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The Dating of the Principal Monuments at Petra: a New Approach

Introduction

During the last thirty years sufficient evidence has been uncovered by excavations at Petra to justify a re-examination of the chronology of its architecture. Before such a study could be made it was necessary to spend considerable time at the site recording architectural details. As a result of this, the writer has completed a detailed study of the chronology which will be published with the corpus of the principal monuments. A shortened version of the chronology will appear in *Levant* 1987. The aim of this paper is to summarize these results. For a valid evaluation of the argument the lengthier version should be consulted.

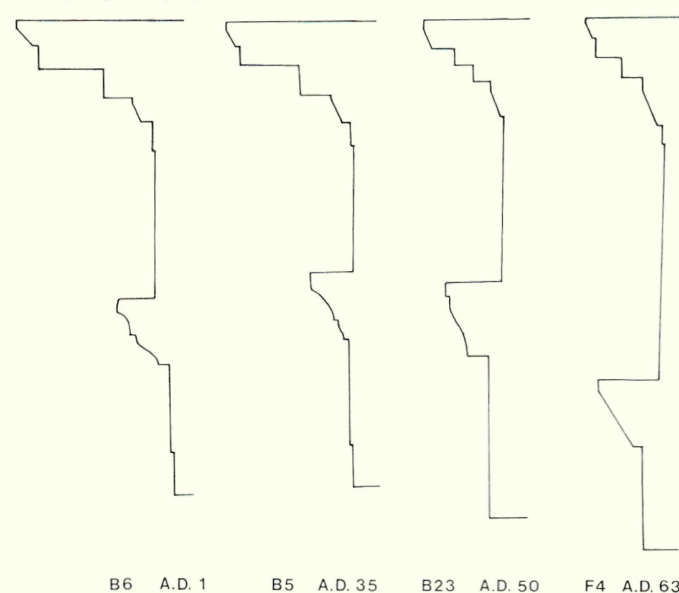
When Brünnow and von Domaszewski (1904: 137–191) established the traditional sequence of the tomb facades at Petra, the dated material from Medain Saleh had not been published. Von Domaszewski arranged the tombs at Petra into typological groups. Then he suggested that these formed a chronological sequence when placed in order of increasing complexity which involved an increasing presence of classical elements. However, Jaussen and Savignac (1909: 390–1) observed that the tombs did not form a chronological sequence based on typology, but that the first four of von Domaszewski's groups (Pylon Tombs, Step Tombs, Proto-Hegr Tombs, Hegr Tombs) at Medain Saleh were contemporary during the period to which they are dated by the inscriptions. Despite this, all examinations of them have been overshadowed by the typologically based chronology of von Domaszewski. Thus, any study which aims to establish the chronology of the facades at Petra, rather than merely their typology, should begin with a detailed re-examination of the tombs at Medain Saleh. This has been done by the writer and the results, to be published with the corpus, will be summarized here very briefly.

At Medain Saleh thirty-one of the about eighty tombs described by Jaussen and Savignac (1909 and 1914) are dated to a specific year by an inscription which includes the name of the owner, his occupation, and sometimes the name of the stone-cutter and his father. These inscriptions date from the period AD 1–76. The examination of the inscriptions showed two schools of stone-cutters, the length of their working life, and the number and types of tombs on which each stone-cutter worked.

The examination of all the dated tombs revealed the trends which occur with time, regardless of tomb type. These are an increasing squatness in the shape of the facade, and the gradual simplification of architectural details. The classical elements also become squatter and heavier with time, while the mouldings, Doric frieze and other details are simplified. This simplification can be seen on the mouldings of four dated doorways (FIG. 1). During the period from AD 1 to 63 the shapes of the mouldings are simplified and they become flatter.

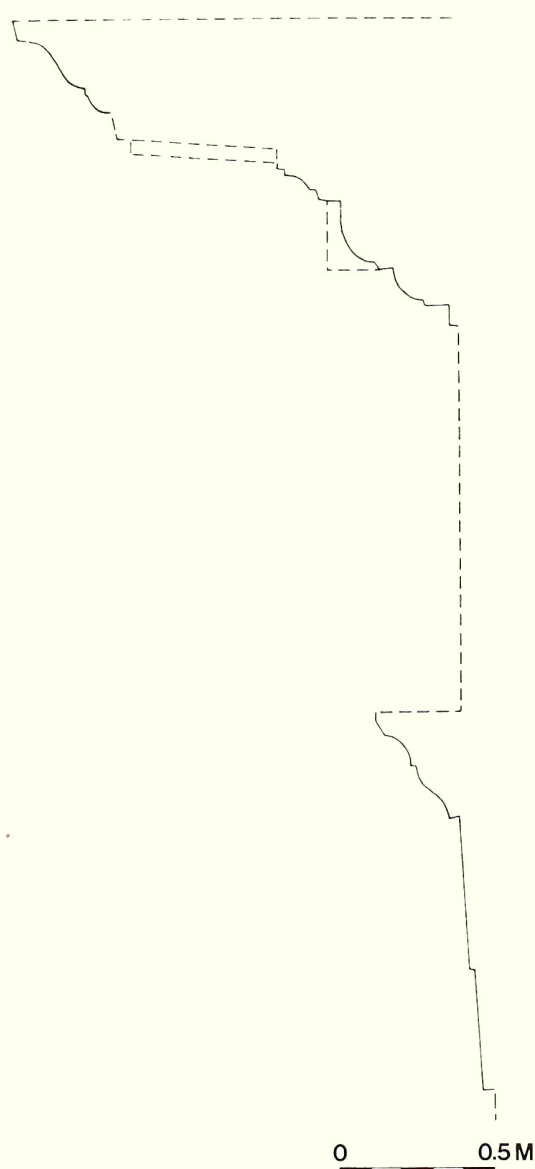
Investigation of the details on the tombs reveals features which may be distinguished as characteristic of the work of a school or of an individual stone-cutter. Facades with identical mouldings prove to be by the same stone-cutter. The study found that the mouldings are like the stone-cutter's fingerprint: the details are unique to an individual stone-cutter. Changes in the work of a stone-cutter were detected over twenty, but not ten, years. The average working life of a stone-cutter was found to be twenty-five years.

1. Medain Saleh: profiles of entablatures of doorways. (Traced from enlarged photographs. Diagrams not all on same scale).



These observations are a key to the problem of the chronology of the monuments at Petra, but they should not be used without due consideration being given to their limitations. The dated evidence from Petra should be examined to see if it is possible to detect any chronologically related changes in the architectural features. The observation that monuments with identical mouldings and details are closely related may be applied to the architecture at Petra. As the principal facades at Petra are much larger and more complex than those at Medain Saleh, and therefore involve more work, one 'group' at Petra is not necessarily identical with the output of one stone-cutter at Medain Saleh.

2. Kasr el Bint: profile of principal entablature *in situ* (Group A).



Simplification of classical elements

A careful and detailed evaluation of the validity of all the dated evidence from Petra has been made. This will be presented in the more detailed report on the chronology to be published with the corpus of the principal monuments. Only the conclusions are presented here. Less than reliable evidence is not discussed here, nor are the non-classical monuments included.

The dated architectural evidence from Petra was examined to determine if there is any evidence of simplification of architectural decoration with time. Simplification of the mouldings is obvious at a glance, if those on the Kasr el Bint, which has a *terminus ante quem* of the beginning of the first century AD, (FIG. 2) are compared with those on the Tomb of Sextius Florentinus, which is dated to *c.* AD 129 (FIG. 10a). This trend is also observed if they are compared with the mouldings from the Main Theatre which is dated to the first century AD. The earliest dated building, the Kasr el Bint, has capitals with very finely carved florals (FIG. 4a), while the later dated monuments, such as the Main Theatre and the Tomb of Sextius Florentinus have plain Nabataean capitals. Only two of the dated monuments at Petra have any extant sculpture: the bust of Helios from a metope on the Kasr el Bint and one bust from the Temenos Gate, which is later. On the Kasr el Bint example (FIG. 3a) the hair and drapery are rendered with curved surfaces of different depths, while on the later example from the Temenos Gate (FIG. 3b) the hair and drapery are treated as a series of flat surfaces.

Thus, the dated evidence from Petra indicates that a simplification of the classical elements of architectural decoration is related to chronological development. This change was seen in the mouldings, Doric frieze, capitals and sculpture. This accords with the trend which was observed at Medain Saleh.

Groups of monuments

A detailed examination of the tombs at Medain Saleh which have the name of the stone-cutter on them, has shown that the mouldings are equivalent to the stone-cutter's fingerprint: the details of the combination of elements present and their relative sizes are unique to an individual stone-cutter. Other details of rendition of architectural details, such as on the Doric frieze, were also found to be characteristic of an individual stone-cutter. Thus, the monuments from Petra are divided below into groups based on the details of architectural decoration. Much of the following argument is based on the shape of the mouldings, which were measured using a theodolite (McKenzie 1985). The dashes indicate lines whose shape was clear, but which it was not possible to measure.

Group A

The dated monument in Group A is the Kasr el Bint which has a *terminus ante quem* of the beginning of the first century AD. This date is provided by the inscription in the Temenos Bench which was built after it (Parr 1967–8: 5–19). Those who doubt this very important evidence should return to the

3a. Kasr el Bint: bust of Helios from metope of Doric frieze (Group A).



3b. Temenos Gate: bust from main arch pilasters.



3c. Khasneh: vestibule side doorway pilaster capital (Group A).



3d. Corinthian Tomb: lower order capital (Group C).



excavator's report. A piece of marble with a Nabataean inscription on it dated to AD 26–27 was found at the Temple of the Winged Lions in 1981 with more than 1,000 other pieces of marble in an annex room (Hammond 1986: 77).

The Kasr el Bint has capitals with very finely carved florals and acanthus leaves (FIG. 4a). These are similar to the capitals on the Khasneh (FIG. 3c, 4b), the Baths, and the Temple of the Winged Lions (FIG. 4c). The mouldings in this group are also very ornate (FIG. 2, 5) as is the Doric frieze on the Kasr el Bint (FIG. 6a).

Group B

The dated monument in Group B is the Main Theatre which is dated epigraphically to the first century AD from the masons' marks on the column drums (Salmon, in Hammond 1965: 75).

The mouldings in Group B are closely derived from those on the Khasneh, but with some simplification. Generally the monuments in this group have plain Nabataean capitals, rather than floral ones. The treatment of the Doric frieze is characteristic, as illustrated by the examples on the Urn Tomb and

4a. Kasr el Bint: fragments of south-east pilaster capital (Group A).



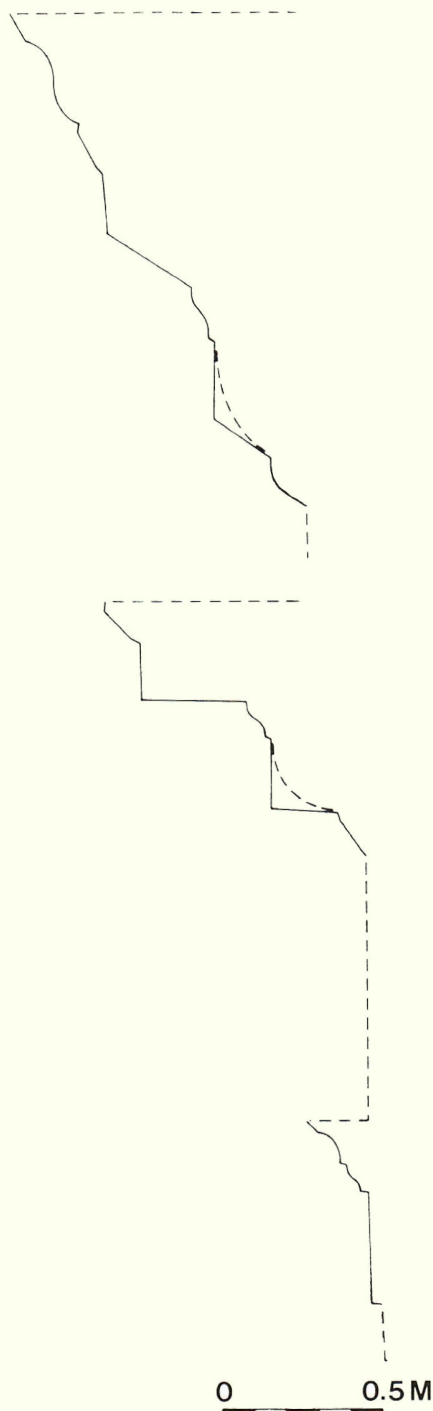
4b. Khasneh: lower order capital (Group A).



4c. Temple of the Winged Lions: capital (Group A).

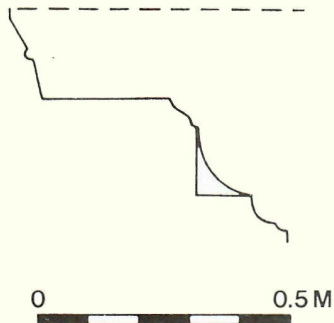


5a. Khasneh: broken pediment profile (Group A).



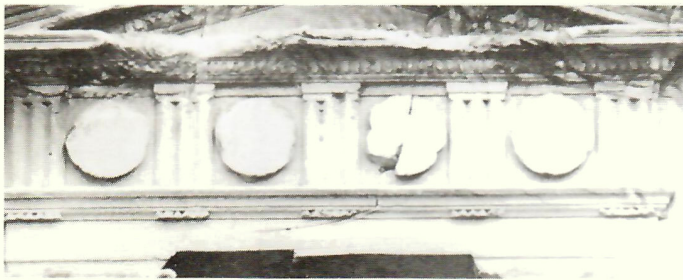
Facade 846 outside Siq el Barid (FIG. 6b, c). The metopes contain deeply carved flat discs and no tooling marks are visible. These characteristics are also seen on the frieze in Room 468 opposite the Deir (Schmidt-Colinet 1980: fig. 21) and on the cornices of the Main Theatre (Hammond 1965: pl. 35.3).

5b. Khasneh: south vestibule doorway cornice profile (Group A).

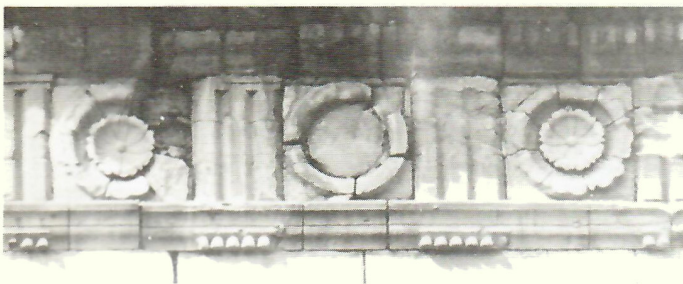


The dressing of the stone is distinctive to this group. On the facade the dressing consists of very fine closely spaced diagonal lines tilted at forty-five degrees which are also used on the pilasters, but with a smooth band along the edges (FIG. 7a, b). On the interior walls the slightly coarser lines of tooling are tilted at forty-five degrees, with a band of parallel lines

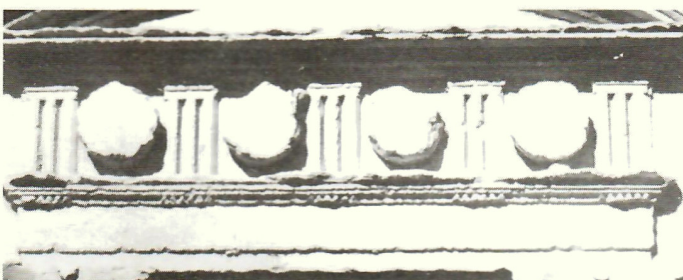
6a. Kasr el Bint: Doric frieze *in situ* (Group A).



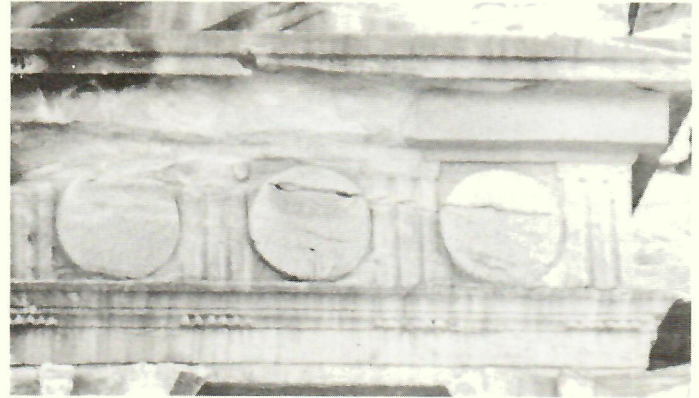
6b. Urn Tomb: Doric frieze over doorway (Group B).



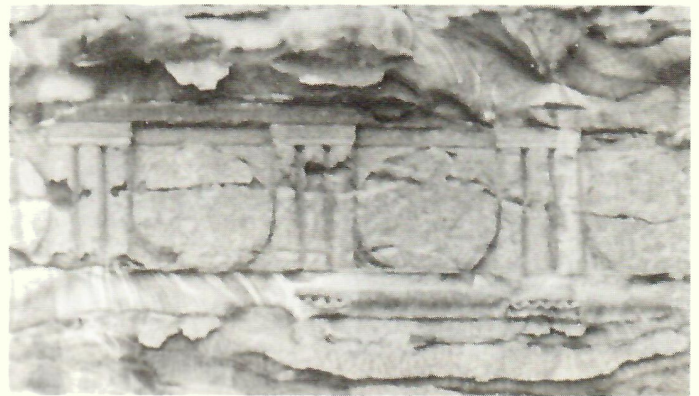
6c. Facade 846 at Beidha: Doric frieze over doorway (Group B).



6d. Deir: Doric frieze on broken pediment (Group E).



6e. Carmine Facade No. 731: Doric frieze (Group E).



along the top of the wall, and in the right hand corner of each wall there is a small square which is hatched in the opposite direction to the rest of the wall (FIG. 7b-d).

On the basis of the architectural details the following monuments may also be placed in this group: the Tomb of the Roman Soldier and its Triclinium, the Painted House at Siq el Barid, and Tomb 258 in the western branch of Wadi Farasa.

Group C

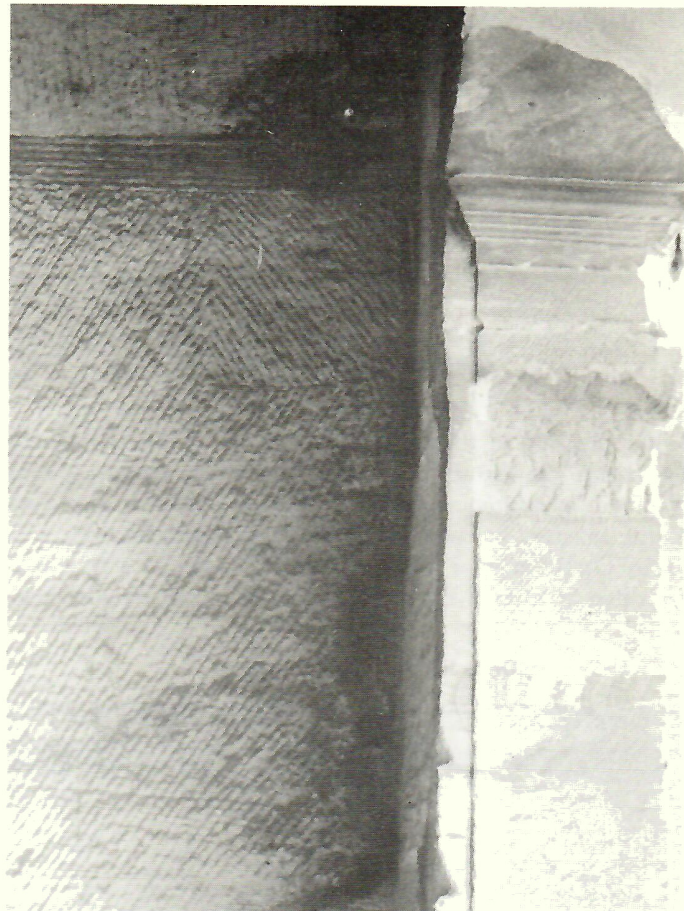
The dated monuments in Group C are the Obelisk Tomb and the Bab el Siq Triclinium which are dated by the inscription opposite. This inscription is dated to either 62/59–30 BC or AD 40/44–70 depending on to which King Malichus the inscription refers (Milik 1980: 12). This will be considered below. The interior dressing of the Obelisk Tomb and the Bab el Siq Triclinium is distinctive and unique to both monuments, indicating that they were both built at the same time.

The monuments in Group C have very distinctive mouldings characterized by a large dentil element being the only element between the corona and the frieze, as occurs on the Corinthian Tomb and Tomb 70 (FIG. 8). The florals on the capitals of both of these monuments are very coarse (FIG. 3d). The Tomb of the Broken Pediment also belongs to this group.

7a. Facade 846 at Beidha: detail of dressing (Group B).



7b. Painted House in Siq el Barid: detail of interior dressing (Group B).

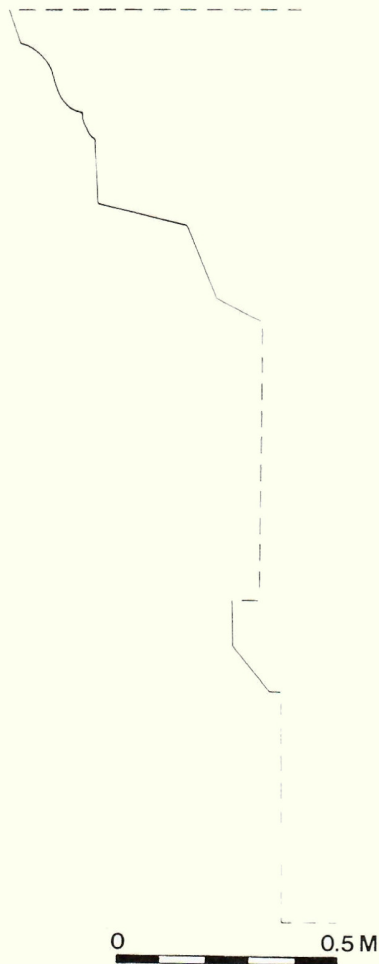


7c. Tomb of the Roman Soldier: detail of interior dressing (Group B).



7d. Urn Tomb: detail of interior dressing (Group B).





8a. Corinthian Tomb: lower entablature profile (Group C).

Group D

This minor group is close to Group C, and includes the Lion Triclinium and the free-standing Betyl in the Siq.

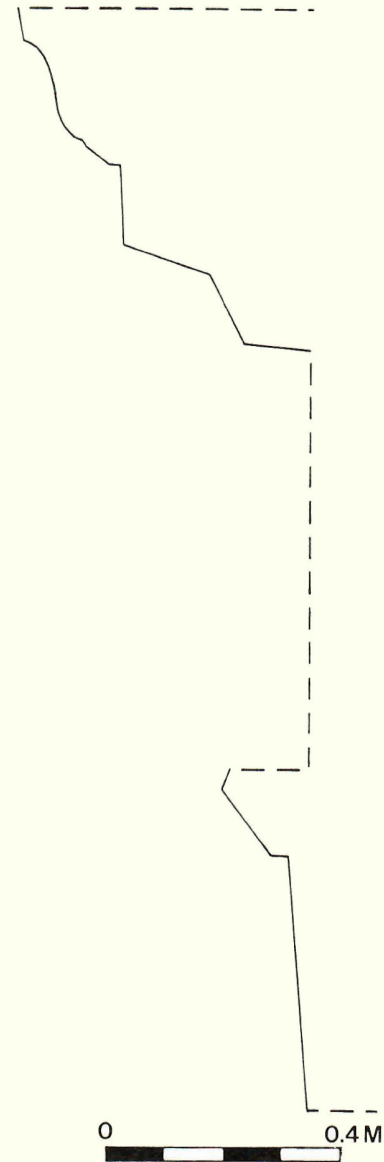
Group E

The treatment of the Doric frieze in Group E is very distinctive as seen on the Deir and the Carmine Facade (FIG. 6d, e). The triglyphs are narrow, and the carving very shallow with pecked tooling marks visible. The mouldings are also distinctive, often with an extremely long dentil element making them rather flat, as seen on the Deir and the Palace Tomb (FIG. 9).

Group F

The dated monument in Group F is the Tomb of Sextius Florentinus which is dated by its inscription to *c.* AD 129 (Brünnow 1904: 382; Polotsky 1962: 259).

The monuments in this group are related primarily by their mouldings. Those on the Tomb of Sextius Florentinus may be compared with those on the Renaissance Tomb (FIG. 10). Tomb 154, which is the arch tomb above the Main Theatre, has similar mouldings and the identical error in the intersection



8b. Tomb 70: principal entablature profile (Group C).

of the cornices on the left side of the arch as on the Renaissance Tomb.

Sequence of the groups

Each of the Groups A, B and F has one dated monument which provides an indication of the approximate date of the rest of its group. The three groups form the chronological sequence:

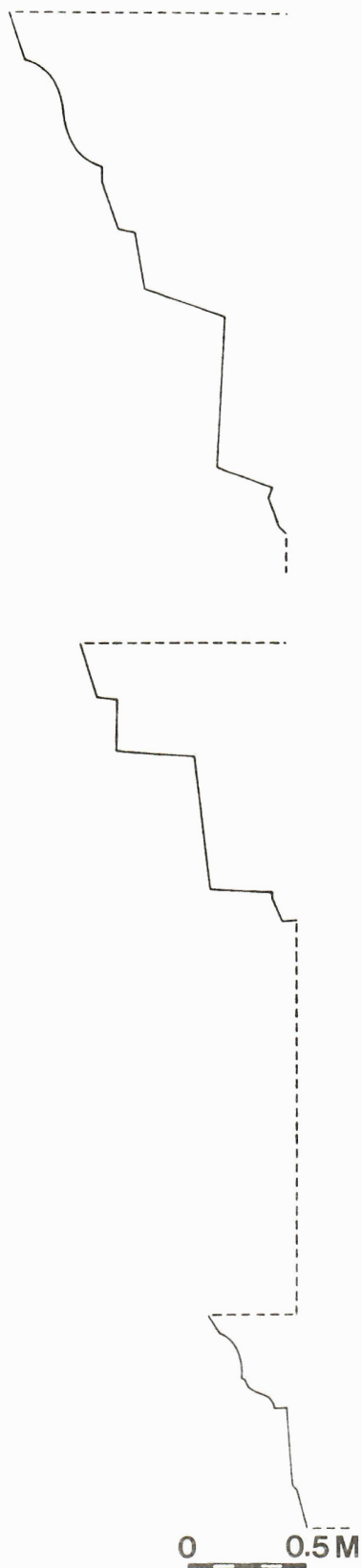
Group A (in which the Kasr el Bint has *t.a.q.* beginning 1st cent. AD).

Group B (in which the Main Theatre is dated to 1st cent. AD).

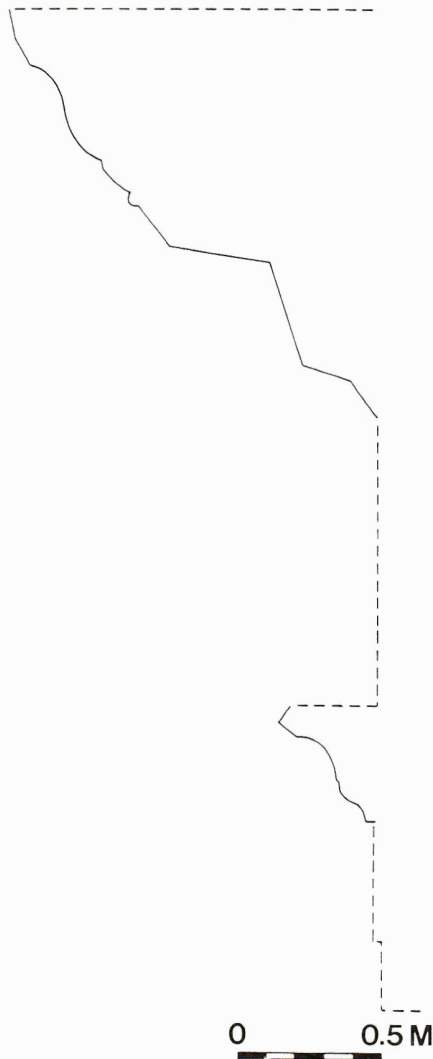
Group F (in which the Tomb of Sextius Florentinus is dated to *c.* AD 129).

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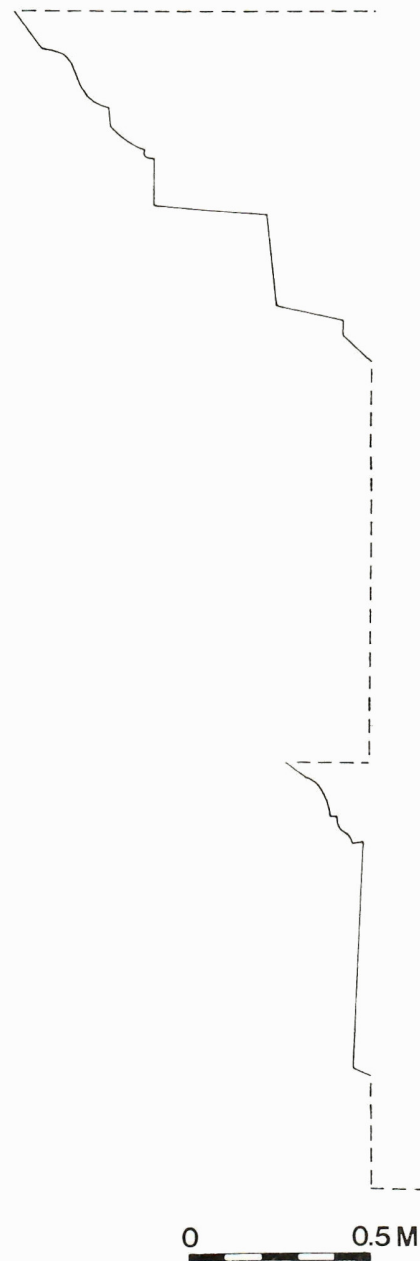
9a. Deir: broken pediment profile (Group E).



9b. Deir: lower entablature profile (Group E).



9c. Palace Tomb: lower entablature profile (Group E).



Furthermore, in Group C the Obelisk Tomb and the Bab el Siq Triclinium are dated to either 62/59–30 BC or AD 40/44–70, which means that Group C is earlier than Group F.

It now remains to ascertain the position of Groups C, D and E relative to this sequence. It has been established that there is a trend of simplification with time. All the architectural details of Group C—the mouldings, proportions, Doric frieze and florals—indicate that it is later than both Groups A and B. As Group C is later than Group B, which is dated to the first century AD, the inscription relating to the Obelisk Tomb and the Bab el Siq Triclinium then dates to the reign of Malichus II (AD 40/44–70). Furthermore, as Group B is earlier than Group C and later than Group A, Group B is dated

somewhere in the period from the beginning of the first century AD to the date of Group C.

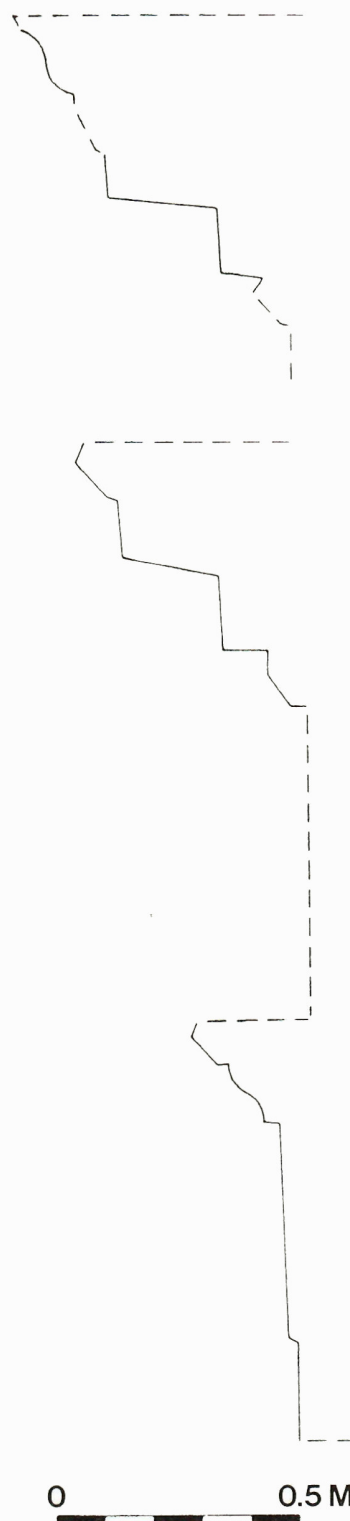
Thus, the following sequence and dates now have been established:

Group	Date
A	<i>t.a.q.</i> beginning 1st cent. AD.
B	1st cent. AD.
C	<i>c.</i> AD 40/44–70.
F	<i>c.</i> AD 129.

10a. Tomb of Sextius Florentinus: lower entablature profile (Group F).



10b. Renaissance Tomb: principal pediment profile (Group F).



All the architectural details of Group E indicate that it is later than Groups A and B, and earlier than Group F. Its exact chronological relationship to Group C is not clear from the mouldings and proportions, while the style and proportions of the Doric friezes and the lack of floral capitals suggest that Group E is later than the Corinthian Tomb which is in Group C. This is not surprising as some overlap or contemporaneity of groups is to be expected. Group D appears to be chronologically close to Group C. The Temenos Gate does not appear to belong to any of the groups discussed.

Dates of monuments

It has been observed that the simplification of architectural details and the increasingly squat appearance of the facades

Table 1 Petra: Sequence of Groups and Monuments, and their Chronology

Sequential Groups	Dated Monuments	Sequence within Group
A	Kasr el Bint: <i>t.a.q.</i> begin. 1st cent. AD	Kasr el Bint, Khasneh. Baths. Temple of the Winged Lions.
B	Main Theatre: 1st cent. AD	Urn Tomb. Tomb of Roman Soldier, Triclinium 235. Room 468. Facade 846 at Beidha. Tomb 258. (Main Theatre, Painted House at Beidha, Silk Tomb).
C	Bab el Siq Triclinium and Obelisk Tomb: AD 40/44–70	Corinthian Tomb. Tomb 70. Bab el Siq Triclinium, Obelisk Tomb. (Tomb of the Broken Pediment).
F	Tomb of Sextius Florentinus: <i>c.</i> AD 129	Tomb of Sextius Florentinus. Renaissance Tomb, Tomb 154.
Other Groups	Relative Chronology	Sequence within Group
D	Contemporary with Group C	Lion Triclinium, Betyl in the Siq.
E	Later than Groups A and B, earlier than Group F. Contemporary with or later than Group C.	Deir, Carmine Facade No. 731. Palace Tomb.

It should be noted that there may be overlap of monuments and also of groups.

The position of monuments in parentheses within a group is not clear.

occurs with chronological development. On the basis of this, the monuments in each group may be placed in chronological sequence. Obviously, it is possible that there was some overlap between monuments in a group and, furthermore, some overlap of one group with another. The sequence of monuments within each group and absolute dates are summarized in TABLE 1. Thus, the chronology of the principal monuments at Petra has been clarified considerably utilising all the evidence at present available.

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