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Nabataean Façade Tombs: A New Chronology

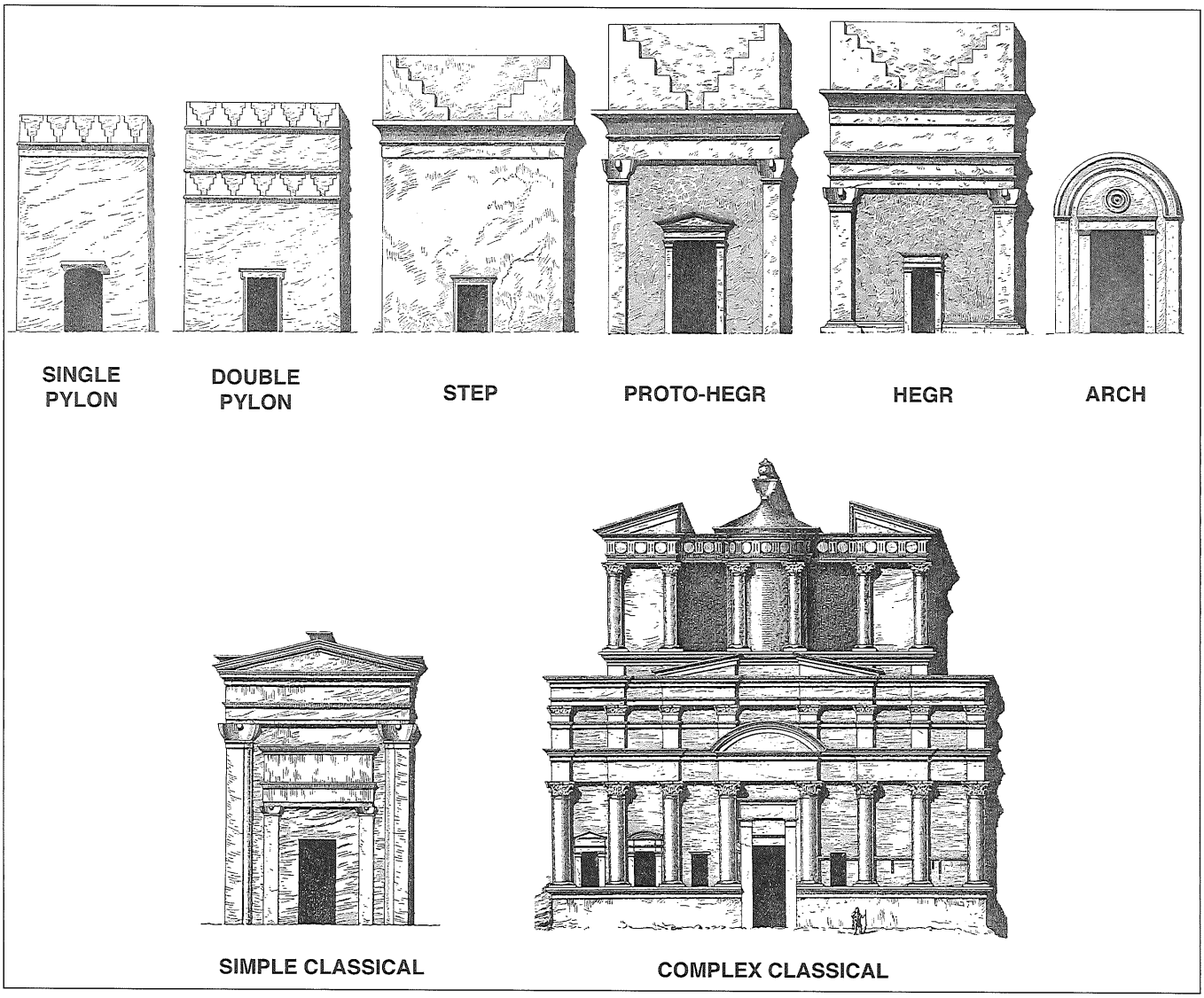
Introduction

The façade tombs of the Nabataeans are unique among the funerary architecture of the ancient world. They owe their distinctive design to the ingenuity of the Nabataeans in combining architectural elements from diverse cultures and adapting them to local tastes and the geographical environment of Petra and Madā'in Ṣāliḥ to create original forms of art and architecture. The façades of these tombs have proved a rich source of material for the study of Nabataean architecture. However, two main issues regarding the tombs remain the topic of scholarly debate: the funerary practices that took place in them and the chronological relationship between the different types of façade. This is due to the fact that at Petra the majority of the tombs have been looted and re-used for a variety of purposes since antiquity resulting in the loss of crucial burial evidence and datable material such as coins, inscriptions and ceramics. Historical sources only confound the issue, since our sole reference to funerary practices at Petra is Strabo's statement that the Nabataeans "treated their dead like dung" (*Geog.* 16.4.26), a concept which does not accord with the monumental tomb architecture and the few burials that do survive.

Attempts at establishing a chronology for the bulk of the façade tombs have been largely based on stylistic studies of the façades (e.g. von Domaszewski 1904: 137-91; more recently Netzer 2003: 13-36, 39-47), while burial practices have been tentatively reconstructed according to the scant evidence that remains in a handful of tombs and the burials excavated in non-monumental shaft tombs and pit graves (e.g. Bikai and Perry 2001: 59-78; Perry 2002: 265-270; Schmid and Barmasse 2006: 220-227; Schmid *et al.* 2008: 135-160). In order to enhance our knowledge of these elusive subjects, the current author conducted the first detailed examination of the interior architecture of the façade tombs at Petra (Wadeson 2010b)[1], which have only become accessible in the last two decades following the departure of the local Bdool tribe that inhabited the chambers. In addition, several tombs had their floors cleared in a World Bank-supported project in 2003, which greatly facilitated their study. By analysing the rock-cut installations for burial and ritual inside the tombs in relation to the few surviving inscriptions and excavated burials, and comparing them with well-documented tombs in the wider region, such as those in Jerusalem and Alexandria, it has been possible to reconstruct certain funerary customs practiced by the Nabataeans. These practices have both distinctive elements and aspects related to the traditions of neighboring cultures.

However, relevant to this paper are new findings concerning the chronology of the façade tombs. By analyzing the physical relationship of façade tombs carved side by side at Petra and collecting examples of relative chronology between tombs of different types, a pattern emerged whereby the larger, more complex façade types (e.g. Hegr and Double Pylon) tended to be carved earlier than the smaller, simpler versions of them (e.g. Step, Proto-Hegr, Single Pylon) (FIG. 1). This chronological pattern contrasts with traditional typologically-based chronologies in which tomb architecture at Petra developed from simple to complex over time (Brünnow and von Domaszewski 1904; Browning 1973). However, it accords with the findings of more recent studies of Nabataean sculpture, ceramics and classical-style

[1] Wadeson, L. 2010. *The Façade Tombs of Petra: from Exterior to Interior*. D.Phil. thesis, University of Oxford.



1. Façade tomb-types at Petra (*Brünnow and von Domaszewski 1904: figs 122, 126, 151, `159, 163, 174, 187, 192*).
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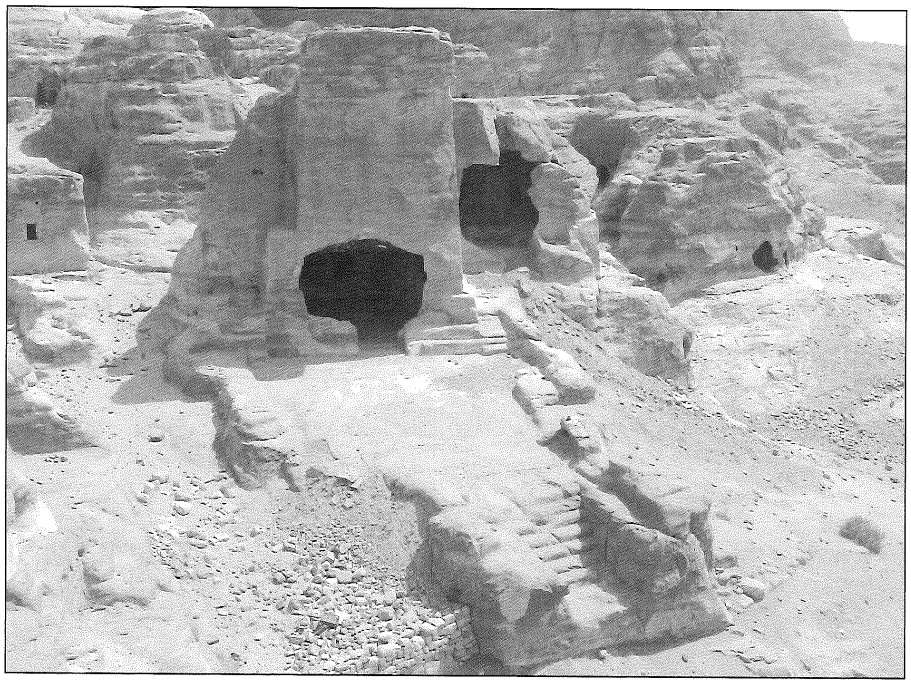
architecture (Schmid 2001: 367-426; McKenzie 2003: 165-91). The results of this novel study were recently published in detail and are therefore only summarized here (Wadeson 2010a: 48-69). The focus of this paper is on the social reasons behind the changes in funerary architecture, which were discovered through a comprehensive study of the dated inscriptions on the Nabataean façade tombs at Madā'in Ṣāliḥ in relation to their interior plans and façade types, and to the tombs at Petra. The content of those inscriptions both confirms the new chronology proposed for the tombs at Petra and provides the key to understanding why the smaller and simpler façade types were introduced later than their larger, more complex versions.

The first part of this paper provides an overview of the typology and chronology (both traditional and novel) of the façade tombs at Petra. The results of the analysis of the Madā'in Ṣāliḥ tombs and their inscriptions will then be presented and it will be argued that changing types of tomb ownership played a significant role in the design and layout of the tombs. In conclusion, it will be suggested that social change in both the Nabataean kingdom and the wider region during the 1st century AD was a significant factor motivating the developments in

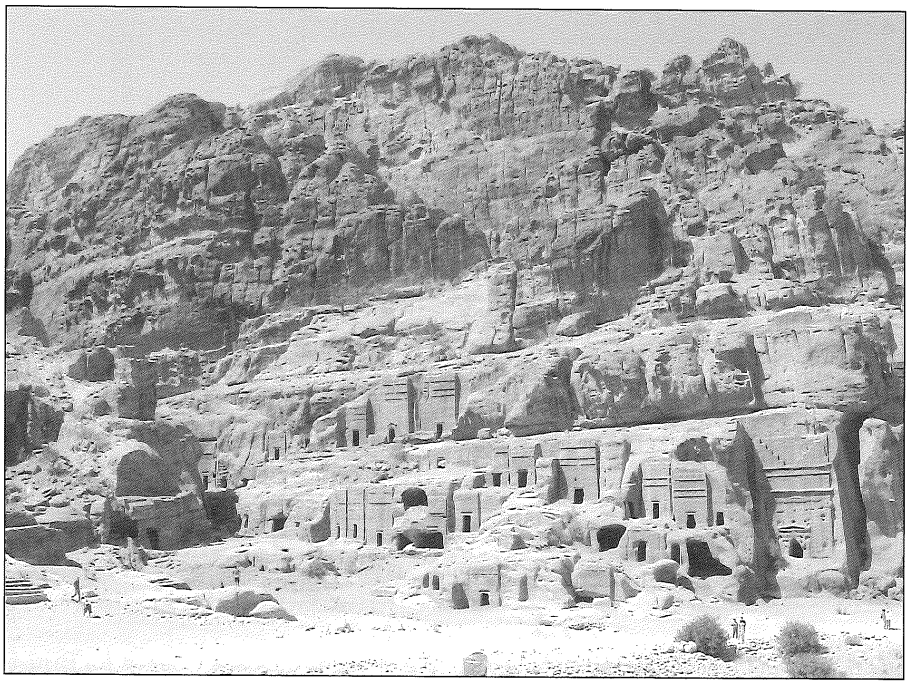
funerary architecture, burial practices and possibly other aspects of Nabataean material culture.

The Façade Tombs at Petra

At Petra, 628 façade tombs have been recorded as carved in the sandstone rock-faces of the wadis and mountains surrounding the city centre (Nehmé 2003b: 158). Several tombs are in isolated positions, such as Tombs 276, 559 and 676[2] (FIG. 2), and these tend to be part of large funerary complexes, typically including triclinia, platforms, basins, cisterns or reservoirs, all crucial to the funerary rituals taking place at the tomb. However, the majority of tombs are clustered in groups, the most concentrated being in the Street of Façades and Wādī al-Mu'ayṣira (FIG. 3). Due to their monumental,



2. Double Pylon Tomb 276, Wādī Farasa, Petra (*Photo by L. Wadeson*).



3. Street of Façades, Petra (*Photo by L. Wadeson*).

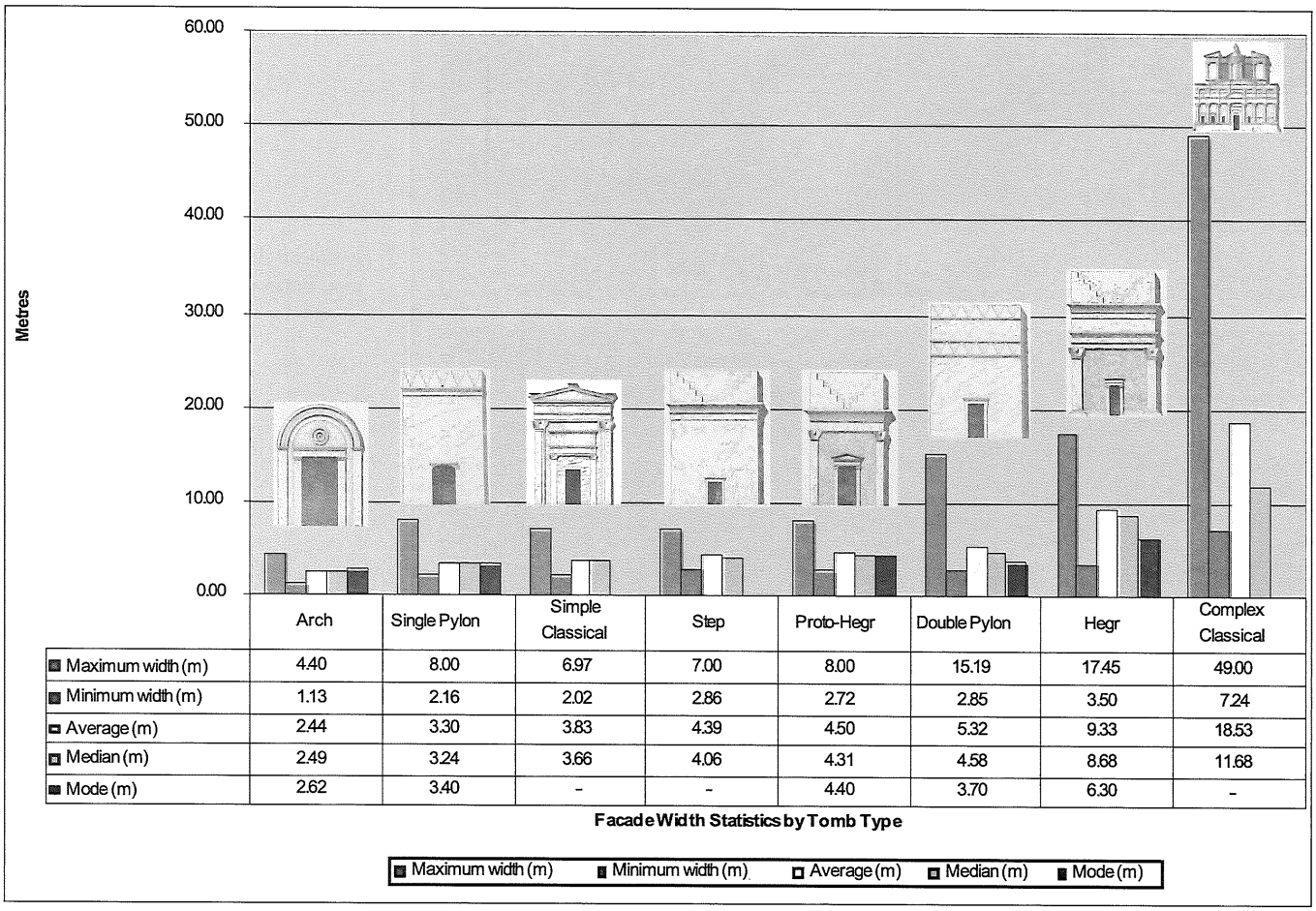
[2] The numbering system of Brünnow and von Domaszewski (1904) is used in this study for the tombs at Petra.

decorative façades, they are prominent in the landscape and are visible from considerable distances. It ought to be remembered that many of the façades were once plastered and painted and this would have created a remarkable effect in contrast to the natural hues of the sandstone (McKenzie 1990: 33, 117; Shaer 2000: 133).

Typology

According to the carved decoration on the façades, the tombs can be divided into the following eight types: Single Pylon, Double Pylon, Step, Proto-Hegr, Hegr, Arch, Simple Classical and Complex Classical (Wadeson 2010a: 51-2) (FIG. 1). These groupings and their nomenclature are slightly modified from those first suggested by von Domaszewski (1904: 137-91). During the author's documentation of the tombs at Petra, 441 tombs were identified as belonging to one of the eight types. Apart from the Arch and Classical tombs, the remainder of the types are characterised by the crowstep motif. Notably, 86% of the tombs have crowsteps carved on their façades (often with elements from classical architecture), while 14% have only classical motifs, testifying to the crowstep's importance as a component in tomb design.

Besides the traditional stylistic basis for the typology of the façades, the author's dimensional study of the tombs discovered that the types are also differentiated by the size of their façades (Wadeson 2010a: 52-3). Each type was found to have a differing average façade width and its own range of dimensions. These data are presented in the chart in (FIG. 4), in which the façade types have been ordered from smallest to largest according to their average width. Notably, it is observed that the



	Arch	Single Pylon	Simple Classical	Step	Proto-Hegr	Double Pylon	Hegr	Complex Classical
Maximum width (m)	4.40	8.00	6.97	7.00	8.00	15.19	17.45	49.00
Minimum width (m)	1.13	2.16	2.02	2.86	2.72	2.85	3.50	7.24
Average (m)	2.44	3.30	3.83	4.39	4.50	5.32	9.33	18.53
Median (m)	2.49	3.24	3.66	4.06	4.31	4.58	8.68	11.68
Mode (m)	2.62	3.40	-	-	4.40	3.70	6.30	-

4. Chart of façade width statistics according to tomb-type at Petra (in order of average width).
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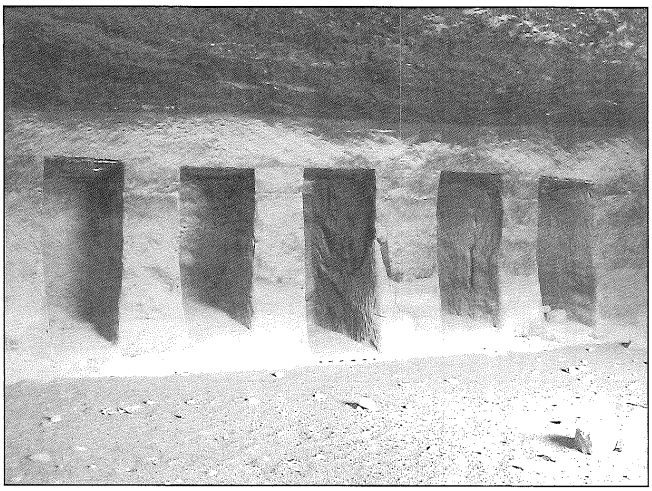
tombs with a simpler type of façade design, such as the Arch, Single Pylon, Step and Simple Classical types, tend to be smaller than those with more complicated façade designs, such as the Double Pylon, Hegr and Complex Classical types. It can thus be concluded that the smaller tombs are simpler versions of the larger tombs in terms of their design (i.e. Single Pylon tombs are a simplified version of Double Pylon tombs, Step and Proto-Hegr tombs are a simplified versions of Hegr tombs, and Simple Classical tombs are a simplified version of Complex Classical tombs). The smaller, simpler tombs are also more standardised in terms of their dimensions, suggesting they were more regularised as types.

Similar patterns were observed in the analysis of the tomb chambers, which were documented and studied in detail for the first time. Among the tombs surveyed, 97% have a single square-shaped chamber centred on the doorway in the façade. An analysis of the dimensions of the chambers according to their type of façade revealed that the largest façades with a more complicated design tend also to have the largest burial chambers, while their simpler versions have smaller burial chambers (Wadeson 2010a: 58-60). For example, the average square root of the chamber floor area of Hegr tombs is 7.17 m, while that of Step tombs is 5.18 m and that of Proto-Hegr tombs is 6.15m. These data are summarised in TABLE 1. Again, the smaller tombs tend to be more standardised in terms of their chamber dimensions.

Besides these new findings on the relationship between the façade type of a tomb and its size, it was also discovered that the arrangements for burial differed among the tombs. Burial installations are carved in the walls and floors of the chambers and include five distinct forms: loculi, loculus-chambers, recesses, burial niches and floor graves (Wadeson 2010a: 60-1). The most commonly occurring are loculi, tall openings in the walls that are deeper than they are wide, and graves carved in the chamber floor (FIGS. 5 - 6).

By analysing the presence, number and location of the burial structures according to the façade type of the tombs, it was found that among the non-classical tombs, those with the largest and more complex façades, such as the Hegr tombs, were more likely to have loculi carved in their chamber walls, arranged evenly and symmetrically according to a specific plan (Wadeson 2010a: 62-63). For example, Hegr Tomb 676 has 15 loculi carved in its back and side walls, almost identical in size and evenly placed (FIG. 7). The tool-work is also particularly neat in this chamber, demonstrating the high quality that was aimed for in its carving. Similarly,



5. Loculi in Hegr Tomb 361, Petra (*Photo by L. Wadeson*).

Table 1. Petra: Statistical Summary of Square Root of Chamber Floor Area According to Façade-Type.
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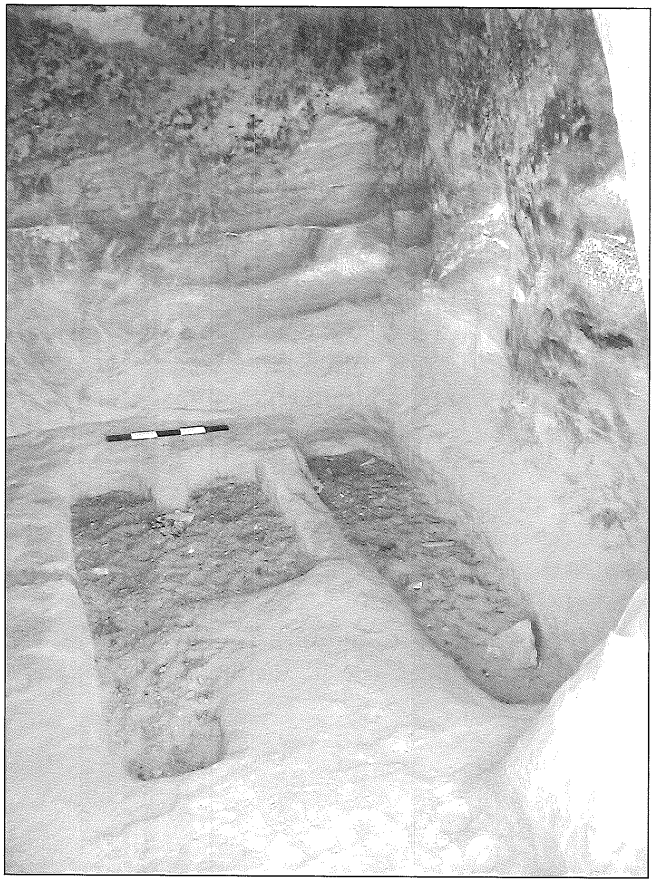
Façade Type	No. of Chambers Measured	Max. Square Root (m.)	Min. Square Root (m.)	Average Square Root (m.)	Median (m.)	Mode (m.)	Standard Deviation	Range
Arch	16	6.41	2.89	4.48	4.44	n/a	0.90	3.52
Single Pylon	52	6.62	2.59	4.56	4.42	4.88	0.97	4.03
Step	8	5.78	4.32	5.18	5.28	n/a	0.44	1.46
Double Pylon	51	11.16	2.39	5.36	5.11	5.08	1.43	8.77
Simple Classical	8	6.96	4.32	5.85	5.96	n/a	0.95	2.64
Proto-Hegr	38	8.96	4.26	6.15	5.77	n/a	1.33	4.70
Hegr	27	12	4.29	7.17	7.01	n/a	1.99	7.71
Complex Classical	6	18.03	9.31	12.86	12.85	n/a	3.19	8.72

Notes: The number of tomb chambers measured includes only those that are finished and were able to be completely recorded. It excludes tombs with a tall loculus in place of a chamber and shaft tombs that had a façade added at a later stage. The mode was not always available in every instance. The façade types are ordered according to the average square root of their chamber floor area.

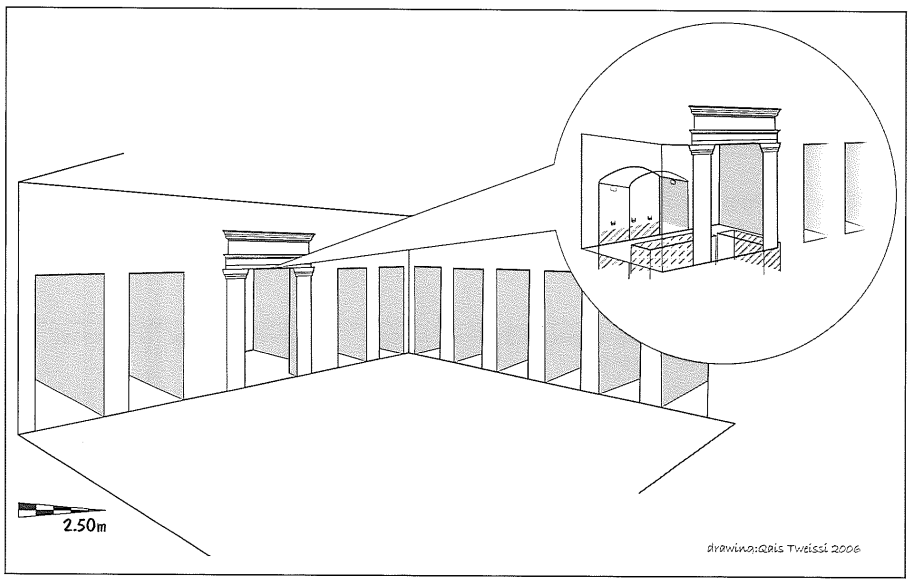


6. Floor graves in Single Pylon Tomb 545, Wādī al-Mu'ayṣira West, Petra (*Photo by L. Wadeson*).

7. Loculi in Hegr Tomb 676 (view towards back right corner), Mughur an-Naṣāra, Petra (*Photo by L. Wadeson*).

Tomb 781 is characterised by a neat arrangement of loculi in its walls, but in this case they culminate in a subsidiary chamber carved in the middle of the back wall and elaborated by carved architectural decoration (FIG. 8). Within this chamber is an arched recess, presumably for the owner(s) of the tomb given its prominent placement and large size[3]. These well-planned tombs were likely intended for the burial of a family unit, and there is often a social hierarchy evident in the inclusion of a larger, more prominent burial place in the back wall.

Quite the opposite is observed in many of the smaller tombs with simpler façades, particularly the Single Pylon and Step tombs. These tombs are more likely to have graves carved in their floors, than monumental structures in the walls. In addition, those with loculi in the walls tend to have



8. Reconstruction drawing of the interior of Hegr Tomb 781, al-Khubthah, Petra (*drawing by Qais Tweissi*).
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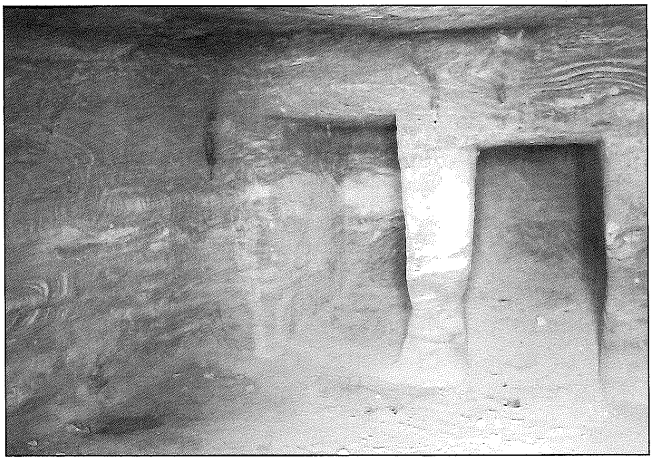
[3] This arcosolium was recently cleared and excavated in the first season of the International al-Khubthah Tombs Project (IKTP) directed by the author: http://www.auac.ch/iktp/



9. Loculi in Single Pylon Tomb 146, Theatre, Petra (*Photo by L. Wadeson*).

them randomly arranged in different parts of the chamber, such as the far corners of walls (Wadeson 2010a: 62). These usually vary in size and are crudely executed (FIG. 9). Examples include the loculi in Tombs 143, 146, 283, 436, 513 and 602A. The plan of these burial chambers suggests that different factors influenced their arrangement from those of the larger, more organised tombs. These factors will be revealed when the Madā'in Ṣāliḥ tomb inscriptions are considered below. Firstly, the new evidence from Petra for a relative chronology between the various tomb-types just discussed will be presented to demonstrate the chronological distinction between the large, complex tombs and their smaller, simpler versions.

Chronology

According to the little evidence that exists for dating the façade tombs at Petra, such as the grave goods found upon clearance of a handful of tombs and the few surviving inscriptions, it seems that façade tombs existed by 50 BC and continued to be carved after the Roman annexation (AD 106), as late as AD 129 (see Wadeson 2010a: 54, Table 3). The earliest dated tombs are those of the Hegr type (Tombs 62D and 62E), discovered beneath the Khazneh during the courtyard excavations conducted by the Department of Antiquities (Farajat and Nawafleh 2005: 373-93). Since these tombs are related to the early gravel road of the Sīq, they have a *terminus ante quem* of 50 BC, when that road was replaced by a paved one (McKenzie 2004, 559; Ruben 2003, 35-40). The latest dated tomb is that of Sextius Florentinus, a Complex Classical tomb carved at the base of al-Khubthah. The Roman official, to whom the tomb was dedicated according to the Latin inscription on its façade, was governor of Arabia in AD 127 and was succeeded by AD 130, as indicated by Greek papyri from the Cave of Letters (CIL III 14148[10]; Yadin 1962: 259; Negev 1977: 597; McKenzie 1990: 33). Thus, the tomb should be dated to around that period, unless it was re-used, as has been suggested by several scholars (Negev 1977: 598; Freyberger 1991: 1-8).

However, it remains unknown when the first façade tombs were carved, what type they were and how the types developed. Scholars have attempted to establish a typologically-based chronology for the tombs, based on stylistic studies of their façades and an assumed development in design from simple to complex with time. The first chronology was proposed by von Domaszewski early in the 20th century, who argued that the more complex façade types developed out of the simple ones, with each type staying in use once introduced (1904: 137-91). He suggested that the earliest tombs in Petra were the Single Pylon tombs, out of which developed the Double Pylon, Step and Proto-Hegr tombs (FIG. 1). The culmination of the crowstep façades, he believed, came with the Hegr tombs, which he dated to the reign of Aretas IV (9 BC - AD 40) owing to their presence in Madā'in Ṣāliḥ during this period. Finally, he dated the classical tombs to the 2nd century AD, in the opinion that the classical architectural elements were Roman-influenced rather than Greek.

According to von Domaszewski, this chronological sequence is reflected in the topographical location of the tombs. He assumes that the tombs carved higher up in the rock-faces, which are usually the larger, more complex types, should be dated later than those carved below (1904: 137, 146, 190) (FIG. 3). However, it is likely that the large, and supposedly more expensive, tombs, such as the Hegr and Double Pylon types, were placed in high positions where they could be highly visible in the landscape, less accessible to looters and protected from flooding at the level of the wadi bed.

Despite the assumptions in von Domaszewski's chronology, it has still largely been adhered to in scholarship with only minor modifications (Kennedy 1925: 38, 45; Browning 1973: 79; Netzer 2003: 13-36, 39-45, 46-7). McKenzie's work on the classical façades proved that these tombs were carved as early as the 1st century BC and were influenced by Hellenistic architecture, rather than

Roman (1990: 33-59). By studying the relationship between the mouldings on the tombs and those on dated monuments in the city, as well as the dated tombs at Madā'in Ṣāliḥ, she also demonstrated that there was a simplification in the classical architectural decoration with time (1990: 24-5; 33-59). However, the traditional sequence proposed for the non-classical tombs has not been rigorously re-assessed.

As a result of the author's detailed documentation and study of the façade tombs at Petra it has been possible to suggest a new chronological sequence for the non-classical façades (Wadeson 2010a: 56-7, 65-6). This is based on an analysis of the physical relationship between tombs of different façade types carved side by side. The interpretation of this relationship was only possible having established the various stages involved in carving the tombs and having determined the typical form and dimensions of the façades and their burial chambers. Examples were collected where it was possible to tell which tomb was carved first among pairs or groups of tombs. These are listed in TABLES 2 and 3, depending on whether the relative

Table 2. Petra: Relative Chronology of Façade Tomb-Types.
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Typological Relation	Tombs	Basis for Chronological Difference
Double Pylon < Single Pylon	115 (Double Pylon) < 116 (Single Pylon)	Tomb 116 is carved perpendicular to Tomb 115, in its left rock wing; it faces north, while all the other tombs in this group face east.
	210 (Double Pylon) < 211 (Single Pylon)	Tomb 211 is carved in the right rock wing of Tomb 210; it is much smaller and fitted into the space due to the rock edge to the right.
	549 (Double Pylon) < 548 (Single Pylon)	Tomb 549 has the more prominent position, while Tomb 548 is fitted into the available space to the left and partly obscured.
Double Pylon < Proto-Hegr	575 (Double Pylon) < 576 (Proto-Hegr)	Tomb 575 has the more prominent position, whereas Tomb 576 is fitted into the available space in the corner.
Double Pylon < Hegr	782 (Double Pylon) < 781 (Hegr)	The carving of the frontal area of Tomb 781 destroyed the left part of Tomb 782's façade.
	824 (Double Pylon) < 825 (Hegr)	Tomb 824 obscures Tomb 825; Tomb 825 is fitted into the corner space.
Hegr < Double Pylon	803 (Hegr) < 802 (Double Pylon)	Tomb 802 is carved in the left rock wing of Tomb 803.
Hegr < Simple Classical	270 (Hegr) < 269 (Simple Classical)	Tomb 269 cuts into the left rock wing of Tomb 270 and is fitted into the available space; Tomb 270 is the more visible and is aligned with the monumental gateway.
Hegr < Complex Classical	62D/62E (Hegr) < Khasneh (Complex Classical)	The tops of the Hegr tombs were destroyed with the carving of the Khasneh above them.
Single Pylon = Proto-Hegr	605A (Single Pylon) = 605 (Proto-Hegr)	Two different tomb façades carved at the same time.
Single Pylon = Step or Proto-Hegr	338 (Single Pylon) = 339 (Step or Proto-Hegr)	Tombs 338 and 339 have unfinished façades to the same degree; they were carved together and share the same working platform.
Proto-Hegr = Step	530 (Proto-Hegr) = 531 (Step)	Tombs 530 and 531 are unfinished to the same degree and offset from one another so as to maximise the interior space.
Key: < earlier than = contemporary with		

Table 3. Petra: Relative Chronology of Façade Tomb-Types According to their Interior Arrangements.
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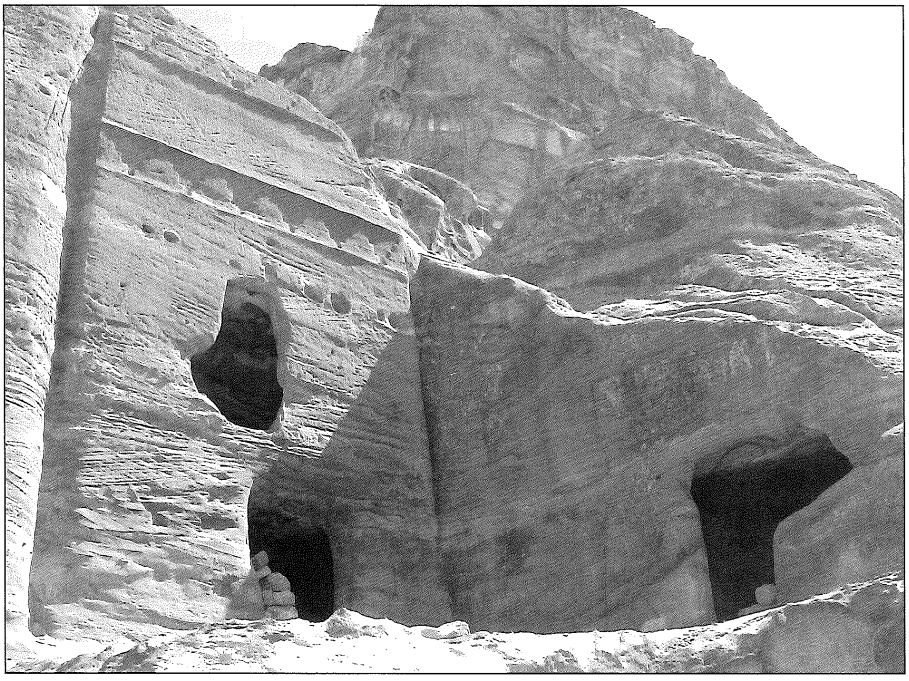
Typological Relation	Tombs	Basis for Chronological Difference
Hegr < Arch	586 (Hegr) < 585 (Arch)	The loculi in the left wall of Tomb 586 caused the chamber of Tomb 585 to extend to the left.
Double Pylon < Hegr	826 (Double Pylon) < 825 (Hegr)	Tomb 826 has loculi in its left wall, whereas Tomb 825, to the left has no loculi and is set higher.
Double Pylon < Single Pylon	101 (Double Pylon) < 100 (Single Pylon)	Tomb 101 has loculi in its left wall, whereas Tomb 100 to the left has only loculi in its back wall. Tomb 101 has no loculi in its right wall as it was aware of Tomb 102 (Double Pylon) to the right.
	210 (Double Pylon) < 211 (Single Pylon)	Tomb 210 has loculi in its right wall, allowing no space for loculi in the left wall of Tomb 211.
Double Pylon < Proto-Hegr	194 (Double Pylon) < 195 (Proto-Hegr)	The rock edge to the left of Tomb 195 has been created with the carving of Tomb 194. For this reason there are no burial features in the left wall of Tomb 195 and the chamber extends to the right.
	575 (Double Pylon) < 576 (Proto-Hegr)	The chamber of Tomb 576 is pushed to the right due to that of Tomb 575. However, it seems that the loculi in the right wall of Tomb 575 were carved later as they cut into the chamber of Tomb 576.
Double Pylon = Proto-Hegr	477 (Double Pylon) = 476 (Proto-Hegr)	These tombs respect each other's interior space, suggesting they were contemporary.
Proto-Hegr < Simple Classical	648 (Proto-Hegr) < 647 (Simple Classical)	The ground level of the chamber of Tomb 648 was lowered with the carving of Tomb 647. The chamber of Tomb 647 extends more to the right.
Key: < earlier than = contemporary with		

chronology was determined through the façades or the interiors of the tombs. Also listed is the chronological relationship between specific tombs and the reasons for this.

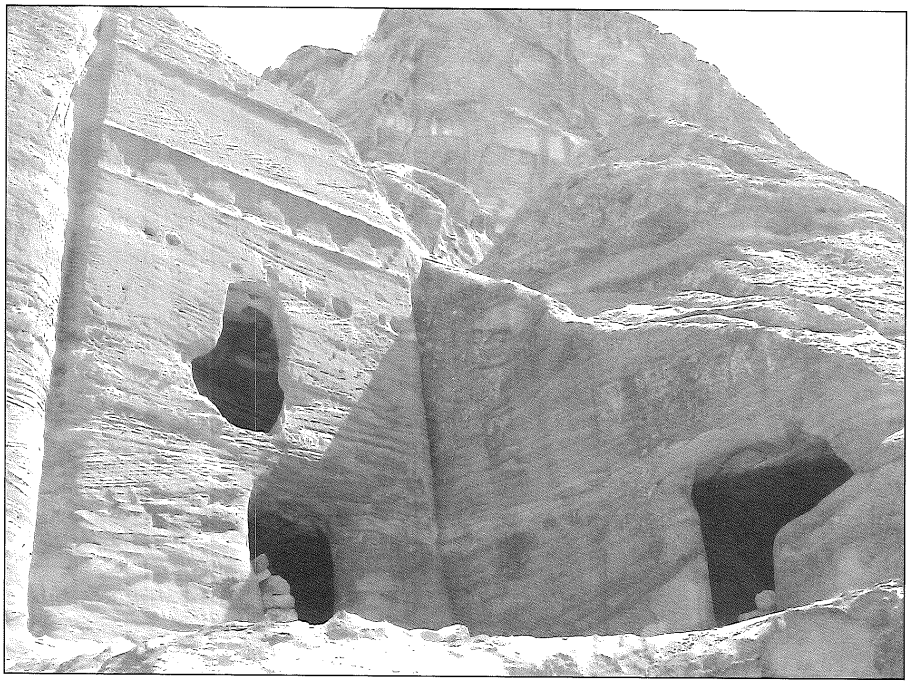
The following were found to be the most common grounds for determining the relative chronology between two tombs:

1. One tomb is carved in the exterior rock wing of another tomb proving that it post-dates it (e.g. Single Pylon Tomb 211 is carved in the right rock wing of Double Pylon Tomb 210 (FIG. 10); Double Pylon Tomb 802 is carved in the left rock wing of Hegr Tomb 803).
2. Part of a tomb was destroyed with the carving of another tomb at a later period (e.g. Hegr tombs 62D and 62E had their tops removed with the carving of the Khazneh above; the left part of Tomb 782 was demolished with the creation of the courtyard of Tomb 781).
3. When one tomb is carved in a prominent position and uses the rock space liberally, while another tomb appears to be squeezed into the available space and partly obscured, it is assumed that the latter tomb was carved later (e.g. Proto-Hegr Tomb 576 appears to be squeezed into the corner space to the right of Double Pylon Tomb 575; Double Pylon Tomb 824 obscures Hegr Tomb 825, which is fitted into the corner space behind).
4. Pairs of tombs unfinished to the same degree reasonably began to be carved at the same time (e.g. Single Pylon Tomb 338 and Step [or Proto-Hegr] Tomb 339; Proto-Hegr Tomb 530 and Step Tomb 531 [FIG. 11]).
5. When the chamber of one tomb is not centred on the entrance, but extends either to the right or left owing to a pre-existing chamber of a neighbouring tomb or its burial installations (e.g. the chamber of Proto-Hegr Tomb 576 had to extend to the right as the chamber of Double Pylon Tomb 575 had already utilised the space either side of its façade; the loculi in the left wall of Hegr Tomb 586 caused the chamber of Arch Tomb 585 to extend to the left).
6. The carving of one burial chamber destroyed the chamber of another tomb (e.g. the chamber of Simple Classical Tomb 647 cut into that of Proto-Hegr Tomb 648; as a result the chambers were joined and the floor level of the latter tomb was lowered).

Based on all the collected examples of a relative chronology between two tombs of different types, a pattern emerged in which the larger, more complex tombs, such as the Hegr and Double Pylon, tended to be carved earlier than their smaller, simpler versions, for example the Single Pylon, Step and Proto-Hegr tombs. This contrasts with the traditional chronologies proposed for the tombs, in which the simpler, smaller tombs pre-dated the larger, more complex ones. It is, however, in accordance with



10. Double Pylon Tomb 210 and Single Pylon Tomb 211 (in shade), Wādī Farasa, Petra.



11. Unfinished Tombs 530 and 531, Wādī Mu'ayṣira West, Petra (*Photo by L. Wadeson*).

the results from the dimensional study of the tombs. This revealed that the smaller, simpler tomb-types were much more standardised in terms of their size than the larger tombs, which would be expected if they were later in the series and tomb carving had possibly become more industrialised and space more of an issue.

According to this new study of the façades and interiors of the tombs at Petra, the larger tombs with more complex façade design and a neat interior plan, such as the Hegr and Double Pylon types, were introduced earlier than their smaller, simpler versions with less well-designed interiors, such as the Single Pylon, Step and Proto-Hegr types. Thus, we are observing a simplification and standardisation in the funerary architecture and changes in the organisation of the burial space. We now turn to the Nabataean façade tombs at Madā'in Ṣāliḥ, the inscriptions on which confirm this new chronological sequence and provide the reasons for the changes in funerary architecture.

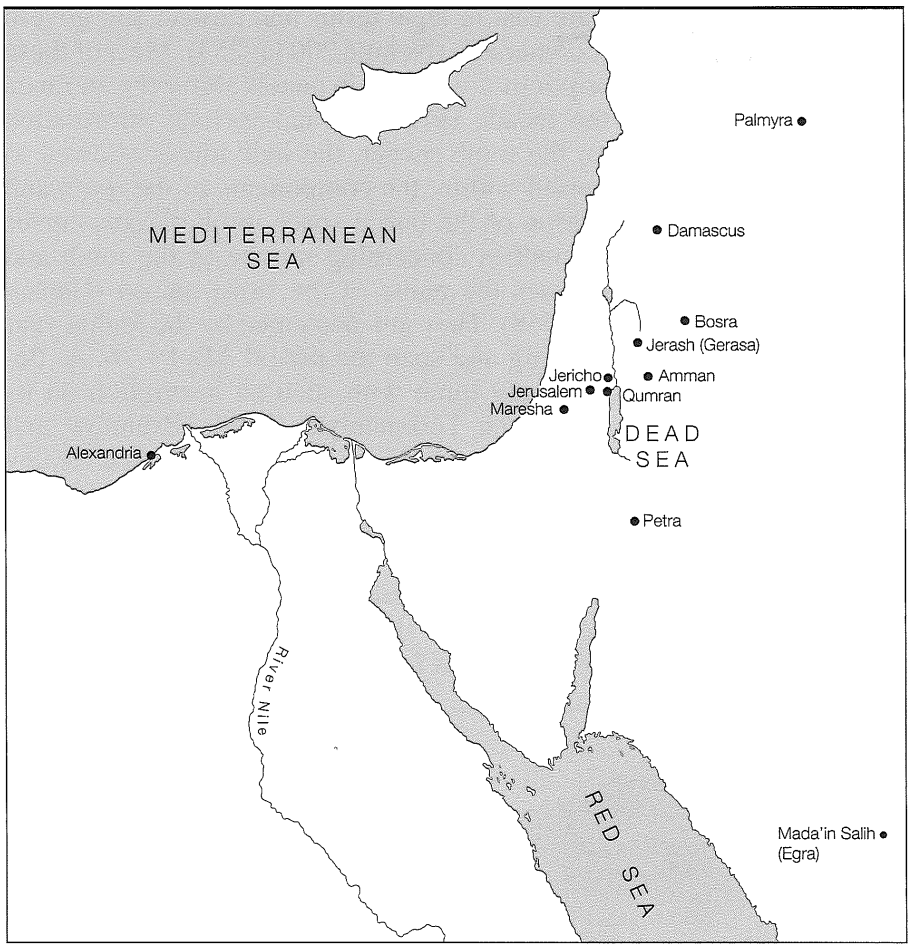
The Façade Tombs at Madā'in Ṣāliḥ

Madā'in Ṣāliḥ (ancient Egra), the southernmost outpost and commercial centre of the Nabataean kingdom, is the only other major site where many façade tombs comparable to those at Petra are found[4]. The city is situated approximately 460km south-east of Petra and *ca.* 170km inland from the coastal city of el-Wedj on the Red Sea, in modern Saudi Arabia (FIG. 12). Similar to Petra, it has a central settlement area surrounded by rocky outcrops (FIG. 13). However, unlike Petra, it lies in a sandy basin rather than a valley and the rock formations differ in appearance (Wenning 1996: 253).

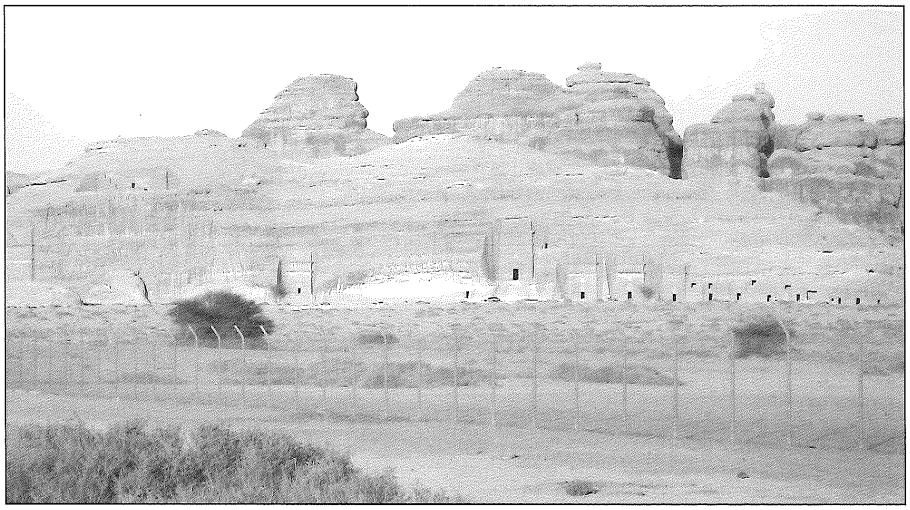
The 94 recorded façade tombs at Madā'in Ṣāliḥ are carved in the various rocky outcrops surrounding the settlement area, including Jabal al-Mahjar to the north, Qaṣr al-Bint to the northeast, Jebel al-Ahmar to the south and Jebel el-Khraymat to the west (Nehmé *et al.* 2006a: 76). There are also several isolated tombs to the south of the site, including Qasr el-Ferid (IGN 110[5]), Qasr es-Sane (IGN 102) and Tomb D' (IGN 109). The most thorough documentation of these tombs was first made by Jaussen and Savignac from their visits in 1907 and 1909-10, who focused on recording and describing the façades rather than the interiors (1909: 112-131, 307-404; 1914: 78-108). However, in the last decade the Saudi – French Archaeological Project (2000 - present) has carefully recorded all the chambers making the documentation of the tombs

[4] A few similar façade tombs have been noted at el-Bed' (Mugha'ir Shu'ayb) in Saudi Arabia: Rihani 2004: 371-78.

[5] Both the Jaussen and Savignac and IGN (French Institut Géographique National) numbering for the tombs are used in this study.



12. The Near East and Egypt (*Map by A. Wilkins*).



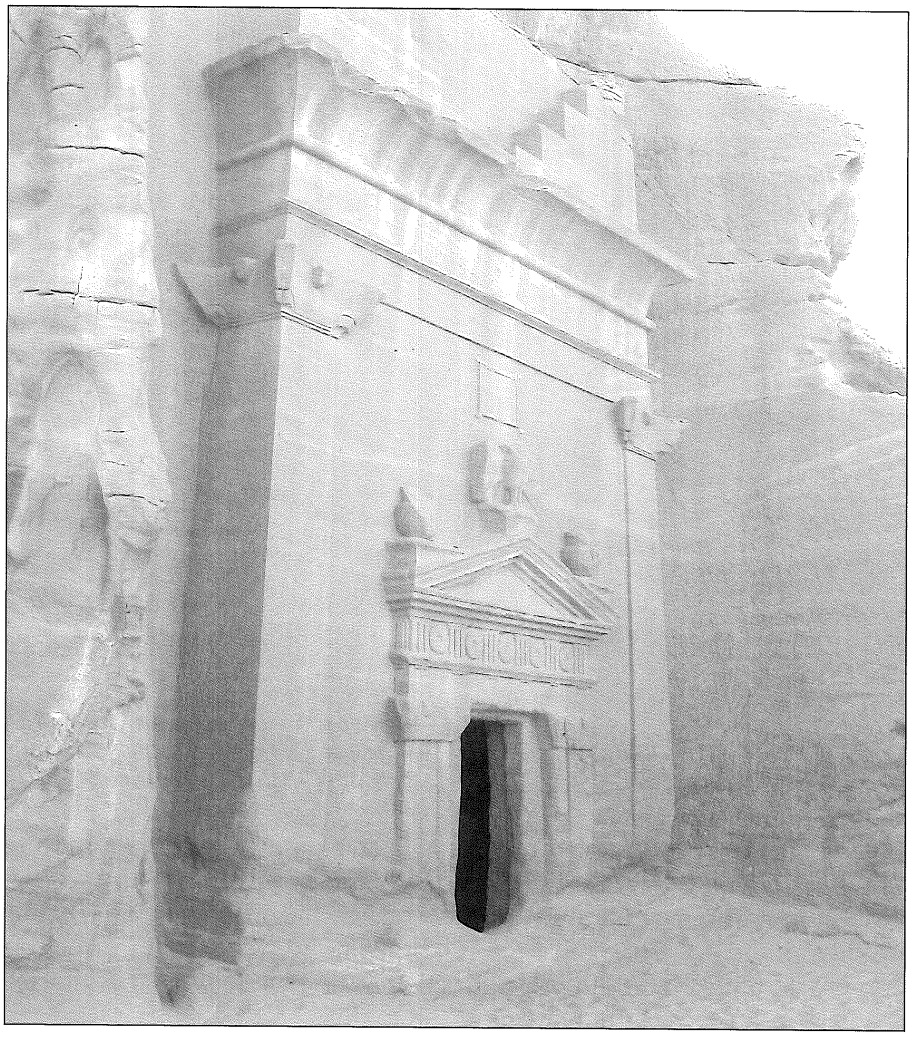
13. General view of tombs (facing east towards Qaṣr al-Bint), Madā'in Ṣāliḥ (*Photo by Mahmoud Hawari*).

complete (Nehmé *et al.* 2006a: 41-124; 2006b: 59-90). Since we await the final publication of this data, the current analysis of the Madā'in Ṣāliḥ tombs is based on the information provided in preliminary reports of the Saudi – French project and the work of Jaussen and Savignac. The inscriptions on the tombs have been examined in detail by John Healey (1993). His work is invaluable to the current study, which makes the first in-depth examination of the relationship between the information in the inscriptions and the façade type and interior arrangement of the tombs.

Relation to the Tombs at Petra

Among the 94 tombs at Madā'in Ṣāliḥ, 72 can be identified as belonging to the façade types found at Petra, excepting the Simple and Complex Classical tombs. However, at Madā'in Ṣāliḥ the tombs with crowsteps on their façades have a higher frequency of classical architectural elements than is observed at Petra, such as pilasters framing the edges of Single Pylon and Double Pylon tombs and complex doorway orders (Schmidt-Colinet 1983: 98; 1987: 144). Furthermore, there is more apotropaic imagery at Madā'in Ṣāliḥ, such as mythological faces, eagles, snakes, sphinxes and griffins (McKenzie 1998: 39-41) (FIG. 14). Madā'in Ṣāliḥ was more exposed than Petra, being situated on the edge of Nabataean territory and lacking the high mountains, which might explain why the tombs needed more protection through apotropaic motifs. This may also explain why 36 of the tombs at Madā'in Ṣāliḥ are accompanied by formal Nabataean inscriptions that are cast in legal terms and protect and govern their ownership (Nehmé 2003a: 253). Most of these inscriptions are carved in panels above the entrance in the façade (FIG. 14) and include information about the tomb owner, the individuals allowed to be buried within, the components of the tomb and allocation of the burial space, prohibitions, curses and penalties concerning misuse of the tomb and sometimes the name of the stone-mason (Healey 1993: 43-8). They are also dated by the regnal year of the king and span the period AD 1 - 76. At Petra, the only tomb with such an inscription on its façade is the Turkmaniyah Tomb (Brünnow and von Domaszewski No. 633; CIS II 350; see Healey 1993: 238-42 for bibliography and translation). However, this inscription fails to mention either the name of an owner or the ruling king.

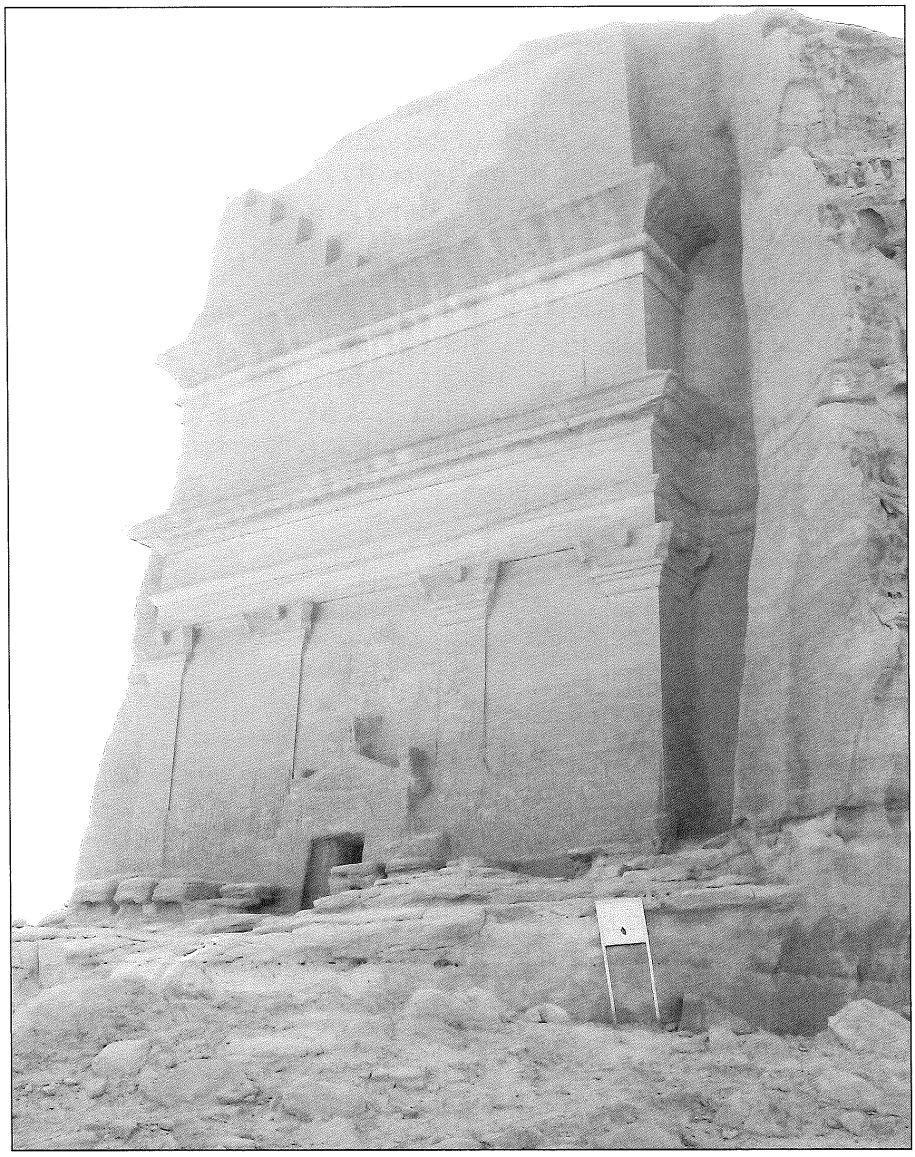
Before considering the epigraphic evidence on the tombs and its significance for our understanding of Nabataean funerary architecture, it was nec-



14. Hegr Tomb E18 / IGN 93, Madā'in Ṣāliḥ, AD 31 (*Photo by Mahmoud Hawari*).

essary to determine whether the same relationships between façade type, tomb size and interior plan that were noted for the tombs at Petra were evident for the tombs at Madā'in Ṣāliḥ. Although a complete statistical analysis of the dimensions of the Madā'in Ṣāliḥ tombs is not possible until the figures are published by the Saudi - French Archaeological Project, there is sufficient information provided in the preliminary reports of this project and the earlier publications of Jaussen and Savignac to verify that the same architectural patterns occur in the façade tombs of both sites[6].

Firstly, based on the approximate scales provided by Jaussen and Savignac in their drawings of the façades and photos of the tombs, it is clear that the Hegr and Double Pylon tombs are usually the largest, and the Proto-Hegr, Step and Single Pylon tombs tend to be considerably smaller. Nehmé *et al.* (2006a: 76) recorded that the largest façade at Madā'in Ṣāliḥ belongs to Hegr Tomb Qasr el-Ferid (IGN 110) which, although unfinished, has a height of 21.5 m and a width of 13.8 m (FIG. 15). Secondly, according to the few plans and illustrations of the tomb interiors that are available, it appears that the same relationship between façade type, chamber size and arrangements for burial exists at Madā'in Ṣāliḥ, as it does at Petra. Although the average size of the chamber floor area for each façade type is significantly lower than the averages determined at Petra, it is still obvious that the Hegr



15. Unfinished façade of Qasr el-Ferid / IGN 110, Madā'in Ṣāliḥ (*Photo by Mahmoud Hawari*).

[6] The conclusions drawn here may need to be altered once the data become fully available.

tombs tend to have the largest chambers[7]. For example, the floor area of Hegr Tomb B4/IGN 20 is 71.2m^2. The other façade types are less well represented in the publications, but among those recorded, the largest chamber floor area belongs to Proto-Hegr Tomb A8/IGN 12 which does not exceed 34.5m^2.

The same types of burial installations are found in the façade tombs of both Petra and Madā'in Ṣāliḥ, although at the latter site burial niches are more prolific than loculi. Burial niches are small openings carved in the chamber walls that are wider than they are deep (FIG. 16). The total number recorded across the tombs at Madā'in Ṣāliḥ (281) is more than double that of loculi (100) (Nehmé *et al.* 2006a: 79), whereas at Petra only 77 burial niches were recorded, as opposed to 886 loculi.

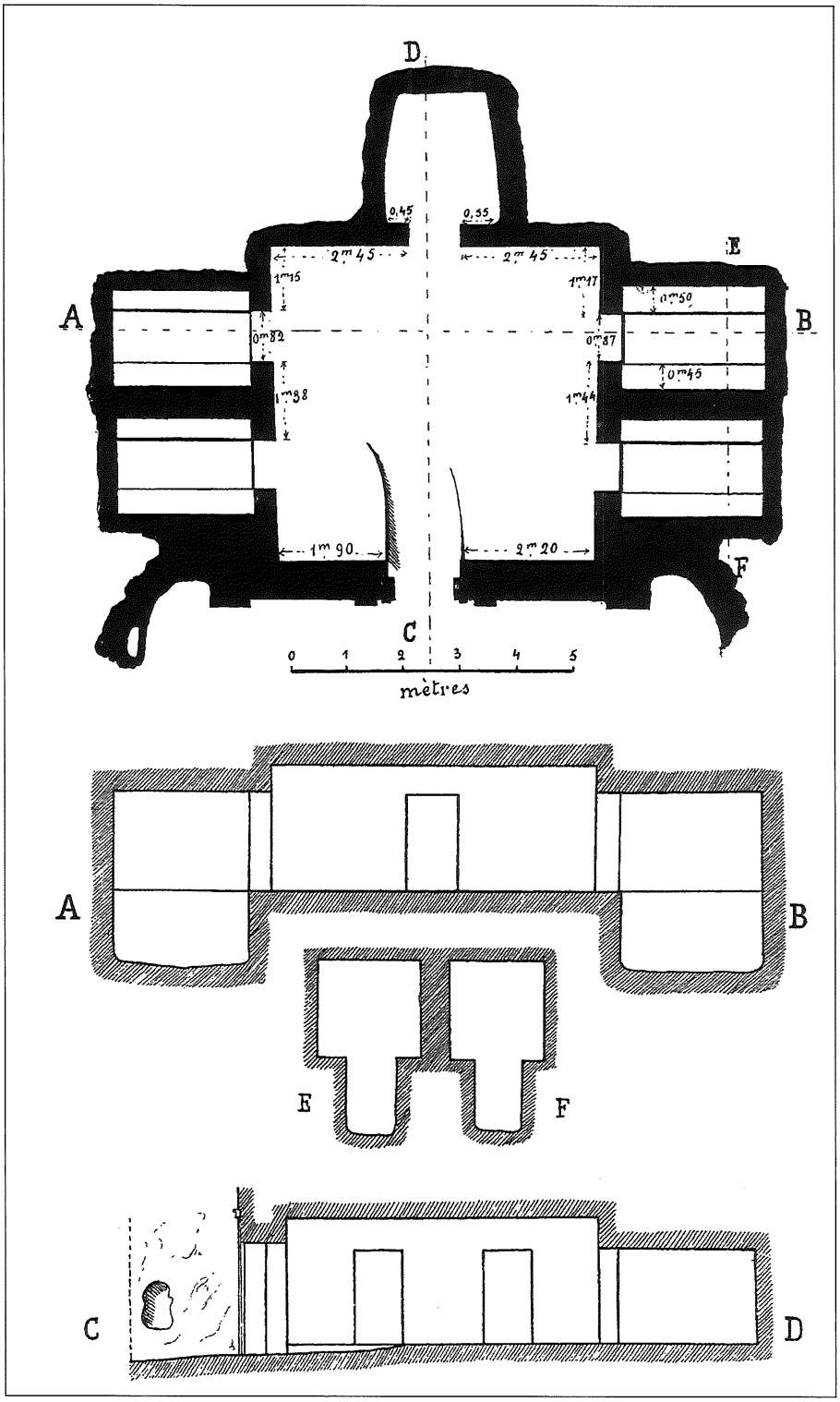
Nevertheless, the arrangement of the burial installations according to façade type follows the same patterns at Madā'in Ṣāliḥ as it does at Petra. Thus, at Madā'in Ṣāliḥ, Hegr tombs have the most well-planned and neatly arranged interiors, with loculi carved symmetrically and evenly in the walls, as in Tomb B6/IGN 22 (FIG. 17), which are more prone to being neatly carved and of similar dimensions, as in Tomb B7/IGN 24. There are also one or more prominent burial places in the back wall, aligned with the entrance, such as in Tombs A3/IGN 9, B1/IGN 20, B6/IGN 22 and B7/IGN 24. In these tombs there is an obvious hierarchy of burial and the interiors appear to have been planned as a whole in most cases. At Petra, the large Double Pylon tombs showed a tendency to have similarly-arranged interiors to the Hegr tombs. However, at Madā'in Ṣāliḥ this is difficult to prove at this stage, since only two plans of Double Pylon tombs are currently available. The chamber of Tomb C16/IGN 119 shows a neat arrangement of floor graves and a centrally aligned loculus in the back wall, whereas tomb E9/IGN 76 has a small chamber with randomly arranged burial features (Jaussen and Savignac 1909: fig. 125; 1914: fig. 42).

By contrast, the simpler and smaller façade types, such as the Single Pylon, Step and Proto-Hegr tombs, show a markedly different interior arrangement from the Hegr tombs. Overall they have a lower number of burial features, which tend to cluster in the corners of the chambers, as opposed to the centre of the walls, and appear randomly arranged, as in Tombs B11/IGN 30 and C6/IGN 27 (FIGS. 18-19). There is a lack of symmetry and the impression that the features were carved when needed, rather than planned in advance.

Seeing as there are the same patterns of differentiation in the size and interior organisation of tombs according to their façade type at both Petra and Madā'in Ṣāliḥ, it is likely that the reasons for the varying architectural types were the same in

16. Burial niches in Hegr Tomb B22 / IGN 44, Madā'in Ṣāliḥ, AD 26 (*Photo by Mahmoud Hawari*).

[7] Measurements taken from Jaussen and Savignac 1909; 1914; Dentzer *et al.* 2002; 2003; Nehmé *et al.* 2006a; 2006b.

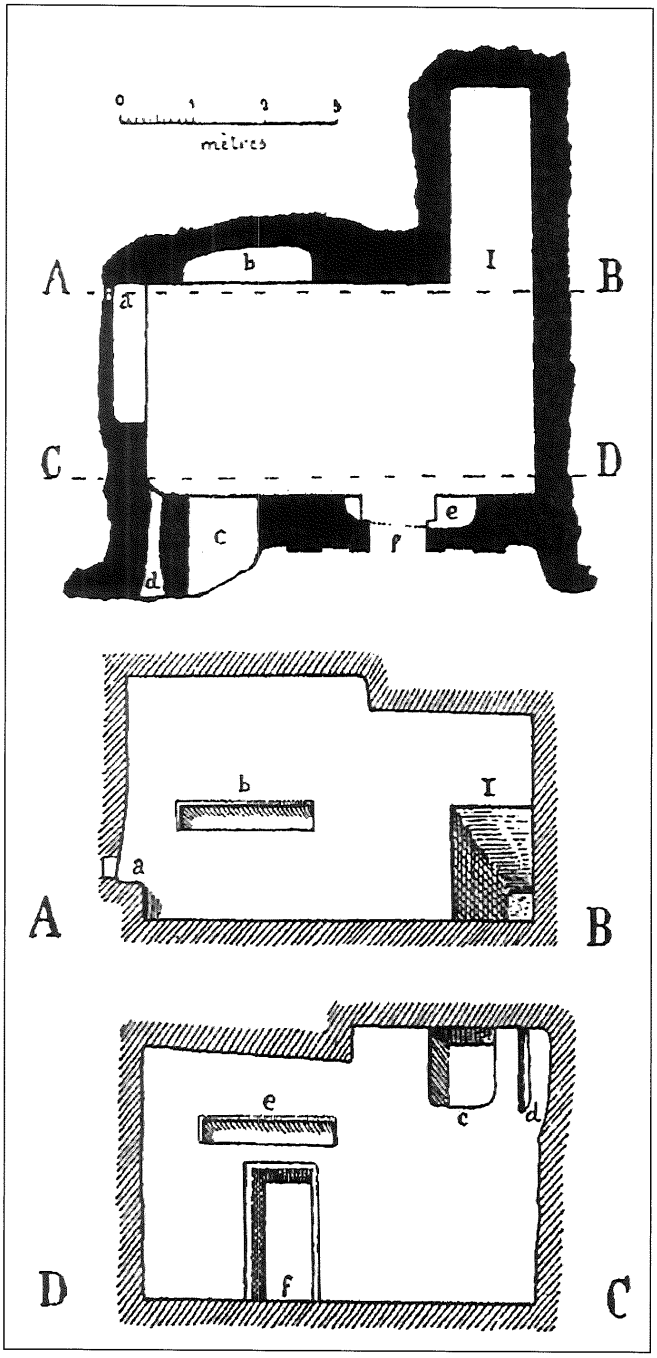


17. Plan and sections of Hegr Tomb B6 / IGN 22, Madā'in Ṣāliḥ, AD 1 (*Jaussen and Savignac 1909, fig. 183*).

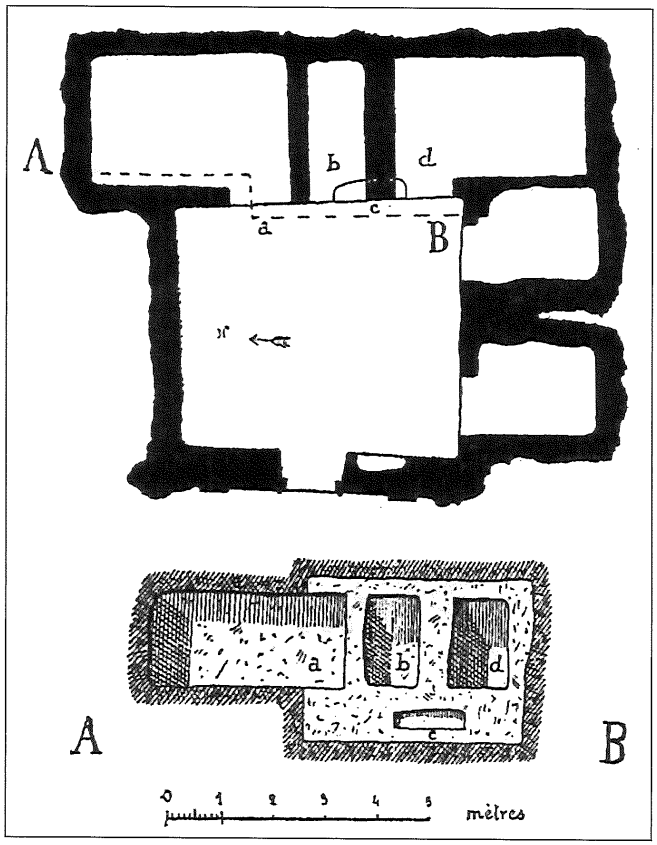
both cities. It will now be demonstrated how these reasons are in fact related to differing types of tomb ownership, as expressed in the inscriptions on the Madā'in Ṣāliḥ tombs. Moreover, the dates provided in the inscriptions support the new chronological sequence that was suggested for the façade tombs at Petra and reveal that the issues of tomb ownership are part of social and economic change during the 1st century AD.

Chronology and Tomb Ownership

Since the majority of the inscriptions on the façades



18. Plan and sections of Proto-Hegr Tomb B11 / IGN 30, Madā'in Ṣāliḥ, AD 57 (*Jaussen and Savignac 1914, fig. 32*).



19. Plan and section of Proto-Hegr Tomb C6 / IGN 127, Madā'in Ṣāliḥ, AD 36 (*Jaussen and Savignac 1914, fig. 36*).

of 36 tombs at Madā'in Ṣāliḥ mention the year of the ruling Nabataean king, it has been determined that 32 of the tombs fall between the period AD 1 - 76 (Healey 1993: 6). These dated tombs cover all the façade types, excepting the single Arch tomb which lacks an inscription. The co-existence of the various types led scholars to assume that either any typological development that occurred was complete by AD 1 (Jaussen and Savignac 1909: 391), or that there was in fact no chronological distinction between the tomb-types but rather they were a reflection of the differing social standing and financial means of their owners (Negev 1976: 219, 235).

However, when the dated tombs were analysed in their chronological order, McKenzie (1990: 19) observed that the Hegr and Double Pylon tombs tended to occur earlier than the Step, Proto-Hegr and Single Pylon tombs, which are their smaller and simpler versions. The latter tombs are dated later in the 1st century AD (after *ca.* AD 35). This she set out in a useful diagram, in which the tombs are plotted according to their date and type (1990: 13, Diagram 1). Nevertheless, one tomb-type did not replace another and the last dated Hegr tomb was carved by AD 63. McKenzie also noted a chronological simplification of the architectural elements within each tomb-type and an increasing squatness in the proportions of the façades (McKenzie 1990: 19-22).

McKenzie's observations confirm the new chronology that is proposed here for the Petra tombs.

The new evidence presented in the first part of this paper suggested that the Hegr and Double Pylon tombs were the earliest to be carved in Petra and that the Step, Proto-Hegr and Single Pylon tombs were chronologically later. Patterns of simplification and standardisation were noted, since the Step, Proto-Hegr and Single Pylon types are smaller and simpler versions of the earlier Hegr and Double Pylon types. Thus, the same chronological trends appear to occur in both Petra and Madā'in Ṣāliḥ.

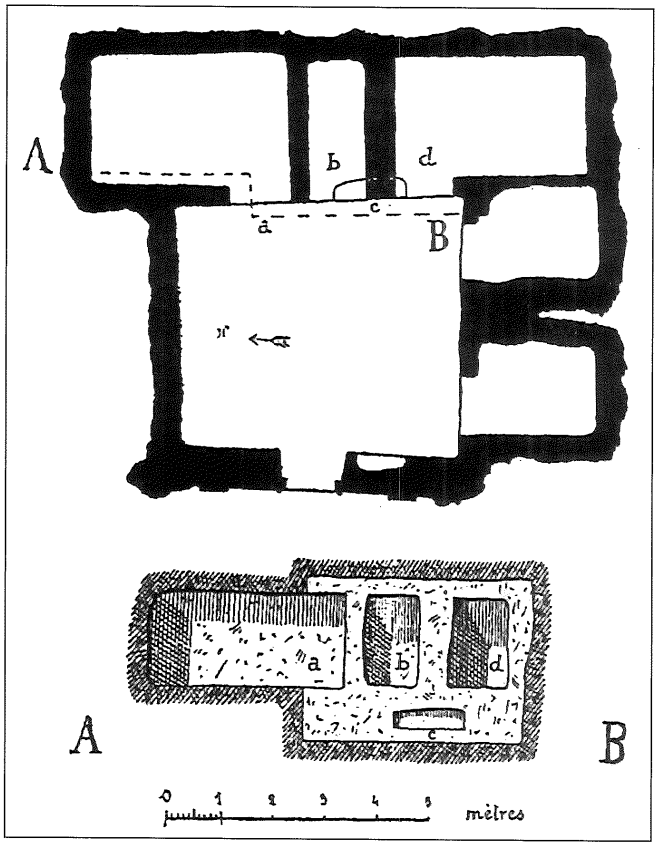
The reasons behind these changes in the funerary architecture during the course of the 1st century AD were discovered through an examination of the content of the Madā'in Ṣāliḥ tomb inscriptions in relation to the façade types and the interior arrangement of the chambers. The observed dichotomy between the large, well-planned tombs and the smaller, simpler ones with a seemingly more haphazard arrangement appears to have resulted from differing types of ownership of the tombs. The large Hegr and Double Pylon Tombs were mostly *made*, i.e. commissioned, and dedicated by a single owner of high social status for him / herself and certain family members, whereas the small Single Pylon, Step and Proto-Hegr tombs, occurring later in the century, were usually *owned* and shared between numerous individuals, who lack any notable status and are not necessarily related. Negev had noted the relationship between façade type and socio-economic status at Madā'in Ṣāliḥ (1976: 219), but he did not recognise the differing terminology used on the tombs, the effect of ownership on the interior plan, nor the chronological factor.

Apart from three exceptions[8], all the Hegr and Double Pylon tombs with inscriptions at Madā'in Ṣāliḥ were made by a single named person for him / herself and certain family members, some of whom are also named. The verb used is *'bd* ("to make") and the formula is "This is the tomb which x made for y" (Healey 1993: 45-46, 70, 129). Among these inscribed tombs, those that have published plans tend to have a more prominent burial installation, usually a loculus, carved in the centre of the back wall in alignment with the entrance, which one would naturally assume would have belonged to the tomb owner. This is in fact confirmed by an inscription carved between the two central loculi in the back wall of Tomb A3/IGN 9 (FIG. 20), which states:

"These are the two burial-niches[9] of Hawshabu son of Nafiyu and 'Abdalga and Habbu, his children, Sahmites. And may he who separates night from day curse whoever removes them for ever." (Inscription H2; Healey 1993: 81)

Hawshabu is mentioned on the façade inscription as the tomb owner, but the names of his children are not. These two loculi are the largest and most prominent in the chamber and aligned with the entrance. Thus, it is unsurprising to learn that the owner was buried alone in one of them, while both children are buried together in the other.

Other tombs with a single owner and a central burial place in the back wall include Hegr Tombs B1/IGN 17 and B6/IGN 22 (FIG. 17). The less prominent burial places in the chamber presum-



20. Plan and sections of Hegr Tomb A3 / IGN 9, Madā'in Ṣāliḥ, AD 5 (*Jaussen and Savignac 1909, fig. 174*).

[8] Tomb B19/IGN 39 was made by a mother and her daughter. Tomb C1/IGN 121 does not mention the verb 'to make' but rather states: "*This is the tomb of Sukaynat...and her sons and daughters...*" (Healey 1993: 178). Tomb E1/IGN 58 was made by a brother and sister. All three tombs are of Double Pylon type and owned by at least one female, who perhaps could not afford the full cost of the tomb alone.

[9] i.e. loculi. The Nabataean word is *gwḥ*' ("niches for burial"). It is related to the Palmyrene word *gwmḥ*': Healey 1993: 82.

ably belonged to the family members mentioned in the façade inscriptions. These are generally neatly arranged, suggesting they were pre-carved for the family unit. Hegr Tombs B4/IGN 20 and B7/IGN 24 both contain three prominent loculi in their back walls, with the central one aligned with the doorway. The inscription on Tomb B7 specifically mentions the names of three persons to be buried in the tomb: 'Abd'obodat the owner, Wa'ilat his daughter and Huru his brother (Healey 1993: 123), presumably in the three equally sized and neatly arranged loculi.

The façade decoration, size and plans of these Hegr and Double Pylon tombs suggest the high social standing and wealth of the tomb owner. This is also expressed in the accompanying inscriptions, especially those carved on the Hegr tombs. Their professions all appear to be careers of official and high status, comprising the ruling upper class, or connected to the military, such as governors, prefects, an omen-diviner and a physician (Negev 1976: 223-227). These individuals were expressing their status in society through monumental tomb building, which made provision for the burials of their prestigious families but also emphasised their own importance through a hierarchy of burial.

In contrast, the 11 inscribed tombs with smaller and simpler façade types, such as Single Pylon, Step and Proto-Hegr, mostly lack any mention of status or profession in regards to the tomb owner(s). Among these tombs, four were 'made' by one or more owners, while seven 'belong' to people. These tombs are clearly cheaper versions of the Hegr and Double Pylon tombs, yet in most cases the cost still had to be shared between people. Thus, it seems they belonged to individuals of lesser means than the owners of the Hegr and Double Pylon tombs.

Among the four tombs 'made' by the owners in the manner of the larger tombs, Proto-Hegr Tomb C6/IGN 127 and Single Pylon Tomb B10/IGN 29, were made by more than one person. The former was made by a husband and wife on behalf of the wife's brothers, while the latter was made by a mother and her two daughters. In these cases, the cost had to be shared between more than one person, despite the tombs being smaller and simpler. The single loculus in Tomb B10 is located in the far right of the back wall. We know it belongs to Wushuh (the mother), first mentioned in the façade inscription, because of a further inscription carved to the left of this loculus (Healey 1993: 131). It states that she made the loculus for herself and issues a warning in the form of curses and fines on anyone who opens it and removes her remains. The choice of location is significant, considering the only other burial feature in the walls is a small burial niche.

Tomb C6/IGN 127 was not only made by two people, but also divided between them (FIG. 19). The façade inscription informs us the husband owns a third of the 'tomb *and* burial-chamber' and the wife owns two-thirds (Healey 1993: 180). More specifically, it also states that she owns the burial structures in the 'east' side and he owns the burial structures in the 'south-east' side. Taking into consideration the plan of the chamber, in real terms, this seems to suggest that the wife owned the two features in the left part of the back wall, while the husband owned the right corner of the back wall and the features in the right wall (Healey 1993: 184). The terms east and south-east relate to actual geographical location, rather than within the tomb itself. This division also coincides with a neat share of two-thirds of the chamber proper for her and a third for him. It is significant that ownership of the chamber and the burial features within it seem to be distinct, as they are treated as separate matters in the inscription. This was not noted by previous scholars who had trouble seeing how the chamber could be divided into thirds (Healey 1993: 184).

The irregular arrangement of the burial features, which is common for the simpler façade types, may find explanation in the fact that tomb interiors could be shared between multiple owners. Although in Tomb C6 the burial installations seem to have been carved before the inscription was added to the façade, the lack of symmetry in the planning must result from the unequal division of the chamber between the two owners. The two corner features belonging to the husband are loculus-chambers which both extend in space towards the back corner. Thus, it is likely that he was maximising his share of the wall-space in this part of the chamber. It is also noteworthy that husband and wife were to be buried in their own separate parts of the chamber and that the female owns more than the male[10]. She was obviously from a prestigious family, since her father

[10] Al-Fassi (2007: 56) suggests this is because her share must accommodate the burial of her brothers.

was 'Taymu the governor', and she was presumably buried in the loculus aligned with the entrance.

The remaining seven (64%) of the inscribed simpler façade tombs (Single Pylon, Step, Proto-Hegr) 'belong' to one or more owners[11]. The expression used is *dy l-* and the formula is "This is the tomb which belongs to x" (Healey 1993: 129). This change in terminology implies the tombs were pre-carved and then bought by people, rather than commissioned by them. Several pieces of archaeological evidence support such a theory. Firstly, on Tomb B9/IGN 27, the name of the mason is mentioned within the cartouche of the façade inscription and also repeated below, outside the frame. The mason obviously signed his name outside the cartouche before the main inscription was added (Healey 1993: 128-129). Healey suggests that this may indicate the tomb was carved and signed by the stonemason before being sold, pointing to another example of Single Pylon Tomb B17/IGN 39 where only the mason's name is recorded and there is no other inscription (Healey 1993: 130). In addition, the name of the stonemason is carved on the rock wing of uninscribed Tomb E20/IGN 95.

Two other tombs seem to be designed without provision for an inscription in the form of a cartouche. For example, the inscription on Tomb B11/IGN 30 is squeezed into the space above and to the left of the tympanum, implying the tomb was designed and carved according to the taste of the stonemason and later sold to the owners, who then decided to add the inscription (Healey 1993: 151). The inscription on Tomb E14/IGN 87 is also lacking a cartouche and is carved on to a worked area of the façade (Healey 1993: 220).

There are no inscribed Hegr or Double Pylon tombs that either specifically 'belong' to people or were shared between owners. Thus, we seem to be dealing with cheaper and simpler versions of the more elaborate tombs being carved and sold to those of lesser means. These 'bought' tombs also commonly had their chambers divided legally between the owners.

Among the seven 'bought' tombs, only one plan is available to us, that of Proto-Hegr Tomb B11/IGN 30 (FIG. 18). This tomb belongs to two unrelated women, Hagaru and Mahmiyyat. The façade inscription states that the burial chamber is equally divided between them: Hagaru owns five cubits to the right and Mahmiyyat owns five cubits to the left (Healey 1993: 147). This division is confirmed in the tomb plan and further interior inscription. The single loculus in the far right of the back wall is accompanied by an inscription which states:

"This is the burial-niche (i.e. loculus) which Hagaru made for Maslamu, her brother, and for Mahmiyyat, her aunt. Let it not be opened over them for ever." (Inscription H13; Healey 1993: 144-146)

This proves that Hagaru in fact owned this part of the chamber. The burial niches in the left part of the chamber would have then belonged to Mahmiyyat. The difference in ceiling height, approximately in the middle of the chamber, may have even been a physical marker for this division. The irregular and asymmetrical arrangement of the burial installations in this chamber can thus be explained by the multiple ownership of the tomb. Such division does not allow for a central burial place in the back wall, either physically or conceptually. It is more difficult to discern a hierarchy of burial in these divided tombs, since there is a lack of centrality and burial features cluster in certain parts of the chamber.

If we consider these new findings in the chronological framework, it becomes evident that there were significant social and economic changes in Nabataean funerary tradition during the 1st century AD. According to the inscribed tombs at Madā'in Ṣāliḥ, in the first third of the century, individuals of a high social and economic status were commissioning the monumental Hegr and Double Pylon tombs to be made for themselves and their families. The plans of these tombs reflected the structure of the family and the prestige of its head, i.e. the tomb owner, by having neatly arranged burial installations often culminating in a more prominent burial place in the back wall of the chamber. These tombs continue to be made up until AD 63, but they become less frequent once their simpler, smaller versions, the Single Pylon, Step and Proto-Hegr tombs, start to be carved from AD 34 onwards. From AD 39, the latter tombs exclusively 'belong' to individuals, as opposed to being commissioned by them. As argued above, it is likely these were pre-carved before being sold. The owners of these tombs appear to have a lower socio-economic status than those of the larger, elaborate tombs. They also shared the cost of the tomb and divided the

[11] Tombs B9/IGN 27, B11/IGN 30, D/IGN 111, E6/IGN 7, E14/IGN 87, E16/IGN 89 and E19/IGN 94.

burial space accordingly. This explains the less orderly plans, with burial installations clustering in the corners of the walls and chamber.

It is significant that around AD 39 there emerges a group of individuals in Nabataean society with the means and desire to own monumental tombs in imitation of the ruling elite. This change in practice coincides with the transition between the reigns of Aretas IV (9 BC - AD 40) and Malichos II (AD 40 - 70). It is also a time of prosperity in the Nabataean kingdom (Healey 1993: 22-7; Graf and Sidebotham 2003: 68). We may thus speculate that the middle class of society became wealthier throughout the course of the 1st century AD as a result of trade and commerce, giving them the chance to behave like the elite, whose status did not need to be earned. It may also be that at this time there was a need for expression of a Nabataean cultural identity among a broader group of individuals. In order to fulfil the needs of this changing society, tomb carving seems to have become an industry, whereby cheaper versions of the original 'designer' tombs were carved before being sold. It is likely that the burial installations within these tombs were only carved once the tomb was sold and made to suit the requirements of the owners. This hypothesis accords with the standardisation in size and simplification of design observed in the Single Pylon, Step and Proto-Hegr tombs at Petra.

Conclusions

The new chronological sequence proposed for Nabataean façade tombs sees trends towards simplification and standardisation. It is argued that the earliest of the non-classical façade tombs to be carved at Petra and Madā'in Ṣāliḥ were the largest and most elaborate Hegr and Double Pylon types, which were commissioned by the ruling elite. Smaller and simpler versions of these tombs, such as the Single Pylon, Step and Proto-Hegr types, were subsequently made to satisfy the needs of a rising middle class who wished to express a new social and economic status as a result of their commercial activities. The cost of these simpler tombs often had to be shared between multiple owners, whose division of the burial space resulted in the asymmetrical plans. Similar trends towards simplification and standardisation were noted by McKenzie in her study of the classical architectural elements in Nabataean architecture, and Nabataean sculpture (1990: 24-5; 33-59; 2003: 165-91). Schmid has also observed comparable patterns in dated examples from a broad range of media in Nabataean material culture, such as ceramics and coinage, as well as sculpture and architecture (2001: 367-426).

Notably, similar patterns appear in other major cities of the Greco-Roman Near East around the same time and may therefore be part of a wider regional trend. For example, the Egyptian mummy portraits appear in AD 40 and the Palmyrene funerary busts begin to be made *ca.* AD 50 (Borg 1995: 229-233; Walker 2000: 35-36; Colledge 1976: 67). In both these cases we find a broader range of people having the means and desire to present themselves in the manner of the elite or, more precisely, in a Greco-Roman fashion during a period of economic prosperity. While different cultures of the Levant and Egypt were influenced by similar social and cultural trends as a result of Greek and then Roman dominance of the area, they interpreted them locally, resulting in distinctive forms of art and architecture. The Nabataean façade tombs are but one facet of this and it is hoped that the trends discovered in their development will further understanding of other aspects of Nabataean material culture.

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Bibliography

Bikai, P.M. and Perry, M.A. 2001. Petra North Ridge Tombs 1 and 2: Preliminary Report. *BASOR* 324: 59-78.

Borg, B. 1995. Problems in the Dating of the Mummy Portraits. Pp. 229-233 in E. Doxiadis (ed.), *The Mysterious Fayum Portraits: Faces from Ancient Egypt.* London: Thames and Hudson.

Browning, I. 1973. *Petra.* London: Chatto and Windus.

Brünnow, R.E. and von Domaszewski, A. 1904. *Die Provincia Arabia* Vol. 1. Strassburg: Trübner.

Colledge, M.A.R. 1976. *The Art of Palmyra.* London: Thames and Hudson.

Dentzer, J.M. *et al.* 2002. Report on the 2001 Season of the Saudi-French Archaeological Project at Mada'in Salih, Ancient Hegra. *ATLAL* 17: 101-126.

—— 2003. Report on the 2002, Second Season of the Saudi-French Archaeological Project at Mada'in Salih. *ATLAL* 18: 61-80.

Farajat, S. and Nawafleh, S. 2005. Report on the al-Khazna Courtyard Excavation at Petra (2003 Season). *ADAJ* 49: 373-393.

Al-Fassi, H.A. 2007. *Women in Pre-Islamic Arabia: Nabataea.* Oxford: Archaeopress.

Freyberger, K.S. 1991. Zur Datierung des Grabmals des Sextius Florentinus in Petra. *DM* 5: 1-8.

Graf, D.F. and Sidebotham, S.E. 2003. Nabataean Trade. Pp. 65-73 in G. Markoe (ed.), *Petra Rediscovered.* London: Thames and Hudson.

Healey, J.F. 1993. *The Nabataean Tomb Inscriptions of Mada'in* Salih. Oxford: Oxford University Press.

Jaussen, A. and Savignac, R. 1909. *Mission archéologique en Arabie* Vol. 1. Paris: Institut Français d'archéologie Orientale.

—— 1914. *Mission archéologique en Arabie* Vol. 2. Paris: Institut Français d'archéologie Orientale.

Kennedy, A.B.W. 1925. *Petra: Its History and Monuments.* London: Country Life.

McKenzie, J.S. 1990. *The Architecture of Petra.* Oxford: Oxford University Press.

—— 2003. Carvings in the Desert: The Sculpture of Petra and Khirbet et-Tannur. Pp. 165-191 in G. Markoe (ed.), *Petra Rediscovered.* London: Thames and Hudson.

—— 2004. Temples, tombs, and other recent discoveries from the Rose Red City. *JRA* 17: 559-568.

McKenzie, J.S. *et al.* 1998. Faces in the Rock at Petra and Medain Saleh. *PEQ* 130: 35-50.

Negev, A. 1976. The Nabataean Necropolis at Egra. *RB* 83: 203-236.

—— 1977. The Nabataeans and the Provincia Arabia. *ANRW* 2.8: 520-686.

Nehmé, L. 2003a. Les inscriptions des chambres funéraires nabatéennes et la question de l'anoymat des tombes. *AAE* 14.2: 203-258.

—— 2003b. The Petra Survey Project. Pp. 145-163 in G. Markoe (ed.), *Petra Rediscovered.* London: Thames and Hudson.

Nehmé, L. *et al.* 2006a. Mission archéologique de Madā'in Ṣāliḥ (Arabie Saoudite): Recherches menées de 2001 à 2003 dans l'ancienne Hijra des Nabatéens (1). *AAE* 171: 41-124.

—— 2006b. Report on the Third Season 2003 of the Saudi-French Archaeological Project at Madā'in Ṣāliḥ. *ATLAL* 19: 59-90.

Netzer, E. 2003. *Nabatäische Architektur.* Mainz am Rhein: Philipp von Zabern.

Perry, M.A. 2002. Life and Death in Nabataea: The North Ridge Tombs and Nabataean Burial Practices. *NEA* 65.4: 265-270.

Rihani, B. 2004. Identification of Some Archaeological Nabataean Sites in North-West Saudi Arabia. *SHAJ* 8: 371-378.

Ruben, I. (ed.) 2003. *The Petra Siq: Nabataean Hydrology Uncovered.* Amman: Petra National Trust.

Schmid, S.G. 2001. The Nabataeans: Travellers between Lifestyles. Pp. 367-426 in B. MacDonald, R. Adams and P. Bienkowski (eds.), *The Archaeology of Jordan.* Sheffield: Sheffield Academic Press.

Schmid, S.G. and Barmasse, A. 2006. The International Wadi Farasa Project (IWFP): Preliminary Report on the 2005 Season. *ADAJ* 50: 217-227.

Schmid, S.G., Amour, A., Barmasse, A., Duchesne, S., Huguenot, C. and Wadeson, L. 2008. New Insights into Nabataean Funerary Practices. Pp. 135-160 in J.M. Córdoba *et al.* (eds.), *Proceedings of the 5th International Conference on the Archaeology of the Ancient Near East.* Madrid.

Schmidt-Colinet, A. 1983. A Nabataean Family of Sculptors at Hegra. *Berytus*

—— 1987. The Mason's Workshop of Hegra, its Relations to Petra, and the Tomb of Syllaios. *SHAJ* 3: 143-150.

Shaer, M. 2000. Verputz und farbige Fassung der Felsfassaden von Petra. Pp. 133-148 in M. Kühlenthal and H. Fischer (eds.), *Petra: Die Restaurierung der Grabfassaden.* München: Bayerisches Landesamt für Denkmalpflege.

Wadeson, L. 2010a. The Chronology of the Façade Tombs at Petra: a Structural and Metrical Analysis. *Levant* 42.1: 48-69.

—— 2010b. *The Façade Tombs of Petra: from Exterior*

to Interior. University of Oxford: D.Phil. thesis.
Walker, S. 2000. A Note on the Dating of Mummy Portraits. Pp. 34-36 in S. Walker (ed.), *Ancient Faces: Mummy Portraits from Roman Egypt*. New York: The Metropolitan Museum of Art.
Wenning, R. 1996. Hegra and Petra: Some Differences. *ARAM* 8.2: 253-267.
Yadin, Y. 1962. The Expedition to the Judean Desert, 1961: Expedition D. *IEJ* 12: 227-257.