used by a given school of scribes belonging to a certain social group in a certain place. These changes must be distinguished from the idiosyncrasies of individual hand-writings' (2000: 148).

[71] By this I mean, produced with similar tools, on similar surfaces, for similar purposes.

[72] See, for instance, the schemata produced by Jamme for the forms of certain letters in a collection of Safaitic texts from North Arabia (1971: 611–612, and see p. 53) and by Knauf for Hismaic inscriptions in general (1983: 590-591), both supposed to show the development of certain letter forms into others, but both based on letter forms in undated and undatable texts.

[73] To take just two examples, Pirenne used 'la paléographie comparée' (1956: 16, 91 and *passim*) to try to tie her sequence of letter forms very tightly to the evolution of Greek formal scripts as well as into a general development of the Semitic alphabets. This vitiated much of the usefulness of her work, see below. Naveh uses 'comparative palaeography' in his study of the early history of the

out of letter forms plucked from (usually brief) texts, the interpretation of which is often disputed, which come from widely scattered sites (or are of unknown provenance), which are mostly of uncertain date, are on different materials, and in different forms of a script, or even in different scripts. These letter forms are compared in the abstract and it is then claimed that one must have derived from another. The intervening stages between the forms have to be supplied by the imagination (see Fig. 4)[74] and no attempt is made to demonstrate a chain of contact between the authors of the texts from which these forms are taken. Yet, without such contact the idea of an *evolutionary sequence* of letter forms is meaningless.

It is on this – to my mind – fundamentally flawed methodology that most studies of the origin and development of the alphabet have been based. This is especially true in the work of W.F. Albright,[75] and his followers such as Cross[76] and more recently Sass.[77] The great value of a book such as Sass's

alphabet and states that it 'will accompany our approach to several problems that are discussed in the following chapters of this book' (1982: 6).

[74]Fig. 4 shows an example of how easy it is to postulate almost any sequence of development simply by treating letter forms in a vacuum. At the beginning of the twentieth century, M. Lidzbarski (1902: 122) and F. Praetorius (1904: 717-718), using the same materials, proposed precisely opposite sequences for how each thought the Safaitic and South Arabian forms of *alif* had developed from '(alt)kanaanäisch' which they considered to be the source of both the North West Semitic and the South Semitic alphabetic traditions.

[75]To take, at random, one of many examples: Albright 1963: 54 where he compares letter forms in script tables published by Jamme from rock inscriptions in Wādī Ḥaḍramawt (Jamme 1963: 43, 47) with letters on stamps from Bethel in Palestine, by which he *dates* the former to 'between the tenth and the eighth centuries [BC]'. His conclusions on the basis of these very partial script-tables are breathtaking (not a single photograph of an inscription was published): 'The new texts prove almost conclusively that graffiti antedated monumental inscriptions in South Arabia. They also suggest the spread of Late Bronze linear alphabetic script as early as the 13th (or even 14th) century, before the characters ʿ and *ġ*, *ḥ* and *ẖ* had fallen together.... This means that camel caravan trade may have spread very rapidly in the 13th century, followed in the late 12th by the Midianite irruptions in the north.' This series of nonsequiturs is vintage Albright. It should be remembered that this construction was based on the forms of letters in texts which had not yet even been conclusively deciphered and for which his only 'evidence' consisted of the shapes, inevitably removed from their context, in Jamme's script-tables. This passage is alas typical of the extraordinarily sweeping comparisons Albright made between letter forms in texts from completely different cultures, thousands of kilometres apart, and the historical hypotheses he would then build on the basis of them.

[76]For instance, at random, Cross 1967: the table on p. 15* and the discussion on pp. 14*–24* where the 'early evolution of the alphabet' is based on comparing letter forms and letter-stance in scattered single documents which he dates between 1500 and 1000 BC (though on little, or very dubious, external evidence). Note, for instance, such statements as 'Proto-Arabic [which he defines as 'the [putative] ancestor of the Old South Arabic scripts, including Old Dedanite and Chaldaean', 1967: 19*, n. 67] ... preserved some graphemes which fell out of Proto-Canaanite in the course of the thirteenth century...' (1967: 19*). Some of the letter forms in this putative ancestor 'are extremely archaic reflecting forms of the late fourteenth or early thirteenth century.' All this is based on the two script tables extracted from some rock inscriptions from Wādī Ḥaḍramawt published by Jamme (1963: 43, 47, and see previous note) compared with letter forms in Proto-Sinaitic inscriptions, Proto-Phoenician or Proto-Canaanite letters scratched on arrow-heads found in Palestine and Lebanon, a dipinto on a pottery ewer from Palestine, etc. I am here criticizing only Cross's application of this so-called 'comparative palaeography', not, of course, his detailed studies on the orthography and the palaeography (in the true sense) of Hebrew and Aramaic documents, etc.

[77]See Sass 1991, especially pp. 73–90, where he compares the shapes of letters carefully carved in reverse on seals bearing Mesopotamian and other iconography, with letters crudely scratched on potsherds found in Jerusalem, at Tell el-Kheleifah near Aqaba, and at Ḥajar bin Ḥumeid in Yemen, and with letter forms on a commemorative stela from Marib, a tablet from Nippur, an arrowhead from Palestine, a bowl from Ur, etc. The techniques, purposes, surfaces, provenances

Studia Alphabetica lies in the fact that it brings together photographs and all the available information on the material. However, while his discussion of the individual texts is careful and often enlightening, I can see no value whatsoever in trying to make 'palaeographical' judgements about the development of the South Semitic script, and its relationship with the Phoenico-Aramaic alphabets, on the basis of a handful of brief documents of widely differing types, from sites scattered from the Levant and Mesopotamia to Yemen, or of unknown provenance, many of which are of very uncertain date and even interpretation. It is surely better to admit what we do not know rather than to make such wide-ranging deductions on the basis of so little evidence.

Similarly, in his attempt to find the origin of the Libyco-Berber script, Pichler compared 'an *idealized* [Libyco-Berber] alphabet with right-angled forms' (Pichler 2007: 21, my italics), with letter forms taken from script-tables of the 'Oasis North Arabian' [ONA] alphabets and the 'Old Phoenician' [OP] alphabet, to which he gave artificially angular shapes. The fact that such an entirely artificial comparison – which he himself admits is 'no objective analysis' (2007: 21) – threw up 'seven signs of totally identical form' in the comparison with Old Phoenician and five in that with Oasis North Arabian convinced him that 'the L[ibyco-]B[erber] script was more probably derived from the OP alphabet than from ONA alphabet' (2007: 21),[78] whereas, in fact, it simply shows apparent similarities between his 'idealized' and 'artificially angular' forms, and proves nothing about the relationship of one script to another.

All such studies treat each letter form as an isolated artefact existing in a vacuum. The first stage in this treatment is to extract each letter shape from its context and to place it in a script-table. Within the script-table, divorced from all the diverse forces which produced each one, letter forms suddenly seem comparable and it can even seem reasonable to attribute their differences solely to chronological development, as if they had all been produced on the same materials by generations of monks copying manuscripts in the same scriptorium.

But in the real world, the letter forms that are being compared are taken from a handful of texts created by individuals hundreds of kilometres – and often hundreds of years – apart, working in widely different contexts, on dif-

and dates (even when these can be determined) of these objects are so varied that there is no basis for comparison and the only thing that can be said with any certainty is that it is highly unlikely that the same version of the alphabet was being used by all the people who produced these 'documents' at such different times in such widely separated places.

[78] It should be noted that Pichler cites caveats which he then ignores in practice. Thus, 'There is not just one single Phoenician alphabet or one single "Thamudic" alphabet.... In any case, it is not appropriate to compare characters from totally different periods' (2007: 21). Yet he takes one particular form of each letter from script tables of Old Phoenician and the ONA alphabets, 'regularizes' them and compares them with 'idealized' forms from unspecified Libyco-Berber inscriptions. There is only one dated Libyco-Berber inscription (RIL 2, 139/138 BC) and he does not make clear whether he is using letter forms from this for his 'idealized alphabet'. Yet he is comparing it with letters from script tables of 'the Old-Phoenician (OP) alphabet from the eleventh to the eighth centuries BC' (*loc.cit.*), and letters selected from five different lines of a script table of Oasis North Arabian alphabets (Macdonald 2009 III: 34, fig. 3). The only relatively securely dated examples of the latter (i.e. the brick from Ur, possibly the three sherds from Jerusalem, see Sass 1991: 40, and 58-50, and a handful of Taymanitic inscriptions) are from the late seventh–early sixth centuries BC, onwards. Similarly he writes, 'It is not possible to define in exact terms the criteria that make something similar' (*loc. cit.*), and yet he seems to be unaware that this undermines the whole basis of his comparisons; etc., etc. On the impossibility of dating the Dadanitic inscriptions at present, see Macdonald forthcoming.

ferent materials with greater or lesser skill.[79] Moreover, in dealing with the early stages of the alphabet, the letter forms available are few and far between and there is no way of knowing whether each one is in any way representative of the same letter in contemporary texts which happen to have been lost. In these circumstances, it is not possible to compare like with like, and the results of such comparisons can only be meaningless. Moreover, any suggestion that a form in one of these texts 'grew out of' a form in another needs to explain how this would have been possible in practical terms when one is dealing not with the products of a scriptorium or chancery but with the work of individuals scattered over great expanses of space and time, using writing for different purposes on different materials.

Moreover, there are innumerable examples in the epigraphy of Semitic (and other) linear alphabets, of letters in one script developing forms identical with, or very similar to, those of letters representing completely different sounds in other scripts. This is very clearly shown on Pirenne's table comparing the ('regularized') shapes of Greek letters of the fifth and sixth centuries BC with (similarly 'regularized') South Arabian characters, entirely disregarding the respective values of the letters.[80] These apparent similarities do not mean that there has to have been a connection between the development of the two scripts, as Pirenne claimed – indeed, in this case, it is highly unlikely that there was. Any such claim would have to show convincingly the exact processes by which it came about that *all* the writers[81] in two widely separated and scattered societies *decided* – for this diffusionist theory implies a conscious decision – to use identical letter forms to represent completely different sounds.

Within the Ancient North Arabian family of alphabets, the letters *n* in Thamudic B, *r* in Thamudic D, s^2 in Hismaic and *l* in Safaitic are all represented by a simple straight vertical line, but clearly each arrived at this shape by a different process of development. This clearly shows that similarity of form is no guarantee of any relationship, even within closely related scripts. Similarly, in Dadanitic, the form of s^1 was sometimes represented by a 'V' with a short vertical line protruding from the centre of the opening. In some cases, however, (e.g. JSLih 70/5) this short stroke is attached to the left side of the 'V', making the letter almost identical to an Imperial Aramaic (and indeed to a Phoenician) *šīn* (see fig. 5). Thus, by completely independent processes and completely different routes, a Dadanitic letter and an Imperial Aramaic letter – which, by chance, represent the same etymological phoneme PS /š/[82] – have developed very similar forms. Fortunately, the processes by which Dadanitic s^1 developed this form are clearly illustrated in numerous Dadanitic texts. Indeed the more common form – 'V' + unattached vertical stroke – occurs in the same inscription as the form in which the stroke is attached to the left side of the 'V' (see fig. 5). But if for Dadanitic, Phoenician and Aramaic we had the same scarcity and uneven quality of material as we do for the early his-

[79]For one example at random, among innumerable others, see the table on Sass 2005: 121, Table 8.

[80]Pirenne 1955: 118. She purposely ignores the problem that the similar shapes represent completely different sounds in the two scripts (1955: 116, n.4).

[81]Since she is dealing with the basic shapes of letters, her theory must assume that the decision to maintain this continuous connection was made not just between all the scribes in the two cultures, but between all those who carved the thousands of graffiti in the two societies.

[82]On this see Macdonald (2004: 499; 2009 II: 45-46, fig. 5).

tory of the alphabet it is obvious how easy it would be to build a grand, and completely incorrect, theory on this accidental similarity using 'comparative palaeography'.[83]

Indeed, if we had for the linear alphabets of the ancient Near East the same quantity and quality of dated written material that we have for mediaeval Europe, it would never occur to us to make the type of comparisons that, alas, are commonplace in West Semitic 'palaeographical' studies. Yet, the absence of such abundance does not make these comparisons and the conclusions drawn from them any more valid.

Some years ago, a number of Semitic epigraphists were approached by two enthusiastic amateurs who had found in the Colorado plains of the USA petroglyphs which they thought resembled some of the letter shapes in Ancient North Arabian alphabets as shown on published script-tables. In some cases there was a certain resemblance, but this did not make the North American petroglyphs into Ancient North Arabian inscriptions, nor did it mean that they had any connection with Old World alphabetic traditions. In this case, the barrier posed by the Atlantic Ocean induced an immediate scepticism in the scholars (though not the enthusiasts),[84] which was confirmed by examination of the petroglyphs in context. But exactly the same scepticism should be applied to those academic theories that treat Middle Eastern letter forms in a vacuum and use similarities in shape as 'evidence' of a connection. I would repeat that it is surely better to recognize what we cannot at present know, and wait for new data, than to create 'dating tools' which are presented as based on rigorous methodology but in fact stem from subjective impressions and 'reasoning' without evidence.

5.2 Palaeography and the 'Graffiti of a non-literate society'

We have seen how the letter forms in the graffiti of a non-literate society are perfectly adapted to the circumstances in which the texts are composed and the surfaces on which they are carved. To compare a letter form extracted from one of these texts with a shape taken from a public inscription in the formal versions of the Phoenician, Aramaic, Dadanitic or South Arabian scripts is equivalent to comparing not merely apples with pears, but artichokes with parrots.

Indeed, despite the huge body of material, graffiti of a non-literate society are of their very nature inappropriate for the construction of developmental sequences. The work of Van den Branden on 'Thamudic' highlights the problems. When his work was published in 1950, of the thousands of 'Thamudic' inscriptions then known,[85] only one was firmly dated, that is JSTham 1, the

[83] A different example can be found in a Safaitic inscription in which the author is clearly playing with the letter names and their shapes (Macdonald 2009 I: 95, fig. 7). The *ʿayn* has been given a 'pupil'. Sass (2005: 120) writes that 'In a putative Proto-Canaanite *ʿayin* of the thirteenth century or earlier the pupil would have been prevalent, but it became ever more scarce afterwards, finally disappearing in the ninth century.' If we had only this Safaitic text and perhaps a handful of others (as we have only single, or scattered texts from the very early periods) this inscription might be dated to before the ninth century BC on the basis of the dot in the *ʿayn*, or even earlier since the *y* (i.e. *yôd* or *yaman*) in the same text has been given fingers!

[84] See McGlone et al. 1993: 271-296.

[85] At that time, the Taymanitic and Hismaic inscriptions were still included in the 'pending file' of 'Thamudic', see Macdonald 2009 II: 43-45.

Thamudic D summary of the Nabataeo-Arabic[86] Raqōš inscription (JSNab 17) at Ḥegrā / Madāʾin Ṣāliḥ, which is dated to AD 267. Ironically, the Thamudic D script contains some of the most 'archaic-looking' letter forms[87] of any of the Thamudic scripts and without JSTham 1, these would almost certainly have been placed much 'earlier' in Van den Branden's hypothetical 'development'.

Van den Branden's idea that 'Thamudic' – a 'hold-all' category invented by nineteenth-century scholars – represented a single script which, 'soit en raison d'une tendance au cursif [*sic*], soit par suite d'une déformation des lettres due à la négligence ... a évolué d'une façon sensible durant son existance de 7 à 8 siècles' (1950: 17), was based on a purely subjective ordering of letter forms from undated inscriptions, using his imagination to fill in the gaps in the supposed development from one form to the next. The order could only be subjective because he had no external evidence to show that one form was older than another. Worse still, he was working entirely from hand-copies, many of very dubious accuracy, with hardly a single photograph, so there was no way of knowing whether the forms in his sequences were genuine or simply copyists' standardizations or errors.

But the problem goes deeper than this. The various scripts which we place in the artificial category of 'Thamudic', as well as those we call 'Safaitic' and 'Hismaic' are all 'graffiti of a non-literate society', i.e. they were carved on the desert rocks by innumerable individuals, each with his/her own idiosyncrasies and personal epigraphic habits. As I have suggested elsewhere, it is unlikely that these individuals learnt their letters in schools, indeed all the evidence suggests that they picked them up from each other in a casual manner (Macdonald 2009 I: 85–91), so there would have been no way of imposing any uniformity in the way they formed their letters. To these individual features were then added such things as the ease or difficulty of carving on a particular rock surface, and ephemeral circumstances which we can never discover (e.g. how irritating the flies were that day, whether the carver had problems with his eyes, whether or not the instrument he was using was particularly suitable, etc.). All these factors which remain unknowable, make it impossible to compare like with like within these graffiti. This is in marked contrast to texts from one, or at most several closely related, scriptoria or masons' workshops, in which the surfaces and tools were identical and the aim was to produce a consistent form of the script.

This is why it will probably never be possible to say a great deal about the historical development of the Safaitic, Hismaic and various 'Thamudic' scripts, though there are plenty of other, more interesting, aspects of these alphabets to study.[88] It also makes it impossible, at least in present circumstances, to chart in any detail the relationships of the different Ancient North Arabian alphabets to each other and to the Ancient South Arabian scripts.

[86] For this term see Macdonald 2009 III: 37, 53.

[87] See especially the forms of ʾ and *n*.

[88] For instance, how each alphabet was adapted to the materials on which it was habitually used. Are there differences, for instance, between those normally used on basalt and those used on sandstone? The way in which authors 'play' with their inscriptions; or the use of inscriptions as decoration, etc, etc.

5.3 Palaeography as a basis for chronology?

In 1956 Jacqueline Pirenne published an analysis of the letter forms of the Ancient South Arabian formal script. Unfortunately, none of the inscriptions before the Himyarite period had an absolute date and in most cases even relative dating was impossible. The problem with her work is therefore twofold. One is the danger of subjectivity in creating a palaeographical sequence entirely from undated documents with unknown or widely scattered provenances,[89] a problem which she herself recognized.[90] The other stems from some of the methods she employed to compensate for the lack of dating material.

Some of the latter were very sensible, for instance her attempts to tie in transitions from one of her 'stades' to another with the short sequences of royal genealogy available (1956: 92). However, this was clearly insufficient and so she turned to a particular version of comparative palaeography (see above) to provide an historical framework for her sequence (1956: 16, 91). Her form of 'la paléographie comparée' was made up of two different processes. The first consisted of speculative comparisons of Ancient South Arabian letter forms with those in Ancient North Arabian scripts (specifically Dadanitic and occasionally 'Thamudic')[91] and those of Phoenician. Quite apart from the methodological flaws in this sort of comparison which have been noted above, she unfortunately believed that the South Semitic script family was derived directly from Phoenician (e.g. 1956: 131),[92] whereas it now seems very probable that the split between the Phoenico-Aramaic and the South Semitic branches of the alphabet took place at a much earlier stage. Since she dated the 'regular use' of the Phoenician script to the 10th century BC (*loc. cit.*), this belief encouraged her to place the earliest South Arabian inscriptions at a relatively late date.

The second foundation of her 'paléographie comparée' was based on her belief that the South Arabian formal script developed under the close and constant influence of the Greek formal alphabet.[93] She was struck by the great symmetry and elegance of the South Arabian letter forms, so unlike those of the North West Semitic inscriptions of the first millennium BC, and felt that South Arabian society could not have achieved such perfection in its formal writing system without what she called 'une impulsion grecque, sans doute

[89] See Pirenne 1956: 83-90 on her method, which she sums up in the words, 'Les types graphiques une fois décelés et définis, il reste à établir leur ordre de succession dans le temps,' i.e. one arranges the letter forms into groups first and then seeks to tie them to (in this case, relative) chronological data.

[90] 'On peut sans doute proposer des séquences qui paraîtraient vraisemblables et satisfaisantes. Mais rien n'est plus sujet à caution....En tout état de cause, la vraisemblance ne fournit aucune preuve et ne peut donc servir à fonder aucune conclusion' (1956: 90).

[91] See for instance, Pirenne 1956: 99-100, though it should be noted that, like Van den Branden (see above), she did not distinguish between the different scripts lumped together under the rubric 'Thamudic', despite the fact that she was aware of Winnett's preliminary sorting (1955: 133, and see below). It is interesting, however, that at one point she suggests that the 'lettres aberrantes', which she identifies as 'thamoudéens' (1956: 99 and fig. 9), might instead be early 'local' forms which were later ousted by 'la forme définitive s'imposant peut-être à la faveur d'une autorité et d'une unification politique' (1956: 100-101), as with the regional alphabets of pre-Classical Greece. Some of these 'aberrant' forms appear in the *hlḫm* (alphabetic primer) on Leiden 37 (Ryckmans 1997: 15), note particularly the stemless forms of *h* and *ḥ*, the back-to-front s^2, the 'hatchet-shaped' *g*, and the *ġ* with a short downward stroke on *both* sides.

[92] This was a common view at the time she was writing, though she was still propounding it thirty years later (1988: 117, pl. I).

[93] 'Cet art graphique suit toutes les étapes de l'évolution de la graphie grecque, sans cesse soumise à de nouvelles « modes »' (Pirenne 1955: 175; see also 1956: 114-116).

directement reçue'.[94] This, she thought, must then have continued to guide the later evolution of the script in parallel with that of the Greek alphabet used in formal inscriptions.[95] She had already divided the development of the Ancient South Arabian script into various 'stades' on purely stylistic grounds. Without any proof of Greek influence on the script – and the most minimal circumstantial evidence for Greek influence in South Arabia at all[96] – she then proceeded to arrange her 'stades' so that they appeared to parallel the development of versions of the Greek formal script of the fifth century BC onwards (e.g. 1956: 96-97).

She used this supposed Greek influence to bolster her belief that 'le dedanite[97] offrait une graphie qui pourrait être considerée comme ancêtre du sabéen' (1955: 130). She regarded certain letter forms in 'le dedanite' and others plucked from dispersed Oasis North Arabian alphabets[98] as 'presque sud-arabes' and concluded that 'la paléographie comparée nous ferait … attribuer ces écritures à la famille graphique grecque et non à la famille phénico-araméenne … mais cette fois d'un grec du VIe siècle et non plus du Ve' (*loc. cit.*). Since she believed that the formal Ancient South Arabian script did not develop until the fifth century BC, she used this supposed similarity between 'la dedanite' and sixth century Greek letters to 'confirm' that the formal ASA alphabet developed from 'la dedanite'. However, because the match in letter forms between these two was far from exact, she proposed that 'on pourra voir dans le thamoudéen ce « missing link » entre le Nord et le Sud, le dedanite et le sabéen' (1955: 32–133 and see the chart on p. 131). It hardly needs to be noted that the dispersed Oasis North Arabian group consists of random letters or short texts, many of which are poorly understood, on objects the vast majority of which are undated, while 'Thamudic' is not a script but a pending file of as yet uncatalogued letter forms.[99] Pirenne was aware of this in as much as she refers to 'une des graphies thamoudéennes' which Winnett had isolated (probably 'Thamudic A', later 'Taymanitic') but in the next sentence she assumes that 'Thamudic' is a single category when she combines this supposedly early date for a particular kind of Thamudic with the Philby-Ryckmans-Lippens expedition's discovery of (unspecified) 'Thamudic' inscriptions in southern Saudi Arabia. By this means she convinces herself that 'Thamudic' was the 'missing link' between 'dedanite' and the ASA formal alphabet (1955: 133).

[94]Pirenne 1955: 190. See also 'Or il est évident qu'un alphabet sémitique était usité auparavant, puisque leur alphabet monumental donne aux lettres la valeur que les Sémites, et non les Grecs, leur reconnaissaient. Ils ont hellénisé une graphie locale....' (1955: 129).

[95]'Nous nous servirons ici encore de la référence aux graphies grecque et romaine pour déterminer quel est le plus ancien des types graphiques sud-arabes attestés, pour vérifier l'ordre des grands stades de l'évolution et pour les situer approximativement dans le temps;' (Pirenne 1956: 16); and 'sous ses traits spécifiquement sud-arabes, on verra la graphie suivre exactement les grandes étapes que connut l'évolution de la graphie grecque' (1955: 127).

[96]Her final theory that a large number of Greeks formed part of a migration of Sabaeans from Tigre to Yemen in the sixth–fifth centuries BC (1989: 266-269) is better passed over in silence. See the critique in Beeston 2005.

[97]This was the script in which the tomb inscription of a king of Dadan was written and which was identified by Grimme (1932) as a separate script from 'Lihyanite'. However, this division has turned out to be artificial and confusing and both 'Dedanite' and 'Lihyanite' are now subsumed under the term 'Dadanitic'. See Macdonald 2009 III: 33; and forthcoming.

[98]See Macdonald 2009 III: 33 for this term.

[99]At the time Pirenne was writing, Winnett (1937) had already made his rough division of Thamudic into five types (A–E). Much later, 'Thamudic A' and 'Thamudic E' would be recognized as distinct scripts (Taymanitic and Hismaic respectively) and removed from the pending file.

It will be clear from this that 'comparative palaeography' lacks any academic rigour and is little more than guesswork based on perceived superficial similarities. This would not appear to be a secure basis on which to build the chronology of ancient South Arabia. Nevertheless, Pirenne's sequence continues to be used, *faute de mieux*, as a relative chronology by epigraphists, archaeologists, and historians, even though her theory of the influence of the Greek alphabet has been almost universally rejected, and her absolute dating largely abandoned. This, I would suggest, misses the point since the very sequence itself is based on unverifiable criteria. As Christian Robin has written, after pointing out 'de nombreuses erreurs' in Pirenne's 'palaeographical' dating,[100] 'il faut donc retenir qu'une datation par la paléographie [of Pirenne's kind] est frappée d'une forte incertitude' (1991: 1113).

It is a great pity that so much of Pirenne's work concentrated on establishing a chronological sequence, since her true palaeographical study – that is her minute analysis of the formal script used in public inscriptions – is extremely valuable and laid the foundations for all future studies of the Ancient South Arabian script.[101]

5.4 Ḥegrā, a suitable case for palaeography?

Given that the proper conditions for creating a valid palaeographical sequence are a corpus of documents serving a similar purpose, in a well-defined area, with good non-palaeographical dating evidence, it might be thought that the public Nabataean inscriptions on and inside tombs at Ḥegrā/Madāʾin Ṣāliḥ might afford such an opportunity. The vast majority of them are dated by regnal years of Nabataean kings, and almost half of them were carved by named members of a handful of families of monumental masons. On the other hand, there are only 38 of these texts, 31 of which are dated, and the time-span – BC/AD 1 to AD 74/75 – is very short. In theory, it might be hoped that palaeographical analysis would help one fit the seven undated inscriptions into the sequence. However, a glance at the script-tables which Healey abstracted from the dated texts (1993: 292-297) shows a remarkable uniformity in the letter forms from the earliest to the latest in the sequence – and particularly between the very earliest and very latest texts[102] – with variations in the shape of a particular letter often occurring *within a text* rather than between one text and another.[103]

The inscriptions on the façades and inside the tombs at Ḥegrā constitute a very small group of public texts carved by a limited number of masons in one particular centre over 75 years. We have no examples of informal versions of the Nabataean script used in the same place at the same time. We therefore cannot know whether the lack of change in the formal letter forms was the reflection of a similar situation in the informal script, or whether, for example,

[100]'Jacqueline Pirenne estime pouvoir atteindre une précision de l'ordre de 25 ans dans ses classements paléographiques. Ce chiffre paraît exagérément optimiste : dans la période des Ier – IVe s. è, chr., pour laquelle la découverte de documents datés a permis de contrôler les résultats de la paléographie, on relève de nombreuses erreurs de datation supérieures à un siècle et une qui excède deux siècles....' (1991: 113).

[101]For an excellent summary see Ryckmans 1991: 26-32.

[102]Compare the forms shown on Healey 1993: 292, 297.

[103]See particularly, for instance, variations in the forms of *h* and *m*.

the masons of Ḥegrā had fossilised the formal script at a particular stage, after which it had become immune to influence from the informal version.

We do not know whether there was a standard form of the Nabataean formal/calligraphic script current *throughout* the Nabataean kingdom, comparable to the Imperial Aramaic informal script used throughout the Achaemenid empire. Moreover, if such a standard form existed, we do not know whether – or how well – the Ḥegrā inscriptions represent it. Yet, unless there were such a standard form, there would be no justification for treating all texts in (what *modern scholars* call) the Nabataean script as mutually comparable examples of a supposedly palaeographically consistent script, similar to the products of single, or closely related, monastic scriptoria over a given period. Yet inscriptions from Petra and Ḥegrā in formal Nabataean scripts, and texts from the Ḥawrān in Nabataean and Ḥawrān Aramaic, and even graffiti from Sinai, are regularly compared, dated by reference to each other, and treated as stages in a single palaeographical development.[104]

6 Conclusion

Much to the disgust of archaeologists, who are always hoping that an inscription will date their levels, most inscriptions in Arabia depend on archaeology to provide them with a chronological context. For texts produced in settled areas there is hope from the increasing amount of archaeological work being undertaken in the Peninsula, while for graffiti of a non-literate society on desert rocks, new scientific dating techniques may perhaps one day provide reliable dating. But it is vital not to let the search for dates and the chronological development of letter forms distract us from the many other lines of enquiry which the inscriptions invite us to pursue.[105] It is surely far more profitable to ask the sort of questions for which the inscriptions *can* provide answers, than to pursue lost causes and risk imposing one's own answers on the texts.

Address for Correspondence: michael.macdonald@orinst.ox.ac.uk

[104]See, for example, Roschinski 1981: 46-48 and fig.6; Naveh 1982: 153-158 and fig. 142; Healey 1990-1991: 47-52, Yardeni 2000: 223-226 where inscriptions and graffiti from all over the Nabataean world (and beyond) plus a coin-legend, and even texts in the Hawrān Aramaic script, are all treated as part of the same evolutionary process. I should emphasize that I am not condemning script tables as such, indeed I have used one in this article (fig. 1)! They have a useful purpose in showing varieties of the same or different scripts, or, in the rare circumstances in which the material allows, the development of a script used on similar surfaces by writers working in the same place over a period of time (as in Yardeni's Chart B, in 2000: 227). Thus, in the script table showing varieties of the Nabataean and Ḥawrān Aramaic scripts in Macdonald 2003: 52–53, fig. 38, I made it clear that 'this table is not intended to suggest a linear development of the script'. Similarly, in my script table of the Ancient North Arabian scripts (2009 III: 34; 2004: 496, I emphasized that there are 'no chronological implications in the order in which the scripts are arranged'.

[105]For instance, a study of the engraving techniques of both the public and the personal inscriptions would be extremely valuable, a field-study of the relative positioning of texts in places such as al-ʿUḏayb (in al-ʿUlā, Saudi Arabia) where inscriptions are crowded together, might well help determine the order in which they were carved. In the study of the public scripts at al-ʿUlā, it is time to integrate the large number of newly discovered texts for which there are photographs into the picture of the formal scripts obtained from Jaussen & Savignac's texts, and to see if there appear to be 'local' differences within the oasis and its surroundings, etc., etc.

Appendix 1
Summary of the terms used in this article

In this summary, terms which will be found elsewhere in this list are in *italics*. The terms which represent major distinctions are in ***bold italics***.

calligraphic — is used here of a (usually *informal*) script which has been formalized and regularized for use in *public* inscriptions or manuscripts, for example the Nabataean script of public inscriptions.

cursive — except in quotations, this term is used only in its strict sense (in English), i.e. of writing in which most or all of the letters are joined to others.

formal — describes the ***register*** of script normally used in inscriptions and documents which are for public consumption. It is employed in public inscriptions and, usually in *graffiti*, as well as in manuscripts of religious or literary works.

graffiti — personal statements inscribed, painted or written in a public place. They can be divided into *graffiti of a literate society* and *graffiti of a non-literate society*.

graffiti of a literate society — are *graffiti* by members of a *literate society* and almost always use the *formal* ***register*** of a script. Although they represent individual self-expression, their ***purpose*** is *public* since they are by definition situated where they can be read by any passer-by.

graffiti of a non-literate society — are *graffiti* produced by members of a *non-literate society* who have learnt a script but do not employ it for practical uses, for instance those who carved the Safaitic inscriptions or the Tuareg who use the Tifinagh (see Macdonald 2009 I: 58–64, 84–93). In this case, there is only one ***register*** of script and, although they represent individual self-expression, their ***purpose*** is *public* because they are left in places (usually in the desert) where they can be read by anyone.

informal — describes the ***register*** of script normally used in practical or everyday documents written in ink, or incised on wax or wood, regardless of whether the ***purpose*** of the document is *public* (e.g. a government decree) or *personal* (e.g. a private letter).

illiteracy — is the inability to read in a *literate society*.

ligature — is used here for the line used to join two letters in a *cursive* script, and not in the printer's sense of linked letters such as 'æ' or 'œ'.

literacy	'the ability to read and/or to write at a number of different levels' (Macdonald 2009 I: 49).
a literate society	is one 'in which reading and writing have become essential to its functioning, either throughout the society (as in the modern West) or in certain vital aspects, such as the bureaucracy, economic and commercial activities, or religious life'.[106]
monumental	a misleading term in the context of script, which I have avoided since it blurs the distinction between ***purpose*** and ***register***.
non-cursive	Except in quotations, this term is used solely to mean scripts in which letters are not joined to each other.
a non-literate society	is one 'in which literacy is not essential to any of its activities, and memory and oral communication perform the functions which reading and writing have within a literate society'.[107]
personal	describes a document the ***purpose*** of which is to record or communicate information that is of interest purely to one or more specific individuals rather than the public, thus personal or business letters, whether written by a scribe on behalf of an individual or in the author's own hand, personal notes, aides-memoire, business accounts, private or business lists, exercises, etc.
public	describes the ***purpose*** of a document as one which records or communicates information which is not aimed solely at one or more specific individuals. It can be an inscription or a legal document, an official letter, etc., designed for public, official or otherwise non-personal purposes or containing material which is already in the public domain such as a text of religious significance or a literary work.
purpose	describes the readership at which an inscription or document is aimed, i.e. whether it is for *public* consumption or for *personal* use.

[106] Macdonald 2009 I: 49. I add, 'Thus, in this sense, a society can be literate, because it uses the written word in some of its vital functions, even when the vast majority of its members cannot read or write, as was the case, for instance, in early mediaeval Europe or Mycenaean Greece, where literacy was more or less confined to a clerical or scribal class' (*ibid.*).

[107] Macdonald 2009 I: 49. I add, 'Prehistoric and – at least until very recently – most nomadic societies were of this sort. There are, of course, gradations between these two extremes and, just as it is possible to have large numbers of illiterates in a literate society, so, perhaps surprisingly, it is possible to have many people who can read and/or write in an oral society, without this changing its fundamentally oral nature' (*ibid.*). I would now prefer the term 'non-literate' to 'oral' in this context.

register describes the form of the script used in a document, either *formal* (or *calligraphic*) or *informal*. Different ***registers*** of script are appropriate to different documents in the same way that different registers of speech are appropriate to different circumstances.

Appendix 2
Notes on figs 1 and 2: the Safaitic 'square script'[108]

It will be remembered that a number of writers have assumed that the 'square' forms of Safaitic letters must represent the oldest version of the Safaitic alphabet because they were thought to be closer to the ASA formal letter shapes.[109] Yet a glance at fig. 1 will show that, in all cases, this supposed similarity does not exist and that the 'square' letter form is much closer to its 'normal' Safaitic equivalent than it is to the ASA formal shape.

1) The various Safaitic letter forms can be divided as follows:

The Safaitic letters *ḫ z s²* *ḍ*[110] *ṯ ġ l n* do not take a 'square' form.

The Safaitic letters *ʾ b t ḥ ḏ r s¹ m h* are quite commonly given 'square' or 'squarish' forms, and *ṯ g d ṣ ẓ ʿ f q k w y* far less often.

(a) Of these, the *normal* Safaitic shapes of *ṯ ʿ w y* are very close to the formal ASA shapes, and making them angular by squaring the circles makes them *less* similar to their ASA equivalents, see fig. 1.

[108]The 'Northern Minaic' formal inscriptions found at Dadan (in modern al-ʿUlā, north-west Arabia) are the examples of the Ancient South Arabian [ASA] formal letter forms which are geographically closest to the location of the Safaitic inscriptions. I have therefore chosen them as the most suitable comparison with the Safaitic 'square script'. This does not mean, however, that I believe that the Safaitic letter forms developed from their Northern Minaic equivalents, as suggested by E.A. Knauf, see Macdonald 2009 II: 385 n. 487. Because the Minaic letter forms are taken from scans of the published photographs of Jaussen & Savignac's squeezes of the inscriptions, they are not always very clear. I have therefore placed beside each one the equivalent letter in the JS facsimiles to help the reader identify the features. Since the letter *z* does not occur in JSMin 1 or 6, I have used a form from JSMin 24. I have used photographs of the letter forms (fig. 1) and complete inscriptions (fig. 2) apart from LSI 37, and KhNSJ 2 and 6 where I have had to use the facsimiles because I was unable to reproduce the published photographs sufficiently clearly. Safaitic did not have a set letter order (Macdonald 2009 I: 85-87), and I have therefore used the common Arabic letter order (*ʾ b t ṯ*, etc.) simply because it has the right number of letters and is well known.

[109]See for instance Littmann 1904: 106, 142; 1940: 98; Winnett 1957: 12, 19, 95; Oxtoby 1968: 47; Clark 1979 [1983]: 68. Littmann commented on LSI 37 that 'the letters *ʾ* and *m* are given here in an older form than in almost any other Safaïtic inscription; both are more closely related to the South-Arabian alphabet than the usual Safaïtic forms of *ʾ* and *m*' (1904: 142). Comparison of the *ʾ* (and indeed the other letters) in this inscription with their equivalents in the ASA alphabet (see figs 1 and 2), will show this to be incorrect. Ironically, the *m* here has one of its 'normal' shapes, rather than a 'square' one, and so does look closer to the ASA *m* than a 'square' *m* would be, see 1 (e) below. Jamme believed that 'the dependence [of the Safaitic script] from South-Arabian is manifest' but believed that his schemata 'disprove considering the so-called square lettering as the oldest. It has to be a later development' (1971: 53). Harding doubted the 'square' forms of letters had any chronological significance (*apud* Winnett 1957: 19) as did Rodinson (1959: 215), Beeston (1959-1960: 185), Van den Branden (1970: 261), and others, though no one has so far given a detailed justification for either view.

[110]Note that *ḍ* has either the commonest form  (as in WH 1673, SESP S.1) or the Hismaic form sometimes found in Safaitic (as in KhNSJ 2).

(b) Giving *d* (𐩣) and *q* (𐩪) squares instead of circles (𐩤) and (𐩫) (as in SIAM 36) does not make them more like the formal ASA letters since in ASA the protrusion on *d* is a wedge not a square 𐪄, and the stem of *q* does not pierce the circle 𐩪 as it does in both Safaitic forms. Similarly, giving *ṣ* a 'square' 𐩦 rather than a rounded or wedge-shaped base 𐩧 brings it no closer to the ASA shape 𐪅 where the base is rounded and pieced by the stem.

(c) The 'square' form of Safaitic *h* 𐩠 is closer to the ASA formal shape 𐪀 than are most of the 'normal' Safaitic forms, e.g. 𐩡, in that the stem is central in relation to the 'cup', but the angularity is foreign to the ASA shape, which has a rounded cup.

(d) 'Normal' Safaitic *t* 𐩱, 𐩲, which can sometimes resemble its formal ASA equivalent 𐪋 though it is usually smaller in relation to the other letters, is, in its 'square' form, rendered quite different from the ASA letter, either by its stance 𐩳, or by the addition of short strokes at right angles to the ends of the lines giving it the form of a swastika 𐩴, or both 𐩵.

(e) One of the 'normal' forms of Safaitic *m*, 𐩥, is not dissimilar to its formal Northern Minaic equivalent), 𐩥.[111] However, the 'square' shape 𐩦 takes it further from the ASA not closer. Ironically, the first example in SIAM 11, 𐩦, looks relatively close to the ASA examples simply because it is *less* 'squared' (i.e. closer to the 'normal' form) than the other example 𐩦.

(f) It is true that some examples of the 'square' form of Safaitic *b* (e.g. 𐩨), bear a certain resemblance to a formal ASA *b*, 𐪁, turned at 90°. However, the 'arms' of the Safaitic letter are usually considerably shorter than the 'legs' of the ASA one. In fact, the variable length of the 'arms' in the 'square' form of Safaitic *b* mirrors the variation between shallow and deep curves in the 'normal' form, thus, for instance, 𐩨 𐩨 𐩨 𐩨 etc. If the 'square' form were directly related to the formal ASA shape one would expect its arms always to be long, matching the long 'legs' of the ASA letter.

(g) In Safaitic, *s*[1] takes several related shapes 𐩬 𐩭 𐩮, which can have either a horizontal or vertical stance. The shape of this letter is one of the most stable in the Ancient North Arabian alphabets,[112] and its forms in Oasis North Arabian and in Thamudic B, C and D are all very similar to that in the ASA formal alphabet 𐪇. Indeed, only in Safaitic, Hismaic, and informal Dadanitic do variant, but clearly related, forms develop. It is noticeable that, when square letter forms are used in Safaitic, *s*[1] can either take an angular version of the first 'normal' shape shown above 𐩯 (e.g. on Figs 1 and 2: LSI 37, C 88, SIAM 11 and 35, KhNSJ 2) or is treated as one of the letters which do not take a 'square' shape, as in SIJ 39, LP 325, KhNSJ 6 on Fig. 1, where I have placed it among the 'normal' forms since it is no different from the forms found in texts where no letters have been given 'square' shapes (e.g. SESP S.1, LP 262, etc.).

(h) The shapes of the remaining letters which can take 'square(ish)' forms (ʾ *g ḥ ḫ ḏ r ẓ f k*) are quite different in Safaitic from their formal ASA equivalents, and the addition of angularity does not reduce the difference (see fig. 1).

(i) Thus, while 20 of the 28 Safaitic letters can have a 'square' or 'squarish'

[111] This form is taken from JSMin 1 line 4.

[112] See the script table in Macdonald 2009 III: 34, fig. 3.

form,[113] only 9 do so with any regularity[114] and there is no consistency in their use. To take just one example, in WH 1673 (fig. 2) all the examples of b are 'normal' (i.e. rounded), not 'square', and see also the discussion of KhNSJ 6, below.

(2) As stated above (§3.2) it is clear that there is no chronological significance in the use of 'square' letter forms in Safaitic, since both 'square' and 'normal' forms are quite commonly found in the same inscriptions. The mixtures vary (see fig. 2):

In some texts, like SIAM 36, every letter possible (except the first ʿ) is given a 'square' form.[115] Thus (using capital letters, or underline in case of ʾ and ʿ, to show square forms):

l GRM Bn DMṢY Ḏ ʾl ʿMRT W nDM ʿl ʾB-H W ʿl GRM Bn ʿQRB Bn ʿM

In other texts some of the letters in the name, genealogy and lineage group are given 'square' shapes, but the statement appears in the 'normal' forms. Thus WH 1673 reads:

l s²Mt bn RMyn bn ṣbḤ Ḏ ʾl ḍf W wld b- bql h-mʿẓy

This is extended in LP 325 where the letters making up the genealogy, lineage, and the first words of the statement (*w dmy l-h ʾb-h w ḫrṣ*) are mostly given a 'square' form, while in the remainder of the text the letters have their 'normal' shapes. Thus,

l MṭR Bn ʿM Bn MṭR Bn ʾnʿM Bn qdM Ḏ ʾl ʿwḎ w dMy l-H ʾB-H w ḫRṣ h-nw mʿ ʾḫ-h m-mdbr f h lt s¹lm w ġnmt l-ḏ dʿy h-s¹fr w ʿwr w ḫrs¹ l-ḏ yʿwr h-ḫṭṭ.[116]

By contrast, in KhNSJ 6 the 'square' and 'normal' letter forms are mingled indiscriminately throughout the text. Thus the first ʾ has the 'normal' form, the next a 'square' form and the third the 'normal' form again. The letter *b* alternates between a shallow curve and the angular 'square' form; the first *m* is 'normal' (even though it is in the lineage name) and all the rest are 'square'; the three examples of *ḏ* in line 1 have short tails at the bottom of the stems, while that in the last line has no tail; etc. On fig. 1, I have separated the 'square' from the 'normal' and placed those letters which normally do not take a 'square' form in between the two rows. In transliteration, this would read:

l ṣbḥ Bn Ḏl bn ʾs¹ bn Ḏl Ḏ ʾl ʿmrT W Mrd ʿl ʾl RM W qyẔ ʿl fnyT s¹nT bRḤ qṣR l-bṣRy f h lT s¹lM W ʿWR l-Ḏ ʿWR h-s¹fR.[117]

(3) The term 'square script' is thus a misnomer since it is not a script as such, nor even a coherent version of a script, like the *musnad* or *Eṣtrangelā*. The letter forms which have been identified as belonging to this so-called 'square

[113] ʾ *b t ṯ ǧ ḥ d ḏ r s¹ ṣ ẓ ʿ f q k m h w y*.

[114] ʾ *b t ḥ ḏ r s¹ m h*.

[115] Obviously, the letters *l* and *n*, being simple vertical lines, retain their normal forms.

[116] For this new reading of this text, and a commentary, see Macdonald, Al Muʾazzin, & Nehmé 1996: 467–472.

[117] There are, of course, a few cases where it is difficult to decide whether the form is 'square' or 'normal', e.g. the *bs* in the second and third examples of *bn*, or the *r* in *ʿmrt*.

script' are simply attempts by numerous different individuals to give some of the letters more angular forms, for reasons we can only guess at. The particular letters chosen, and the exact way in which this was done, varied from individual to individual and was only one of a number of ways in which perhaps they 'played' with, or decorated, their texts.[118]

The content of the Safaitic inscriptions in which 'square' forms of letters are employed is no different from those in the 'normal' forms, i.e. simple graffiti and very occasionally grave markers. Nor is there a greater proportion of texts with angular letter forms in settled contexts such as Umm al-Jimāl, Palmyra, Pompeii, etc.), indeed, with the exception of the Dayr al-Kahf cave tomb, Safaitic inscriptions with angular forms are extremely rare in these places (see Macdonald 2006: 293-294). [119]

(4) Another manifestation of this sort of playfulness, or aesthetic awareness, was identified by V.A. Clark who called it 'the 90° script' (1979 [1983]: 68, 70-71).[120] Once again, this is not a script, or even a version of a script, but simply refers to a practice in some Safaitic inscriptions of turning one or more of the letters *b* 𐍁, *ḥ* 𐍇, *s*¹ 𐍈, *k* 𐍊, *m* 𐍌, at 90° to the direction of the text for decorative purposes. There is no consistency between texts as to which of these letters is turned, and often within a single inscription one example of a letter will be at 90° and another have its normal stance.

[118]See Macdonald 2009 I: 93-95, and the way letters are placed within each other like Russian dolls in KhNSJ 2 on fig. 2 here, even when this crosses word-boundaries, as in *w q y (ẓmᶜ) (rḍ) w t* for *w qyẓ mᶜ rḍwt* for *n (ẓrf) h l t* for *nẓr f h lt*.

[119]Thus, only occasional letters in the inscriptions from Umm al-Jimāl published in Littmann 1943: nos LP 1269–1279 are given angular shapes, e.g. some of the letters (though not the ʾ or the *m*) in LP 1269, the first *b* in 1270 (the other letters though neatly written do not have special angular shapes), the *ḥ* in LP 1271, etc.

[120]See, for example, LP 199 and 202, SIJ 724, WH 1214, and the texts identified by Clark in his collection (1979 [1983]: 68), etc. Littmann (1943: 46-47) identified the letters in LP 199 and 202 as 'archaic'.

Appendix 3
Notes on figs 4 and 5

Fig. 4.

This shows an example of how easy it is to postulate almost any sequence of development simply by treating letter forms in a vacuum. At the beginning of the twentieth century, M. Lidzbarski (1902: 122)[121] and F. Praetorius (1904: 717-718), using the same materials, proposed precisely opposite sequences for how each thought the Safaitic and South Arabian forms of *alif* had developed from '(alt)kanaanäisch' which was considered to represent the origin of both the North West Semitic and the South Semitic alphabetic traditions. The letter forms used on fig. 4 are taken directly from their articles.

In an article entitled 'Der Ursprung der nord- und südsemitischen Schrift' (1902), Lidzbarski argued that the 'nordsemitische Alphabet' was not only older than the South Semitic, but its direct ancestor.[122] He believed that the North Semitic alphabet had been taken directly to South Arabia (1908: 25, 27), probably by South Arabian merchants who came across it in the trading towns of Phoenicia-Palestine (1902: 128), and that its development into the distinctive ASA script had taken place in South Arabia. However, he also believed that at a very early period before the letter forms known to us from the ASA inscriptions had fully developed, the new proto-ASA alphabet had been carried north again and had provided the basis for the Ancient North Arabian scripts (1908: 25, 27). He gave the chronological order of development of the South Semitic scripts as 'minäo-sabäisch – liḥjanisch – thamudisch – safatenisch' (1908: 26), though in this later article he stated that he did not believe that one had developed *directly* out of the other.

He believed that in both the South Arabian and the Greek alphabets there was a tendency towards changing the irregular forms of the North Semitic letters into symmetrical shapes (1902: 117-118; 1908: 25). He argued that a trend towards architectonic shapes had strongly influenced the form and stance of the letters in the South Arabian script (1902: 122, and see also 118 and 120).[123] Thus, in the case of *alep*, he thought that the 'kanaanäische' shape (no. 1 on fig. 4) had first been turned at 90º clockwise (no. 2 on fig. 4), as in Greek *alpha*, and that in the South Semitic script the 'legs' had then been made vertical (3). While admitting that in the ASA script (5b) the upper part did not achieve a symmetrical form he points out that it did so in the Dadanitic (5a), and suggested that it was from this shape that the Safaitic form (6) developed (1902: 122).

Praetorius strongly rejected this theory. While agreeing that the original alphabet had travelled from Canaan to South Arabia, he did not accept the idea put forward by Lidzbarski and others that it had then come back northwards at a later date to give birth to the Ancient North Arabian scripts. He believed that although the extant letter forms in the Safaitic and Lihyanite (i.e. Dadanitic)

[121] In 1908, he published another article entitled 'Altnordarabisches', in which he repeated and built on the arguments in his 1902 work.

[122] 'nicht nur ältere Formen hat das nordsemitische Alphabet, sondern ich glaube ... dass das südsemitische direkt von ihm abstammt' (1902: 113).

[123] 'Diese Tendenz nach architektonischen Formen hat die Form und Stellung der Zeichen stark beeinflusst' (1902: 122).

inscriptions could not themselves be considered as the intermediary stages between the altkanaanäisch and the ASA scripts, yet they must have preserved some letter shapes, or reminiscences of letter shapes, from the original intermediary (so far unknown to us) between the North Semitic alphabet and that of South Arabia (1904: 715-716).

Praetorius started from the belief that the shape of Safaitic *alif* was very similar to what he regarded as the 'Urform', as found in the 'Mesha Stela' (no. 1 on fig. 4).[124] He suggested that from a shape such as that in no. 2, which can be found in some early Phoenician inscriptions, developed a series of Safaitic forms (3a–e), the 'last' of which (3e) led to the 'protoarabische' form (actually one form of Thamudic B *alif*, = 4) and from this developed in one direction the Dadanitic shape (5a), by abandoning the short stem between the base and the cap, and the ASA form (5b) in which the short stem and the cap became a flourish. Curiously in view of the fact that it is a formal letter shape, he explained this latter process as a 'cursive simplification' (1904: 717). There is, of course, no evidence that any of the Safaitic forms he illustrates is older than any other, nor that there was *any* progressive development of the forms, let alone the sequence he suggests. Moreover, Praetorius' theory leaves us with a possible gap of up to 1000 years between the Phoenician and the Safaitic forms, and the idea that the altkanaanäische form left a trace in North Arabia on its way south, a trace which lay hidden for a millennium before appearing in its precise original form in Safaitic, cannot be taken seriously.

I cite these two examples not only to show how a letter in one script can develop a form very similar to that of its equivalent in a quite different (and in this case, earlier) script (see also fig. 5), but also to highlight the dangers of plucking these forms out of context and using their apparent similarity to build theories on the relationship and development of scripts using 'comparative palaeography'.

Fig. 5.

This shows an example of how a letter in one script can develop a form identical to that of its equivalent in a quite different script, by entirely independent processes. To the right of the examples and the inscriptions from which they are taken, I have shown in [ ] the common Dadanitic formal shape of s^1 and the Old Aramaic and Old Phoenician forms of *śīn/šīn* as a reminder of the different ancestry of the Dadanitic and North West Semitic letters. The form of Phoenician and Aramaic *śīn/šīn* derives ultimately from the shape of the letter *ś* in the proto-alphabet (as does Dadanitic s^2), whereas the form of Dadanitic s^1 derives from the proto-alphabetic shape of the letter *š*. This underlines the fact that the identity of shape here is entirely coincidental, as it well could be in other cases where we have much less evidence, and it suggests that to draw conclusions about relationships simply on similarity of form is extremely risky.

[124]The similarity between the forms of the Safaitic and the Phoenician ʾ was something which he had noted twenty years earlier (1883-1884: 29), though at that time he had declined to draw a conclusion, and which Halévy had remarked on even earlier (1877: 310).

Figures

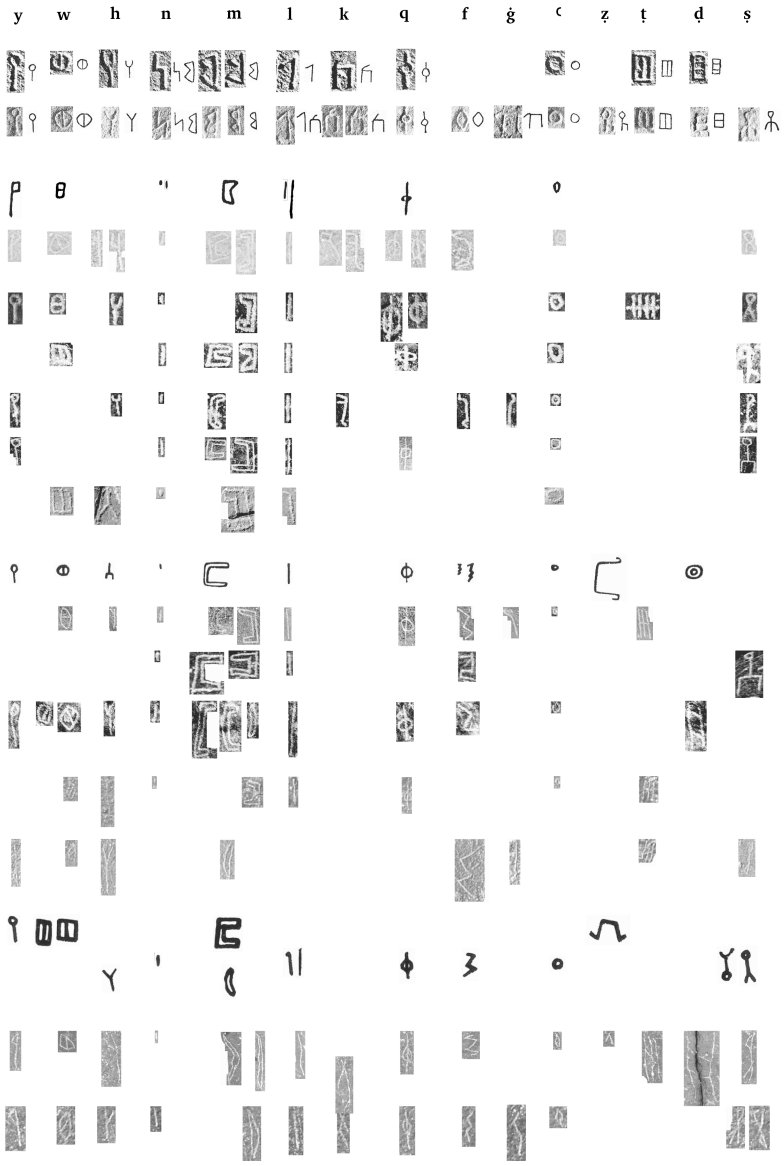
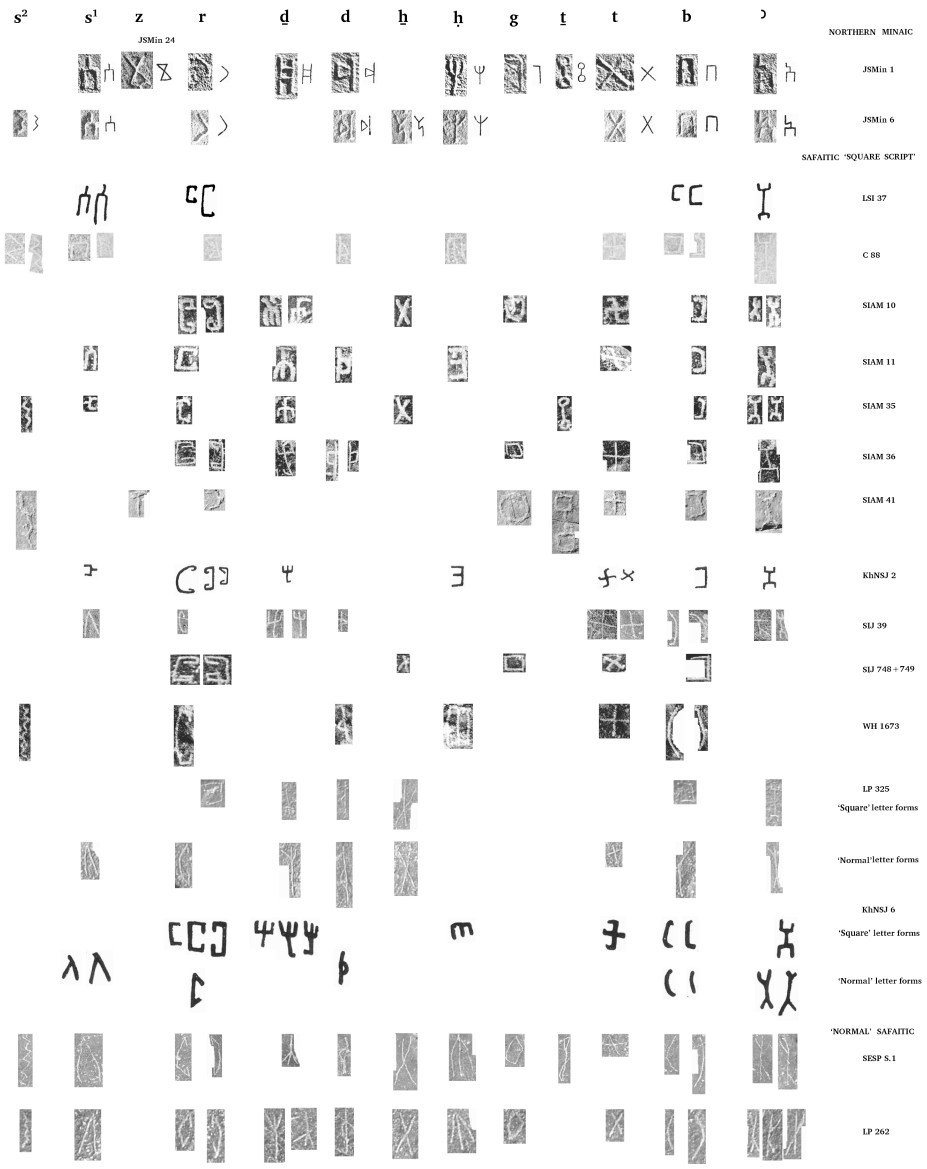


Figure 1: A comparison of ‘square’ Safaitic letter-forms with the formal Ancient South Arabian (Northern Minaic from Dadan) shapes and with their equivalent ‘normal’ Safaitic letter forms.


s²
s¹
z
JSMin 24
r
ḏ
d
ḫ
ḥ
g
ṯ
t
b
ʾ
NORTHERN MINAIC
JSMin 1
JSMin 6
SAFAITIC 'SQUARE SCRIPT'
LSI 37
C 88
SIAM 10
SIAM 11
SIAM 35
SIAM 36
SIAM 41
KhNSJ 2
SIJ 39
SIJ 748+749
WH 1673
LP 325
'Square' letter forms
'Normal'letter forms
KhNSJ 6
'Square' letter forms
'Normal' letter forms
'NORMAL' SAFAITIC
SESP 5.1
LP 262

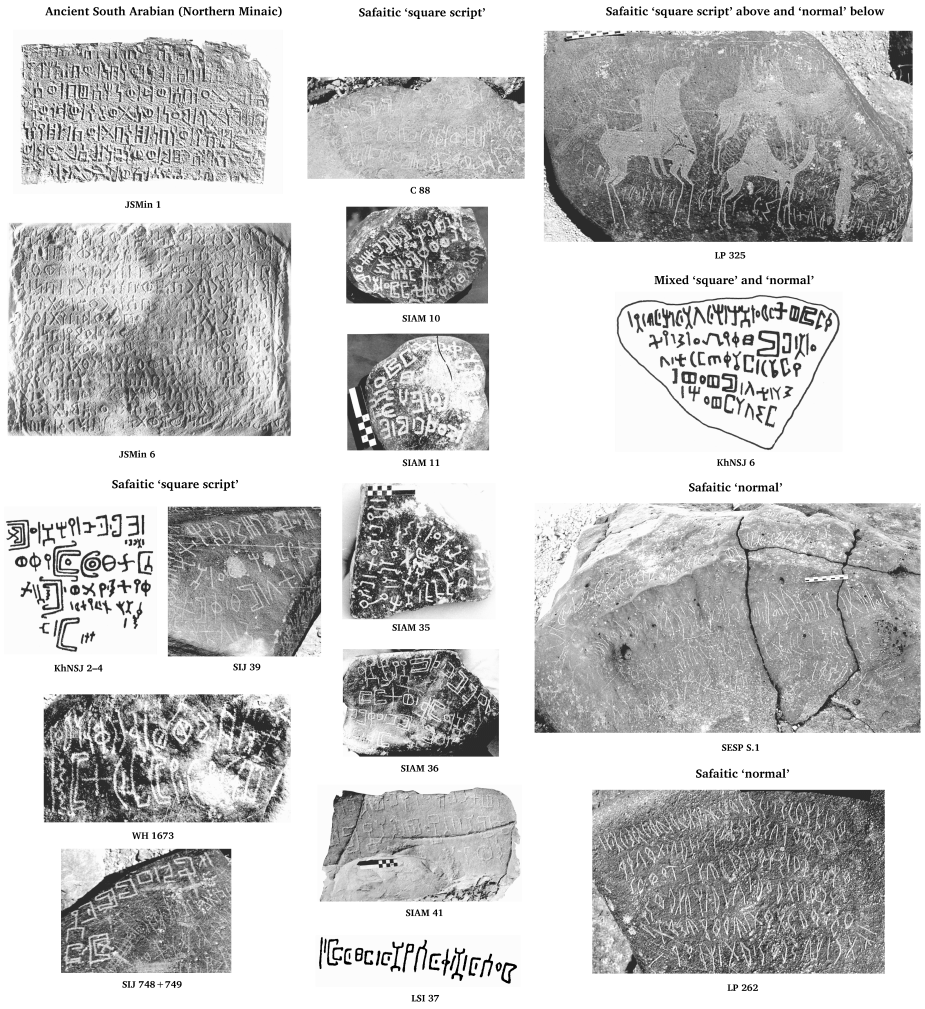


Figure 2: The inscriptions from which the letter forms in fig. 1 were taken.

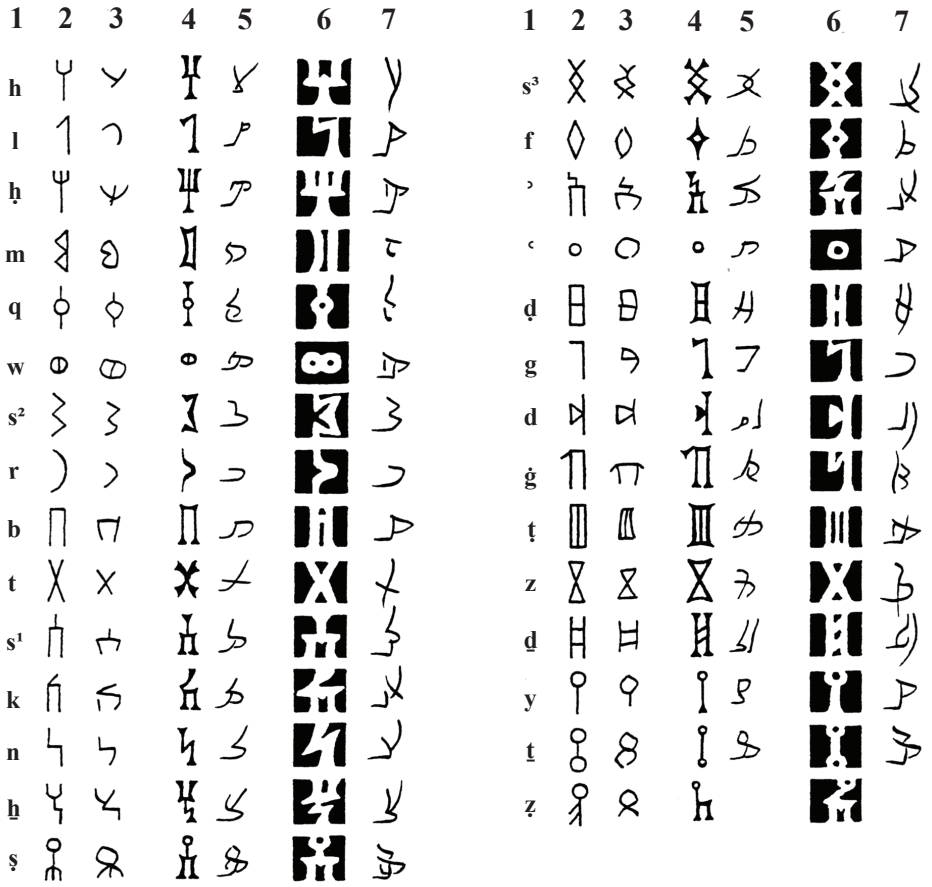


Figure 3: The Ancient South Arabian *musnad* and *zabūr* scripts adapted from Stein 2005b: 132, Abb 1 with kind permission of the author. The letter order is the *hlḥm*, the order used in ancient South Arabia. (1) Transliteration; (2) Early Sabaic *musnad*; (3) Early Sabaic *zabūr*; (4) Middle Sabaic *musnad*; (5) Middle Sabaic *zabūr*; (6) Late Sabaic *musnad*; (7) Late Sabaic *zabūr*.

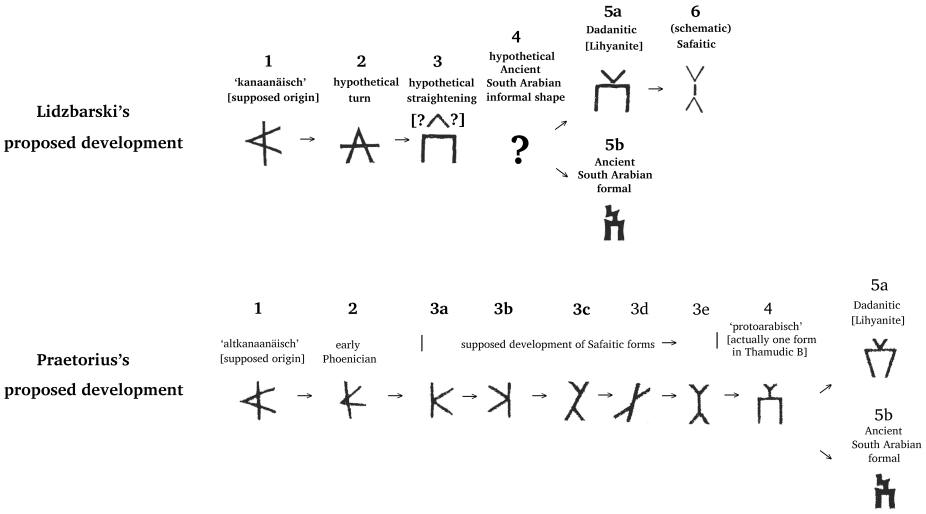
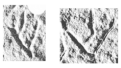


Figure 4: Diagram of Lidzbarski's and Praetorius' theories of the development of Safaitic *alif*.

JSLih 70
Dadanitic inscription from al-ʿUlā

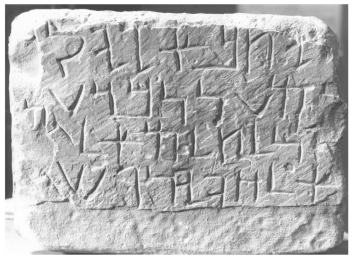
Dadanitic informal s^1
(JSLih 70 / 1, 3)



Dadanitic informal s^1
(JSLih 70 / 5)

[]

Dadanitic formal s^1
(JSLih 41 / 2)

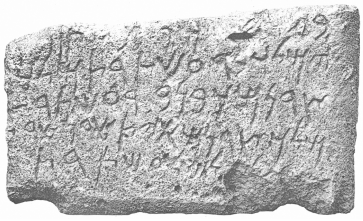


CIS ii 114
Aramaic inscription from Taymāʾ

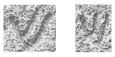
Imperial Aramaic
formal śīn / šīn
(CIS ii 114 / 4)

[]

cf. Old Aramaic ś / š
(from the Tell Fekheriye
inscription)



CIS i 4
Phoenician inscription from near Sidon



Phoenician
formal śīn / šīn
(CIS i 4 / 2, 5)

[]

cf. Old Phoenician ś / š
(from the Nora inscription

Figure 5: Unconnected similarity of shape between a Dadanitic s^1 and Imperial Aramaic and Phoenician forms of *śīn/šīn*.

Sigla

C	Safaitic inscriptions in *Corpus Inscriptionum Semiticarum. Pars V. Inscriptiones Saracenicas continens* Tomus 1. *Inscriptiones Safaiticae*. Paris: Impremerie nationale, 1950-1951.
CIH	Ancient South Arabian Inscriptions in *Corpus Inscriptionum Semiticarum. Pars IV. Inscriptiones Ḥimyariticas et Sabaeas continens.* Paris: Reipublicae Typographeo, 1889-1932.
CIS i	Phoenician inscriptions in *Corpus Inscriptionum Semiticarum. Pars I. Inscriptiones Phoenicias continens.* Paris: Reipublicae Typographeo, 1881-1962.
HCH	Safaitic inscriptions in Harding 1953.
JSLih	Dadanitic inscriptions in Jaussen & Savignac 1909-1922.
JSMin	Minaic inscriptions in Jaussen & Savignac 1909-1922.
JSNab	Nabataean inscriptions in Jaussen & Savignac 1909-1922.
JSTham	Taymanitic, Hismaic and 'Thamudic' inscriptions in Jaussen & Savignac 1909-1922.
KhNSJ	Saifaitic inscriptions in Al-Khrayshesh 1995.
LP	Safaitic inscriptions in Littmann 1943.
LPNab	Nabataean inscriptions in Littmann 1914.
LSI	Safaitic inscriptions in Littmann 1904.
LSINab	Nabataean inscriptions in Littmann 1904.
LSISyr	Syriac inscriptions in Littmann 1904.
RES	Inscriptions in *Répertoire d'épigraphie sémitique.* Paris: Imprimerie Nationale, 1900-1968.
RIL	Chabot 1940-1941.
SESP S.1	Safaitic inscriptions from Site D in Macdonald et al. 1996: 453-458.
SIAM	nos 1-35, Safaitic inscriptions in Macdonald 1979. nos 36-44, Safaitic inscriptions in Macdonald 1980.
SIJ	Safaitic inscriptions in Winnett 1957.
WH	Safaitic inscriptions in Winnett & Harding 1978.

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