

THE SEVERAN
BUILDINGS OF
LEPCIS MAGNA

J. B. WARD-PERKINS

Society for Libyan Studies Monograph no. 2

**THE SEVERAN BUILDINGS OF
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AN ARCHITECTURAL SURVEY

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by

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SELECT BIBLIOGRAPHY AND ABBREVIATIONS

The following list contains, in addition to those works referred to directly in the text, only other writings by Ward-Perkins on aspects of the site and major reports on other monuments by other authors. Works referred to only in Chapter 6 are listed separately on p.86.

- Apollonj (1936) B.M. Apollonj, *Il Foro e la Basilica Severiana di Leptis Magna* (= *I Monumenti Italiani*, fasc. viii-ix). Rome.
- Bartoccini (1927) R. Bartoccini, 'Il Foro imperiale di Lepcis Magna,' *Africa Italiana* 1, 53-74.
- Bartoccini (1929a) R. Bartoccini, *Le Terme di Lepcis*. Bergamo.
- Bartoccini (1929b) R. Bartoccini, 'Il Foro imperiale di Lepcis (Leptis Magna). Scavi 1927-28,' *Africa Italiana* 2, 30-49.
- Bartoccini (1958) R. Bartoccini, *Il Porto Romano di Leptis Magna* (= *Bollettino del Centro Studi per la Storia dell' Architettura* 13, Supplement). Rome.
- Bartoccini (1961) R. Bartoccini, 'Il Foro Severiano di Leptis Magna. Campagna di scavo 1958,' *Quaderni di Archeologia della Libia* 4, 105-26.
- Bianchi Bandinelli et al. (1966) R. Bianchi Bandinelli, E. Vergara Caffarelli & G. Caputo, *The Buried City: Excavations at Lepcis Magna*, London.
- Caputo (1987) G. Caputo, *Il Teatro Augusteo di Leptis Magna* (= *Monografie di Archeologia Libica* iii). Rome.
- Carter (1965) T.H. Carter, 'Western Phoenicians at Lepcis Magna,' *American Journal of Archaeology* 69, 123-132.
- Degrassi (1951) N. Degrassi, 'Il mercato Romano di Lepcis Magna,' *Quaderni di Archeologia della Libia* 2, 27-70.
- De Miro & Fiorentini (1977) E. De Miro & G. Fiorentini, 'Leptis Magna. La necropoli greco-punica sotto il teatro,' *Quaderni di Archeologia della Libia* 9 (1977) 5-76.
- Di Vita (1969) A. Di Vita, 'Le date di fondazione di Leptis e di Sabratha sulla base dell' indagine archeologica e l'eparchia cartaginese,' pp. 196-202 in *Hommages à Marcel Renard* iii = *Collection Latomus* 103.
- Di Vita (1977) A. Di Vita, 'Ancora del tetrapilo precedente l'arco dei Severi a Leptis Magna: una messa a punto,' *Quaderni di Archeologia della Libia* 9 (1977) 135-143. This is the latest article (known to the Editor) in a long bibliography concerned with the Severan Arch.
- Di Vita (1982) A. Di Vita, 'Il progetto originario del Forum Novum Severianum a Leptis Magna,' pp. 84-106 in *150-Jahr-Feier deutsches archäologisches Institut Rom, 4-7 Dezember 1979 = Mitteilungen des deutschen archäologischen Instituts, römische Abteilung, 25. Ergänzungsheft*.
- Goodchild & Ward-Perkins (1953) R.G. Goodchild & J.B. Ward-Perkins, 'The Roman and Byzantine defences of Lepcis Magna,' *Papers of the British School at Rome* 21, 42-73.
- Ioppolo (1982) G. Ioppolo, 'Allineamenti e visuali ottiche del foro severiano di Leptis Magna': see Di Vita (1982).
- IRT J.M. Reynolds & J.B. Ward-Perkins, *The Inscriptions of Roman Tripolitania*. Rome & London.
- Romanelli (1925) P. Romanelli, *Leptis Magna*. Rome.

- Romanelli (1961) P. Romanelli, 'Leptis Magna' in *Enciclopedia dell' arte antica classica e orientale* iv, 572–594.
- Sichtermann (1962) H. Sichtermann, 'Archaologische Funde und Forschungen in Libyen (1942–1961),' *Archäologischer Anzeiger* 1962, cols. 466–509.
- Squarciapino (1966) M.F. Squarciapino, *Leptis Magna*. Basel.
- Squarciapino (1974) M.F. Squarciapino, *Sculture del Foro Severiano di Leptis Magna* (= *Monografie di Archeologia Libica* x). Rome.
- Toynbee & Ward-Perkins (1950) J.M.C. Toynbee & J.B. Ward-Perkins, 'Peopled scrolls: a Hellenistic motif in Imperial art,' *Papers of the British School at Rome* 18, 1–43.
- Walda & Walker (1984) H. Walda & S. Walker, 'The art and architecture of Lepcis Magna: marble origins by isotopic analysis,' *Libyan Studies* 15, 81–92.
- Walda & Walker (1988) H. Walda & S. Walker, 'Isotopic analysis of marble from Lepcis Magna: revised interpretations,' *Libyan Studies* 19, 55–59.
- Ward-Perkins (1948) J.B. Ward-Perkins, 'Severan art and architecture at Lepcis Magna,' *Journal of Roman Studies* 38, 59–80.
- Ward-Perkins (1951a) J.B. Ward-Perkins, 'The art of the Severan age in the light of the Tripolitanian discoveries,' *Proceedings of the British Academy* 37, 269–304.
- Ward-Perkins (1951b) J.B. Ward-Perkins, 'Tripolitania and the marble trade,' *Journal of Roman Studies* 41, 89–104.
- Ward-Perkins (1952) J.B. Ward-Perkins, 'Excavations in the Severan Basilica at Lepcis Magna,' *Papers of the British School at Rome* 20, 111–121.
- Ward-Perkins (1970) Parts II–IV of A. Boethius & J. B. Ward-Perkins, *Etruscan and Roman Architecture*. Harmondsworth.
- Ward-Perkins (1974) J.B. Ward-Perkins, *Cities of Ancient Greece and Italy: Planning in Classical Antiquity*. London.
- Ward-Perkins (1981) J.B. Ward-Perkins, *Roman Imperial Architecture*. Harmondsworth.
- Ward-Perkins (1982) J.B. Ward-Perkins, 'Town planning in North Africa during the first two centuries of the Empire, with special reference to Lepcis and Sabratha: character and sources,' pp.29–49 in the same volume as Di Vita (1982). See also comments by Ward-Perkins on Di Vita's paper, p. 100 f.
- Ward-Perkins (1992) *Marble in Antiquity*, collected papers of J.B. Ward-Perkins edited by Hazel Dodge and Bryan Ward-Perkins. London.
- Ward-Perkins & Goodchild (1953) J.B. Ward-Perkins & R.G. Goodchild, 'The Christian Antiquities of Tripolitania,' *Archaeologia* 95, 1–82.
- Ward-Perkins & Kenrick (1994) J.B. Ward-Perkins & P. Kenrick, *The Severan Buildings of Lepcis Magna*, London.
- Ward-Perkins & Toynbee (1949) J.B. Ward-Perkins & J.M.C. Toynbee, 'The Hunting Baths at Lepcis Magna,' *Archaeologia* 93, 165–195.

EDITORS' PREFACE

The ruins of Lepcis Magna and Sabratha, objects of excavation and restoration by the Italian colonial authorities from 1920 onwards, were first encountered by John Ward-Perkins during the North African campaign in the Second World War. He was immediately struck by two things. First of all, the surviving remains of the great Severan building programme at Lepcis offered an unparalleled opportunity to study the means by which a great architectural scheme, comparable to the creation of the Imperial Fora in Rome, had been realised by the architects and craftsmen involved; and secondly, he appreciated how the information gained from the mere exposure of these monuments could be immeasurably enhanced by the application of scientific techniques of stratigraphic excavation in the elucidation of their history. Of no lesser importance for him was the explicit responsibility of those who had the opportunity, to record and publish their researches in order to make the information available to the scholarly world at large.

After the end of the war, though now installed as Director of the British School at Rome, he retained his interest in North Africa and had the opportunity under the British Military Administration of carrying out excavations at Sabratha (in conjunction with Kathleen Kenyon) and architectural studies at Lepcis Magna. Numerous publications related both to this work and to wider studies in Tripolitania followed, but for a variety of reasons neither of the main studies was completed during his lifetime. The work at Sabratha is now gradually appearing in print (P.M. Kenrick, *Excavations at Sabratha 1948–51*, London 1986; John Dore and Nina Keay, *Excavations at Sabratha 1948–51, ii, The Finds, Part 1*, London 1989). With Lepcis Magna, the problems were many. The sheer scope for study afforded by the remains was enormous, and much had already been put in hand by the Italians, with whom he sought to collaborate. (A first lavish, though unsatisfactory account of the Severan Forum and Basilica had appeared in 1936 under the authorship of B.M. Apollonj: see bibliography.) A joint publication with Renato Bartoccini and Maria Floriani Squarciapino was planned, but frustrated by the death of Bartoccini in 1965; Squarciapino's study of the decorative sculpture was subsequently published on its own (Squarciapino 1974).

Over the years, the depth of Ward-Perkins's studies at Lepcis Magna became apparent in his many other published works, on Roman architecture (1970, 1981), on town planning (1974) and on the marble trade (now collected and re-published: Ward-Perkins 1992). In his retirement, he evidently returned to the main topic, for when the typescript of the present volume was found after his death in 1981, the main body (presumably written in the fifties) was found to include supplementary material dated 1978.

This typescript, in conjunction with a vast archive of (often exquisite) drawings made in 1948–53 was handed over in 1984 to the Society for Libyan Studies by the then Director of the British School at Rome, Dr. Graeme Barker, with a view to preparing it for publication. The project was initiated by Prof. Barri Jones, then Chairman of the Society, who was able to engage Mr. Robert Kronenburg (then of the School of Architecture, University of Manchester) to produce the final versions of the drawings. The nature and complexity of this task is described by Mr. Kronenburg below. In 1991 the present writer was engaged by the Society to complete the editing of the text (without, however, access to the drawings archive).

From the author's provisional list of contents and from the state of the text itself, it was clear

that the book had not proceeded beyond a first draft. The style was uneven, there were some contradictions and repetitions, and some parts (principally in the descriptions of the Basilica and Great Nymphaeum) had either never been written or were now lost. It has on the whole been easy to resolve the minor problems and to bring the text into a more consistent and readable form without diminishing its authenticity. The problem of actual lacunae was more difficult. The drawings of the Basilica and Great Nymphaeum constitute in themselves important sources of information, but the particular character of the rest of the author's text — keen observation on the spot of structural detail — clearly could not be imitated. It was therefore decided not to attempt the completion of Chapter 4 on the Basilica; for the Nymphaeum a brief account has been supplied by Professor Barri Jones in collaboration with Prof. Roger Ling of the Department of History of Art at the University of Manchester.

There are two other important lacunae in the present volume. It is clear that in Chapter 7 Ward-Perkins intended to bring together and revise into a single catalogue the various masons' marks listed in *IRT*. The list in the typescript was, however, only a preliminary one, and it was felt that a great deal of further research would have been required to revise it and bring it up to an appropriate standard of reliability. It has therefore been omitted. The second omission is that of a final chapter describing the architectural details not discussed by Squarciapino (1974) and exploring the architectural and artistic connections of the project within the context of the Roman Empire as a whole. This was never written, at least for this work, though on many occasions in his articles and books Ward-Perkins touched on the subject to a greater or lesser degree. The primary value of the present publication, therefore, lies in its descriptive aspects, and that very special and perceptive way that the author had of examining buildings, which repeatedly gives one the impression that in a former life he might have been the site foreman responsible for their construction.

The list of those who contributed to the original work or to the present publication is lengthy. The team of draughtsmen who worked at Lepcis between 1949 and 1953 appears to have been partly interchangeable with those who worked at Sabratha and includes : Michael Ballance, Alec Daykin, Geoffrey Slater, Richard Lawson, G. U. S. Corbett, R. Shoemith and George Bennett. In 1949 Robert Davison, John Kay and Ian Colquhoun also participated though principally, it appears, in the Old Forum. If any name is missing, then it is to be explained by the omission of initials on the working drawing, some of which were based on earlier Italian drafts. Amongst other participants were Joyce Reynolds (inscriptions) and Francis Maddison (excavations). Some of the drawings are based on earlier Italian work, particularly by D. Vincifori and C. Catanuso.

The expeditions to Lepcis Magna were conceived, initially at any rate, in conjunction with the excavations being carried out at Sabratha, and as far as one can now tell they shared the same sources of funds. The Sabratha correspondence shows these to have been the British Academy, The British School at Rome, The Society of Antiquaries, the Craven Committee, the Universities of Cambridge, London and Manchester, The Ashmolean Museum, The Oxford Philological Society, The Queen's College, New College, Merton College, All Souls College and the Second Russell (Markinch) Trust. Subsequently the Society for Libyan Studies provided the support in 1988/9 for Robert Kronenburg (currently Senior Lecturer at Liverpool John Moores University) to rationalise, reproduce and reconstruct the drawing archive.

With regard to the preparation of the volume for publication, which has taken place by permission of Dr. Bryan Ward-Perkins as his father's literary executor, Mrs. Margaret Ward-Perkins kindly made available papers in her late husband's possession and Dr. Joyce Reynolds has provided informed comment on a number of points. Mr. Charles Daniels and Professor G. D. B. Jones provided additional photographs of the Basilica and the Nymphaeum. Dr. Jamal Zweit and Dr. Hafez el Walda provided the Arabic summary and the editorial process has also benefitted from interventions by Dr. Susan Walker. Pat Faulkner, Sylvia Hazlehurst and Keith Maude of the Department of Archaeology, Manchester University provided typescripts and in some cases, drawings. The production problems and delays were patiently fielded by Graham Atherton and Jack Cash of Engraving Services Ltd., and particular thanks are due to Gordon Warren, Wilfred Syddall, Paul Bent and Stewart Burnside for layout and composition.

Hopefully this monograph will finally make a fitting memorial to the work of many hands—Italian, British and Libyan. The Libyan Society is grateful to the Department of Antiquities, SPLAJ, its President Ess. A. Khaddouri and his predecessor Dr. A. Shaiboub for agreeing to this form of publication. Of the staff of Homs, four retired members Ess. Massoud B. Mohammed, Ess. Mohammed el Fergania, Ess. Abdullah B. Massoud and Ess. Mustapha Asserio all acted as wartime custodians and subsequently as valued assistants of the 1949–53 teams. Also amongst that group was Haj Omar Marjub who later became Controller of Lepcis Magna and saw the erection of a new museum at Lepcis designed to interpret the heritage of a great ancient city to a fresh generation of Libyans. To him and to his successor, Ess. Mohammed Shitewi, go our grateful thanks for maintaining the remains of one of the best preserved cities of the Classical World and a unique example of provincial Imperial patronage.

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The Drawings

The strategy for assessing the Lepcis Magna drawing archive was begun in the summer of 1986. The drawings were initially stored in the Department of Archaeology, University of Manchester, in the state in which they had arrived from the British School at Rome. Unfortunately, there was great variety in both quality of drawings and state of preservation. The first task was to prepare a preliminary catalogue of the 382 separate drawings in general groups as follows:

- (a) original negatives — drawings on tracing paper, most of these being accurate pencil preparatory details but some, the most valuable, being inked-in final drawings.
- (b) original paper — mostly drawn on cartridge paper, though some lesser quality paper used, and mostly containing survey information taken on site.
- (c) prints of originals — these drawings were mostly dyeline copies, although a few were photographic reproductions. Many of these copies were of originals not found with the archive and therefore had special value.

A complete schedule of all the material was prepared incorporating information on all drawings regarding title, scale, medium (ink, pencil etc.), quality of information (accuracy, detail etc.) and physical condition. This first batch of drawings contained 124 negatives, 132 paper originals and 126 prints. Only a very small number of the drawings were finished examples and even these had very little information regarding location, scale or author. It was immediately obvious, however, that they contained a great amount of detailed recording.

The physical condition of the drawings varied tremendously. The cartridge paper pencil drawings have survived the best — storage in a dry, dark place being sufficient to maintain the integrity of the paper — but the quality line drawings on tracing paper had not fared so well. Tracing paper, particularly that of inferior quality, tends to dry out with age and when that occurs it becomes yellow and brittle. The former makes it difficult to print and the latter causes tears and even complete disintegration of the information. A careful repair exercise was therefore carried out to strengthen the weak drawings. Copy negatives were made of all negatives in this condition so that the copy could be handled from that point on, instead of the original. The paper copies of the originals which were not present in the first batch of drawings posed a special problem. Dyeline prints fade when exposed to sunlight and it was essential to prepare either new drawings based on these 'original copies' as soon as possible, or photograph them with a true-to-scale reproduction process.

Once the initial cataloguing and rescue work had been completed a closer examination could be made of the archive with particular reference to J. B. Ward-Perkins' text. In many places in the text there were indications that the author intended to refer to a drawing or photograph. However, as there were only a few cryptic numbers assigned to very few drawings, there was little information as to exactly what he envisaged. On the drawings themselves, there are likewise some pencil comments obviously relating to the text and these have been fully utilised in deducing the arrangement of information within the archive. The drawing catalogue was therefore re-organised into groups based on the text format as follows:

- (a) General city plans — showing the small scale layout of not only the Severan city but the whole area including pre-Severan and later Byzantine constructions.
- (b) Forum — plans, sections and elevations to various scales and a few axonometric sketches.
- (c) Basilica — plans, sections and elevations to various scales, generally the best-preserved set of drawings.
- (d) Colonnaded Street — plans, sections and elevations to various scales, including the Nymphaeum and trenches dug across the street.

Other plans of the Harbour and the Old Forum were not relevant to the current exercise but like them have been transferred to the Libyan Society Archive in the University of Newcastle upon Tyne.

It was now possible to establish a basic list of drawings that were to be prepared for publication. This was based primarily on what was needed to illustrate the text but obviously had to be qualified by what information was available. The information selected to be prepared presented four basic levels of problem.

— No drawing was complete and in a suitable condition for immediate printing without some additional work. A few, however, were virtually complete or complete in information terms, but the negative paper was damaged. These drawings were reprinted by a true-to-scale photographic process on to tracing paper similar to the original, and were then touched up by hand in any necessary areas.

— Some drawings were not complete, although a great deal of valuable material was contained therein. Others contained valuable information but the drafting skill was inadequate. These drawings were treated in a similar manner and simply traced by hand to utilize the information, the missing areas being filled in from other drawings or, more often, from original survey notes.

— In a few cases survey notes had been partially converted into drawn-to-scale survey drawings with additional information added free-hand. These drawings, generally in pencil on cartridge paper, were part-traced, part re-measured to provide new finished ink drawings.

— In a few cases a crucial drawing was required for a certain area and no finished drawing of any kind existed. In these circumstances the only resort was to the free-hand measured survey notes which, if they were of good quality, could be converted into a scale measured drawing for the first time. This proved the most difficult route for the emergence of a completed drawing, involving working with up to six sets of measured notes, often by different hands, one at a time.

The Society for Libyan Studies archive (to which this material has now been transferred) contains drawings and notes which span over fifty years' work, carried out by architects,

draftsmen and archaeologists from several countries. The initial cataloguing and restoration of the collection has been undertaken with the objective of providing the visual material to accompany the publication of J. B. Ward-Perkins' text, but the information which remains in the archive is still a substantial resource and a fine memorial to those who worked with him on the investigation and recording of the remarkable ruins at Lepcis Magna.

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1. INTRODUCTION

by Philip Kenrick

'The buildings studied [in this book] are those which were erected in the North African city of Lepcis Magna by its most famous citizen, the emperor Septimius Severus. They were begun in the nineties of the second century AD and formally inaugurated some twenty years later in AD 216. The study focusses on the excavated members of the central group of buildings, the Forum, Basilica and Great Nymphaeum, but this was only part of a larger scheme which included a great artificial harbour, with lighthouse, warehouses and temples, the enlargement of the already existing circus, and the building of a richly sculptured four-way arch over the principal street crossroads in the south-central part of the city. It was a vast and ambitious programme, and one which in a great many respects foreshadowed the great building projects undertaken a century later by the emperors of the Tetrarchy.

Before examining these Severan monuments, it is important to understand the framework into which the new buildings had to be fitted. From deep trial excavations in the area of the Old Forum and the Theatre, Lepcis is known to have been founded by the Carthaginians as a trading station beside a small natural anchorage at the mouth of the Wadi Lebda [Carter 1965; Di Vita 1969; De Miro & Fiorentini 1977]. The earliest remains now visible are those of the Old Forum (*Forum Vetus*), which was laid out on a neatly orthogonal plan on the landward side of the old Punic settlement some time in the latter part of the first century BC. The subsequent development was rapid and, although each individual extension was laid out on neatly orthogonal lines, the city planners never managed to look quite far enough ahead, with the result that the individual quarters were in some cases many degrees out of alignment with their neighbours. During the first century the main development took place westwards and southwards (see fig. 1). The lower ground to the east, towards the wadi, lay vacant until the construction of the great Hadrianic bath-building, which was dedicated in 126. This established an entirely new alignment, and it was followed later in the century by an exercise ground (*palaestra*) and also by a street, laid out along the edge of the wadi so as to link the main cross-streets of the old town with the point where the great coast road from Carthage to Alexandria crossed the wadi.

'Such, in brief outline, was the situation when it was decided to embark upon the great new Severan building scheme. A cardinal feature of the project was to be the construction of a large, artificial harbour basin at the mouth of the wadi. To link this harbour with the rest of the city and with the main coastal road, a new colonnaded street was to be laid out up the west bank of the wadi to a piazza established at the junction of the earlier street and the road leading up to the theatre; and alongside it there was to be built a new civic centre, comprising a grandiose forum with a temple to the south and a no less grandiose basilica at the northern end. This central group of buildings is generally henceforth referred to simply as the Colonnaded Street, the Forum and the Basilica.'

* * * * *

The preceding paragraphs, taken from an unpublished manuscript of a lecture given by John Ward-Perkins in about 1972, provide in a few words the historical and geographical

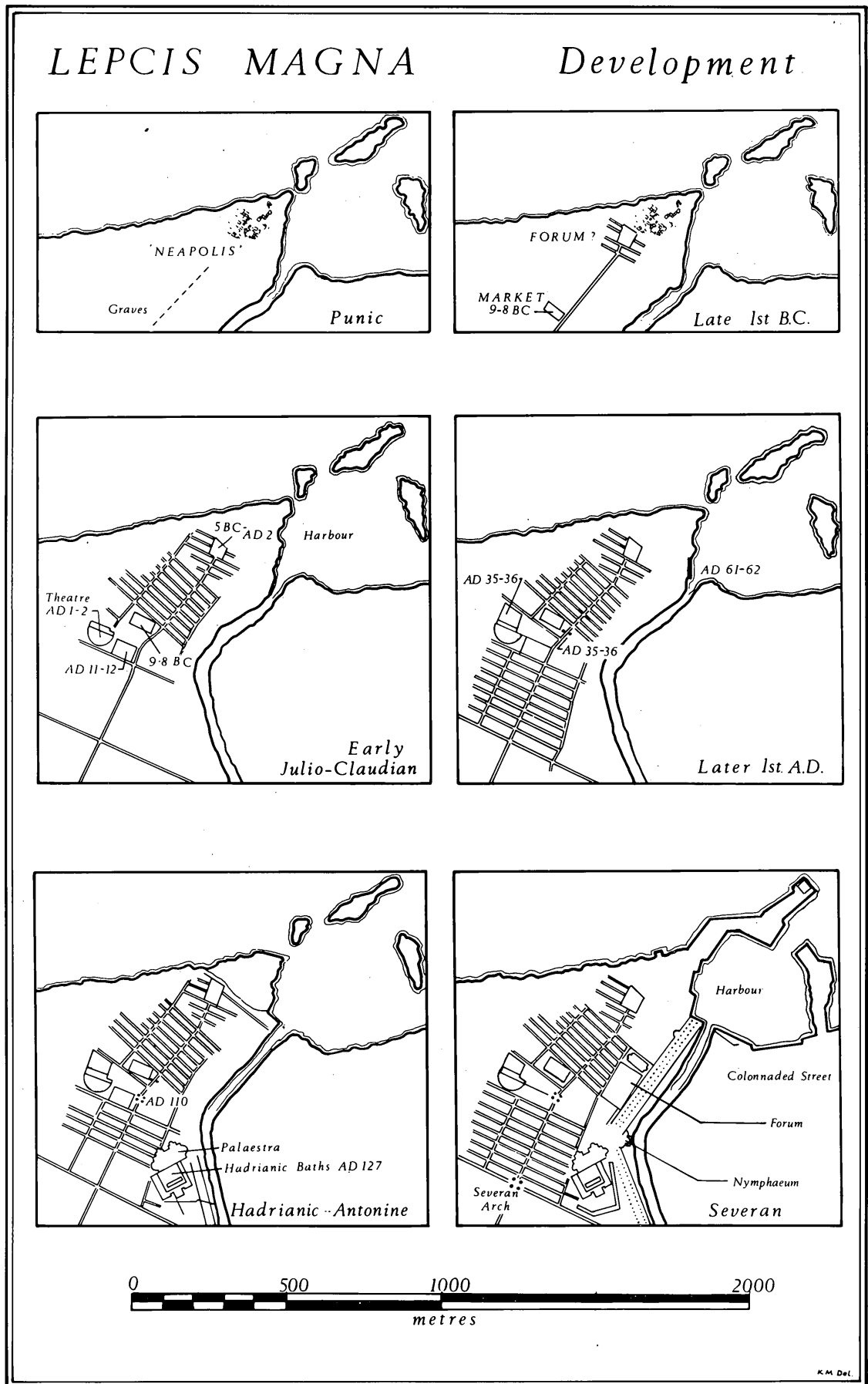


Fig. 1 Leptis Magna: the development of the city.

setting for the subject-matter of this book. It remains to add something of the archaeological background of Lepcis Magna prior to the work of the British expeditions in 1948–53.

The recorded activity of explorers in modern times begins with the French consul Claude Lemaire, who in 1686 exploited the site as a source of marble, particularly columns, which he shipped back to France in large quantities. His interest in the site, and that of subsequent visitors prior to the occupation of Tripoli in 1911 by the Italians, has been summarised by Romanelli (1925, 57 ff.). Soon after the arrival of the Italians, a preliminary survey of the area was carried out by the Istituto Geografico Militare, and the central part of this map (included in Romanelli 1925) is reproduced in figure 2. The traces of the Severan Forum are indicated here as 'Palazzo Imperiale'. It was clearly an early priority of the colonial authorities to instigate systematic excavations on the site, but the region was not sufficiently pacified for these to begin until July 1920. At this date, Pietro Romanelli started work on the Hadrianic Baths: his publication in 1925 set out to record what was then visible across the site as a whole and to report his early findings in the Baths, the adjacent Severan Nymphaeum (not yet recognised as such), the Severan Basilica and the port. By 1925 the work was sufficiently advanced for an international archaeological congress at Tripoli to be made an occasion to display to foreign scholars the extent and impressive character of the remains.

Romanelli had been succeeded as Superintendent of Antiquities for Tripolitania in 1923 by Renato Bartoccini, who continued this work. In 1927 the excavation of the Baths was completed and more concentrated attention was given to the Basilica and to the clearance of the adjoining Forum (Bartoccini 1927; 1929a). Bartoccini describes in vivid detail the awesome task of working amongst huge mobile dunes of soft sand (1927, 53 f.). By the end of 1929 the north-western half of the Basilica had been cleared to ground-level, including the 'Hall of the Thirteen Columns' (see p.22) and the northern end of the Forum. The whole outer perimeter of the Forum had also been revealed (Bartoccini 1929b). The work was slow and the labour immense, for walls up to 15 m. high had toppled over beneath the dunes, and had to be carefully re-erected as the work proceeded. In some instances it was clear that walls had been deliberately mined and felled since antiquity (for uncertain reasons: Bartoccini concluded that this had occurred prior to the visits of Lemaire).

Bartoccini was followed by Giacomo Guidi as Superintendent from 1928 to 1936. During these years the clearance of Forum and Basilica was completed, as was the investigation of the port. Guidi also set about the exposure of the decumanus from the position of the Severan Arch towards the sea, resulting in the discovery and excavation of two more monumental arches, the market, the Chalcidicum and the buildings surrounding the Old Forum. The suburban Hunting Baths were also discovered during this period. Tragically, Guidi died in 1936 of meningitis at the age of 51; his place was taken by Giacomo Caputo, whose fieldwork was concentrated mainly in the theatre. At this time was published a lavish but provisional (and ultimately unsatisfactory) architectural study of the Forum and Basilica by the Faculty of Architecture at Rome (Apollonj 1936). Caputo remained as Superintendent of Antiquities throughout the war years (though an absence in Naples at the time of the Allied conquest in 1943 cut him off from his post until the end of the war) and until the eve of Libyan independence in 1951; the circumstances of the time did not, however, permit any further large-scale excavation until many years later.

British involvement in Tripolitania began with the Allied conquest in 1943, and the first two persons to concern themselves with the protection of the antiquities (and of the facilities developed by the Soprintendenza) were Col. Mortimer Wheeler and Major John Ward-Perkins (see Wheeler's autobiography, *Still Digging*, London 1955, 151 ff.). Wheeler recognised the dangers of 'roving armies little less alien and different than the Asturians and Vandals in whose footsteps they trod' and the total absence of any provision to protect the monuments from their presence. He drew this urgently to the attention of the Brigadier of Royal Artillery at Eighth Army Headquarters in Tripoli; then, armed with his support augmented by a great deal of bluff, Wheeler and Ward-Perkins re-established some sort of security in the *Castello* at Tripoli, which was milling with troops, ensured the safety of the Fascist library, and set off for Lepcis Magna 'with a combined sense of anticipation and anxiety.' There, Wheeler wrote, 'between the roadside grove and the sea with its Roman harbour great stretches of the city had been cleared and re-erected by the Italians, the most

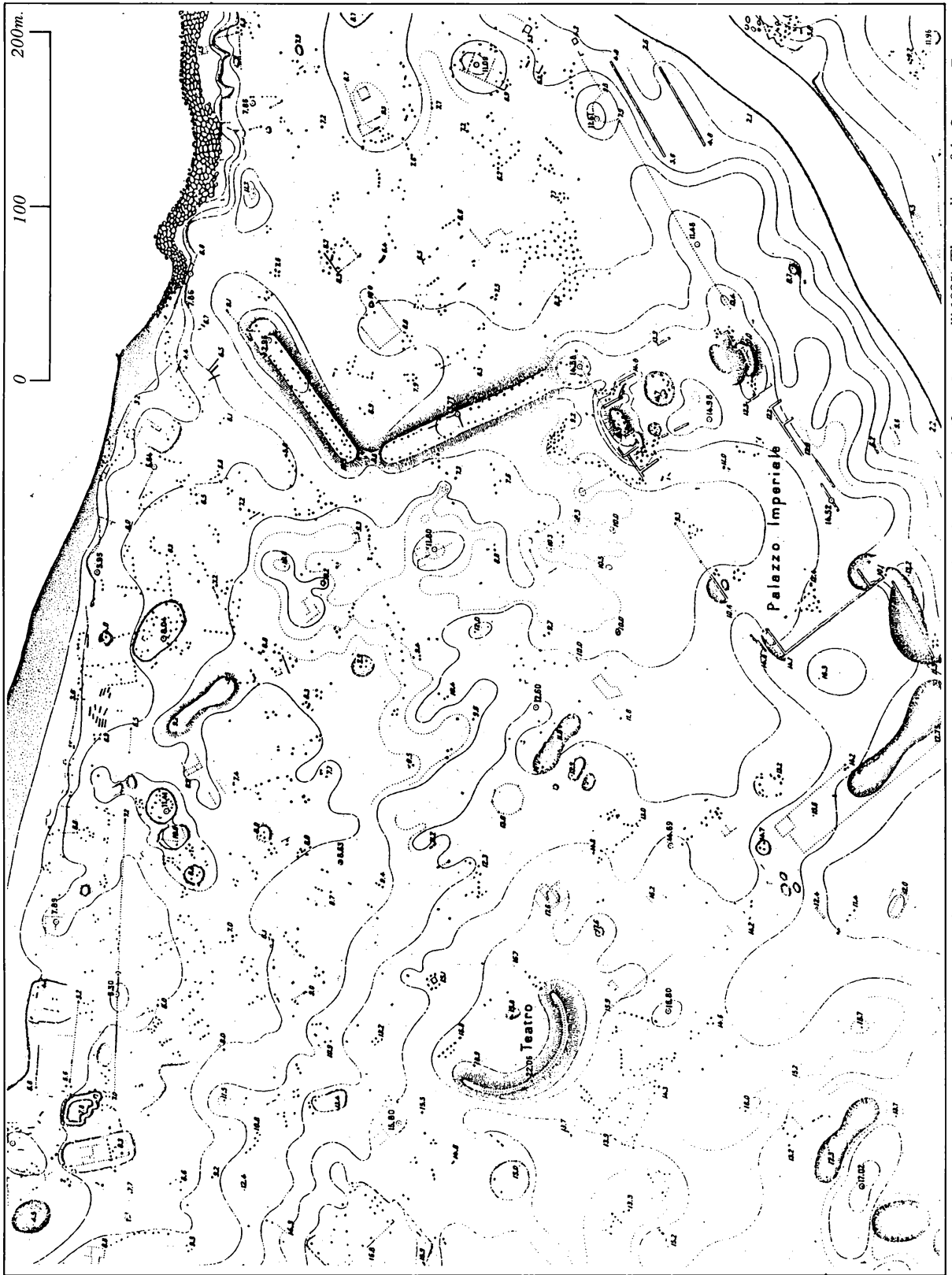


Fig. 2 Part of the initial survey of the ruins carried out by the Istituto Geografico Militare in 1915 before the excavation (from Romanelli 1925). The outlines of the Severan Forum and Basilica can be made out lower right, and are marked 'Palazzo Imperiale'.

casual glance indicating the astonishing value alike of the architecture and sculpture. Of more immediate concern to us was the fact that the small roadside museum had been ransacked and the epigraphy on the monuments which fringed it brought lightheartedly up to date.' They also found an R.A.F. unit planning to set up a radar station amongst the ruins. They succeeded in persuading the R.A.F. to go elsewhere, but otherwise were able to do little more than to put up some large notices saying 'OUT OF BOUNDS'. However, Wheeler secured the secondment of Ward-Perkins to the Political Officer in Tripoli for a month in order to carry out what salvage work he could. As the advance moved westwards, so Sabratha soon fell into Allied hands and Wheeler and Ward-Perkins, briefly together again, entered the site together and received the surrender of the entire Italian Antiquities staff of Libya, whom they found gathered there under the Superintendent for Cyrenaica, Dr. Gennaro Pesce. Wheeler immediately drew up a protocol for the protection of the antiquities, to which Pesce agreed, and it was left to Ward-Perkins to arrange the return of the staff to the various offices from which they had fled. A few months later, Ward-Perkins was back with his unit on the outskirts of Tunis.

This was Ward-Perkins' introduction to the ruins of Lepcis Magna, which clearly captivated him. After the war, when he was established as Director of the British School at Rome, his previous role in Libya enabled him to return under the British Military Administration and to give closer attention to the site. Where possible, he encouraged the previous Italian excavators to complete the projects they had undertaken, and the acknowledgement made to him in various subsequent publications suggests that this collaboration was accompanied by real warmth and was not just formal. But the most extensive excavations had been carried out by the late Guidi, and here was a real problem resulting from the severe paucity of any kind of record. In this circumstance, a crucial source of information lay in the architectural drawings prepared over the years by Diego Vincifori (who died before or during the war: Degrassi 1951, 27) and by Carmelo Catanuso who went on to assist Ward-Perkins directly. He would undoubtedly have wished to pay tribute to these architects as to his own team, for contributing to the basis of a full description of the Severan monuments in this remarkable city.

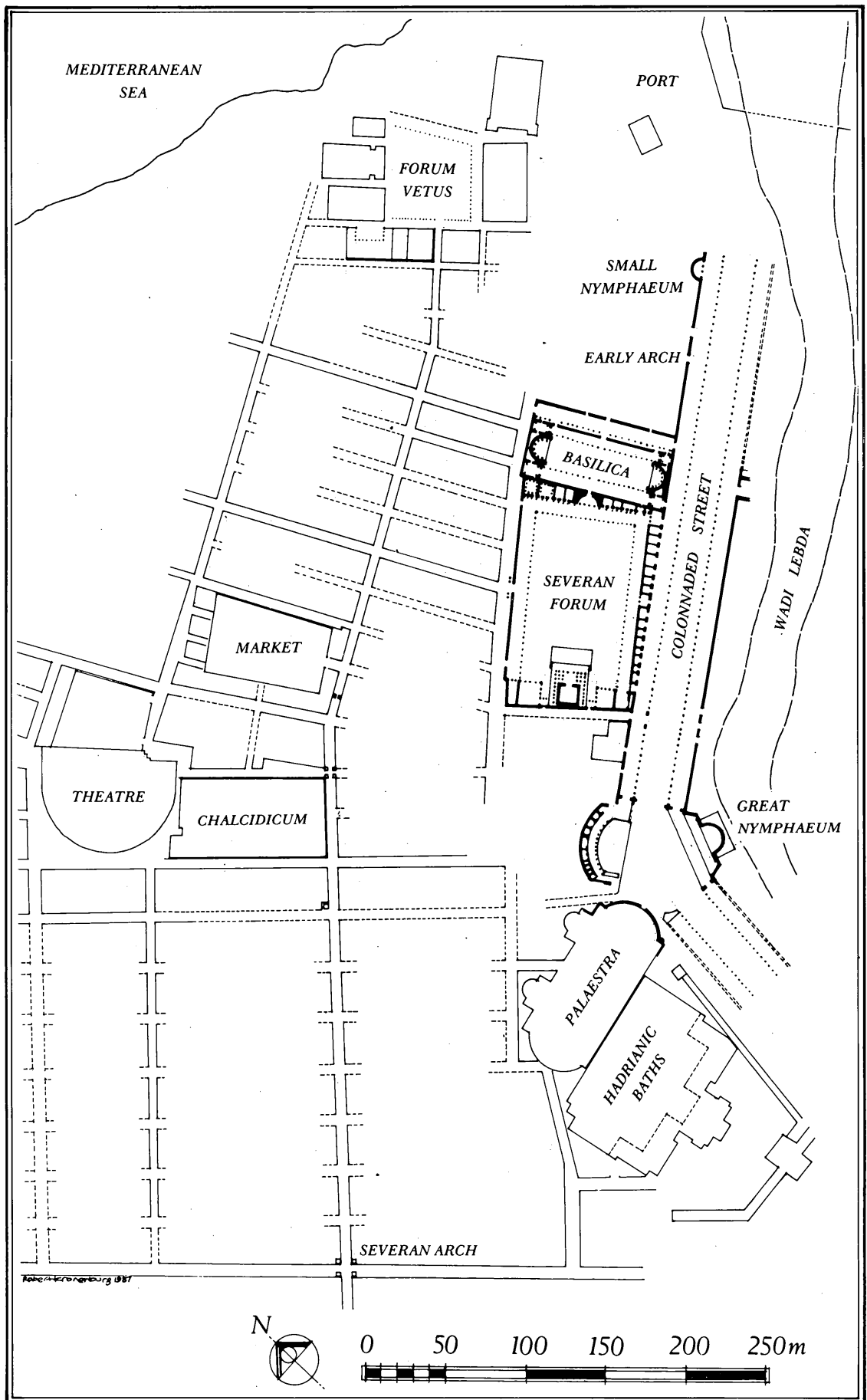


Fig. 3 Leptis Magna: plan of the central area, showing the Severan buildings.

2. THE FORUM

The *Forum Severianum* or *Forum Novum Severianum* (for the name, see IRT 562, 566) occupied together with the Basilica an irregular plot of ground between the main part of the town and the Wadi Lebda. (See fig. 3 and pl. 1.) Owing to the irregularities of the site its axis was oblique to that of the Basilica by nearly eight degrees, complicating what would otherwise have been a relatively simple plan: that of a vast, rectangular, open space, enclosed on three sides by porticoes, and dominated from the middle of the fourth side by the monumental bulk of a temple set on a lofty podium. The overall external dimensions (excluding the wall which it has in common with the Basilica) are: north-west side 142.2 m.; south-east side, 123.3 m.; south-west side, 82.2 m.; north-east side, 91.8 m. (90.4 m. on a line across the front of the north-east range of tabernae). These figures, while giving an idea of the enormous size of the Forum, will serve also to indicate the extent of the problem that faced the architect in securing a homogeneous lay-out for it. It is the solutions that he found for this problem, no less than the grandiose character of the basic conception, which gave the building its special character, and which determined some of the most strikingly individual features of its lay-out.

For purposes of description it will be convenient to distinguish six elements within the building as a whole (fig. 5 and pl. 6):

- (a) the central open space;
- (b) the porticoes along the north-west, north-east, and south-east sides;
- (c) the wedge-shaped block of rooms between the north-east portico and the Basilica;
- (d) the tapering block of tabernae between the south-east portico and the Colonnaded Street;
- (e) four halls, placed symmetrically on either side of the Temple at the south-west end;
- (f) the Temple itself (described separately in Chapter 3).

The materials and the building-techniques used were *opus quadratum*, carried out in a hard, fossiliferous, yellow-brown limestone, quarried locally; concrete, faced with brickwork alternating with bands or panels of small blocks of the same limestone, laid in courses (see pl. 7); a very fine, hard, local limestone, greyish white or almost white in colour; and a number of imported marbles. Of these, the first-named was used in the outer perimeter wall (which is continuous with and of one build with that of the Basilica), in the substructures of the Temple, in the rooms at either end of the range between the Forum and the Basilica, and in the walls that separate the pairs of halls at the south-west end of the Forum; i.e. for any walls which were intended to be seen without a facing of some other material, or were required to carry a specially heavy load in proportion to their volume. Concrete, which was never used without a facing of plaster or marble veneer, was relegated to such secondary features as the two ranges of tabernae. The finest qualities of white limestone were used almost exclusively as a substitute for marble, principally for features which, because of their shape or dimensions, could not at all easily have been carried out in marble under the prevailing conditions of supply; the somewhat coarser qualities (which closely resemble travertine) were used for features such as

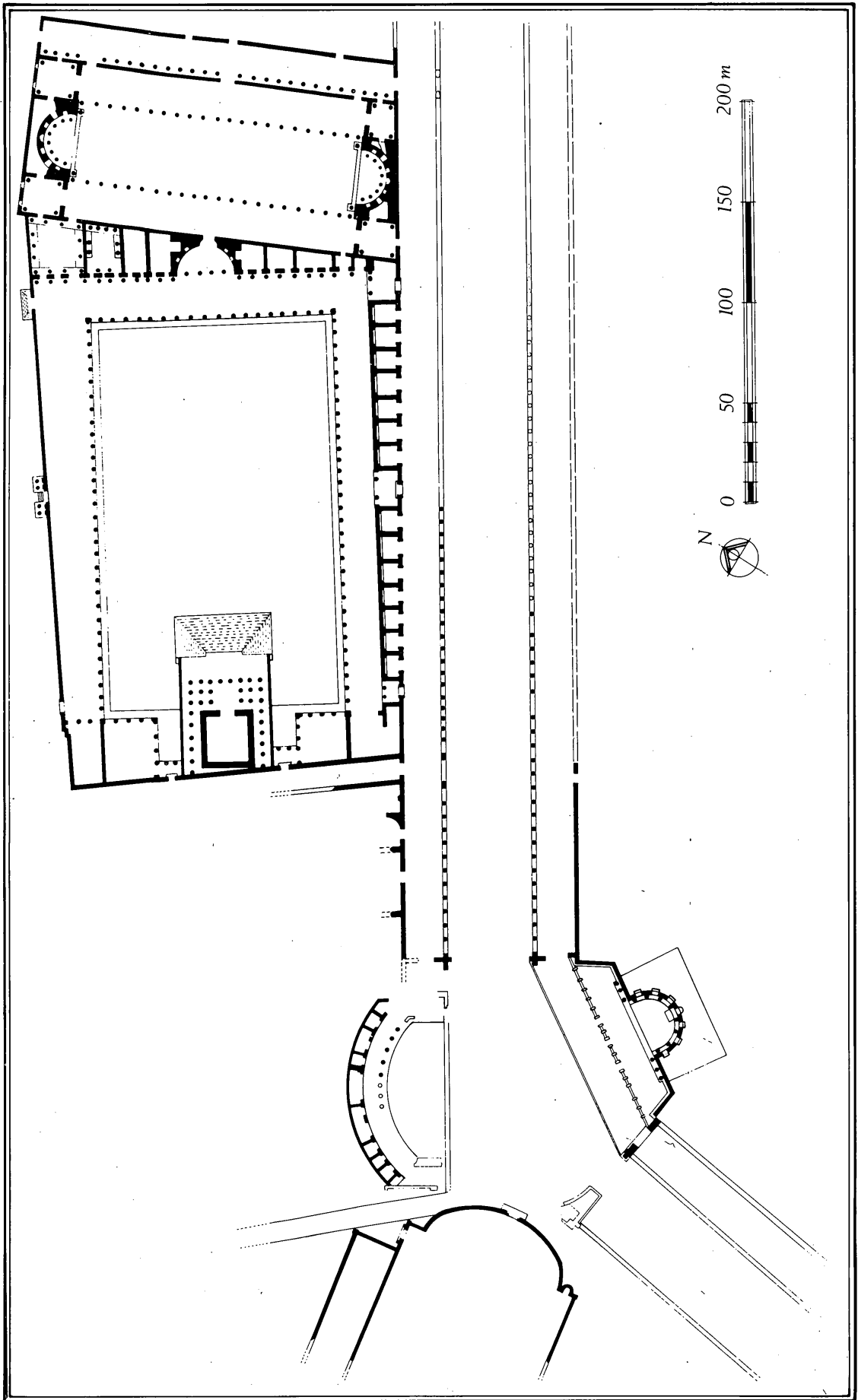


Fig. 4 The Severan Forum, Basilica, Great Nymphaeum and Colonnaded Street, plan.

the arches and architraves of the forum colonnades, which called for a combination of strength and relatively fine detail. Both probably came from the same quarries as the brown limestone, but from different beds, since one finds a number of intermediate qualities used here and there throughout the building. (The building materials and their uses are discussed more fully in Chapter 7.)

(a) THE CENTRAL OPEN SPACE

The central open space of the Forum (pl. 6) was almost exactly rectangular, measuring 101.2m. from north-east to south-west by 59.2 m. from north-west to south-east. (The south-east side at 100.5 m. is about 70 cm. shorter than the north-west side.) At the south-west end the podium and steps of the Temple projected just over 10 m. forward from the line of the flanking halls, from which it was separated by a pair of open passageways with doors which originally opened into the street behind (later blocked); otherwise, except for the commemorative monuments and statuary with which it came in time to be crowded, the central space appears to have been entirely open and free from structures. It was paved throughout with uniform slabs of Proconnesian marble laid on a massive bed of concrete, a basis so solid that it was able to carry the heaviest monument without settlement, and has since resisted all attempts to examine the subsoil beneath. A single slab (1.50 x 1.20 m.) set at the intersection of the two axes marked the exact centre. From it a single row of slabs, 1.06 m. wide and laid end to end along the line of the shorter axis (i.e. a line between the principal entrances on the north-west and south-east sides), divided the whole area into two parts, both of which were paved longitudinally with rows of slabs laid parallel with the main axis, from the Temple to the centre of the exedra leading into the Basilica.

Along the four sides of the open area the marble pavement was delimited by a single step, which projected some 88 cm. from the continuous footing of the colonnades. Immediately in front of this step there ran a covered drain, which collected the rain-water from the central area and (presumably) from the roofs of the porticoes, and discharged it into the large collector-drains that ran down the Colonnaded Street and down the street to the north-west of the building. For the greater part of its length the step was of limestone, but a stretch of 17.60 m. in the middle of the north-eastern side, corresponding to the main entrance into the Basilica, was of marble.

(b) THE SURROUNDING PORTICOES

Owing to the irregularity of the ground-plan each of the three surrounding porticoes differed in detail from its neighbours; but before describing these differences it will be convenient first of all to describe those features which all three had in common: the inner colonnade facing on to the central open space, the roof, and the pavement.

Of the many striking and distinctive features that characterize the Severan architecture of Lepcis Magna, none is more impressive than the colonnade that ran uniformly round three sides of the Forum and part of the fourth. Exclusive of the angle-piers, this consisted of 31 columns along each of the two long sides, comprising a total length of approximately 101 m., and of 18 columns along the shorter north-east side, a total length of just over 59 m. At the south-west end the same colonnade returned in identical form across the front, and thence down the inner flank of each of the two halls that projected on either side to frame the Temple. Apart from the angle-piers and certain features of the carved detail, the only break in the uniformity of the colonnade throughout its length was that the two central columns of the north-east colonnade were more widely spaced than the rest, so as to allow freer passage along the central axis, in front of the main entrance into the Basilica. Far from emphasizing the

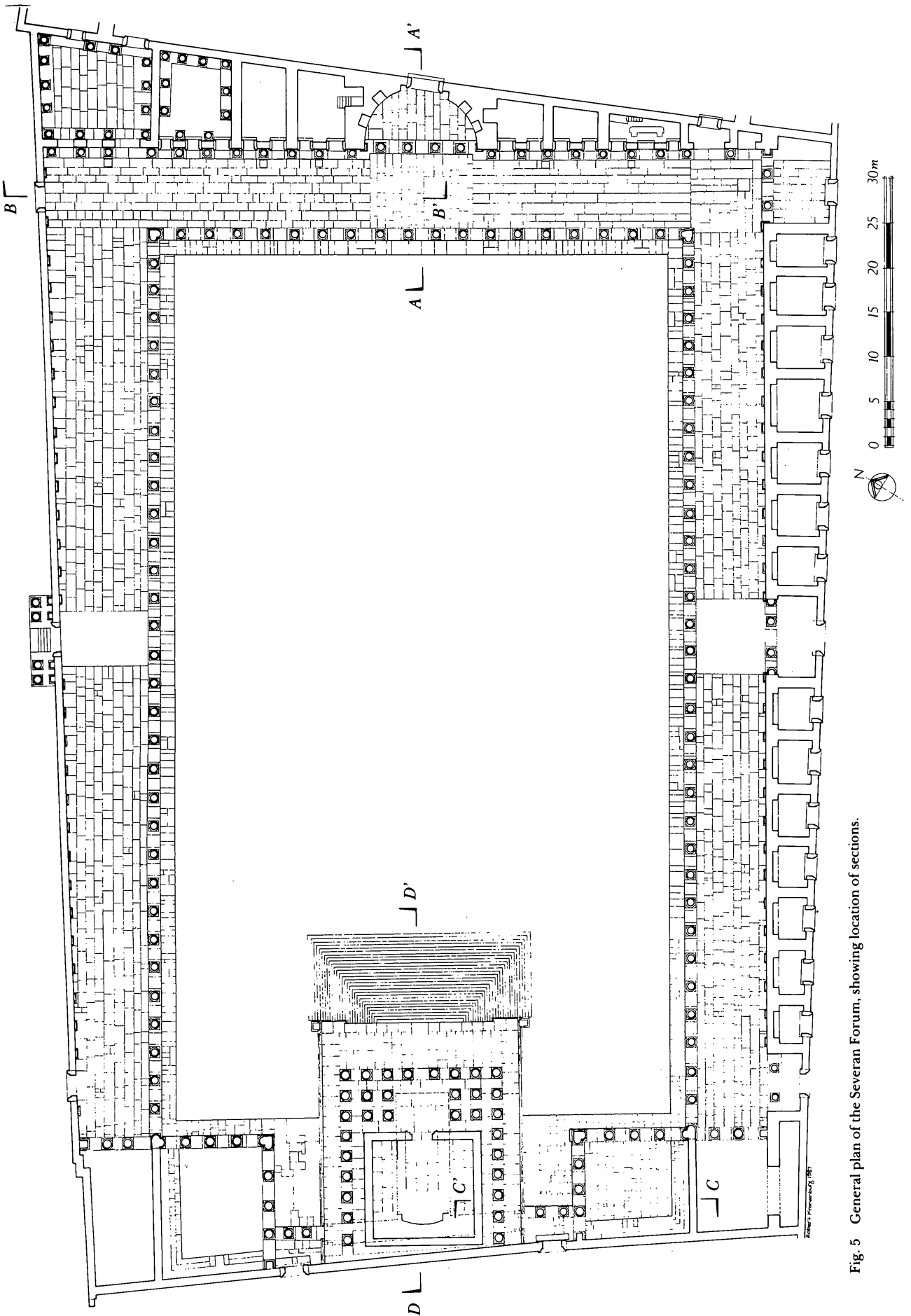


Fig. 5 General plan of the Severan Forum, showing location of sections.

R SOPRINTENDENZA AI MONUMENTI E SCAVI IN LIBIA
**FORO NUOVO SEVERIANO IN
 LEPTIS MAGNA**
 SCALA METRICA 0,50 0,25 0,125
 LE MENSOLE DELLA CORNICE DI CORONAMENTO VISTE DÀ SOTTO

PARTICOLARE DEL PROSPETTO DEL PORTICO GRAFICAMENTE RICOSTRUITO
 CON GLI ELEMENTI ARCHITETTONICI RINVENUTI

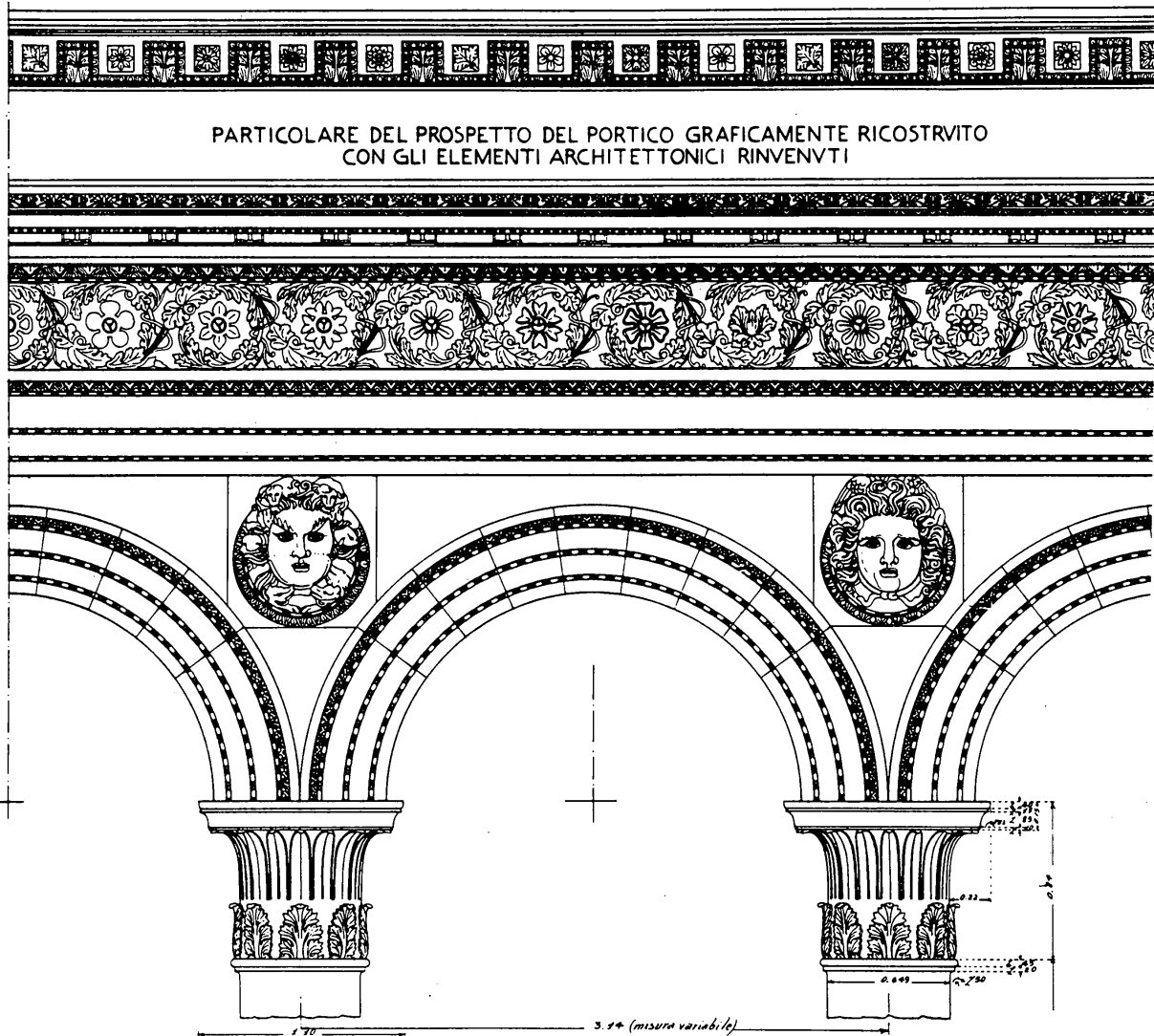


Fig. 6 Forum: reconstruction of the portico arcades (D. Vincifori).

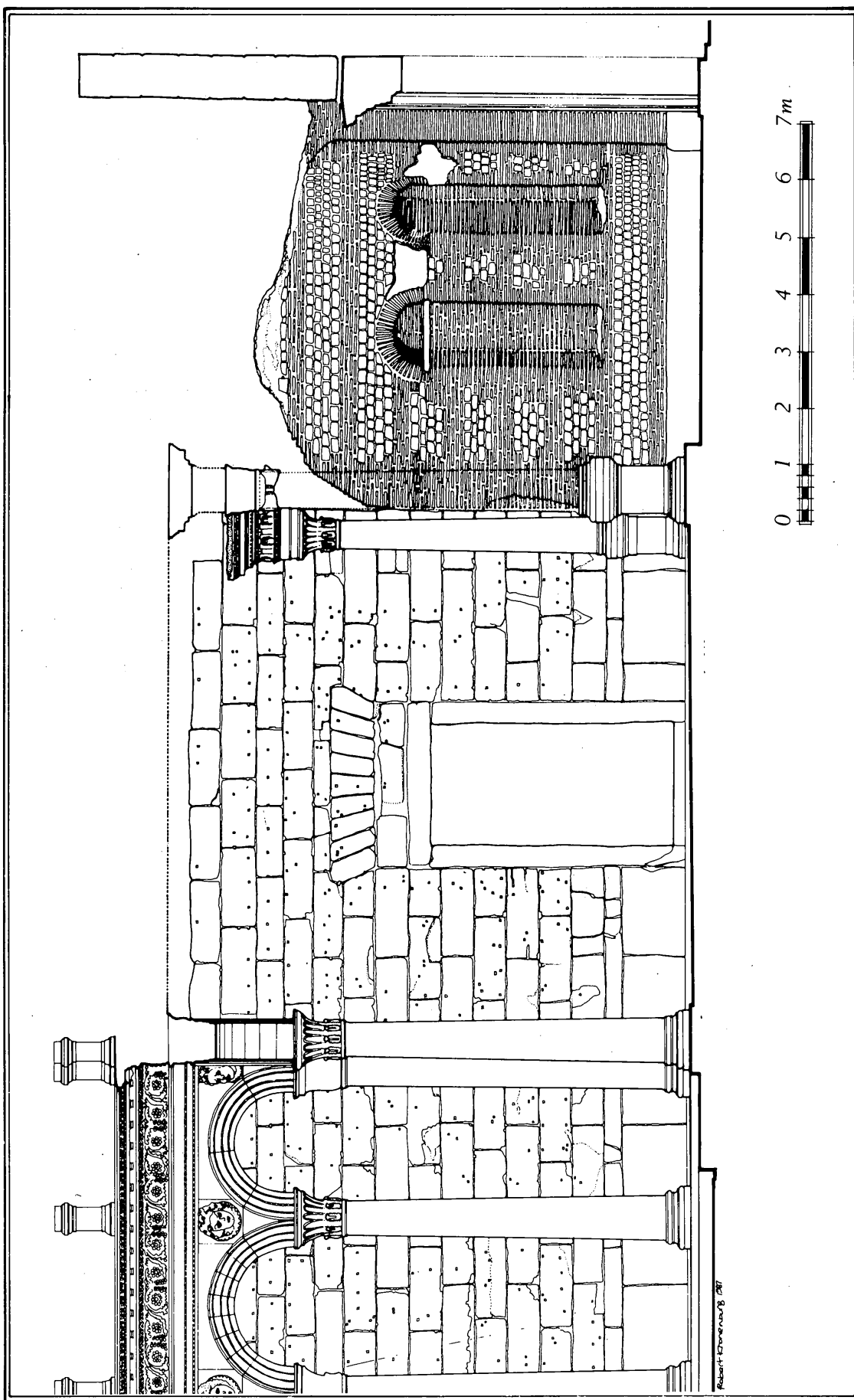


Fig. 7 Forum: partially reconstructed sectional elevation A-A' through the north-east portico and exedra leading to the Basilica.

break, however, as he might well have done in the case of such an axial feature, the architect has deliberately minimized its effect by allowing the mouldings of the arch to ride up into the architrave. The larger size of the arch was absorbed in such a way that it would hardly have been visible to any but the most careful observer; and one can see that here, as in the comparable examples in the Colonnaded Street (p.74), the architect was concerned to achieve his effects less by subtleties of detail than by the simple grandeur of his basic design.

The order of the colonnade (figs. 6 and 7 and pls. 8a, 8b, 9a) consists of the following elements: Attic base of Pentelic marble; column of cipollino (*marmor Carystium*); lotus-and-acanthus capital of Pentelic marble; arcade of greyish-white limestone, incorporating a series of Proconnesian marble roundels carved in high relief, one over each column; architrave of the same greyish-white limestone; frieze and cornice of a poorer-quality brown limestone; and, standing on the cornice, above each column, a moulded pedestal of Proconnesian marble. The sizes of the lower members are very variable, in compensation for the varying lengths of the individual columns, but base, column and capital together average about 6.21 m. in height; the entablature measures 1.51–1.53 m., and the total height from ground-level to the crowning moulding of the cornice is 10.2 m. The structure of the arches is illustrated in fig. 6 and pl. 8. Each consisted of seven voussoirs springing from the two sloping faces of an eight-sided springer-block, the upper, horizontal face of which carried two upright slabs, set back-to-back; that facing outwards on to the central area was of Proconnesian marble and was carved in high, projecting relief with a series of decorative roundels; its fellow, facing on to the portico, was of limestone and carved with a simple moulded boss, also in high relief. The rest of the spandrel was filled with two shaped triangular blocks of limestone.

The angle-piers at the south-western end are rectangular externally (the south-west face stood against the west end of the wall separating the two flanking halls) with engaged half-columns projecting from the two inner faces. The bases, the smooth, monolithic shafts and the capitals of the half-columns are of fine white limestone, and the fluting of the capitals as well as the choice of material contrasts with that of the rest of the colonnade; there is no evidence to show how the upper part of the order was handled at the corner. The corresponding piers at the north-eastern end (pls. 9b, 9c) are very fragmentary but can be seen to have been of the same general shape. The bases and the capitals were of Proconnesian marble; of the latter only a single small fragment remains, but this is enough to show that they were of the same fluted form as the capitals at the south-western end. The shafts have vanished completely, but were presumably of white limestone. The spandrel-medallions were set obliquely across the angles, a simple but rather clumsy solution to the problem of turning the angle; the pedestals above were of L-shaped section, one of them being carved in one piece, the other in two pieces, rather roughly joined.

All of these elements, except for the voussoirs of the arches, were fastened in place with metal dowels or cramps, or both. Two dowels fastened the base to its limestone seating-block while single dowels served to fasten base to shaft (pl. 47a), shaft to capital, and capital to springer-block. The voussoirs were fastened neither to each other nor to the blocks that rested on them. The two central spandrel-blocks, on the other hand, were not only fastened to the springer-block with dowels, but also to each other and to the other spandrel-blocks with metal cramps. From the relative positions of the dowel-holes and of the lewis-holes by which they were raised into place (first the marble facing block, then the limestone backer), it is evident that both blocks were carved when already in position. The elements of the entablature were both dowelled and cramped into place, and a single dowel secured each pedestal into place on the upper surface of the cornice.

The capitals, the spandrel medallions, and the scrollwork frieze [were evidently to have been discussed later in the volume (see Editor's Preface). For the capitals see Ward-Perkins (1948, 66–70) and for the spandrel medallions Squarciapino (1974, ch. II)]. For the rest, the carved mouldings are typical of Severan work at Lepcis Magna, as carried out in limestone, and they call for little comment. The most remarkable feature is the variety of detailed treatment, which is due in most cases to failure to complete work that had already been roughed out. This is particularly noticeable in the case of the archivolt mouldings of the arches (pl. 10a), stretches of which can be seen completely carved on the same block as other stretches that have barely been shaped. As was customary in classical porticoes, the inner face was plainer than that which

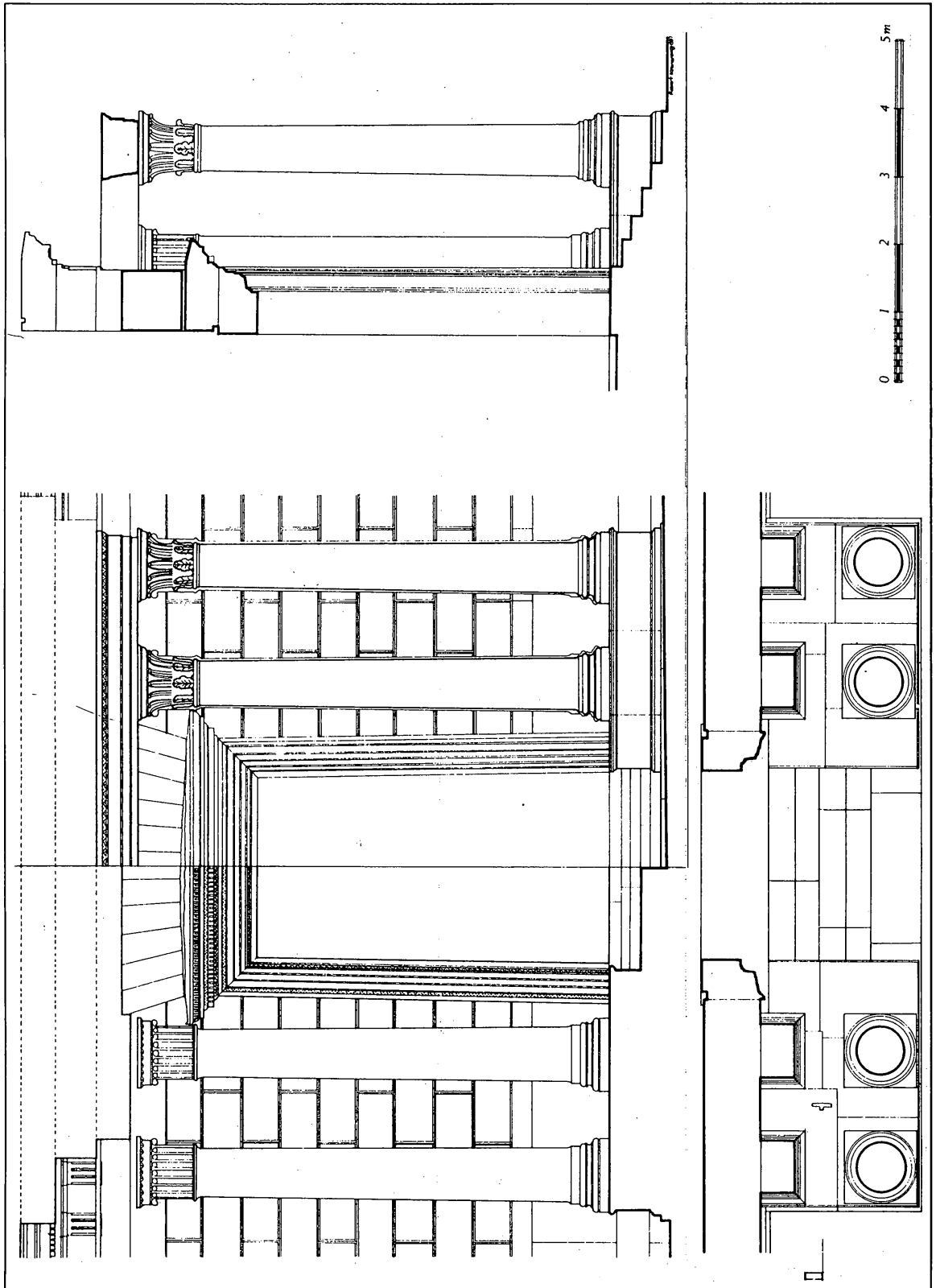


Fig. 8 Forum: principal entrance on the north-west side, plan, elevation and section.

faced outwards, and was not carved at all above the top architrave.

After the entablature was in position, slots 55–60 cm. wide were cut down through the inner faces of cornice and architrave at intervals of just over 3 m. (i.e. corresponding with the columns beneath), in order to accommodate the timbers of the roof, which rested directly on the architrave. From the relative heights of the surviving remains, as well as from the shape of the cornice-blocks, there can be no doubt that the roof was flat and was, presumably, surfaced with a layer of the same water-proof concrete (*opus signinum*) as the similar flat roofs over the porticoes of the Colonnaded Street. There was no balustrade, but moulded pedestals, 1.06–1.08 m. high (pl. 10b), formed an ornamental edging along the side facing out over the Forum. These carried a further decorative feature, for which the only evidence is the form of the socket in the upper surface, fairly shallow and rounded in section and enclosed within a ring-like groove (pl. 10c). These are certainly not seatings for statues, and they are hardly deep enough to have carried standards; perhaps they supported metal finials. Two staircases on either side of the main entrance to the Basilica gave access to the upper terraces, but in the absence of any balustrade the latter can hardly have been for public use. The stairs were presumably for service and maintenance.

Much of the paving within the porticoes was renewed in later antiquity, but there are considerable stretches intact in the north-west and north-east porticoes. It was made up of slabs of Proconnesian marble, sawn on the spot from the parent block and laid in long parallel rows. Except for a transverse band in the middle of each portico, opposite the central exedra and the two middle doors respectively, the slabs were laid longitudinally and, in the north-west portico, where the outer wall and the colonnade diverge considerably, it was the line of the latter that was followed. (See fig. 5.)

The North-West Portico

Of the three porticoes the only one that was markedly irregular in plan was that along the north-west side. On this side the divergence between the axis of the Forum and the street frontage to the north was hardly sufficient to warrant the measures adopted on the other two sides, particularly since the line of the street was itself somewhat irregular, curving slightly southwards towards the south-west end. The most awkward part of the resulting discrepancy was absorbed unobtrusively within the hall at the end of the portico, out of sight from the observer within the portico itself. For the rest, the architect was content to allow the two sides to converge gently from north-west to south-east, a solution which would have involved a comparable adjustment in the lines of the coffering (assuming that the ceiling was coffered), but which would in other respects have involved a minimum of structural inconvenience. The paving slabs were laid parallel with the stylobate of the colonnade.

Apart from this irregularity of plan, the portico presents few complexities. The outer wall throughout is the main outer wall of the Forum, which was found fallen but virtually intact and which has since been restored almost to its full original height. At the south-west end it is bounded by three arches which open into the westernmost of the four halls that flank the Temple. At the other end it merges with the north-west end of the north-east portico, across which, closing the vista in three directions, three unequal arches lead through into the 'Hall of the Thirteen Columns' (p.22) and thence into the north-west end of the Basilica. There are three entrances from the street, one on the long axis of the north-east portico (pl. 11a), one at the opposite end, and a larger, central one, approximately but not exactly equidistant between the other two (fig. 8 and pl. 11b). The cross-axis established by this central entrance and by the corresponding entrance on the south-east side falls at the eighteenth intercolumniation (reading from the west) of the two lateral colonnades, and corresponds almost exactly with the half-way line between the front of the temple podium and the facade of the north-east portico.

The colonnade and the marble floor have already been described. To match these, the inner face of the outer wall was veneered from floor to ceiling. The basis of the scheme was a series of pilasters corresponding to the columns of the colonnade; bases (several of which are still in position; see pl. 12a), fluted pilasters, and capitals (pl. 12b) were all of Proconnesian marble. The rest of the veneer was carried out in a variety of coloured marbles, and, from the pattern of the holes left by the pegs that fastened the individual slabs into place, it is possible to make

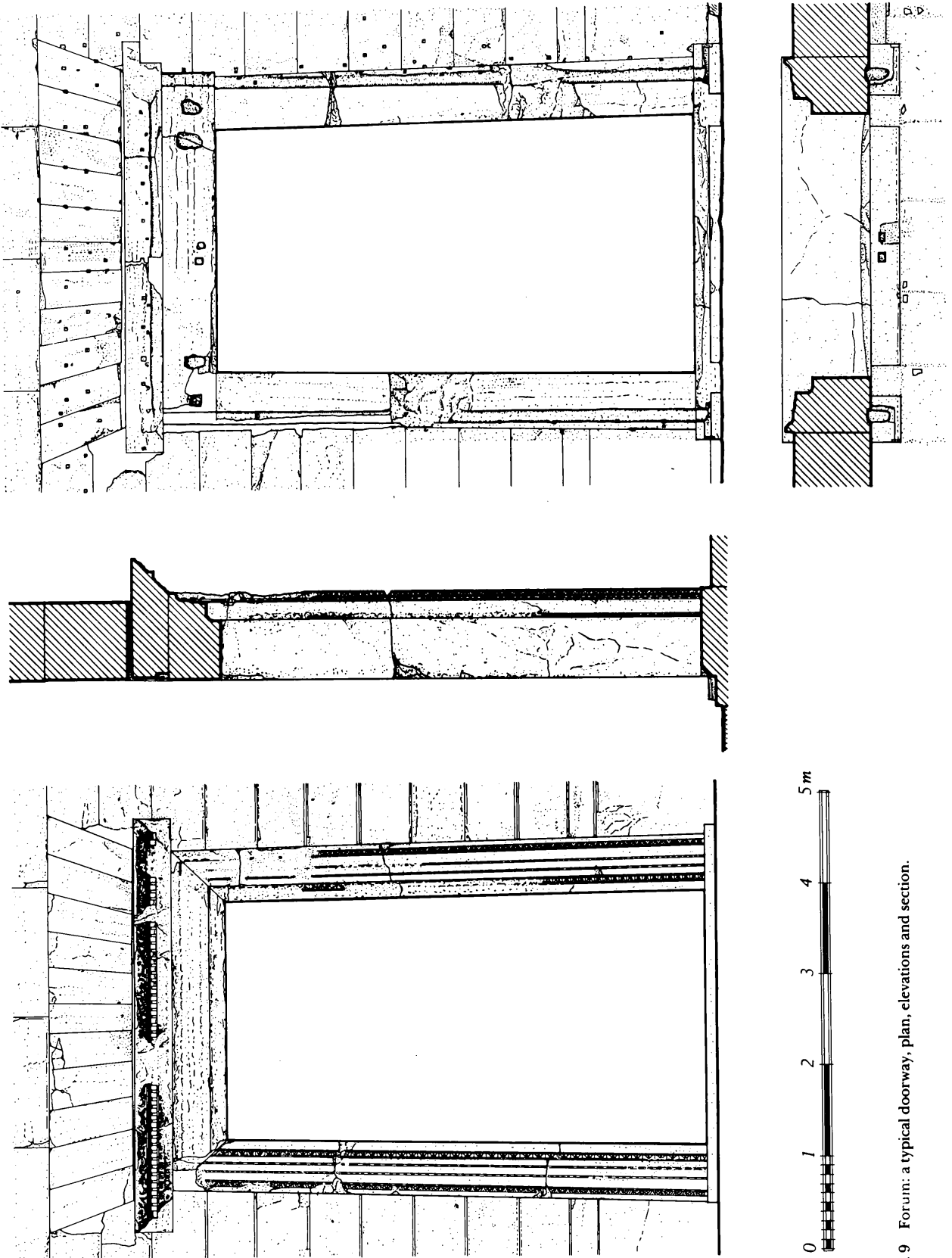


Fig. 9 Forum: a typical doorway, plan, elevations and section.

out the main lines of the design (pls. 12c and 12d). This was strictly rectilinear (there does not seem to have been any feature corresponding to the arches of the colonnade), with a high dado and some sort of horizontal feature above capital-height, framing between them a series of rectangular panels—a two-dimensional version of the sort of decorative order that we find used with such effect in the adjoining north-east portico.

Of the three entrances on this side, that in the centre (fig. 8 and pls. 11b, 11c) was the largest and most elaborate. Not only did it mark the internal cross-axis of the Forum, but it stood at the end of one of the principal streets leading down to the Forum and Basilica from the centre of the town (the street that runs between *Insulae* 7 and 8 of *Regio* V), and it may be regarded, therefore, as having been the principal entrance to the whole complex. It consists, in essence, of two distinct elements: the actual doorway, which is a large but otherwise typical version of a form of doorway that is repeated many times throughout the Forum and Basilica, and which is an integral part of the structure of the wall through which it opens; and, framing the doorway, a porch, which is structurally independent and which, to judge from its relation both to the cornice of the door-frame and to the masonry of the wall behind, may very well have been an afterthought, added while the building was going up, or even after its completion. The doorway itself closely resembles the two smaller entrances at either end of the same portico, with the same inward sloping monolithic door-frame and the same flat arch (in this case made up of 11 voussoir-blocks) taking the load off the cornice block (cf. fig. 9 and pl. 11a). There was a difference in level of nearly a metre between the street and the pavement within the portico, the greater part of which was taken up by five shallow steps set between the projecting columns of the porch, and the rest by a further step upwards inside the portico, with a shallow, rectangular, marble-faced recess to allow the two leaves of the double door to open inwards.

The porch itself was of some elaboration. On either side, level with the top step, there projected a low rectangular platform, with simple mouldings at top and bottom and carrying a pair of free-standing columns and, close behind them against the wall, a corresponding pair of rectangular pilasters. The columns repeated the motif of the forum colonnades, with Attic bases and lotus-and-acanthus capitals, both of Pentelic marble, and shafts (of which there is now no trace) presumably of cipollino; the pilasters were of fine white limestone, and in material and carved detail, though not in shape, they echoed the piers at the south-west end of the two lateral forum colonnades. What these columns and pilasters carried is far from clear. The Doric frieze of the main wall can be seen to have continued behind the outer pair of pilasters; but this may signify no more than that the porch was an afterthought, and the wall over the door itself has unfortunately not survived. The only surviving architectural elements that can be attributed to the superstructure of the porch with any degree of probability are three fragmentary blocks of a flat architrave, similar in scale to, and decorated with the same mouldings as, the arches of the forum colonnades; they are carved only on the outer face and on one of the blocks the carved face returns at right-angles. About all one can say is that, to judge from the spacing of the columns and the width of the central span, the superstructure is far more likely to have consisted of a pair of independent, symmetrical features than a unified central composition.

The form of the two secondary entrances is sufficiently illustrated in fig. 9 and pl. 11a.

The South-East Portico

The principal difference between the north-west portico and its symmetrical pendant on the south-east side of the Forum is that, whereas the irregularities imposed on the former by the nature of the site were dealt with by a series of makeshift adjustments, on the south-east side the far more substantial difference between the axis of the Forum and that of the adjoining street-frontage was resolved more radically, by the interposition of a tapering block of *tabernae*, opening off the street and presenting a uniform back wall towards the portico. This wall was of concrete faced with alternate bands of brickwork and of small limestone blocks (pl. 7). This was not, of course, seen in antiquity, all that was visible being a surface of marble veneer, identical with that of the corresponding outer wall of the north-west portico. In the sixth century the doors of the *tabernae* were blocked (pl. 13a) and fresh doorways opened in the rear wall to provide barrack accommodation for the troops quartered in the Forum (pl. 12a); most of these openings have now once more been closed.

The only features that call for detailed description within this portico (which, apart from its more regular shape, was identical with that described in the previous section) are the three entrances. The positions of these correspond exactly to those of the three entrances on the opposite side of the Forum; but the plan is more elaborate, since each was provided with an inner vestibule, occupying the width of the range of tabernae.

The south-western entrance was the smallest and least pretentious of the three (6.10 m. wide with a mean depth of 3.70 m.). The actual doorway, here as in the other two entrances, is set in the outer wall, and both in form and decoration corresponds very closely with its opposite number. The flanking walls are those of the tabernae, veneered in marble; and two columns, asymmetrically placed, formerly carried the line of the outer wall of the portico across the fourth side, opposite the door. The columns (to which there were, no doubt, shallow responding pilasters against the two shoulders) stood on a continuous footing of limestone, which separated the marble paving of the vestibule from that of the portico, and they were of the same size and materials as those of the forum colonnades—shaft of cipollino, Attic base and lotus-and-acanthus capital of Pentelic marble. The flat entablature was elaborately carved on the side facing on to the portico; on the opposite side the architrave and frieze carried plain mouldings, whereas the cornice was roughly but uniformly dressed back, and must have been hidden by the roofing. Of this there is no other indication on the entablature, and it was presumably carried, as was that of the adjoining tabernae, on timbers that ran parallel with the street-frontage.

The central entrance (pls. 13a, 14a) was a larger and more elaborate version of that just described (9.20 m. wide with a mean depth of 5.50 m.). The inner colonnade and entablature were similar, but to meet the increased width there were projecting masonry pilasters at the shoulders, and against each of these stood a cipollino column. This was cut to the shape of a shallow pilaster with an engaged half-column—a most unusual use of marble in a context which, elsewhere in the monument, would regularly have been treated in white limestone. The latter was in fact the material used for both capital (the usual fluted form) and base.

The remaining entrance, on the axis of the north-east portico, came at the junction of Basilica, Forum and Colonnaded Street, and although the vestibule is similar in general intention to the other two, in detail its plan reflects something of all three buildings. (See fig. 5.) The outer wall and doorway and the south-west flanking wall (i.e. the flanking wall of the end taberna) conform to the axis of the Colonnaded Street. The whole of the opposite flank is occupied by a shallow recess, of which the oblique rear wall is the outer wall of the Basilica; its character as a recess is emphasized by the fact that across the front of it, on yet another alignment, the continuous limestone footing of the facade of the north-east forum portico is carried right through to the outer south-east wall, restricting the marble paving to the area of the actual passageway. Across the fourth side the same limestone footing is returned at right-angles, to carry a colonnade of the most oddly assorted character: in the centre, placed asymmetrically, two cipollino columns, with the customary Pentelic capitals and bases and decorated entablature; against the shoulder of the facade of the north-east range of tabernae (which returns in the opposite direction to form the flank of the shallow recess) a massive square pier of fine white limestone, with the usual base and fluted capital, but with panels of fluting on the three exposed faces; and, clasping the opposite shoulder and decidedly off-line, a Proconnesian marble angle pilaster, common to the vestibule and to the main portico range. It would be hard to imagine a more curiously assorted collection; it is as if the architect had been determined to emphasize the ingenuity with which so many of the contradictions inherent in the main plan had been unobtrusively resolved within the four walls of this small vestibule.

The North-East Portico

The north-east portico was more elaborate than its two fellows. (See figs. 10 and 11 and pl. 13b.) This was due partly to its central position within the whole building-complex, across the approach from the Forum to the Basilica, and partly to the complexities inherent in the overall plan, which called for a wedge-shaped range of rooms opening off the portico in order to take up the difference in axis between the two principal buildings. Whereas the two flanking

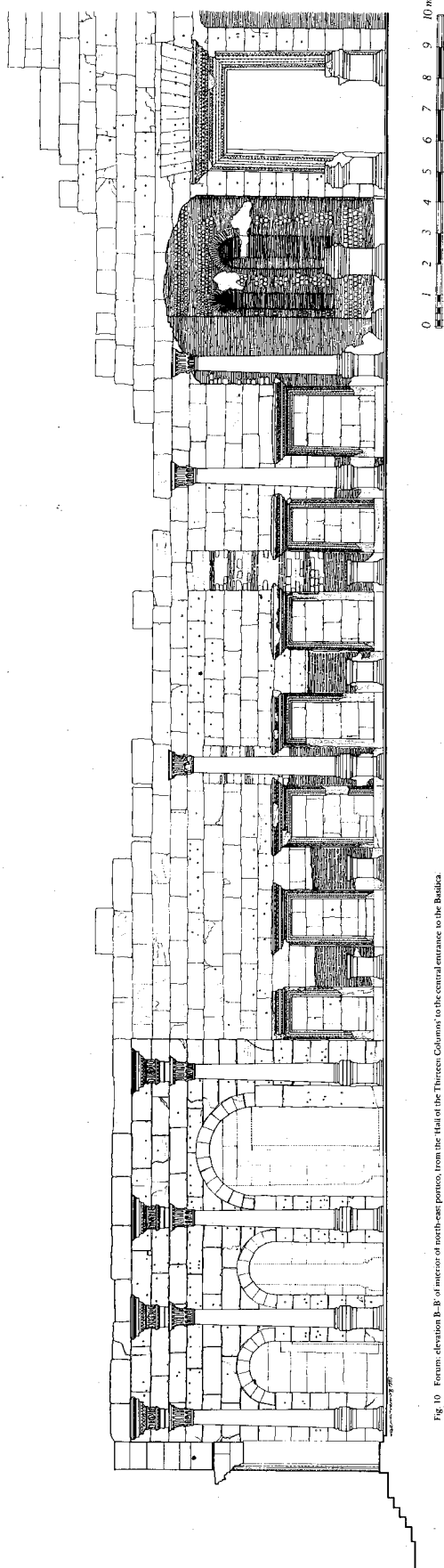


Fig. 10 Forum: elevation B-B' of interior of north-east peristyle, from the base of the Thirceus Column, to the central entrance to the Basilica

porticoes could be and were treated predominantly as self-contained interiors, the north-east portico occupied a more equivocal position, and it is a measure of the sensibility and skill of the architect that he was able to turn this fact to good account and to achieve in this portico one of the most imaginative and successful creations of the whole great building-programme.

The plan of the portico is roughly symmetrical about the long axis of the Forum and the main entrance into the Basilica, the only divergences from symmetry being due to the differing widths of the two flanking porticoes. Corresponding to the three arches, one large and two small, that opened into the 'Hall of the Thirteen Columns' opposite the north-west portico, there were two arches only, one large and one small, at the south-east end. The dignified simplicity of the entrance from the street at the north-west end was balanced, not by its south-eastern counterpart, but by the inner facade of the vestibule that lay between it and the portico. For the rest, the portico was strictly symmetrical. Opening off the centre, between four lofty Ionic columns, there was a semicircular exedra framing the main entrance into the Basilica; on either side of this exedra a series of seven uniform, taberna-like doorways opened (two, two, and three) into three independent chambers; beyond these, a large pair of arched doorways gave access, through vestibules, to the secondary entrances at either end of the main hall of the Basilica. Beyond these again there were smaller arched doorways, one at the south-east end, opening into a small, functionless recess, and two at the other end, opening into the 'Hall of the Thirteen Columns'. In the centre, giving a strong central accent to the whole, the four Ionic columns faced directly on to the portico. To right and left of them the wall-surface was partially masked by an elaborate engaged order. This served the double purpose of providing a uniform framework for the somewhat varied elements behind it, and at the same time, in sharp contrast to the shallow veneering of the enclosing walls of the other two porticoes, that of emphasizing the three-dimensional character of the screen-wall between Forum and Basilica.

The colonnade towards the Forum and the entrances at either end have already been considered in the preceding sections. It remains to describe the north-east enclosing wall, together with its engaged order, and the central exedra. The range of rooms opening off the portico will be discussed in the next section.

For a distance of 12.90 m. inwards from the northern angle, and of 9.30 m. inwards from the inner face of the fluted white-limestone pier at the eastern angle (described above, p.18), the outer wall of the portico was built of good limestone *opus quadratum*. The central section, on the other hand, including the exedra, was of concrete faced with alternate panels or bands of small, squared blocks of limestone and of brickwork—predominantly the latter in the lower, surviving portions, which contained a great deal of the kind of detail (such as niches, door-frames), for which brick was the natural facing. The difference in materials was dictated primarily by structural considerations (see below, p.92 ff.) although the carving of mouldings over the stone arches at either end shows that parts, at any rate, of the stone masonry were originally intended to be seen (cf. the stone arches at either end of the lateral aisles of the Basilica). In the event, however, these mouldings were cut back and the whole wall-surface, stone and brick alike, faced with marble veneer from floor to ceiling.

The uniformity of this marble surface was broken by two contrasting features: opening through it there was a series of doorways, of which those of the central group on either side of the exedra were elaborately carved; and projecting forwards from it, alternating with the doorways, stood a decorative order of twenty columns, eleven to the north-west of the exedra (one of them being in the extreme northern angle) and nine to the south-east. (See pl. 14b.) The order rested on a continuous limestone footing, which, like the other continuous footings within the building, was raised a few centimetres above the level of the marble pavement of the portico. On this footing there stood a series of moulded bases of Proconnesian marble, 1.22 m. high. These were planned and carved as free-standing elements, comparable to those in the monumental passage to the north-east of the Basilica and, although some or all of them may have come to be physically linked to the wall-surface behind when the latter was veneered, the levels of the respective mouldings remained quite different, and the general impression conveyed must have continued to be one of structural independence. On each base there stood a cipollino column of familiar type, with Attic base and lotus-and-acanthus capital of Pentelic marble (fig. 35e). There seems to have been a slight miscalculation of dimensions, and some of the shafts required an exaggerated amount of dressing-back in order to fit them to their

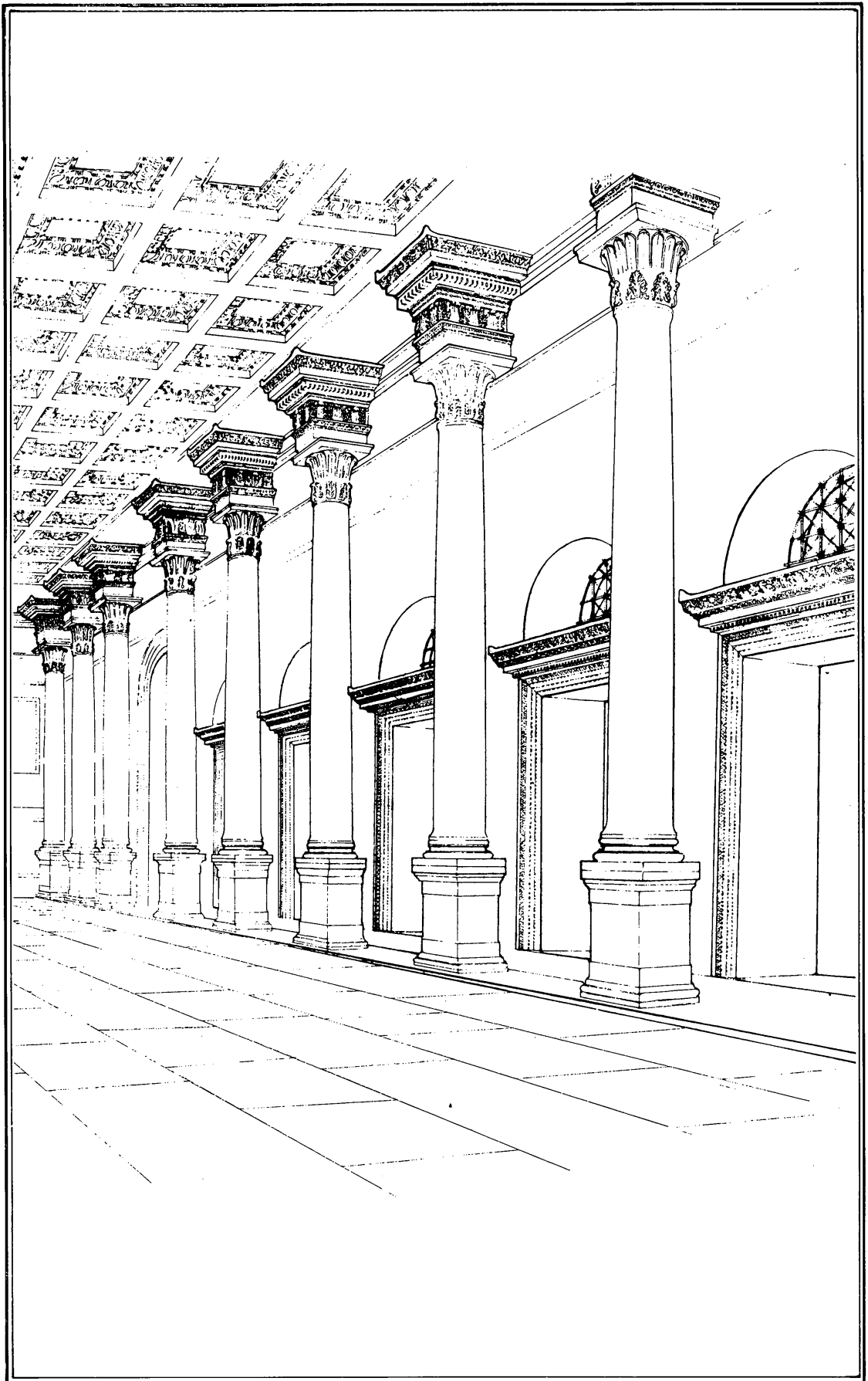


Fig. 11 Forum: reconstruction of interior of north-east portico, northern half.

respective bases, but in other respects there is only the rather smaller size of these columns (5.42 m. from base to capital) to distinguish them from those of the main forum colonnades. It was only above capital-height that the order was linked structurally with the wall behind it. This was achieved by means of a series of combined architrave and frieze blocks of Proconnesian marble, which were bracketed out over each column and carried a corresponding cornice-block, also of Proconnesian marble. The cornice-block, though appearing also to be bracketed, was in fact independent of the wall; its upper surface was dressed to a roughly level face but is otherwise featureless.

The purpose of this order was decorative—a three-dimensional version of the more familiar decorative orders in marble veneer, stuccowork or paint. From the absence either of appropriate seatings or of dowel-holes on the upper surface of the cornice-block, it is quite clear that this was not intended to carry any feature of stone or marble. At most it may have carried some form of timber wall-plate, which would in turn have helped to support the ceiling of the portico. So far as one can calculate the heights of the main colonnade, and thus of the roof of the portico, with any real precision, it would appear that the main timbers of this roof must have passed at least 30 cm. above the top of the decorative order; doubtless they were seated firmly in the masonry of the wall behind, just as in the other two porticoes.

The central exedra (pl. 15a) served as a vestibule for the main entrance from the Forum into the Basilica, and there can be little doubt that its semicircular form was chosen in order to minimize the impact of the transition from one building to the other. It was entered through a facade of four lofty Ionic columns, set on pedestals and carrying the line of the rear wall of the portico across the mouth of the exedra; behind this were two curved walls, each incorporating two tall, round-headed niches, flanking a monumental doorway of the same general form as those in the middle of the other two porticoes.

The four pedestals and column-bases of the entrance colonnade were still in place when the exedra was excavated (pl. 16a), but the columns had been robbed and the capitals very badly damaged. The pedestals stand on a continuous footing of limestone, which is flush with the marble pavement of the portico and raised about 18 cm. above that of the exedra. They are of Proconnesian marble and stand 1.45–1.49 m. high; the remains of a similar responding feature can be seen against the north-west shoulder of the exedra. The column-bases, too, are of Proconnesian marble and of a form, with two torus-mouldings, that is not represented anywhere else in the Severan buildings of Lepcis Magna. The shafts were of red Egyptian granite, and the capitals of Proconnesian marble. Of the former only a few fragments have remained in place, not enough to establish the proportions; the latter, too, are fragmentary and very battered (pl. 16b), but in this case enough has been preserved to establish the Ionic form and main dimensions, and something of the rich ornament. The entablature presents something of a problem. An architrave and cornice of appropriate dimensions (together, height 1.03 m.) and material (Proconnesian marble) are preserved almost complete, richly carved on both faces (pl. 16c), but there is no trace of any corresponding frieze. This must either have been removed in its totality at the same time as the columns, or else have been omitted altogether from the original scheme. Unfortunately, the surviving elements are so placed that it is impossible to choose between these alternatives by an examination of the pattern of the dowelling; one can see only that the upper face of the architrave and the underside of the cornice were both dowelled, whereas the upper face of the cornice, although roughly dressed to a uniform level, has never carried any masonry feature. The proportions of the surviving remains strongly suggest that there never was a frieze. The relative sizes of the pedestals of this central order and of the decorative engaged order to right and left of it indicate that the columns of the former must have been considerably taller, if they were not to appear disproportionately squat; and yet, if one is entitled to assume that the roofing of the portico was carried uniformly across the front of the exedra (and it is difficult to see what else it could have done, since the line of the beam-sockets in the colonnade-entablature is continuous), the total clearance of the two orders must have been almost identical. The choice of Ionic capitals and an abbreviated entablature would have been a logical answer to the problem of giving extra height and dignity to the central feature and, at the same time, of emphasizing the spatial interdependence of the exedra and the portico.

The flanking walls were featureless except for two pairs of tall narrow recesses, arched and

faced throughout in brick. In their present form they are some 3.70 m. high and only 1.10 m. wide; but, to judge from the condition of the masonry of the lower part, this may originally have contained one or more limestone blocks, which would have served as a basis for the statues that these niches presumably once housed. At the inner ends the two walls returned against the limestone masonry of the basilica wall, forming a narrow rectangular frame for the inward-sloping jambs of the doorway. This is of the usual pattern, with a flat arch of eleven voussoirs over the cornice-block; it differs from the rest of the series only in the unusual elaboration of the ornament both on cornice and door-frame (pl. 15b). Except for the doorway itself the whole of the interior of the exedra, brickwork and limestone alike, was veneered in marble to the sixth course above the top of the doorway, i.e. to a height of 10m. above the pavement.

The form of the roofing over the exedra can only be conjectured. The suggestion that it may have carried a semidome creates many more problems than it resolves, and depends in the last resort on little more than the *a priori* conclusion that an apsidal structure of this sort must have been so roofed. A minimum height for any ceiling is given by the veneering referred to in the previous paragraph; and since this corresponds closely with that of the veneering within the portico, the simple and logical solution would seem to be that the exedra carried a flat timber roof at approximately the same level as that of the forum porticoes.

(c) THE ROOMS BETWEEN THE NORTH-EAST PORTICO AND THE BASILICA

The principal function of the range of rooms that lies between the north-east forum portico and the Basilica was undoubtedly that of absorbing, as unobtrusively as possible, the difference in the orientation of the two buildings (figs. 4 and 5 and pl. 5). The discrepancy was considerable, resulting in a triangular space to be filled that was almost exactly 12 m. across the inner face of the outer wall of the 'Hall of the Thirteen Columns', at the north-west end, and a mere 90 cm. inside the tiny room at the opposite end. All the rooms are consequently very irregular in shape, an irregularity which was, however, entirely absorbed internally and which would have been barely visible from without. The room at the north-western end, the plan of which involved considerable stretches of lofty and otherwise unsupported walling, was built of squared limestone, and the same material was used for the corresponding sector at the south-eastern end. The rest of the structure was carried out in the same more flexible medium as the central exedra, i.e. concrete faced with alternate bands or panels of small, squared limestone blocks and brickwork or, wherever there was detail of any complexity, with brick alone.

The largest and most elaborate of these rooms is the 'Hall of the Thirteen Columns', which takes its name from the thirteen columns of an internal order that stood around the walls, five along the north-west wall and four along the remaining three sides (pl. 17). It served as a monumental passageway between the north corner of the forum portico and the south-west aisle of the Basilica and its western angle-chapel; it was entered from the former through three arched openings, one large and two small, set in the south-west wall, and from the latter through two unequal doorways set at either end of the north-east wall, of which that leading directly into the Basilica was the larger. They are of familiar type with inward-sloping door-frames and relieving flat-arches above the lintels. The room was lit partly by indirect light from the forum portico, partly by two small, square windows high up in the north-western wall. Its character as a vestibule was firmly established by the ornament of its doorways, all of which were designed to face outwards from the Basilica towards the Forum, although in the event the mouldings framing the outer arches were cut back to accommodate the marble veneering of the portico (see pl. 17a).

The columns of the decorative order follow the familiar pattern, with shafts of cipollino and Attic bases and lotus-and-acanthus capitals of Pentelic marble; they stood on a limestone footing which was raised 28 cm. above the Proconnesian marble paving of the central part of the room and was continuous except opposite the five doorways. The spacing of the columns was irregular and, as in the angle-chapels of the Basilica, there is no trace of any entablature; in

particular, although the walls are preserved to three courses above capital-height, there is no provision for a marble architrave, nor even for independent brackets. The ceiling, which was doubtless of wood, must have been carried on some form of timber wall-plate, and the whole was evidently strong and rigid enough to rest directly on the columns, without any additional support from the walls behind. This highly compartmentalised attitude to the problems of construction, whereby individual features of the building are treated as almost independent units within the larger structural framework, is very characteristic of the whole Severan building programme at Lepcis Magna.

Something of the same attitude can be seen in the relation between *opus quadratum* masonry and concrete, both here and elsewhere in the building; they were erected quite independently and in the case of the north-east forum range the concrete construction was a secondary stage of the work, started only when the main stone framework of the building was already well advanced. At every point the ends of the concrete walls of the central range of rooms rest against pre-existing walls of *opus quadratum*, and they in turn were completed before such features as marble doors were added. Whereas the doors of the main forum precinct or of the south-east range of tabernae are an important part of the structure of the stone walls through which they open, the smaller but otherwise very similar doors of the central range within the north-east portico were inserted into pre-established arched openings in the brickwork. Such procedures were not limited, however, to structures that were built in two different materials, where they can be explained readily enough in terms of the organisation of work by different gangs of specialized craftsmen. Even within the 'Hall of the Thirteen Columns', built throughout in *opus quadratum*, all four corners are differently bonded: the north corner from floor to ceiling; the east corner only above door height; the south-corner from the floor to the spring of the adjoining arch, but not above; the west corner not at all, the portico wall being butted against the inner face of the main outer north-west wall. Some of these irregularities are due to nothing more than the difficulty of fitting in a doorway without unduly disturbing the regularity of the coursing; but it is also quite clear that the main outer wall and very probably several metres of the flanking wall of the Basilica were in place before the work was begun on this subsidiary range of rooms.

The remaining rooms are listed below. Only two of them call for further comment. One of these is the large room adjoining the 'Hall of the Thirteen Columns', which had three doors and a very similar internal colonnade; it was presumably roofed in the same way as its more spectacular neighbour. The other is the corresponding room at the opposite end, a broad, shallow room, two of the three doors of which have been blocked or replaced by moulded counters; within are a centrally placed bench and a pulpit-like structure of masonry, which looks as if it were designed for the pouring of liquids into containers placed beneath it. (See fig. 12 and pl. 18d.) Although it bears a superficial resemblance to a *thermopolium*, this room is, in view of its setting, more likely to have been some sort of an office, the function of which perhaps involved the measurement of commodities such as grain or oil; it cannot have been the seat of the official weights and measures, since that has already been identified elsewhere in the city, in the market building near the theatre. In general, this whole range of rooms is likely to have served as offices for the transaction of public business or as court-rooms, subsidiary to those of the main Basilica. The majority of them were veneered in marble, at any rate in their original state, and the ceilings were lofty, very probably of the same height as that of the adjoining portico. A staircase in one of the rooms adjoining the exedra gave access to the flat roof above, but it is too small and inconveniently placed to have served any purpose other than service and maintenance. There is nothing to suggest that the terrace above was accessible to the general public.

The rooms opening off the north-east forum portico are here described in order from north-west to south-east.

The 'Hall of the Thirteen Columns': see above for a general description. The doorway into the west angle-chapel of the Basilica was not considered large enough to call for a relieving arch above it; instead, the cornice-block was protected by a slightly longer monolith placed directly above it, and above this again were three blocks, obliquely jointed at the centre to form a flat arch. Since there was no clearance between any of these courses, the structural value of this expedient may be doubted. The mouldings of the doorway itself are simple: on the door-frame (pl. 18a) a kymation and three fascias alternate with three bead-and-reel mouldings; on the cornice (from top to

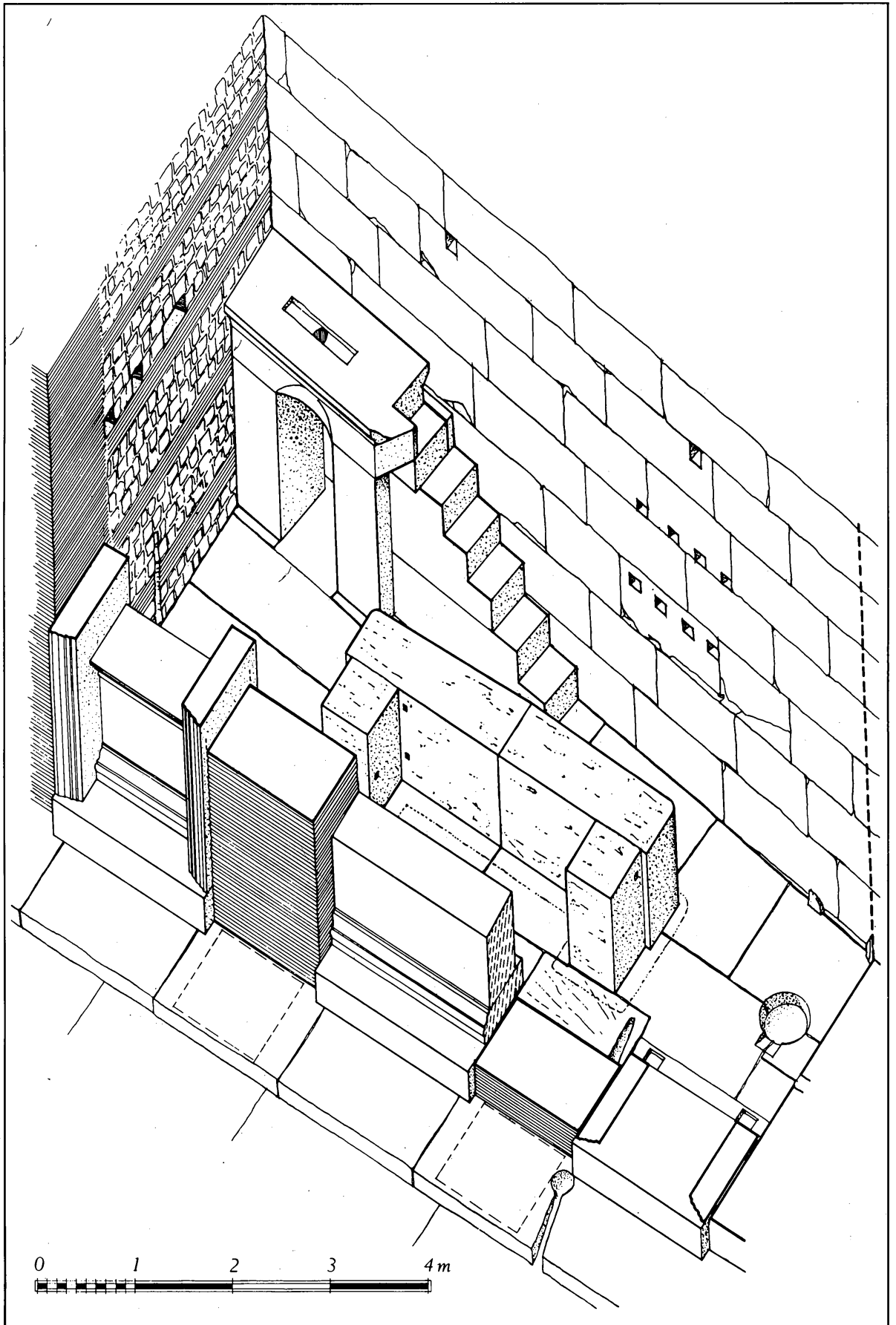


Fig. 12 Forum: axonometric reconstruction of Room 7 off the north-east portico.

bottom) a narrow fascia with rudimentary acroteria at the outer corners, egg-and-dart, and a plain fillet; and, below the overhang, kymation and dentils.

The doorway into the south-west aisle of the Basilica was larger and had a flat arch of nine voussoirs over the cornice-block (pl. 18b). The door-frame is a more elaborate version of the previous example, with a bevelled inner frame; the mouldings are the same, except that the kymation is more elaborate. The cornice-block is richly carved: on the cyma reversa an acanthus scroll springing from a central calyx, with six whorls on either side of it, palmettes at the angles, and one-and-a-half whorls returning along the two ends; below it a small plain cyma recta, and a plain fascia; and, below the overhang, an interlocking motif consisting of alternate calyces and reversed palmettes; dentils; egg-and-dart.

The arches of the three doors in the south-western side are of good quality white limestone, originally carved with plain mouldings on the outer face, which were then cut back to accommodate the marble veneer of the forum portico. Traces of the veneering of the interior survive at several points, including a 12 cm. kicking-strip and dado of Proconnesian marble; there are remains of a simple beading outlining the frame of the door into the angle-chapel; and a re-used moulding has been wedged into the bevel of the jamb of the larger door in the same wall.

The only remarkable thing about the order lies in the dressing of the columns, some of which was evidently carried out when they were already in position: at least one of the columns has been so carelessly finished that the apophyge (6 cm. high) has been cut only on the exposed side; on the reverse side, against the wall, can still be seen some 16 cm. of rough flange (pl. 18c).

There are no visible quarry-marks or mason's marks.

The 'Hall of the Ten Columns', adjoining the 'Hall of the Thirteen Columns'. The mean dimensions are 8.20 by 9.80 m. The north-west and north-east walls are of *opus quadratum*; the south-east wall of alternate bands of small limestone blocks and brick; the south-west wall (which is preserved to less than door-height) of brick. The internal arrangements are substantially the same as in the room just described, except that two of the angle-columns had to be omitted in order to provide access through the two lateral doorways, the remaining columns being arranged symmetrically, three, four, and three, around the inner walls. The floor is of *opus signinum*, laid directly on the concrete sub-floor. It was intended originally to be of marble, as is shown by a cut-back in the limestone plinth that was designed to house it, 30 cm. below the top of this plinth and 18 cm. above the level of the present floor. There are surviving traces of veneer-panels in Proconnesian marble, and of pilaster-bases in very low relief responding to several of the bases of the internal order.

Room 3, adjoining the 'Hall of the Ten Columns' to the south-east. Mean dimensions, 5.05 by 8.70 m. A very simple room, with two doors; no surviving internal features. The back wall is of *opus quadratum*, the remaining walls of brick and faced rubble concrete. The flooring, which was presumably of marble as in Room 4, has been removed exposing the massive footings of coarse (sandstone) rubble concrete.

Room 4, between Room 3 and the central exedra. Mean dimensions, 5.05 by 7.70 m. The back wall is of *opus quadratum*, the remaining walls of faced concrete. Plain internally, with a floor of Proconnesian marble and traces of marble veneering (a low kicking-strip and a fragment of plinth) in the same material.

In the eastern corner, a staircase has been ingeniously fitted into the angle between the wall of the Basilica and the outer corner of the exedra. The two bottom steps are of limestone and project into the room; the rest is entirely faced in brick, supported on or roofed with brick-turned arches, as required.

Central exedra: see p. 21.

Room 5, adjoining the central exedra to the south-east; a shallower counterpart to Room 4. Mean dimensions, 5.15 by 4.60 m. The interior is plain except for a square, arched recess (1.48 by 1.48 m.) in the left-hand wall, corresponding to the staircase of Room 4; the front wall is preserved high enough to show that there were brick arches over the doors. The marble floor has been completely removed, but fragments of the Proconnesian marble kicking-strip are in place and show that it was 20 cm. above the under-floor of coarse (sandstone) rubble concrete. The walls were veneered.

Room 6, adjoining Room 5 to the south-east; a very much shallower counterpart to Room 3, with plain interior and floor as in Room 5; traces of brick arches over the two doors (cf. Room 7). Mean dimensions 4.95 by 3.90 m. The walls were originally veneered, but were later stripped of their veneer and plastered.

Room 7, between Room 6 and the small vestibule leading from the eastern corner of the forum portico into the Basilica (fig. 12 and pl. 18d). Mean dimensions, 8.10 by 2.70 m. The back wall and the south-east wall, between it and the vestibule, are of *opus quadratum*, the other two walls are of faced concrete. The front wall is better preserved than in any of the other rooms, and shows that above the arches over the three doors the brick facing reverts to the familiar alternation of brickwork and small limestone blocks. Of the three door-spaces, only the south-easternmost was used as such; it is narrower than the other two. The door at the far end was fitted with a marble door frame of the standard pattern, but this was then blocked by the insertion of a moulded marble counter, 1.17 m. high; the central door-space has no door frame, but was blocked directly by a moulded marble counter, of which the top slab is now missing (surviving height, 1.00 m.).

Symmetrically placed opposite the central opening, in the middle of the room, there is a plain, rectangular, limestone base or bench, 90 cm. high, with short rectangular projections extending towards the front wall; and in the north corner, against the rear wall stands a curious construction of limestone, consisting of six steps leading up to a trilithon; cut in the top of the capstone is a groove, 15 cm. wide and 88 cm. long, from the centre of which a hole 15 cm. in diameter pierces the stone vertically, down to the arched cavity beneath. The purpose of this structure is uncertain, but the steps and the vertical hole suggest that, in some way or other, it served for the passage of fluid from above into containers placed beneath.

A small vestibule, or passageway, leading from the angle of the forum portico into the south-west lateral aisle of the Basilica. The walls are of *opus quadratum*, and there are remains of an arch, in voussoir blocks of white limestone, corresponding to and symmetrical with the large arched entrances into the 'Hall of the Thirteen Columns'. The walls were veneered, and the floor is paved throughout with Proconnesian marble. The door into the Basilica corresponds exactly to the larger of the two similar doors in the 'Hall of the Thirteen Columns'.

A minute chamber, 1.42 m. across and 92 cm. deep occupying the blunt point of the wedge-shaped block between Forum and Basilica. The form of the entrance arch, of white limestone, corresponds with that of the two smaller arched entrances into the 'Hall of the Thirteen Columns'; the continuous limestone footing of the facade is extended to cover the whole floor within, but the walls were veneered with marble. The purpose of this chamber must have been purely visual, to complete the range of arches and doorways opening through the rear wall of the portico between the columns of the decorative order.

(d) THE TABERNAE ON THE SOUTH-EAST SIDE

The range of tabernae that was interposed between the Colonnaded Street and the south-east portico of the Forum, to absorb the difference in axis between the two, tapers in depth from a maximum of 7.90 m. at the north-east end to a mere 4.20 m. at the south-west end (both measurements inclusive of the front and back walls). It is delimited towards the north-east by one of the entrances into the Forum, and is divided into three separate blocks by two others.

The south-westernmost of these blocks was too narrow (2.00–2.15 m. internally) to serve any very useful purpose. It has not been excavated, but a large opening can be seen in the inner wall, which is of concrete faced with alternate bands of brickwork and of small limestone blocks, and it seems to have been treated simply as an annexe of the hall at the south angle of the Forum.

The other two blocks each consist of seven independent tabernae, opening off the north-west portico of the Colonnaded Street. Not all of these tabernae have been excavated, but enough can be seen to make it almost certain that, despite a curious and unexplained irregularity of spacing (almost as if the cross-walls had been laid out by eye, without actual measurement), they all conform to a single pattern. The facade facing on to the street was of fine limestone masonry, long stretches of the upper part of which have fallen outwards and can be seen lying spread out, as it fell; it was built in the convention common to the whole perimeter wall of the Forum-Basilica complex, and the doors were of the familiar type, with inward-leaning door-jambs and a flat arch above, to take the weight off the lintel and cornice (pl. 13a). The remaining walls were of alternate bands of brickwork and of concrete faced with courses of small squared blocks of limestone, and were built when the facade was already in place. The only internal structural feature was an arched recess in the back wall, 3–5 m. wide and some 60 cm. deep, at the foot of which was a low plinth about 60 cm. above floor-level (pl. 20a). It is only towards the north-east end that the walls are sufficiently preserved to yield evidence of the ceilings. Here there are traces of at least two different systems of roofing timbers: the principal one of these is probably represented by the traces of sockets which can be seen at the surviving height of the cross-walls between tabernae 12, 13 and 14. Some of these timbers may well have carried internal galleries which can only have been accessible by ladder. The floors of some of the tabernae were of concrete, and the walls were uniformly plastered.

In late antiquity the doors facing on to the street were blocked and fresh openings were cut through the rear wall into the adjoining portico (see pls. 12a, 13a). This change no doubt took place in the sixth century when the Forum was used to house a military garrison, and it is

interesting to notice that by this date some 90 cm. of debris has already accumulated over the original floor.

Taberna 1 (reading from south-west to north-east). Maximum internal dimensions, 4.30 by 2.70 m. Not excavated. Reused in the late blocking of the door is an apotropaic phallic relief.

Taberna 2. Max. int. dimensions, 5.00 by 2.90 m. Not excavated. The front wall has collapsed outwards.

Taberna 3. Max. int. dimensions, 4.80 by 3.10 m. Not excavated. The front wall has collapsed outwards.

Taberna 4. Max. int. dimensions, 4.70 by 3.30 m. Not excavated. The front wall has collapsed outwards. A window has been opened in the rear wall in late antiquity.

Taberna 5. Max. int. dimensions, 4.70 by 3.50 m. Not excavated. The front wall has collapsed outwards, but the lower part of the door-jambs and the late blocking can be seen, still in position.

Taberna 6. Max. int. dimensions, 5.00 by 3.70 m. Not excavated. Part of the outer wall is standing to lintel-height; the door is blocked.

Taberna 7. Max. int. dimensions, 4.70 by 3.90 m. Not excavated. The front wall is standing to lintel-height, although leaning precariously outwards. The interior has been partly excavated to reveal a thick layer of alluvial mud at a height of over 2 m. above floor-level. Above this is a deposit of concrete debris, including small limestone facing-blocks, attributable to the deliberate destruction of the upper walls in order to extract their bricks.

Taberna 8 (the first to the north-east of the central entrance: pl. 13a). Max. int. dimensions, 4.40 by 4.60 m. This and the following six tabernae have all been excavated. The facade adjoining the central entrance is standing to the height of the triglyph frieze and the doorway is intact; it has been unblocked, presumably by the excavators.

Taberna 9. Max. int. dimensions, 4.60 by 4.60 m. The facade between doorways 8 and 9 is standing to lintel-height and the door-frame is intact; the blocking includes many voussoir blocks from the Colonnaded Street. Except for the lowest courses the whole of the rest of the facade wall has fallen as far as taberna 14. There is a horizontal line of sockets for small timbers in the back wall of this taberna and of taberna 10, immediately above the crown of the arched recess.

Taberna 10 (pl. 20a). Max. int. dimensions, 4.70 by 4.80 m. The door-frame has fallen outwards but can be seen to have been blocked. The footings of the side walls have been exposed about 70 cm. below the level of the plinth against the back wall, and about 10 cm. above the same level there is a fragment of sixth-century paving with a circular vat. In addition to a late door in the back wall there is a hole leading through into taberna 11.

Taberna 11 (pl. 20a). Max. int. dimensions, 5.95 by 5.00 m. The door-jambs and part of the blocking are in place. Floor of rubble concrete.

Taberna 12. Max. int. dimensions, 4.80 by 5.20 m. The facade wall and door are standing to half the height of the jambs. There are traces of a line of substantial timbers along the top of the surviving part of the wall between this taberna and taberna 13; there are also sockets in the back wall for two lines of smaller timbers, one at this level and one lower down, at approximately the same level as in tabernae 9 and 10.

Taberna 13. Max. int. dimensions, 4.35 by 5.40 m. The door-frame and its blocking are virtually intact. The interior as in taberna 12, except that there are no sockets in the back wall.

Taberna 14. Max. int. dimensions, 3.80 by 5.60 m. The wall and door-frame are preserved nearly to lintel-height, leaning precariously outwards. The interior as in taberna 12, with a single line of small sockets in the back wall, a little above the level of those in tabernae 9 and 10.

(e) THE HALLS FLANKING THE TEMPLE AT THE SOUTH-WEST END

At the south-west end of the Forum stood four halls, of which the outer pair opened off the ends of the two flanking colonnades, while the inner pair projected inwards along the same line, returning the facade of the forum porticoes across the end of the open central area on either side of the Temple (see fig. 5). In addition to their principal architectural function, that of completing the enclosure of the open space and framing the temple, this range of halls served also to absorb and to conceal the irregularities of this end of the site, which tapered

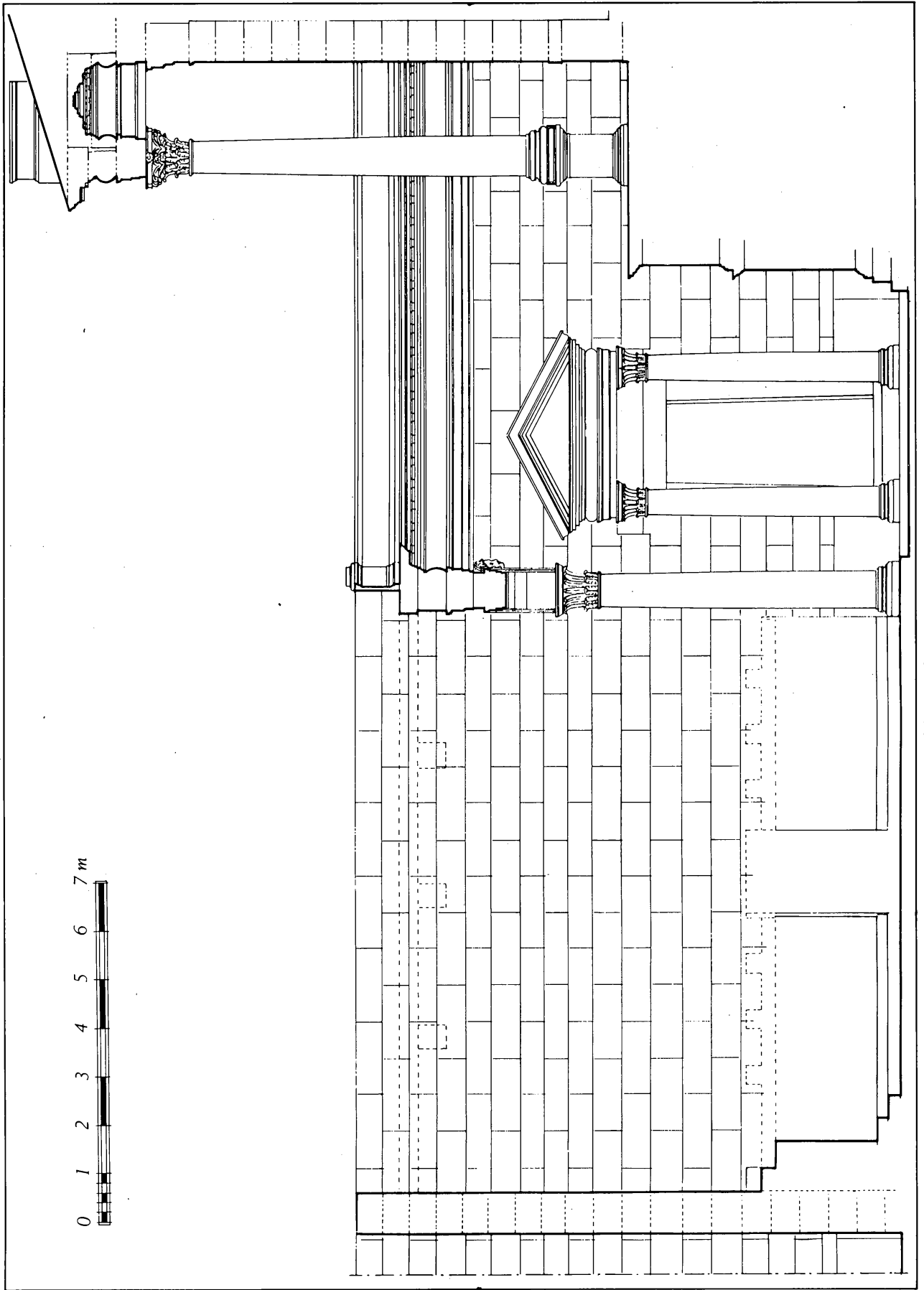


Fig. 13 Forum: reconstructed sectional elevation C-C' through Hall III to the south of the Temple.

markedly from north-west to south-east and was, in addition, truncated at the western extremity by a slight inward swing of the street that bounded the whole complex towards the north-west. Thus, although superficially symmetrical, the two pairs of halls do in fact differ substantially from each other in detail. They are described individually in the following section, beginning at the north-west end.

Apart from its irregular shape, the north-westernmost of these halls (**Hall I**) was very simple in plan: a long narrow room (14.60–15.10 m. long internally by 6.50 m. across the rear wall) opening off the full width of the forum portico through a columnar screen. The north-west and south-west walls were those of the western outer corner of the whole complex, built in the style of fine limestone characteristic of the whole outer perimeter. The south-east wall, which continued the line of the main forum portico, was also of limestone *opus quadratum*, but was independent of the outer wall, being butted up against it and laid to a uniform bond from floor to ceiling; it ended in a large white limestone pier, which was both the angle-pier of the main forum arcade and the responding feature for the columnar screen that constituted the fourth wall of this room. Against the north-west wall stood a second pier of white limestone, of plain rectangular section, the projection of which served very largely to mask from sight the inward stepping of the right-hand wall of the room immediately behind it; and between the two piers stood two columns. The white limestone piers had bases and fluted capitals of the form characteristic of almost all work in this material within the Severan complex, but the column-bases are of Proconnesian marble instead of the usual Pentelic, an eccentricity that was repeated in the corresponding room (Hall IV) at the southern angle of the complex. This in itself might be taken to suggest that the columns and capitals (which have been removed, leaving no trace) were also of unusual materials or form; but in view of the absolute uniformity of the white limestone piers throughout this south-western range, it seems more likely that both they and the superstructure that they carried were substantially similar to those of the rest of the forum series. It will be noted that in Hall II also there were occasional column-bases of Proconnesian marble. There are indications (see p.52) that this south-western end of the Forum and the Temple were among the latest parts of the complex to be constructed, and it may be that in this later phase of the work supplies of the finer-quality marble were found to be insufficient for absolute uniformity. Internally, Hall I was paved and veneered in Proconnesian marble, the back wall to its full height, the side walls apparently only to half their height.

The adjoining **Hall II** (pl. 19) was larger, and, except for the obliquity of its rear wall, was approximately rectangular, measuring 13.55–14.40 by 11.20 m. internally. The back wall and the right-hand wall were of limestone, being the outer south-west wall and the party-wall with Hall I respectively. On the remaining two sides it was open, the facade of the forum portico returning at right-angles across the front of it, and then doubling back along the left-hand side to meet the main perimeter wall, creating a narrow passageway along the side of the temple podium. At the three exposed angles there were piers of white limestone, with uniform Attic bases and fluted capitals, but differing slightly in plan. That at the northern angle stood at the end of the party-wall between Halls I and II and was the angle-pier for the main forum colonnade; it had rounded half-columns towards the north-east and south-east and was plain towards the north-west. The pier at the eastern angle had half-columns on the inner faces and was plain externally. That at the southern angle against the perimeter wall was of simple rectangular section, resembling the pier set against the outer wall at the entrance to Hall I. Between these piers, along the north-east and south-east sides, there stood three columns, identical in form and materials with those of the forum porticoes, except that one or two of the bases are of Proconnesian marble. Of the superstructure of these two sides all that survives in position are the springer-blocks above the angle-piers (replaced, but directly distinguishable by their shape); from the better-preserved remains of the corresponding hall on the south-east side of the temple (Hall III) it is evident that this repeated the scheme of the forum porticoes.

Hall II underwent substantial modifications in late antiquity, when the Forum was converted into a fortress. The spaces between the columns were roughly walled up with material that included three sections of decorated frieze taken from the order above (pl. 19b); and internally it was converted to basilica form by the insertion of two rows of four square piers and two terminal half-piers, which break up the interior into three roughly equal aisles,

running south-west and north-east. The piers have a simple projecting moulding, 2.70 m. above pavement level, and they presumably carried longitudinal arcades, each of five arches. The whole reconstruction was of a very makeshift character, and when it was carried out there appears already to have been nearly a metre of debris accumulated in the passageway between the hall and the Temple. Besides modifying the original plan, these later alterations have impeded the full excavation of the interior, but there seems to have been an internal feature of concrete along the two inner walls, similar to that in Hall III (see below). The walls were originally veneered to their full height.

Both in structure and in decoration the two corresponding halls to the south-west of the Temple (nos. III and IV) very closely resemble the pair just described. **Hall III** (fig. 13), which adjoins the Temple, differs principally from its counterpart in its better preservation (it underwent no substantial modification in late antiquity) and its more compact proportions (10.40–10.95 by 11.70 m. internally). The architect's treatment of this latter difference was characteristic. The columns were mainly set closer together, the resultant discrepancy being absorbed in the height of the individual arches. Such an expedient was apparently acceptable in breaking the uniformity of the arcades of the Colonnaded Street and even in the axes of the main porticoes: it would hardly therefore have given pause for thought in the case of a colonnade as unobtrusively placed as this. The interior has been cleared completely, revealing a somewhat enigmatic structure of concrete running the full length of the two inner walls. [Unfortunately, I can find no illustration of this — PMK.] It stood on a plinth, built of rubble concrete faced with small, very roughly shaped blocks of limestone. Set back along the tops of the left-hand wing of this structure, which is preserved to its full height of 2.25 m. above the top step, are a number of small crenellation-like projections, which delimit six corresponding recesses. The wing along the rear wall has been truncated, but is of similar build up to its surviving height, with the addition of a central platform, which projects with the front of the lower step and rises 1.58 m. from pavement level. The whole was veneered with marble of which a low plinth and beading have survived, both of mottled Greek marble, white flecked with grey and black. The walls above the shelf were not veneered. The form of this structure, with its central projecting platform, suggests a base for the display of light statuary (busts?), of which one piece was more important than the rest. Given the accessibility of this hall with its two colonnaded sides and its proximity to the Temple, it is perhaps not unduly speculative to suggest that it and its counterpart on the other side of the Temple may have been in some way associated with the imperial cult.

Enough is preserved of the entablature of this hall to show that it was roofed with a system of timbers set at right-angles to each other, those running from front to back being seated in sockets cut in frieze-blocks (at the same height as the timbers of the forum porticoes) and those at right-angles to them in the upper part of the cornice-block; there is also an oblique socket at this upper level on the inside of the outer corner. These elaborate arrangements suggest that the roof-timbers had to support a ceiling of unusual weight, presumably coffered. The pedestals of the main forum order were continued across the front, but not along the flank, where there are lewis-holes and cramp-holes only in the upper surfaces of the cornice-blocks.

The remaining room of this south-western range (**Hall IV**) opened off the end of the south-east forum portico and was a smaller version of its counterpart at the opposite corner, measuring 10.30–10.35 by 8.05 m. internally. The principal difference was that on this side of the building the irregularities of plan were taken up in the range of tabernae that faced on to the Colonnaded Street, and the left-hand side-wall was, therefore, the rear wall of this range and was built of faced concrete. The corner of the building is still partially unexcavated, but enough is visible to show that at this point, instead of being made into tabernae as in the rest of the block, the narrow space between the outer facade and the side-wall of Hall IV was accessible only through a large opening in the latter. As in Hall I, the two column-bases of the entrance screen are of Proconnesian marble, and there are remains of paving and of wall-veneer in the same material.

In addition to these four halls and the Temple, the south-west end of the Forum contained two entrances from the street, set in the outer wall at the ends of the two open corridors flanking the Temple. These were of the usual form, with inward-leaning jambs and a relieving arch over the lintel. In late antiquity they were blocked, as a part of the scheme for converting the whole complex into a fortress.

3. THE TEMPLE

The most conspicuous single feature of the Severan Forum was the Temple, the dedication of which is not specifically recorded, but which must surely have been associated in some way with the cult of the reigning family. Placed axially upon a lofty podium in the middle of the south-west end of the Forum, directly opposite the towering bulk of the Basilica, it dominated the open space in front and constituted the focal point of the whole Forum lay-out.

The Temple itself was octastyle, with nine columns (inclusive of the angle-columns) along either flank, and was peripteral on three sides, the fourth being built up against the outer wall of the Forum. It was thus unusually short in proportion to its breadth and height (the mean figures are 20 m. by 18 m. at the level of the column-bases, and 15.15 m. from floor to gable), but this fact was partly concealed by its position, with only the porch and steps projecting beyond the line of the facades of the two flanking halls. Being aligned on the axis of the Forum, the rear wall is slightly oblique to the rest; and although the Temple must have been part of the original plan of the complex, which is designed around it, there are several indications that it was actually one of the last parts to be built and that it underwent several modifications during construction.

The height of the podium and the richness of the materials of which the Temple was built combined to ensure that after its abandonment this was one of the most thoroughly despoiled parts of the whole complex. It is not impossible that, like the outer wall of the Forum, parts of it may even have been demolished by high explosive (which would explain the conservation of almost all the elements of the immensely heavy rear pediment, found fallen outwards on to the sand of the dunes behind). Certainly the top of the platform has been ruthlessly stripped, the despoilers even prising up most of the seating blocks of the columns across the front and along the flanks. Fortunately the main lines of the plan are still clear; and enough of the superstructure had already fallen into, and been buried by, the surrounding sand to enable the appearance of the Temple to be reconstructed in considerable detail. The main features that are still in doubt are the exact positioning of the carved plinths that carried some of the columns and almost all details of the interior of the cella and its door.

Apart from the concrete core, the principal materials employed were buff-coloured limestone, red Egyptian granite for the columns, Pentelic marble for the carved Gigantomachy plinths, and Proconnesian marble for the rest of the superstructure as well as for the flight of steps and the facing of the podium.

The description that follows may conveniently be divided into two sections. The first concerns the podium and steps, together with the vaults beneath; the second covers the remains of the Temple itself. At the end of the chapter there follows a discussion of the date and dedication of the Temple.

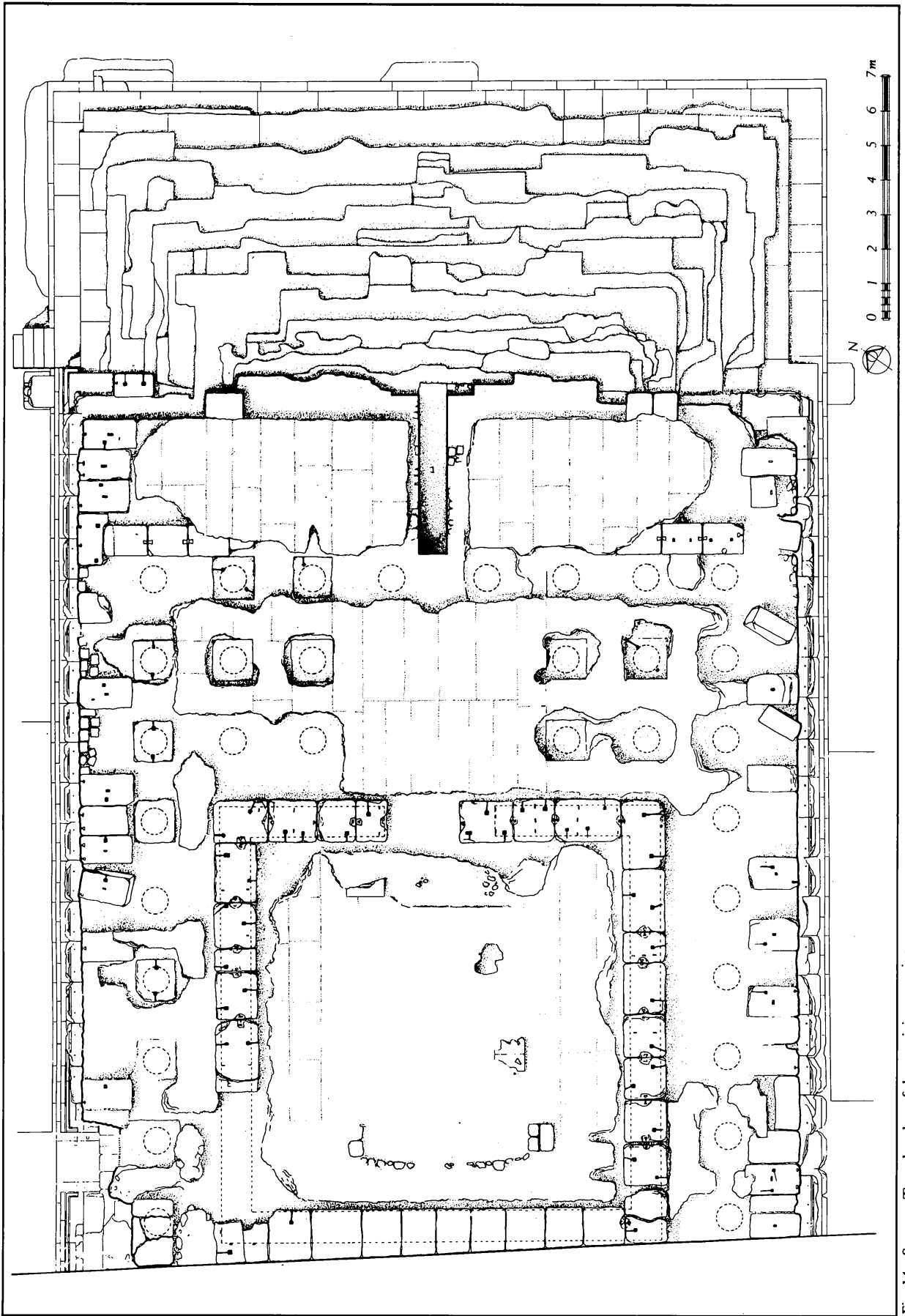


Fig. 14 Severan Temple: plan of the surviving remains

(a) THE PODIUM, STEPS AND VAULTS

The podium of the Temple, 5.20 m. high (figs. 14 and 15, pls. 20b, 21), stood upon three stepped footing-courses of buff-coloured limestone, together 1.21 m. high, which interposed a horizontal zone of darker, more rugged material between the polished marble of the forum pavement and the mouldings and claw-dressed marble surfaces of the podium revetment. The lowest of these limestone footing-courses corresponded with, and blended into, the step leading up from the forum floor into the columnar halls that flank the Temple. The second of the limestone steps continued uninterrupted around the three exposed sides of the podium and appears to be the outer edge of a continuous platform which passes right through the podium core. Beneath the main flight of steps it is readily distinguishable by its superior finish; it formed the thresholds of the two doorways in the side walls of the podium which gave access to the vaults within; and it is recognisable inside the vaults as the upper surface of the lowest course of masonry, 74 cm. above the floor. The regularity and continuity of this platform, which is almost perfectly horizontal, suggest that it was specially laid down as a basis for the setting-out of the whole building, and as a datum-level from which to make accurate vertical measurements. Upon this levelling-course rested the third limestone step and, above this again, the marble revetment of the main body of the podium. Within the revetment the core of the podium seems to have been mainly of concrete, but heavy courses of limestone, fastened together with iron cramps and bolts, were set into the concrete wherever there was any direct load from the superstructures or from the individual elements of the revetment. It is the grubbing-out of these blocks that is principally responsible for the present sorry state of the upper surface of the podium.

The appearance of the flanks of the podium can be established in almost all its details from the fallen remains of the marble facing and from the scars which its removal has left upon the surviving wall-surfaces (figs. 15, 17 and pls. 21, 22a). It was double, the lower part consisting of the normal base moulding, plain vertical face and cornice moulding, and the upper part, or attic, being almost identical but smaller, and very slightly set back from the lower. In each case the base mouldings and cornice were carved on solid blocks of marble that ran back into the core of the podium, anchoring the revetment into place and resting on built-in limestone seatings. The facing-slabs of the lower part rested against a backing of brickwork, which served to absorb any irregularities of thickness, whereas the corresponding slabs of the upper part were placed directly against the masonry of the core. All the elements of the marble facing were dowelled, and in addition the facing slabs were anchored at the top by means of metal cramps tying them to the limestone blocks which supported the cornice. A somewhat unusual feature, indicating carefully calculated workmanship, is that all the elements, blocks and slabs alike, were cut to a uniform width of 118 cm., so permitting a regular bond, the vertical joints in each course coming exactly at the centres of the stones in the courses immediately above and below it.

Towards the rear of the podium on either flank there was a doorway into the vaults. To judge from the surviving remains (fig. 15 and pl. 22b) this was of a practical rather than a decorative character. Instead of continuing to meet the projecting jambs of a moulded marble door-frame (as occurs regularly elsewhere in the forum complex) the base-moulding of the podium returns into the wall-face on either side of the doorway opening. The rectangular recess above the opening would have contained a stone lintel or a flat relieving-arch of stone. The only traces of the door-frame itself are two holes for dowels or pegs cut in the sill, well back from the outer face. Both the frame and the door were probably of wood, the former being wide enough to mask the curve of the vault behind it.

At the opposite end, all the mouldings of the podium returned part-way across the front (see below). The three limestone steps, on the other hand, were different in size and pitch, as well as material, from those of the front, and the junction was masked by two projecting bases, or plinths, carved with griffins and identical with those used to crown the central pair of columns in each of the two apses of the Basilica (pl. 23c).

The arrangement is not in all respects the original one. The podium was originally planned to be about 4 m. shorter, for the whole of the level platform in front of the columns of the

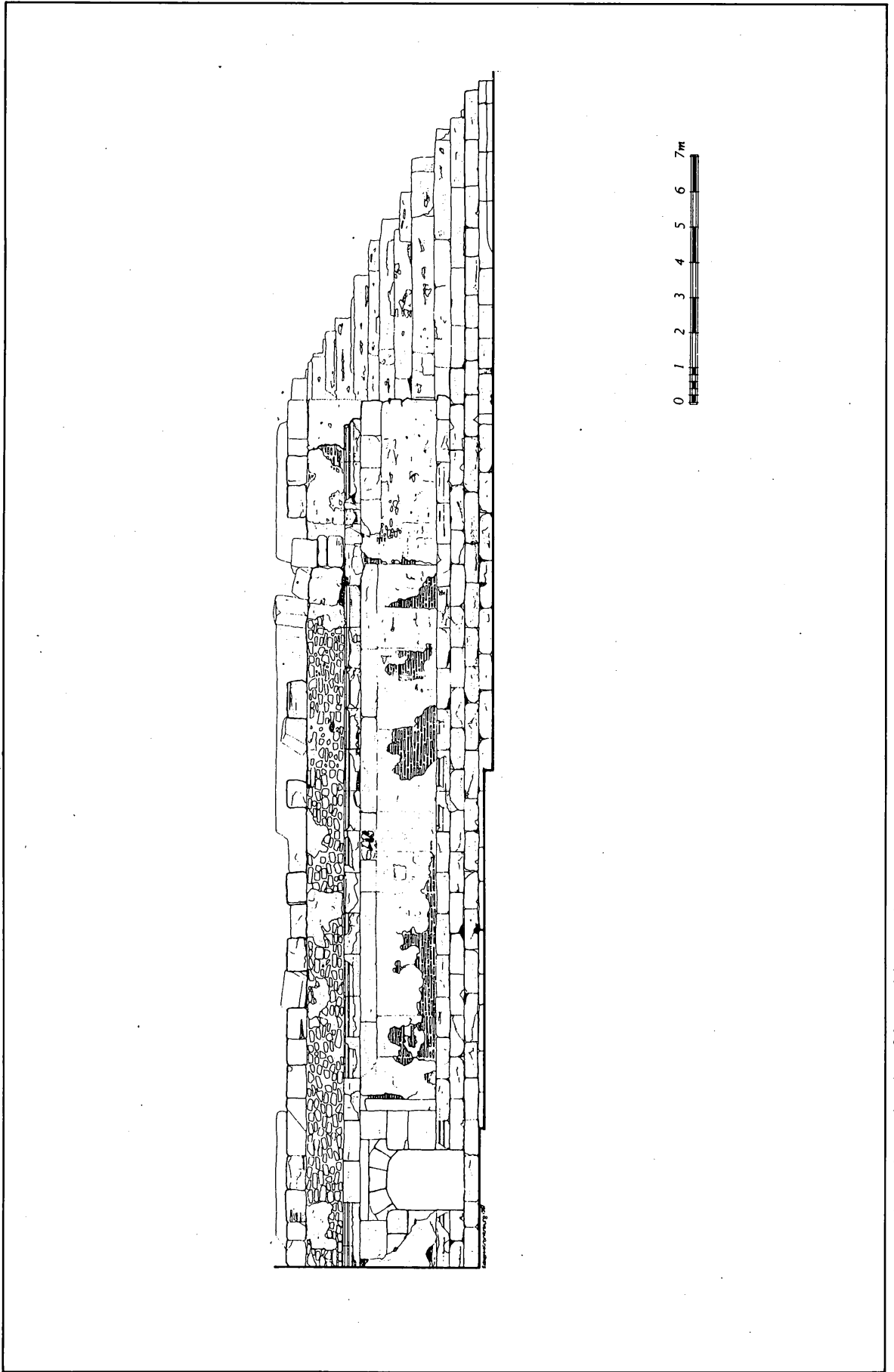


Fig. 15 Severan Temple: south-east elevation of the surviving remains.

facade is an addition. The change of plan was concealed by the marble facing, but there are substantial differences between the underlying masonry of the original and of the added parts. The most conspicuous of these lies in the course of limestone blocks that supported the marble cornice of the lower part of the facing. For the greater part of its length the course is 40–45 cm. high, but beneath the open platform it suddenly becomes 58 cm. high; at precisely the same point the brickwork backing to the marble slabs of the revetment gives place to a similar thickness of mortared rubble (pl. 22a). The same distinction can be observed on top of the platform. Here, immediately beneath the pavement, there can be seen a course of limestone blocks, 87 cm. wide and 1.10 m. deep, running across the podium immediately in front of the footings of the octastyle portico (see fig. 14). For reasons that will be apparent later (p.37), the line is not continuous right across the podium; but at the outer angles it must surely mark the front of the podium as it was originally planned, the extension having taken place when the work was already well advanced. The nature and implications of the change of plan are more fully discussed below (p.37).

The marble base-block of the lower part of the facing is 37 cm. high and runs back into the core for a distance that cannot now be determined. It rests on and is dowelled into the topmost limestone step, and the mouldings, now very battered, were plain, consisting of (from bottom to top) a torus, a large cyma and a smaller cyma reversa (pl. 23d). The facing-slabs, which rested on and were dowelled into these base-blocks, have all been removed but their positions and dimensions are clearly indicated both by the dowel-holes and, since they evidently varied in thickness from 12 to 20 cm., by the differing depth of the impressions left upon the skin of brickwork and mortar against which they were set. They were 2.25 m. high and, like all the other elements of the podium facing, about 1.18 m. wide. At the top they were fastened by iron cramps to the limestone blocks that supported the lower cornice.

The cornice of the lower part and the base of the upper part were carved in a single block of marble, 51 cm. high, which was bonded back into the core of the podium for a distance of some 1.40 m. and was probably (though this detail is not now visible) dowelled into the limestone seating-course on which it rested. The cornice-mouldings are deeply carved with, successively, a bead-and-reel, an egg-and-dart, and a sima of alternately upright and inverted palmettes (pl. 23a). The base-mouldings repeat those of the lower part, at a slightly reduced scale.

The facing-slabs of the upper part, 1.58 m. high and about 16 cm. thick, rested on these blocks, and the surviving holes for the dowels below and the cramps above show that they were fastened in place in exactly the same way as those of the lower part. They were set about 11 cm. back from the vertical plane of the corresponding lower face, and seem to have rested directly against the rough limestone facing of the core (below) and the upper course of limestone seating-blocks (above). The whole was capped by a projecting marble cornice-block, 30 cm. high and of varying dimensions from front to back. As the crowning element of the whole podium, this block, which was dowelled into the limestone seating-course and which formed the outer margin of the marble pavement of the podium, was more boldly carved than its lower counterpart, the decorated mouldings being an elaborate kymation, a variant of the upright and inverted palmette motif, and a smaller kymation (pl. 23b).

The front of the podium was approached by a monumental flight of twenty eight marble steps. This was not uniform in width but pyramidal, the topmost flight occupying considerably less than half the width of the front of the podium, whereas the three bottom steps on either side projected well beyond the line of the lowest limestone step. Across part of the front, therefore, the podium rose clear of the steps, forming two triangular vertical faces flanking the two lateral flights. At the foot, the discrepancy between the lowest steps of the marble stairs and the limestone steps carrying the podium was masked by the projecting griffin bases which have already been mentioned.

The marble revetment of the flanks of the podium was continued across the exposed triangular faces of the front. There were, however, differences of treatment. The slabs of which the latter were composed were much thicker and, though dowelled, were able to stand vertically without the aid of cramps; and the mouldings were carried across only a part of the front. At a distance of 2.25 m. from the outer angles, the masonry sets in about 30 cm. so as to form, in effect, a pair of broad, shallow pilasters at the two angles. Except for the base-mouldings, which blended into the steps very near the outer angles (pl. 23d), all the decorative

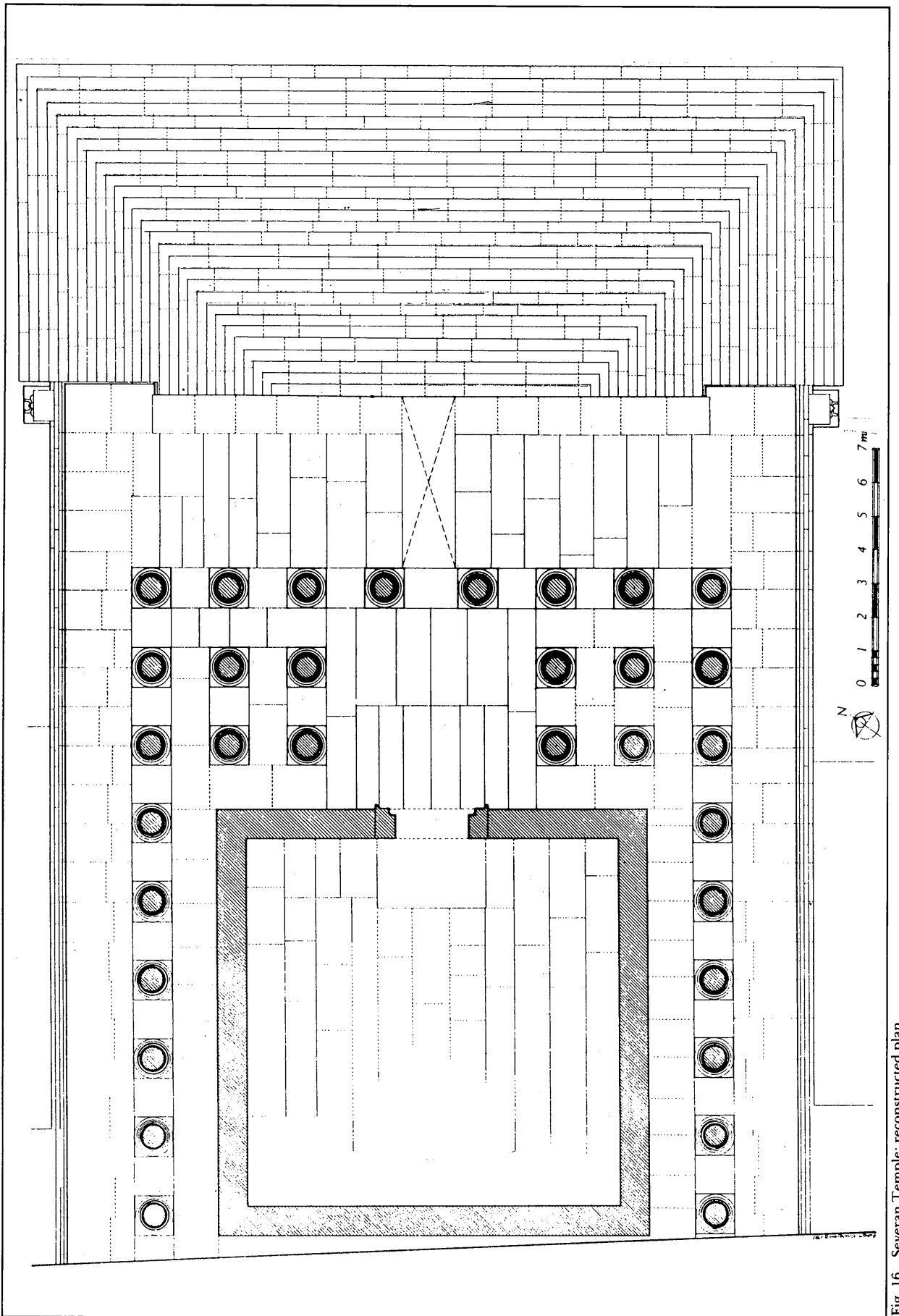


Fig. 16 Severan Temple: reconstructed plan.

elements of the podium were continued right across the faces of those pilasters: Nothing of this upper part is now in place, but the inner angle-blocks of the lower cornice on the north side and of the upper cornice on the south side can be identified among the fallen debris. These show that the mouldings returned down the short inner faces of the pilasters, but did not extend across the rest of the front of the podium between the pilasters and the upper part of the steps.

The steps themselves were unusual in several respects. Contrary to the normal practice of cutting each step from a single slab of marble, they were cut from deep blocks, two or three steps to a block. This accounts for the extraordinarily chaotic appearance of the surviving concrete substructures. Fortunately, despite the almost total disappearance of the actual steps, enough has survived to enable us to reconstruct their original appearance with some confidence.

The position and pitch of the stairs on the north side can be determined exactly from the position of the bottom step, which is still in place, and from the scar which the stairs have left on the base-moulding of the podium and on the surviving block of the marble facing; see pls. 21, 23c, 23d. The base-moulding stops up against the risers of two successive steps leaving a dark stain at the point of junction (on close inspection the actual profile of the steps can be seen to have been slightly above and to the right of this dark stain, where it is marked by a slight coarsening of the comb-dressing of the marble face). If the line so established is projected upwards to the top of the podium, it is immediately clear that there cannot possibly have been a landing half-way up; the whole flight evidently rose uniformly and without interruption from the pavement of the Forum to the level platform on top of the podium. With a rise of 6.15 m. over a length of approximately 7.85 m. (including a final step at right-angles to the rest) this gives a total of 28 steps, with an average riser of 22 cm., an average tread of 28 cm., and a pitch of 38.5°.

The front must equally have consisted of 28 steps, and the position of the bottom and top steps can be determined precisely, the former from the scar which it has left on the forum pavement, the latter from its position in relation to the front of the podium, which is exactly calculable. A line joining these two points does not clear the core at any point sufficiently to allow for a landing, so that in this case one may calculate a uniform rise of 6.15 m. over a length of 10.20 m.; and since the number of steps must have been the same on all three sides this gives an average tread of 36.5 cm. and a pitch of 31.5°. This result is confirmed by the survival, loose near the top of the flight, of a fragmentary block of steps with a tread of 37 cm.

It has been remarked already (p.33) that the podium was originally planned to be almost 4 m. shorter, the level platform in front of the octastyle portico being an afterthought, added when the rest of the podium was already standing to its full height. The steps, as we now see them, must have been planned and built in relation to the podium in its final, extended form; and it remains, therefore, to ask what, if any, evidence there is for the form in which they were originally planned before the extension of the podium.

The most significant indication of the original plan is the fact that the two lowest limestone steps, which constitute the seating for the whole building, and which were certainly laid out before the podium was built, run the full length of the steps as we see them today. Podium and steps together were always intended to be of the same total length as they are now; and since the podium was subsequently lengthened by about 4 m., it follows that the steps were shortened by the same amount. At first glance this suggests that the steps were originally planned on more orthodox lines, running the full width of the building and divided into two flights by a landing of roughly the same width as the platform at the head. A closer examination, however, of the first-period podium structures shows that this was not the case. The transverse course of limestone blocks that marks the original front of the podium is not continuous right across the whole front. In the centre it is replaced by concrete for a distance of 10.50 m., which corresponds very closely with the estimated length (10.20 m.) of the top step of the later stairway. Moreover, it is clear from the dowel-holes that on the south side (but not on the north) the seatings for the podium cornice had been prepared, and the cornice itself perhaps actually laid, across this part of the front before the change of plan was decided upon. Taken together, these facts show that the stairway was from the outset planned to be of truncated pyramidal form, much as we see it today. The greater length of the original design may have been intended to allow for frontal steps of a shallower pitch. Alternatively, and more

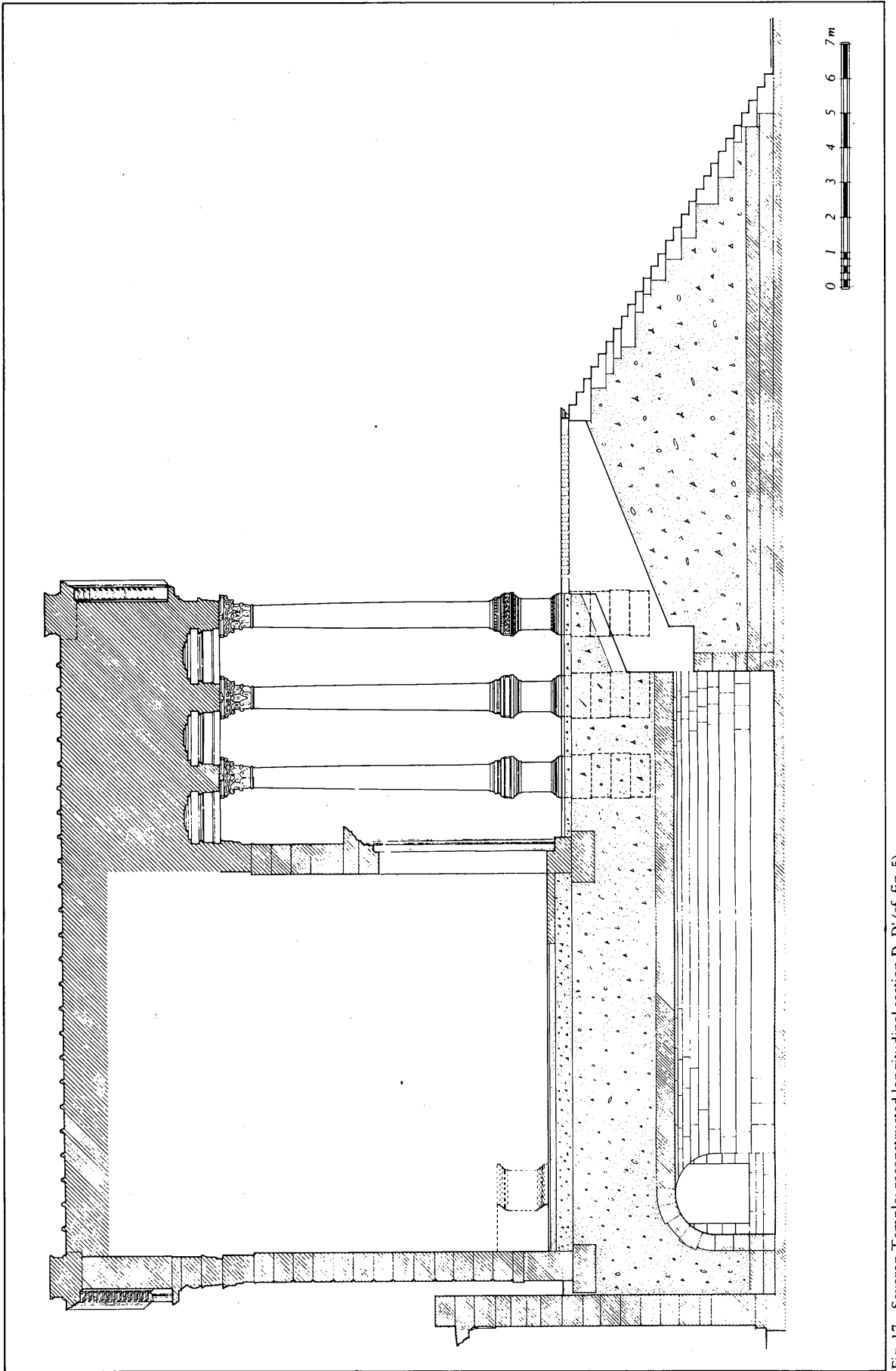


Fig. 17 Severan Temple: reconstructed longitudinal section D-D' (cf. fig. 5).

probably, it may have been the intention to carry one of the lateral steps out to form a landing half-way up the main flight. The detail must remain uncertain. What does seem to be clear is that the present steps repeat the main elements of the original design, and that the principal purpose of the change in plan must have been the lengthening of the podium, so as to provide a level platform at the head of the stairs in front of the temple facade.

That the change of plan belongs to a late phase in the Severan building programme is clear from its incorporation of a number of architectural fragments from other parts of the complex. One of these is a cornice from the monumental passageway to the north-east of the Basilica, reused in the limestone levelling-course half-way up the podium on the north side of the extension. Another is a limestone frieze-block carved with an acanthus scroll, identical with those of the forum porticoes; it is built into the front of the podium, just to the right of the stairs, as part of the seating-course for the upper cornice. The impression of a third, now vanished, can be seen in the bedding for one of the marble blocks of the main stairway (pl. 24a). The block was originally cut as an architrave, with a characteristic soffit-moulding, very possibly (though not certainly) that of the temple itself (cf. pl. 26b). To the same general category belongs the surviving griffin base (pl. 23c). It was certainly not carved for the position which it now occupies, since the paws have been cut back to adapt it to the required length.

When the steps were built there were evidently numerous duplicates or builder's rejects available. Furthermore, in two cases the parallels are from parts of the complex that are themselves demonstrably late. The original design for the basilica apses had envisaged a uniform pair of orders, with no central feature; it was only after the masonry shell was already complete that the design was modified to incorporate the pairs of tall columns to which the griffin pedestals of the Basilica belong. So, too, the north-east passage is an addition to the original plan of the Basilica. The steps of the Temple and the front of the podium must be among the very latest features of the whole Forum-Basilica complex.

The front of the original podium is detectable in fig. 14. Although there are elements that are not absolutely clear owing to their concealment beneath the surviving stretches of bedding for the marble pavement of the platform, the masonry at both ends appears to consist of three limestone blocks, of which the outer one in each case rested against the original angle-block and the inner one against the concrete core. Of the angle-blocks themselves, that on the north side was replaced in the second phase by a block laid longitudinally; the seating for the marble cornice-block that it carried can be seen overlapping the adjoining block of the earlier front. The angle-block at the south end has gone. The blocks of the early front were steadied with dovetail cramps and those at the south end (but not those at the north end) have dowel-holes cut in the upper surface. These blocks, which correspond with those of the seatings along the two flanks and which, like them, were designed to carry a marble cornice, may rest on other blocks, at least to the depth to which they were originally intended to rise clear of the steps. A block from the next course down can be seen exposed in the south flank.

Incorporated in the podium are vaulted substructures. These are of very simple plan, consisting merely of two barrel-vaulted corridors set at right-angles to each other in the form of a 'T', the one running down the axis, with a shaft for light and ventilation at the north-east end, the other running right through the podium just in front of the rear wall, with a door at each end (see fig. 18). The ventilation shaft is a long, narrow cavity, splayed obliquely up through the core of the podium from a small opening just beneath the crown of the vault; it was presumably covered at pavement-level with an openwork marble grille. The doors in the flanks have already been described (p.33). The floor is of limestone slabs. The crowns of the two vaults coincide, but since the axial corridor is the wider of the two the spring of its vault is correspondingly lower.

Walls and vaults alike are of a massive, limestone masonry, the one merging into the other without any intervening moulding. The vaulting blocks are unusually long and narrow, and the penetration of the two vaults is handled by carrying the wider of the two vaults through into the narrower, corbelling out the ends of the successive courses and dressing the exposed surfaces back to the required curvature—an impressive but strangely archaic survival of a technique that had long been outmoded in large parts of the Roman Empire.

These substructures were certainly utilitarian in character. They may have been used for the storage of valuables.

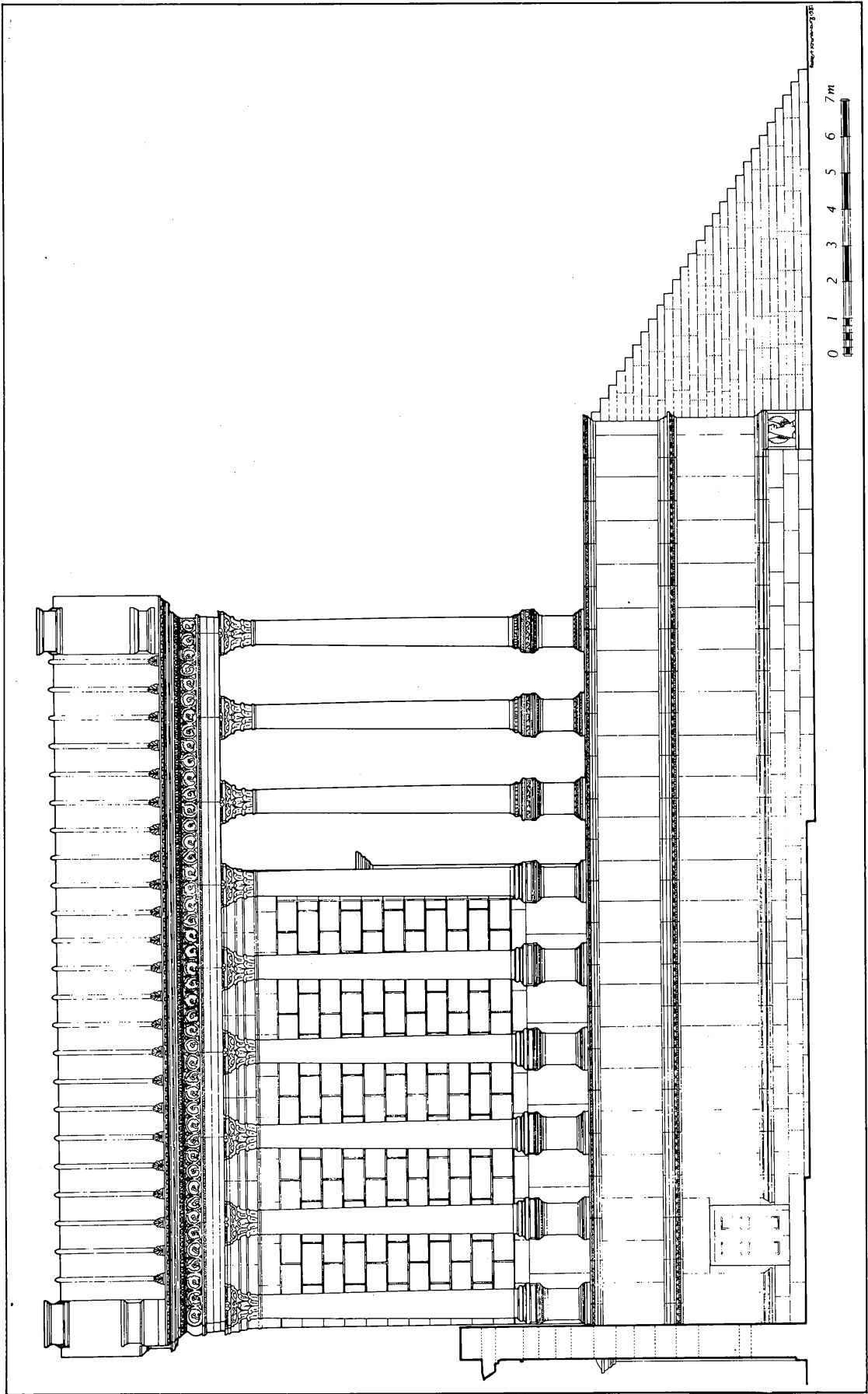


Fig. 18 Severan Temple: reconstructed south-east elevation.

(b) THE SUPERSTRUCTURE

The platform and seatings of the Temple

The upper surface of the platform, which from its height above the rest of the Forum was dangerously exposed to the activities of those in search of marble and of metal dowels, has been stripped and quarried with a thoroughness that has left little or nothing of the superstructure in place. The fact that it is possible to reconstruct the plan in almost every detail is due entirely to the caution of the builders who, distrusting the quality of their concrete, incorporated in it several courses of limestone blocks at every point that was to carry the load of a wall or column. Even where the topmost blocks of these footings have been prised up and removed or displaced, the lower courses survive to attest to the main lines of the plan; and by measuring the few elements that are still in place and striking an average over the rest, it is possible to calculate the detailed dimensions to within a few centimetres—a range no greater than the margin of tolerance which the Severan builders regularly allowed themselves.

If the middle course of the stepped limestone footings of the podium be taken as a datum (see p.33), the upper surface of the platform was approximately 5.50 m. above the datum level, or 6.25 m. above the general level of the forum pavement. At the outer edges the paving was made of slabs of marble 30 cm. thick, of which the outer vertical faces were moulded and carved to form the cornice of the podium. Over most of the rest of the platform the slabs were only about 6 cm. thick, the difference being made up by a thick bed of mortar, considerable stretches of which have survived within and in front of the porch, bearing on their upper surfaces the impressions of the now-vanished paving slabs.

The bases of the columns rested on rectangular marble blocks, 120 cm. square and 30 cm. thick, the upper surfaces of which were flush with the pavement, of which they were in effect a part. None has survived, but in several places their outlines are perfectly recognisable in the mortar bedding of the thinner paving slabs that lay between them. Each of these blocks was fastened by two iron dowels to a somewhat larger limestone footing-block that lay beneath it (pl. 24b), and this in turn rested on three more courses of similar blocks, similarly dowelled and with very carefully worked bedding-faces. The load of each column was thus transmitted to a point about 2 m. below the surface of the podium by means of a solid pier of limestone masonry, capped by a marble block which brought the pier up to the level of the marble pavement (see fig. 18). The spaces between the piers were tightly packed with concrete.

The walls of the cella were similarly supported on several courses of limestone blocks, dowelled and cramped together, and almost certainly, like the footings of the columns, capped by a 30 cm. course of marble blocks. This marble course has entirely disappeared, but its position is indicated on the upper surfaces of the limestone footings by the pry-holes for the levers that were used to ease the marble blocks into position. At the south angle of the cella the position of the marble course (which was laid dry) is further indicated by a line of mortar, marking the extremity of a thinner, mortar-bedded paving of the south-east pteron.

The Colonnades

The porch consisted of 20 columns, 8 across the facade and, immediately behind the facade, two rows of 6 each from which the central pair of columns has been omitted. There were 6 more down each of the two sides, making a total, together with the porch, of 32 columns in all. The lay-out of the porch is immediately evident from the surviving remains (see figs. 14 and 16). It is a reasonable assumption that the colonnades flanking the cella were spaced similarly to those of the porch, and this is confirmed both by the over-all dimensions and by the positions of the surviving column-seatings on the north side. It is also certain that the flanking colonnades ended in free-standing columns, and not in pilasters set against lateral prolongations of the rear wall of the cella: this is evident both from the absence of any corresponding footings and from the positive indications (p.50) that the outer face of the west corner of the cella formed a free-standing outer angle.

The spacing of the columns of the porch cannot be measured directly, since the individual limestone footings have all been displaced by dowel-looters. It can, however, be calculated with

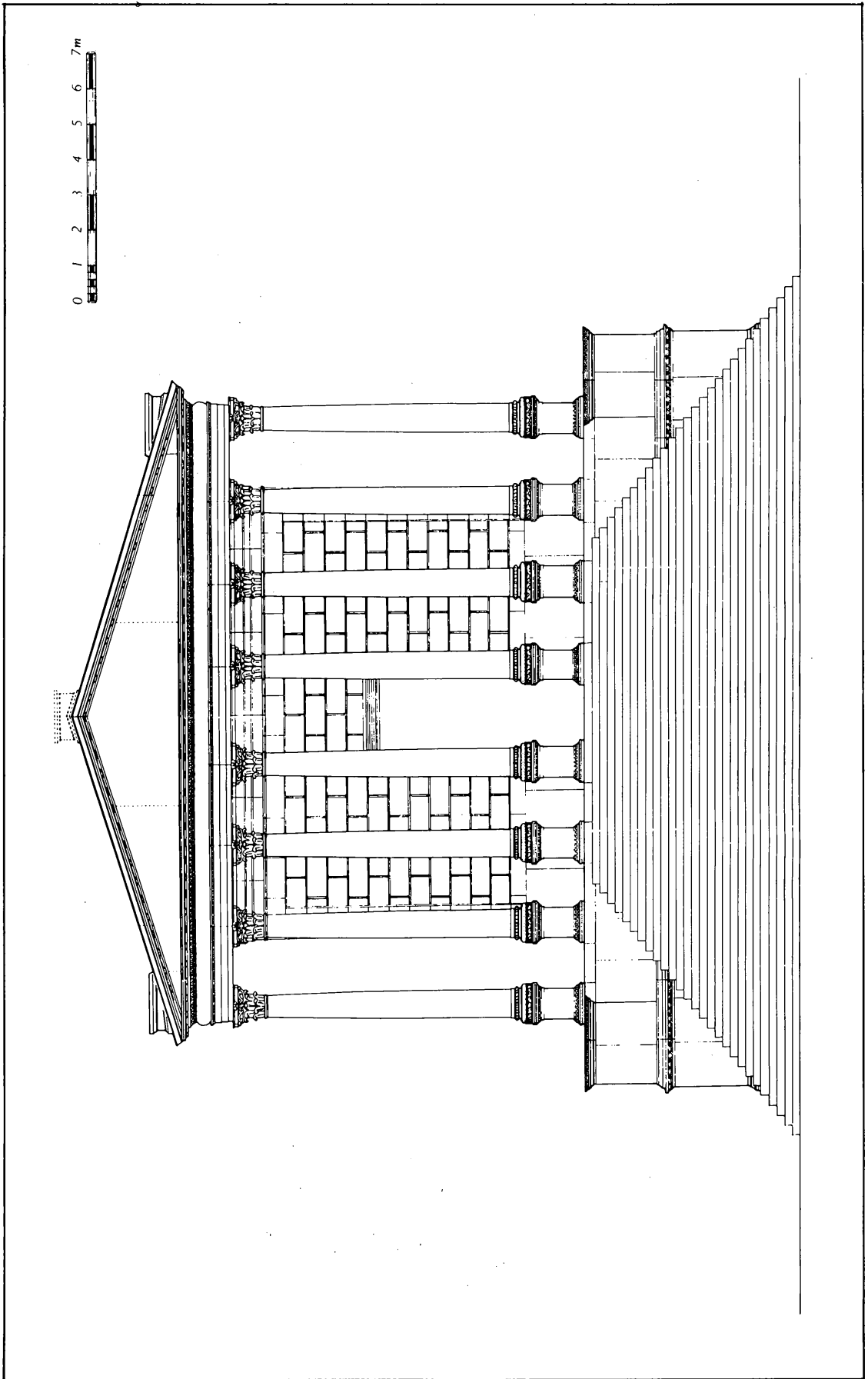


Fig. 19 Severan Temple: reconstructed frontal elevation.

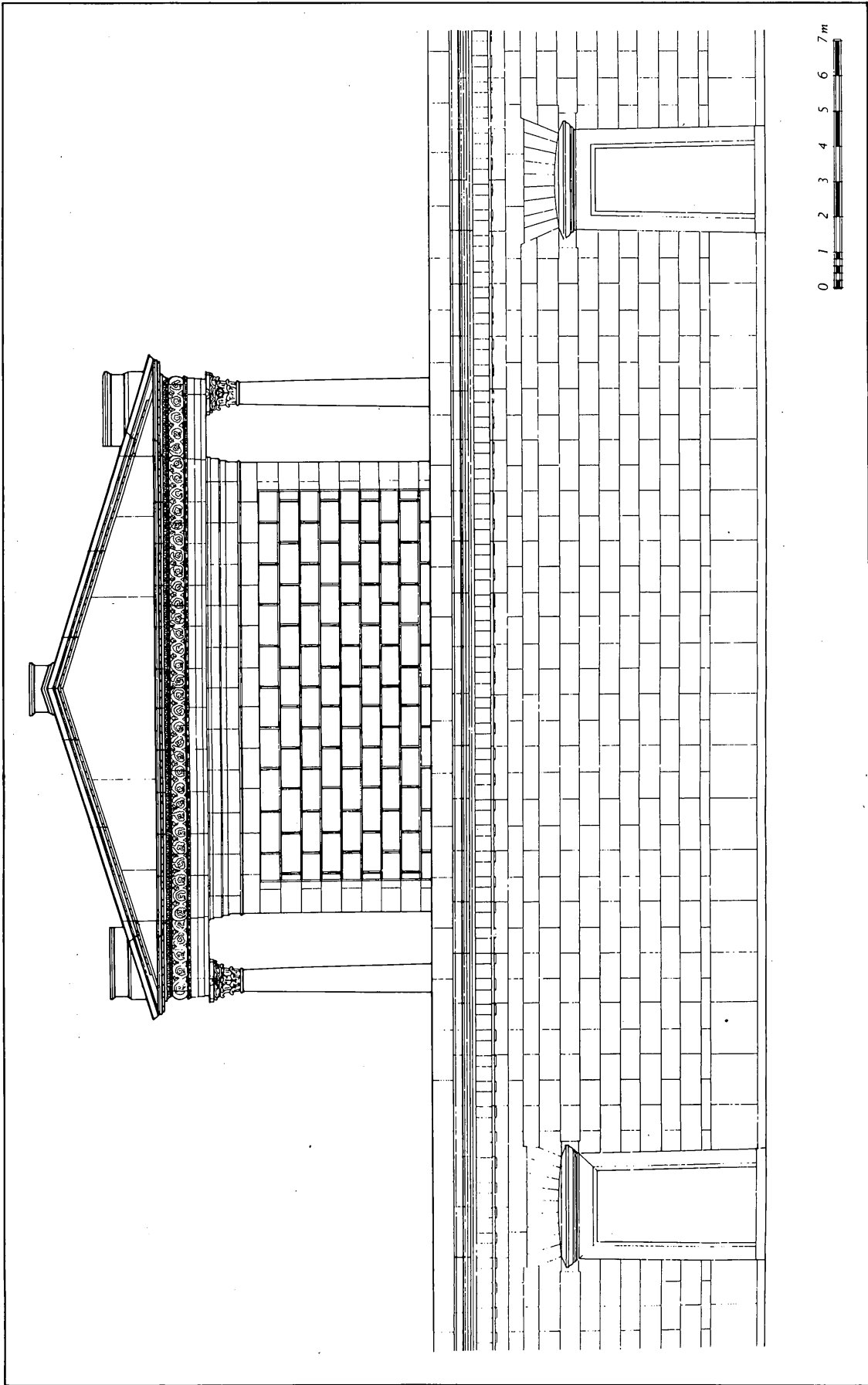


Fig. 20 Severan Temple: reconstructed rear elevation, seen from outside the Forum.

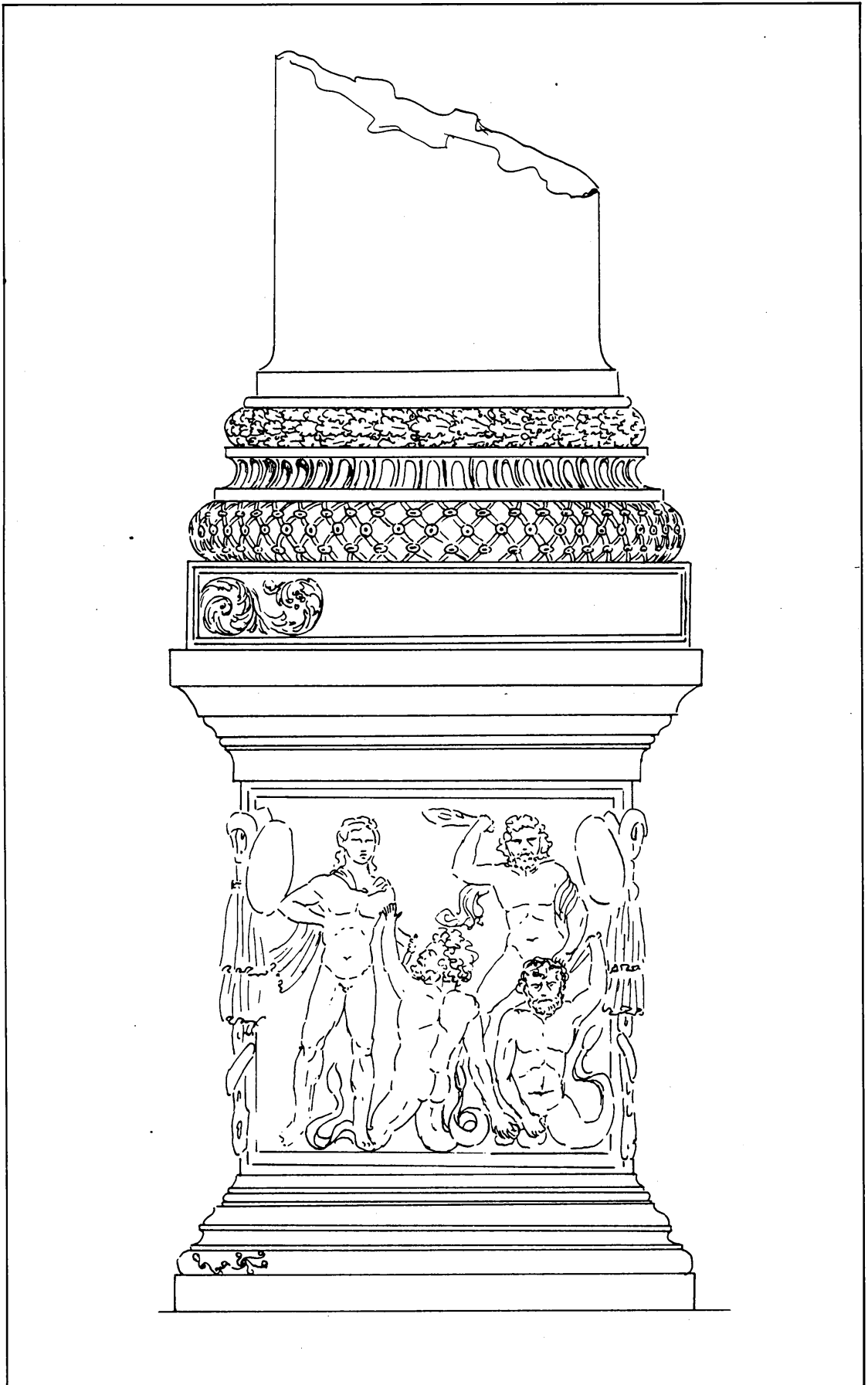


Fig. 21 Severan Temple: reconstruction of column-base and decorated plinth (C. Catanuso).

a considerable degree of accuracy both from the over-all measurements and from the impressions left by some of the vanished marble base-blocks in the mortar of the pavement bedding. Assuming that these base-blocks were all 1.20 m. square, the measurable distances from centre to centre are 2.32, 2.34 and 2.36 m. respectively, giving an average spacing of 2.34 m. between the centres of adjacent columns. This does not, of course, apply necessarily to the central opening, which might very naturally have been wider than the rest. The distance from centre to centre between the two innermost columns of the second row (i.e. the equivalent of three intercolumniations) is in fact 7.54 m., instead of 7.02 m., indicating either that the three central columns were uniformly spaced at 2.51 m. from centre to centre, or that the middle pair alone was more widely spaced, at 2.86 m. In the reconstructed drawings (figs. 16, 19) the latter alternative has been adopted. It will be noted that, when applied to the flanking colonnades, the estimated spacing of 2.34 m. corresponds very closely with that of the vertical joints in the marble revetment of the podium, which ranges between 1.16 and 1.20 m., giving two facing-slabs to each intercolumniation.

The order was unusually tall and slender, an effect that was achieved partly by the use of columns that were exceptionally long in proportion to their diameter, and partly by interposing moulded pedestals between the customary Attic bases and the pavement. The pedestals fall into two groups, one group being elaborately carved and decorated, the other having the same mouldings but being almost completely without carvings. Both groups were made up of the same three distinct members, a base-moulding, a rectangular die and a crowning moulding, which were fastened to each other and to the base-block below by means of iron dowels; and since none is in place and any reconstruction has to be made from the *disiecta membra* found lying in bewildering disorder on and around the site of the temple, it is quite impossible to be sure of the exact collocation of the two groups. That there were at least nine sculptured pedestals is, however, certain. This fact excludes the otherwise reasonable hypothesis that they were used solely for the eight columns of the facade or, possibly, for the eight internal columns of the porch. The most likely hypothesis (but it can be no more than that) is that the pedestals of the facade and of the remaining exterior columns of the porch (12 in all) were decorated and the rest plain.

The form of the decorated pedestals, which ranged in height between about 1.45 and 1.54 m., is shown in fig. 21. The sculptures of the rectangular dies, which bear representations of a Gigantomachy, have been described by Squarciapino (1974, ch. I). Unlike the rest of the Temple, they are carved in Pentelic marble. For the details of the very richly and elaborately carved mouldings, see below. The plain pedestals seem to have been of identical form and construction, but without carved decoration.

The column-bases, too, fall into two groups, one decorated and one plain, which were doubtless used in conjunction with the two corresponding groups of pedestals. They were fastened to the top members of the pedestals with pairs of iron dowels. For the details of the carved mouldings of the decorated group, see below. The plain group repeats the profiles of the decorated group, including a recessed panel with a plain moulded frame on the plinth (pl. 25d). The average height of the whole base is about 50 cm.

The columns were monoliths of fine red Egyptian granite from Aswan, each being fastened to the column-base by a single iron dowel. None is complete, but sufficient has survived of one to give a measurable height of 7.08 m. The diameters just above the foot average about 80 cm., tapering to about 70 cm. just below the head.

The Corinthian capitals (fig. 22 and pl. 26a) are of Proconnesian marble and were dowelled to the columns with single iron dowels. They range in height from 94 to 100 cm., and in several cases the effective height has been further lessened by cutting a recess into the upper surface of the abacus, to house the architrave. As elsewhere in the Severan complex (notably in the Basilica, p.57) the column-shafts were evidently of markedly differing lengths, involving corresponding adjustments in the other members in order to achieve a uniform total height.

The lowest member of the pedestal, 119–120 cm. square and 29–30 cm. high, is very richly and elaborately carved, only the bottom fascia being left plain (pl. 24c). The other mouldings are, successively, a torus with a deeply hollowed multiple guilloche; a cavetto with vertical flutings; an enriched kymation, inverted; an egg-and-dart, curiously unsatisfactorily placed within a cavetto; and a palmette motif on a shallow, almost horizontal cavetto.

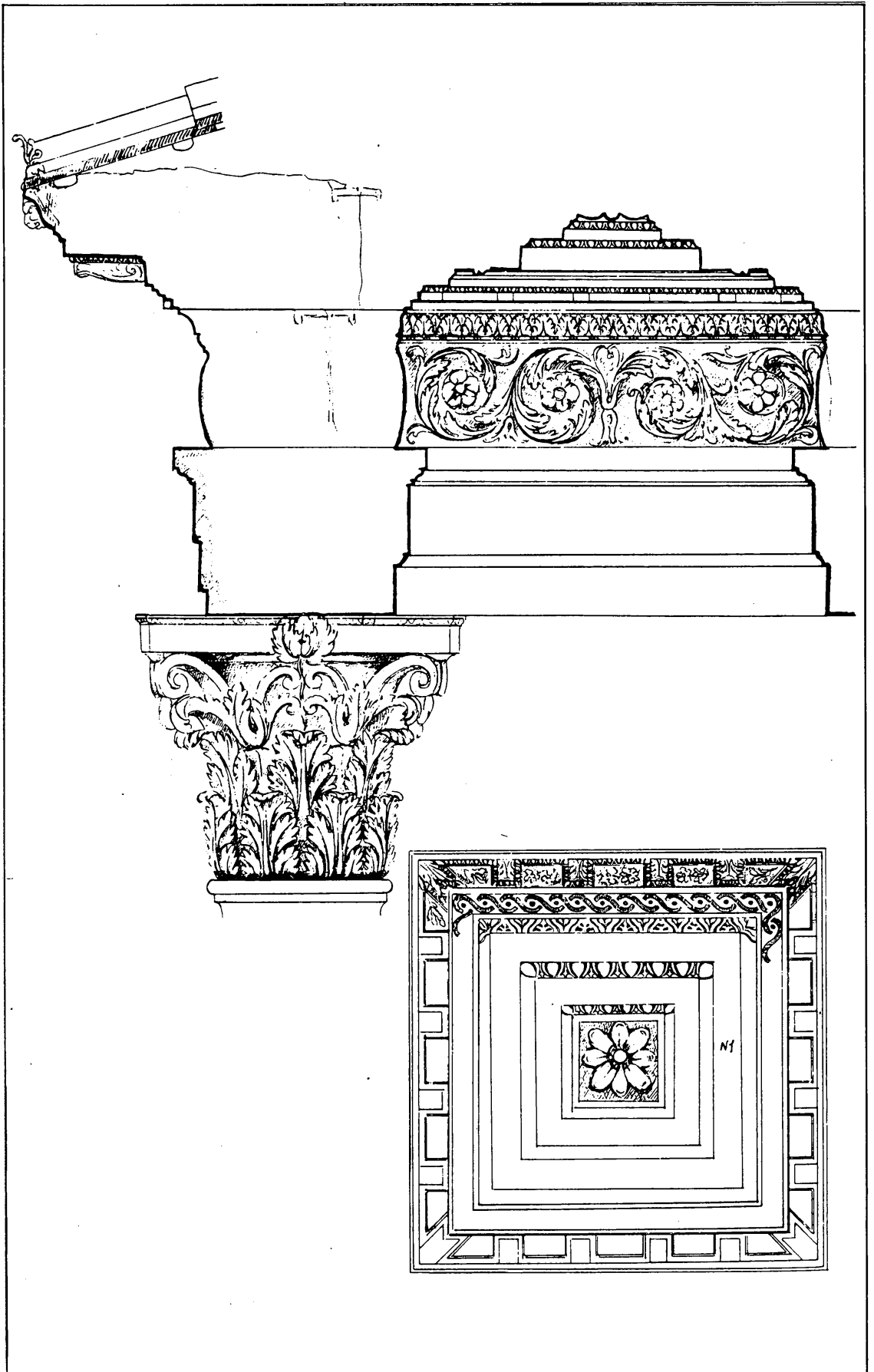


Fig. 22 Severan Temple: details of the order (C. Catanuso).

Despite the extraordinary elaboration, at least one of the bases was left unfinished (pl. 24d), only the lower cavetto being fully carved; the rest of the mouldings have been little more than roughed out with a drill.

Of the eight carved pedestal blocks that are measurable, the heights of seven lie between 86 and 89.5 cm.; that of the eighth is 95.5 cm.

The crowning member (pl. 25c), 30 cm. high, is no less extravagantly carved than the base. It bears, in succession, a Greek key-pattern; a small plain cavetto; a bead-and-reel; an enriched and barely recognisable kymation; a motif of linked palmettes, alternatively upright and downturned; and finally, on the upper fascia, a recessed panel bearing a miniature version of the design carved on the soffits of the architraves of the Great Nymphaeum.

The carved bases (pl. 25a, b), about 116 cm. square by 31–32 cm. high, continue the decoration of the pedestals without a break. The entire plinth is occupied by a recessed panel with a kymation border framing an acanthus rinceau; the lower torus bears a deeply hollowed multiple guilloche, and the upper an oak wreath bound with ribbons; the cavetto is vertically fluted, as on the base-moulding of the pedestal, and there is a bead-and-reel above the upper torus.

The entablature

Enough has survived of the entablature over the colonnades to show that it was, as one would expect, identical in most respects with that of the relatively well preserved rear pediment, which is described below (p.51). It consisted of three distinct members, carefully fastened vertically to each other and to the capitals with iron dowels, and horizontally with iron cramps. (See fig. 22.)

Of the architrave two complete and several fragmentary blocks have survived, each decorated on the outer face with three fasciae, bordered by bead-and-reel motifs and surmounted by an enriched kymation, and on the inner face with two fasciae alternating with plain kymatia. The soffit is decorated with a narrow recessed panel, containing a plain rinceau framed with an enriched kymation border (pl. 26b). Although the lengths of the complete blocks, 2.39 and 2.40 m. respectively, are a trifle long for the estimated spacing of the columns (average 2.34 m.), the discrepancy is no more than would have arisen if the joints were allowed to fall a few centimetres from the centres of the capitals on which they rested. Both ends of the two complete blocks are rectangular, showing that there can have been no corresponding transverse architraves between the side colonnades and the cella walls. There are, however, several fragmentary blocks with mitred ends suitable for placing at the junction of three or four similar blocks, which suggest that the roof of the portico was in fact so treated. There is also a small piece identifiable as coming from an outer angle.

The frieze is very fragmentary. The surviving fragments show that for the greater part of its length (presumably along the back and sides of the Temple) it was convex in profile and capped by a pair of mouldings: an egg-and-dart, and a rather flattened cyma reversa on which was carved a pattern of alternately upright and downturned palmettes. The frieze itself consisted of an acanthus scroll, some whorls of which were peopled with the forequarters of beasts and other animate figures (pl. 26c). The relief was high but, so far as one can judge it in its present rather battered condition, the treatment was in other respects rather heavy and lifeless. Across the front of the Temple the surface was flat instead of convex: on it was carved, in letters *c.* 16 cm. high, the dedicatory inscription, of which only two fragments have survived, the one bearing the letters ONCO and the other parts of three words ...]IO A PARENTIBV[S . . . (pl. 26d). The possible significance of these fragments is discussed below (p.53).

There are a number of whole or fragmentary blocks of the cornice. The lowest member consists of a row of small, rather insignificant dentils, which projected about 5 cm. beyond the capping of the frieze. Above them comes a bead-and-reel moulding, and above this again a row of rather shallow, elongated modillions, carved on the under-surface with acanthus leaves. The small, square soffit panels are framed on three sides by a continuous band of egg-and-dart. Above the plain corona there is a small cavetto decorated with an ivy-leaf rinceau, and the whole is dominated by a bold sima with a linked palmette motif (pl. 27a). At rather widely spaced intervals, in each case corresponding with one of the modillions, the palmette motif is interrupted by small decorative lion-heads, imitating gutter spouts.

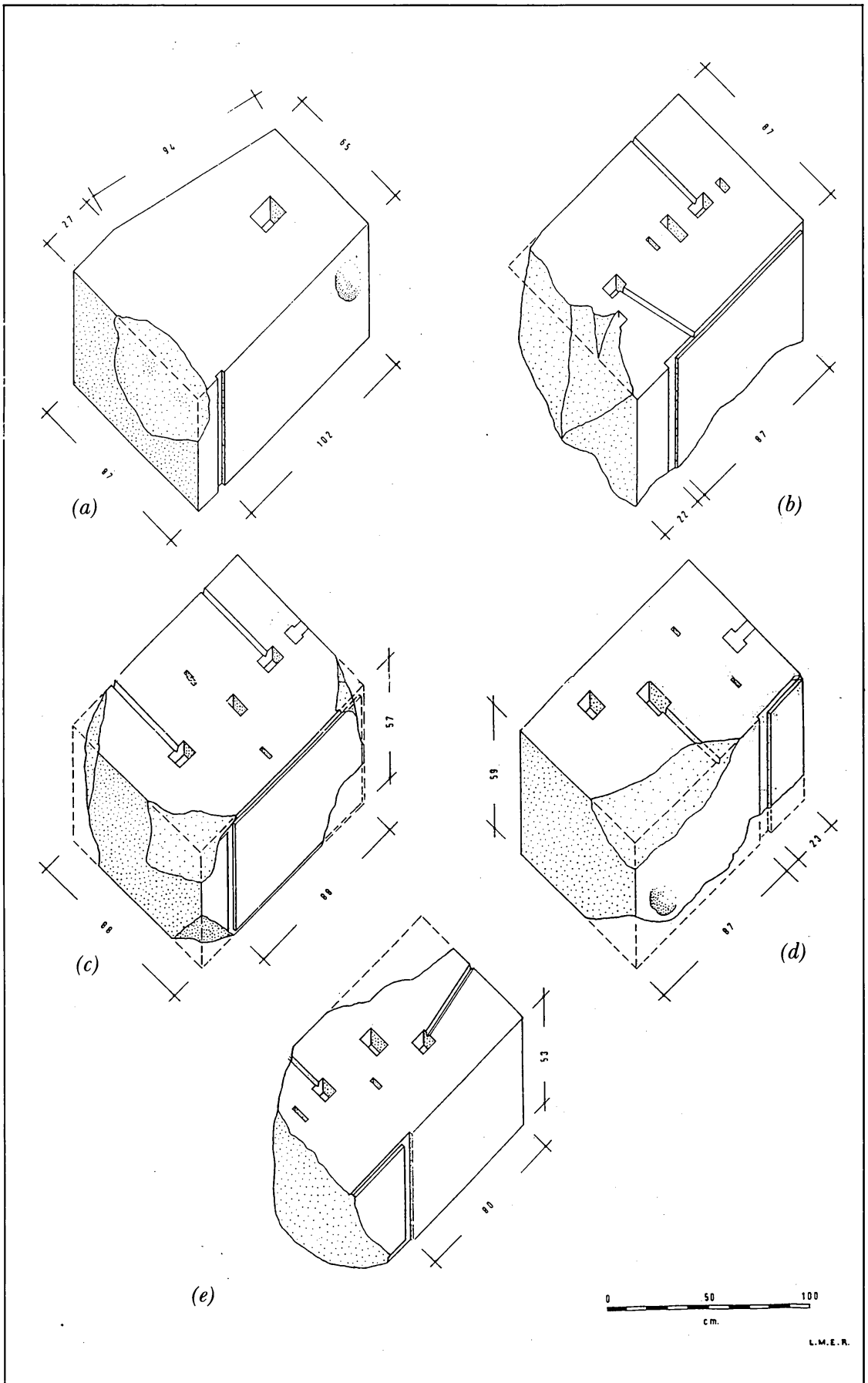


Fig. 23 Severan Temple: measured blocks from the cella wall.

The cella

The walls of the cella (which was almost exactly square, measuring about 12.80 m. externally with a possible error of 10–15 cm. either way) were of solid Proconnesian marble. This fact doubtless explains the assiduity with which the remains have been rifled. At no single point do the walls stand as high even as pavement level, and it is only from a few fallen blocks, mainly from the rear of the building which fell outwards, that we can form any idea of what the superstructure looked like.

As in the case of the columns, the immediate footing of the walls was a course of marble blocks, 30 cm. deep, of which the upper surface was flush with the pavement. All of these blocks have been robbed, but the uppermost of the underlying limestone foundation courses is still very largely intact, and from the pattern of the dowel-holes, and, here and there, the pry-holes used for levering the blocks above into position, one can reconstruct the plan with some accuracy. Only the width of the doorway is uncertain. An important element is the position of the west angle. (See below.) The angle so defined falls about 20 cm. beyond the estimated position of the angle column of the flanking colonnade. This accords well with the evidence of the rear pediment (discussed below, p.51), which shows that the line of the cella wall did in fact project a short distance beyond that of the colonnades.

The length of the cella walls, about 12.80 m., is indicated by the plan; their height, almost exactly 9.50 m. to the bottom of the main architrave, can be determined from that of the surviving order. These figures constitute the framework within which one has to assemble the evidence of the surviving blocks. These show clearly that most of the outer face of the cella walls was treated with a pattern of vertical and horizontal channelling, simulating drafted masonry. However, unlike that of the outer wall of the Forum and Basilica, this channelling did not in all cases coincide with the actual jointing of the masonry, many of the vertical 'joints' being false.

The individual channels were about 5 cm. wide and some 5–6 mm. deep, and the channelled pattern probably covered the whole wall-surface with the exception of the outer angles. Here a strip of wall about 87 cm. wide was left plain, forming an angle-pilaster of which the smooth surface, though flush with the rest of the wall, would have stood out in strong contrast to the deeply-etched pattern of the drafting of the rest. The pattern of the channelling can be determined with some degree of probability. The evidence of the surviving blocks, which is discussed in detail below, suggests a regular bond of 'blocks' about 116 cm. long (including the 'joints') laid in alternate courses of nine whole blocks and two quarter-blocks and of eight whole blocks and two three-quarter blocks, respectively. The average height of the courses is 57 cm., or slightly over. By reckoning downwards from the known height of the architrave, the top of the channelling can be estimated as having been approximately 8 m. above the level of the pavement, a figure which would allow for almost exactly 14 courses (7.98 m.) of channelled masonry. A more probable solution, however, and one that would conform to the regular practice of such decorative masonry both at Lepcis and elsewhere (see Ward-Perkins 1948, 65f.), is that the channelling did not start at pavement level, but that both the channelled masonry and the angle pilasters stood upon a socle in the form of an orthostate course with a narrow capping course. This style of masonry occurs in the outer wall of the Severan Forum and Basilica, and again in the Severan temple on the east harbour mole. If the socle were of the same height as the pedestals and the plinths of the column-bases together (about 1.70m.), this would allow space for eleven courses of channelled masonry.

The wall was capped externally by two features. The first of these was a course of plain blocks with a simple astragal moulding along the upper edge, level with that at the tops of the column-shafts (pl. 27b); the vertical joints are plain but the lower edge is drafted, marking the upper limit of the channelled wall-face. The second was a deep course, moulded with fasciae in the manner of an architrave but placed below the architrave proper at the level of the capitals of the main order (pl. 27c), of which it repeats both the height and the abacus mouldings. There are seatings and dowel-holes on the upper surface of this course for the blocks of the main architrave, but of the architrave itself, and of any further courses above it, there are no fragments that can be identified with certainty. The architrave mouldings were doubtless identical with those of the architrave of the main order.

The cella wall was a single block thick and the inner surface seems to have been absolutely plain. There are no traces of any internal pilasters, still less of any applied revetment, nor are there seatings for any detached columns along the side walls. The socle was probably repeated on the inner face and above it the wall was evidently dressed to a uniform, polished surface. There was presumably some form of internal entablature, but of this, too, nothing can be identified with any certainty.

Of the doorway into the cella nothing has survived, with the possible exception of a large displaced block, which may be part of the threshold. The pavement was of Proconnesian marble: a fragment of an exceptionally thick slab is still in place just inside the door, and parts of the bedding can still be made out along the two side walls. Its surface lay about 40 cm. above that of the porch and it was replaced in late antiquity by a pavement of smaller slabs of green Thessalian marble (*verde antico*), a few small patches of which are still in position. Towards the west end there are vestiges at floor-level of a slightly curved structure built of concrete rubble, or possibly of brick, and doubtless veneered. On the analogy of the temple on the east harbour mole this could well be an original feature, and it has very tentatively been shown on the reconstructed plan, figure 16. On the other hand, the materials are hardly consistent with the ostentatious opulence of the rest of the building, and it may equally well belong to the same later phase as the *verde antico* paving. Yet another late feature is a series of column-shafts of grey granite 4.17 m. long, of which there are several among the debris. In the absence of any prepared footings they cannot have belonged to any part of the original structure.

The evidence for the position of the west corner of the cella, though clear in its broad intent, is at first sight somewhat confusing. The corner block of the uppermost limestone-foundation course, though slightly displaced by dowel-hunters, has been preserved, and on the upper surface of it are clearly marked the setting-out lines for an external angle (pl. 28a). On the other hand, there is a dowel-hole beyond the corner, which suggests that the marble base-block resting on this course ran right through to the outer wall of the Forum some 60 cm. beyond. The conflict is more apparent than real. The care with which the lay-out of the superstructure was calculated from the outset is evident in the construction of the foundations; and it would have been very natural to mark out the salient features of the plan at what was, prior to the addition of the marble superstructure, the effective upper level of the platform. That the base-blocks, the upper surfaces of which corresponded exactly with those of the marble paving slabs, were then carried out beyond the predetermined line would have been a very natural solution to the problem of paving the awkward triangular space between the rear wall of the Temple and the outer wall of the Forum. The absence from the inner face of the forum wall of any scar comparable to that left by the marble facing of the podium at the point where the two abutted makes it quite certain that above pavement-level the cella wall stood free. The north-west flanking wall did not run though to the forum wall; still less did the rear wall run through to the line of the flanking colonnades.

Some of the surviving blocks from the cella wall are illustrated in fig. 23 and pl. 28b. The thickness wherever measurable is a uniform 87–88 cm., and they all bear on one face the remains of decorative channelling; the opposite face is plain. The channelling is 7–10 mm. deep and 5–6 cm. wide. On one block (not illustrated) the entire width of the channelling falls on the upper and right-hand edges of the block, so that the actual joints must have coincided with the edges of the decorative channelling. On all the rest it follows all edges equally, and the joints were central to the channelling. Within these limits the horizontal drafting seems to have coincided with the joints between the courses, which were 57 cm. in height, or in one case (d) 59 cm. [Ward-Perkins does not comment on block (e) which is shown as being 53 cm. high — PMK.] The vertical drafting was not so restricted. On no less than five of the eight blocks that are sufficiently preserved to offer significant dimensions, there are false vertical 'joints' which do not coincide with the real jointing of the blocks. In four cases (a,b,d,e) this false vertical 'joint' delimits the drafted part of the block from a part that is left plain, and on one of these (d) the vertical face adjoining the plain section, and at right-angles to it[?], is demonstrably an outer face, since it retains a small, projecting handling-boss which has not been dressed smooth. Block (e) was certainly, and block (d) probably, an angle-block, the plain section constituting in effect angle-pilasters framing the channelled masonry of the rest of the wall surface. On both blocks the width of the pilaster (including half the adjacent joint) approximates closely (83 and 90 cm.) to the width (87 cm.) of the cella wall, a coincidence of dimensions which would arise naturally at the bonded angles of a wall built entirely of a single thickness of stretcher blocks. For some reason that escapes us the regularity of the bond was broken in the case of block (b); and block (a) is in every respect so eccentric that one is tempted to exclude it from the series.

The blocks of which the lengths can be measured precisely average 116 cm. in length (114, 116.5 and 117.5 cm.) and in two cases (not illustrated) the channelled pattern coincides exactly with the outline of the block, giving a raised face of 110–111 cm. and a channelled 'joint' of 5–6 cm. It is a reasonable assumption that this is the horizontal unit of the channelled pattern; and from the positioning of the dowels on the upper surfaces of the same three blocks it seems very likely that in each case the blocks of the next course above were placed symmetrically, with the vertical joints directly over the centres of the blocks beneath. On two more blocks (b, c) the channelling delimits 'blocks' that are about three-quarters of the unit length, in one case (b) certainly adjoining an angle-pilaster. Taken

in conjunction with the length of the cella wall, these figures are suggestive. The total length lies between about 12.70 and 12.90 m., of which some 1.75 m. is accounted for by the angle-pilasters, leaving 10.95 m. for the channelled masonry. This coincides very closely with an arrangement either of nine complete units and two quarter-units ($10.44 + 0.58 = 11.02$ m.) or of eight complete units and two three-quarter units ($9.28 + 1.74 = 11.02$ m.) The evidence is too slight for certainty, but if the blocks of alternate courses were arranged according to those two formulae, it would in fact produce a simple, symmetrical pattern that answers all the known requirements.

The height of the channelled masonry can be calculated exactly from the rear wall of the cella, where it is the course corresponding to the top of the columns which bears the uppermost horizontal groove on its lower edge. This gives an estimated height above pavement level of almost exactly 8 m. Of the two alternatives that would fit this dimension, (either 14 courses of channelled masonry rising directly from the floor or 11 courses resting on a socle), the latter is not only preferable architecturally but is also so clearly supported by every analogy that, even in the absence of any direct evidence, it has seemed justifiable to adopt it in the reconstructed drawings. (figs 17, 19, 20).

The majority of the surviving blocks come from the rear wall of the Temple. It is not impossible that the front of the cella was rather more elaborately treated than the rest. Among the debris there is a battered-pilaster capital of the same general form and dimensions as the capitals of the colonnades. This suggests the possibility that the facade had pilasters corresponding to the columns of the porch, although the evidence is hardly sufficient to justify the inclusion of any such feature in the reconstructed drawings. Another element of which the exact position is uncertain is a fragment of frieze, of approximately the same dimensions and carved with the same scrollwork as that of the main order, but cut on a panel only 14 cm. thick at the base. It may have come from the interior of the cella.

The pediment

The principal elements of the front pediment which have survived are the angle-block from the east corner and some scattered fragments that come mainly from the cornice. The rear pediment, on the other hand, can be reconstructed in all its details from the blocks that fell, or were made to fall, outwards on to the sand dunes beyond the outer wall of the Forum. With the exception of the adjustments to the rear gable necessitated by the projection of the cella wall beyond the line of the flanking colonnades, the two pediments were presumably identical. If there was ever any sculpture within the front gable, it has left no trace. The rear gable was certainly plain.

From the angle-blocks of the cornice we learn that this followed canonical practice, repeating horizontally all the mouldings of the raking cornice except the crowning sima and the small ivy-leaf moulding immediately below it (pl. 27a). These blocks also give the pitch of the roof, 18.7°, a figure which is confirmed by the survival intact of the gigantic block of Proconnesian marble that occupied the whole of the centre of the rear gable (pl. 28c). This measured 5.18 m. long by 2.66 m. high at the centre and 95 cm. thick. With an estimated weight of some thirty tons, it must have been one of the largest blocks of marble ever to be quarried and shipped, superseded only by the equally gigantic monoliths of Egyptian granite, or occasionally of marble, that were regularly shipped as columns. Carved in one piece with the apex and angle-blocks of the entablature were moulded pedestals for acroteria, of which those of the rear pediment are all preserved as well as that from the east angle of the facade. On the upper surface can be seen three of the four lewis-holes needed for hoisting it into place, but there are no dowels and the actual face is quite roughly pick-dressed. It looks as if, though designed to carry statues or decorative acroteria, the Temple was in this respect never completed.

The fact that the rear wall of the cella projected 21 cm. beyond the rearmost columns of the flanking porticoes involved a corresponding adjustment to the central part of the entablature. This was done in the simplest possible way by stepping out the whole central part of the gable by the same amount, and by continuing the mouldings of this central part round the resulting step and so down to the outer angles. The purpose of this rather elaborate arrangement is a matter for speculation. It was already implicit in the detailed lay-out of the colonnades and of the cella walls, and this in turn was affected by the obliquity of the outer forum wall with respect to the axis of the Temple. It looks as if the architect was aware that, seen from below, the rear gable was bound to look rather weak, rising above and behind the forum wall, and as if, within the limitations of the space available, he did his best to overcome this weakness by setting the crown of the gable as far forward as possible. (The southern angle-column could not be moved since it was already up against the outer wall.) That he was aware of the problem, but was not in a position to adopt the more organic solution of integrating the two walls into a single unit, is an important element in assessing not only the order of construction of the separate parts of the

grand design, but also the personality of the architect and the limitations within which he worked.

Coffering

There are remains of several coffered panels (fig. 22 and pl. 28d). The outer mouldings of the frame consisted of a band of modillions very similar to, though smaller than, those of the main cornice. Within this was a deeply hollowed guilloche, and within this again a kymation framing the central panel. Unfortunately none of the panels is sufficiently preserved to give precise dimensions for the whole, and the surviving fragments indicate a certain variety of practice. In at least one case the modillion course and the guilloche were on different slabs; and the spacing and lay-out of the former were not absolutely uniform, the angle-modillion in some cases being set obliquely, instead of in pairs framing a small square soffit. This diversity presumably reflects in some way the differences between the roofing of the porch, where there was a framework of intersecting architraves (p.47), and the lateral porticoes, which had no transverse architraves and must presumably have been coffered continuously. In the latter case there are dowel-holes for fixing the coffering to the projecting seating at the top of the inner face of the architraves.

Of the central panels there is only one fragment that can be identified with any degree of probability. This appears to portray drapery with tendrils of vine leaves and fruits, but the stone is too damaged for certainty.

The roof

The roof was covered with tiles of Proconnesian marble. Fragments of some of the tiles are preserved. They were 4.5–5.0 cm. thick and, though none is complete, they were at least 69 cm. wide. The flanged joints were covered by tiles of truncated triangular section, the outer row of which terminated in small antefixes. These measured some 30 cm. across the base and about the same in height, and were carved with openwork palmettes rising from an apron of intertwined leaves.

(c) DATE AND DEDICATION

That the Temple or some structure like it was a part of the original design for the Severan Forum is evident not only from the plan of the Forum as a whole, of which it was clearly designed to be the dominating feature, but also from the detailed lay-out of the south-west end, where the two entrances through the outer wall of the Forum (itself an early feature) presuppose just such a central building. Furthermore, the evidence of the limestone steps upon which the podium rests and which are continuous with those of the forum porticoes, strongly suggests that the ground-plan of the whole complex was laid out on a single occasion.

It is no less apparent that the Temple was one of the last buildings of the Severan complex to be completed. The evidence of the architectural elements from other parts of the complex, found reused both in the structure and in the facing of the steps in front of the temple facade (p.39), is quite explicit on this point. It will be recalled that the reused elements include rejects from two demonstrably late features of the Severan complex: although the steps, as they stand, represent a modification to the original design and one might reasonably expect the builders to have completed the heavy work on the temple itself before undertaking the final refinements to the facing of the steps and platform, it is very unlikely that the whole would have been dedicated before at least the main structure of the latter was in place. Another indication of late date is the fact that the only other columns of the same material and the same unusual dimensions as those of the Temple are the two pairs of exceptionally tall and slender red granite columns that were added to the decoration of the basilica apses in substitution for the earlier, simpler design of two uniform decorative orders. They must assuredly come from the

same shipment, and they may very well have been intended originally for the Temple before it was decided to omit the four central columns of the second and third rows carrying the porch.

Taking all these factors into account, there can be very little doubt that the Temple, though part of the original design, was not completed and dedicated until after the death of Severus, and very possibly on the same occasion as the Basilica, which was dedicated by Caracalla in AD 216. The details of the dedication were doubtless recorded in the monumental inscription carved on the frieze of the main facade; and although the remains of this are tantalisingly fragmentary (*IRT* 815c), they are none the less worth detailed scrutiny in the light of this broad conclusion.

The two surviving fragments read, respectively:

- (a) ...]ONCO[...
 (b) ...]IO A PARENTIBV[S...

The reading of the first fragment is certain. On the second fragment (pl. 26d) the surface of the stone has flaked at the left-hand side, and there is a bare possibility that the first letter is the right-hand upright of an M; the P is abraded, but legible; and enough has survived of the tops of the letters BV to make them certain. On both fragments the surviving letters are set well to the top of the available space, in such a position that it is clear that the inscription was designed to occupy two lines, of which the second did not extend the full length of the facade. Assuming a symmetrical lay-out (in this monumental context a very likely assumption) both the surviving fragments must come from either the beginning or the end of the first line.

There are two other factors that have to be taken into account. One is the possible length of the text and the spacing of the letters. The length of the frieze is 17.60 m., and since the surviving letters suggest a spacing of between 2 and 3 letters to the metre the first line could have contained up to about 45 letters. [These figures *have* to be wrong: they contradict the text suggested below which implies at least 50 letters to the left of the beginning of the second line and they are in any case patently absurd. Measurement of photographs suggest 6–7 letters to the metre and a possible total of 110–120 letters in the first line. — PMK] The other factor is the positioning of the individual blocks. Assuming a symmetrical disposition of the frieze blocks in relation to those of the architrave (and in view of the meticulously careful lay-out even of the podium facing this seems to be a reasonable assumption) the lengths of the eight individual blocks must work out at 1.35, 2.525, 2.35, 2.575, 2.575, 2.35, 2.525 and 1.35 m, respectively. The letters of fragment (a) were all cut on the same block, but the O of fragment (b) falls at the junction of two blocks and has therefore to be located at one of the positions indicated. Both sets of figures are of course approximate, but they will serve to indicate the broad framework within which any interpretation must be sought.

Turning to the actual texts, it will be noted that in the dedicatory inscription of the Basilica, Caracalla makes specific reference to the initiation of the building by Septimius Severus (*IRT* 427, 428). In the present context the words *a parentibus* must surely have a similar significance; they must be part of some such phrase as *a parentibus coeptum*, and refer to the initiation of the building or buildings, at some time during the previous reign. The rather vague terminology may have been used for brevity. An alternative that has to be considered is that it was chosen deliberately, in preference to a more precise statement of the facts. This suggestion gains substance when we turn to the second fragment. There are very few Latin words to which the letters ONCO could belong. The one that springs to mind is *concordia*, or some derivative from the same root; and when one recalls that *Concordia Augustorum* is one of the recurrent themes of the official face which the Severan dynasty presented to the world—in its coinage, in its epigraphy and (at Lepcis itself on the Severan Arch) in its sculpture—it is very tempting to read these letters as evidence that the dedication of the Temple was to some personification of this quality, so assiduously avowed and in the event so brutally contradicted by Caracalla's murder of his brother. One can well understand that, faced with the need to bring to completion a building of which the dedication had already been determined, Caracalla should have preferred the vague phrase *a parentibus coeptum* to any more specific statement of the circumstances in which it had been begun.

A detailed reconstruction of the inscription is clearly out of the question. Nevertheless,

bearing in mind the lay-out of the basilica inscription, one can see that the general pattern of the present text may well have been the same: a brief enumeration of the building, or buildings, dedicated followed *in extenso* by the name and titles of Caracalla. The latter, even if given in rather more abbreviated form, would still have occupied much of the first line and the whole of the shorter second line, while the surviving fragments would both have come from that part of line 1 which lay to the left of the beginning of line 2. One may suggest a text of the following form (the vertical bars represent the joints of the frieze):

Line 1 Aedem|cONCOrdiae Augustae|cum foro et . . ? . . IO|A PARENTIBVs coeptam|M.
Aurelius . . .

4. THE BASILICA

The Severan Basilica occupied the north-east end of the plot of ground which it shared with the Forum. Its ancient name is not specifically recorded, but by analogy with that of the Forum it was probably *Basilica Nova Severiana*, to be distinguished from the *Basilica Vetus*, a first-century building in the Old Forum (IRT 467) and from the as yet unidentified *Basilica Ulpia* (IRT 543) which presumably lay somewhere in the unexcavated area between the Theatre and the sea. It is oriented more nearly north and south than the Forum, but it will be convenient to refer to it in the same terms as the other Severan buildings, i.e. as if the major axis ran north-west and south-east. The east-west component is, in fact, sufficient to have determined the choice of the south-eastern apse to serve as the apse of the church that was installed within the Basilica in the sixth century.

Along the north-east side there is a monumental passageway connecting the old city with the Colonnaded Street, and this is clearly an afterthought. For the rest, apart from a number of changes of plan affecting the detail of the interior, the building is a homogeneous architectural unit, and was erected as part of the same major building operation as the adjoining Forum. In particular, the irregularities of plan are inherent in the original design, since the outer perimeter wall is uniform and of one build with that of the Forum; and the wall delimiting the Basilica on the north-east side, though built to a different masonry formula, is bonded at both ends into the outer wall and is patently contemporary with it.

The plan is grandiose but simple, that of an immense hall, measuring slightly over 70 by 36 m. and divided into a central nave and two lateral aisles by two monumental colonnades. There is an upper order, only slightly smaller than the order below, opening on to galleries over the lateral aisles; and at either end of the central nave there is an inscribed apse flanked by angle-chapels, which occupy the four corners of the building and are accessible both from the apse and from the ends of the lateral aisles. As in the case of the Forum, the irregularities in plan were unobtrusively and variously resolved out of sight of the observer standing within the main building—toward the south-west by the tapering block of rooms already described in Chapter 2; towards the south-east, by allowing the corner-chapels and the space behind the apse to absorb the difference in axis between the Basilica and the Colonnaded Street; and at the opposite end, by taking advantage of a slight swing in the line of the street so that a small projection at the western angle was enough to ensure a symmetrical lay-out. Only towards the north-east does the original plan appear to have made no special provision for insulating the central basilical hall from the architectural accidents inherent in the site; and here, too, second thoughts prevailed and a monumental corridor was added, effectively screening the Basilica from the buildings of the Old Forum which may be presumed to lie hidden in the dunes beyond.

The building materials and techniques are the same as those used in the Forum: for the main walls, the brittle, fossiliferous, yellow or yellowish-brown limestone that was quarried locally for the great Severan project; for the two apses, concrete faced with brick or with alternate bands or panels of brickwork and of small blocks of limestone (pl. 31a); limited quantities of a

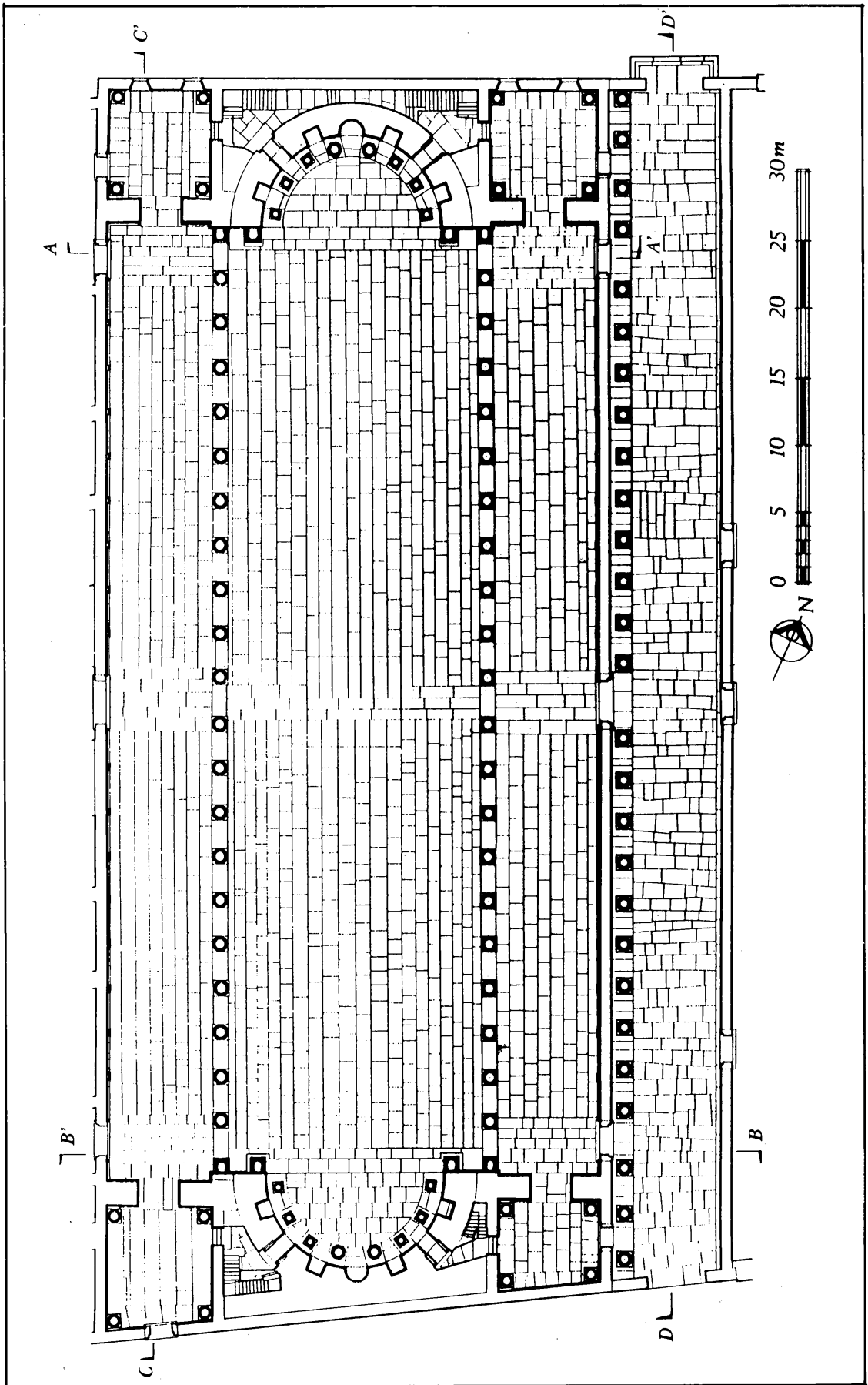


Fig. 24 Basilica and north-east passage: general plan as originally built, showing locations of sections.

fine white or greyish-white limestone, used as an alternative to marble or for certain moulded details; and various imported marbles, principally Proconnesian, Pentelic, cipollino, and red Egyptian granite. As in the case of the Forum, the building underwent considerable alterations in late antiquity, notably in the sixth century, when it was converted into a church; but for the most part these alterations affected superficial details rather than the essential structure, and in their main lines the surviving remains are still substantially those of the building erected by the Severan architects at the turn of the second and third centuries of our era.

(a) THE MAIN HALL

The main hall was slightly over 70 m. long and 36.7 m. wide and was divided into a broad central nave, which measured almost exactly 20 m. from column-centre to column-centre, and two lateral aisles, each of which measured approximately 8.5 m. from column-centre to wall-surface (fig. 24). It was accessible from all directions by way of no less than ten different doors. Of these, three were symmetrically placed in the south-west wall and opened more or less directly on to the Forum by way of the north-east forum portico and the 'Hall of the Thirteen Columns' and its small south-eastern counterpart; three more, facing them across the hall, opened directly into the north-east corridor; one, at the south-east end of the south-west aisle, opened through the southern angle-chapel into the Colonnaded Street; the remaining three, similarly placed at the opposite end of the same aisle and at each end of the north-east aisle, opened into the other three angle-chapels and, through them, into the 'Hall of the Thirteen Columns' and the north-east corridor, respectively. One of the principal architectural characteristics of the Basilica was, in fact, its ready accessibility.

The form of the nave colonnades can be determined in full detail. Not only are all the bases in place and a short section of the lower order still standing to cornice-height at the north-west end of the north-east colonnade, but, in clearing the building, the excavators found both orders virtually complete, lying as they had fallen upon the sand dunes accumulated within the building. Theoretically it would be possible (though almost prohibitively expensive) to restore both orders to their full height, making use almost throughout of the ancient materials.

There were 20 columns and 2 responding pilasters in the lower order of each colonnade, set at intervals of 3.2–3.3 m. apart from centre to centre (fig. 25). The bases, of Proconnesian marble with a double cavetto moulding (pl. 32b), are of the same general form as those in the exedra connecting the north-east forum portico with the Basilica; the columns are of red Egyptian granite and the Corinthian capitals (pl. 31b) of Proconnesian marble. Together they measure 8.8 m. in height; and since the columns were of very variable length, the heights of capitals and bases had to vary correspondingly so as to produce a level seating for the architrave. The entablature is of Proconnesian marble. It is simply but vigorously decorated on the inner face, and includes a monumental inscription that ran the full length of the colonnades, recording the erection of the building by Severus and Caracalla and its completion by the latter in the year 216 (*IRT* 428). On the reverse face the architrave is decorated with plain mouldings; the other two members are left rough. At intervals that correspond with the spacing of the columns beneath, the vertical joints between successive cornice-blocks and frieze-blocks are cut back to form a socket, some 50 cm. wide, for the timbers that carried the flooring of the galleries over the two lateral aisles; corresponding sockets can be seen in the masonry of the two outer walls. The members of this order were secured vertically by iron dowels, and the individual blocks of the entablature were also fastened to their neighbours by iron cramps.

The upper order corresponds closely to the lower order, on a slightly reduced scale. In the present fragmentary state of the columns (which, here too, were evidently of very variable length) any estimate of the total height is bound to be approximate. To judge from the respective heights of the two entablatures (1.56 m. and 1.71 m.) the upper order may be presumed to have measured just under 10 m. from base to cornice, as against the 10.5 m. of the lower order, making a total of just over 20 m. from the floor to the top of the upper cornice.

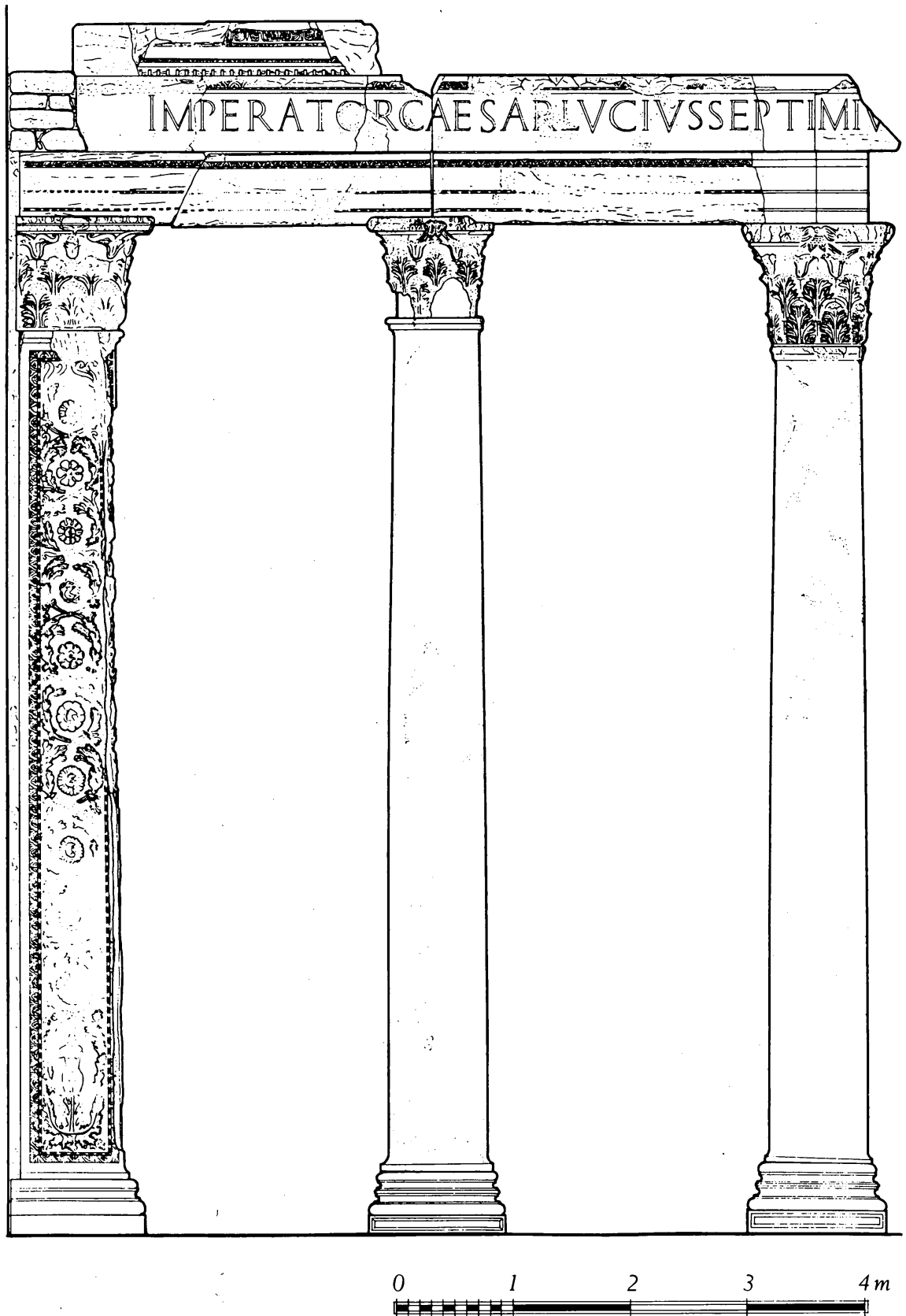


Fig. 25 Basilica: elevation of surviving elements of the lower order at the north corner of the nave.

Once more all the members, except for the red granite columns, were of Proconnesian marble and were fastened with iron dowels and cramps. The capitals, except for their slightly smaller size, appear to be indistinguishable from those of the lower order, but the bases were of the simple Attic form, with a single cavetto moulding. These stood on plain rectangular plinths 37 cm. high, which rested in turn on the upper surfaces of the lower cornices and were designed to ensure a level seating for the base proper, and to lift it clear of the pavement within the gallery. In the case of the three columns at either end of the colonnade the bases were supplemented by a low drum of Proconnesian marble carved with a ring of upstanding acanthus leaves (pl. 32c). This curious feature is found also in the upper order of the Nymphaeum, and it is not impossible that in both cases its main purpose was practical rather than aesthetic, that of helping to make up the height of a batch of unusually short columns. There is no trace of any balustrade between the columns. The entablature consisted of substantially the same elements as that of the lower order, the frieze in this case being plain and the cornice rather more elaborately carved. The principal difference is that there are no sockets for the roof timbers; although the carving was carelessly carried out and in places omitted altogether, the whole height of the entablature was evidently meant to be seen from within the gallery. In this case the roof timbers must have rested on top of the cornice—a fact which may be relevant to the question of the roofing of the central nave.

At either end of both orders the entablature rested on a square marble pilaster, that of the lower order being elaborately carved (figs. 25 and 35, pl. 32a). It is characteristic of the architecture of the whole building that no attempt was made to bracket either pilasters or entablature into the end walls. Structurally the colonnades were quite independent of the rest of the building and stood by virtue of their own dead weight and of such lateral buttressing as they received from the roof timbers of the aisles and galleries. As a consequence of this fact, the terminal pilasters were no mere decorative adjuncts but were functional supports, square in section and projecting boldly from the wall behind them. The bases of the lower order are of conventional Attic form with a single torus, and the capitals an adaptation of the conventional Corinthian capital to the requisite square shape, comparable in many respects to the angle-capitals of the Severan Arch; both bases and capitals are of Proconnesian marble. The pilasters themselves, which appear to have been carved from blocks of specially selected Proconnesian marble, are elaborately decorated on three faces with panels of formal acanthus scrollwork, each panel being framed in a kymation border and its scrollwork enriched with beast protomai set within the individual medallions; at the base a nude female figure rises from the acanthus calyx, clasping the stems of the two entwined scrolls, and each scroll ends in some form of palmette-like device, to which is added, in some cases, a Medusa mask or the figure of a Victory. [The artistic elements of the pilasters are discussed by Squarciapino (1974, ch. III).]

The corresponding pilasters of the upper order were of the same general form but far simpler in detail, with Attic bases (standing, like the columns of the same order on plain, square, limestone plinths) and quadrangular Corinthian capitals, both of Proconnesian marble. The three exposed faces of the pilasters, which are also of Proconnesian marble, are convex in section within a rectangular framework, the two faces visible from the central hall being fluted and reeded within a frame of kymation and bead-and-reel, that facing on to the gallery being merely roughed out.

The two long walls of the central hall are both of limestone *opus quadratum*, that towards the north-east being in the convention peculiar to the outer perimeter wall of the Forum-Basilica complex (the north-east corridor is an added feature), whereas that towards the south-west is coursed uniformly from floor to ceiling. (See figs. 31, 32.) In each case the only interruptions to the regularity of the masonry are those occasioned by the incorporation of three doors, one large one in the middle and two of medium size at either end, and by the sockets for the timbers of the roofing over the lateral aisles; and, in the case of the north-east wall, by the engaged elements of the decorative order of the north-east corridor. The internal masonry surfaces of these walls are quite roughly dressed (see fig. 32 and pl. 29) and can never have been intended to be visible. The whole of each aisle was, in fact, surfaced from floor to ceiling with coloured marbles: for though the marble itself has been almost completely stripped, the pattern can be very largely reconstructed on the evidence of the holes for the fixing-pegs. The door-frames, which are of the type already familiar from the Forum, faced outwards, presenting a smooth

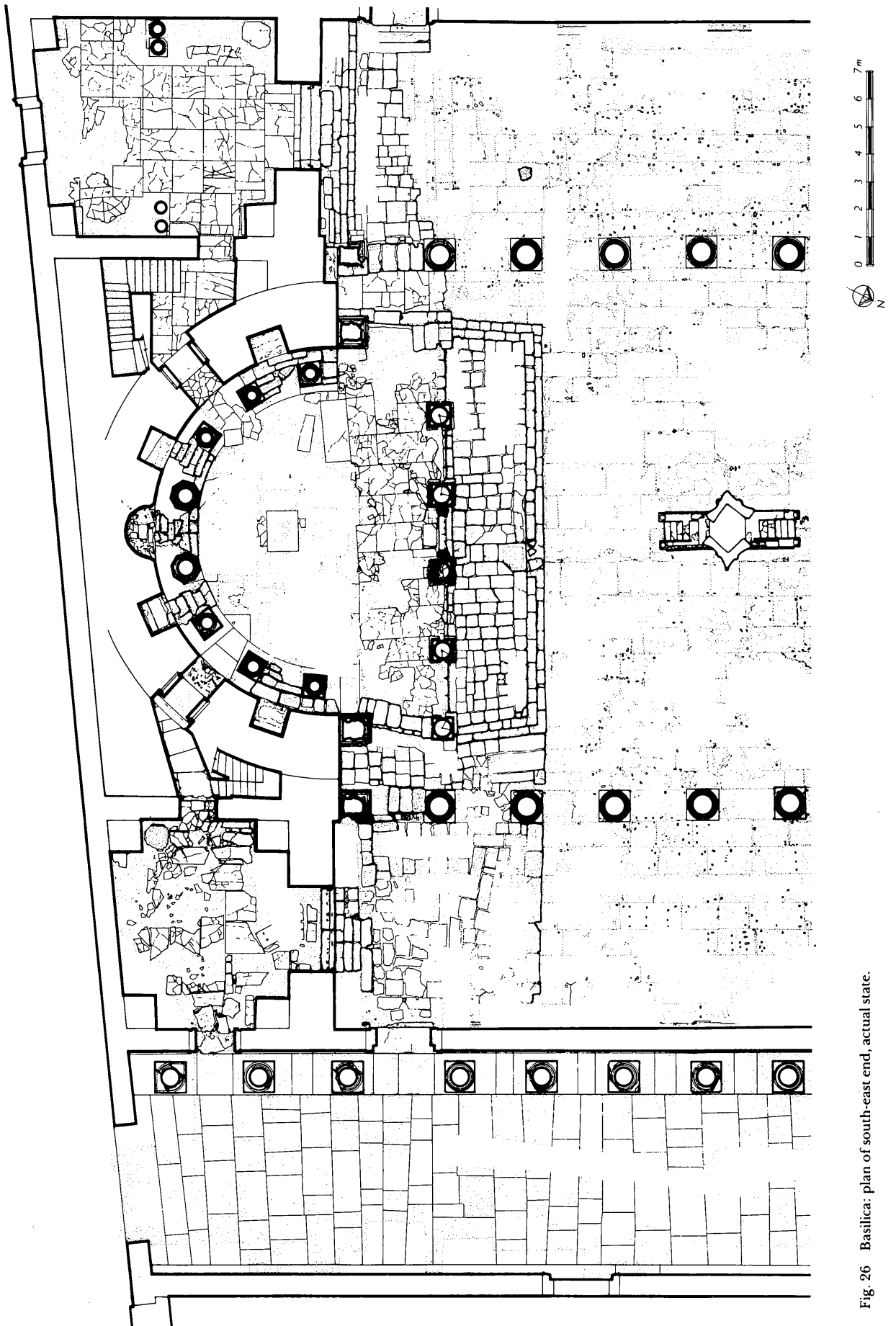


Fig. 26 Basilica: plan of south-east end, actual state.

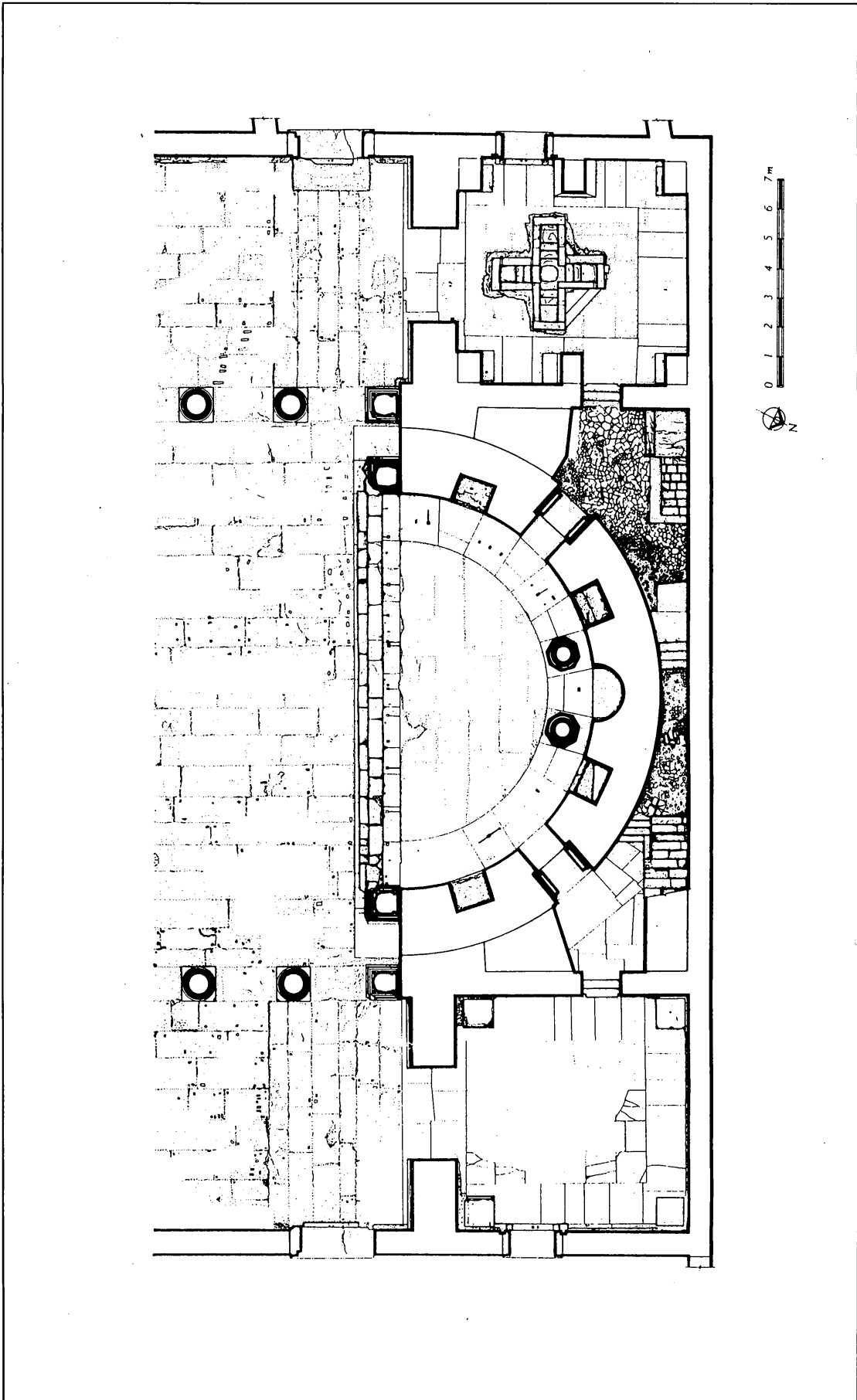


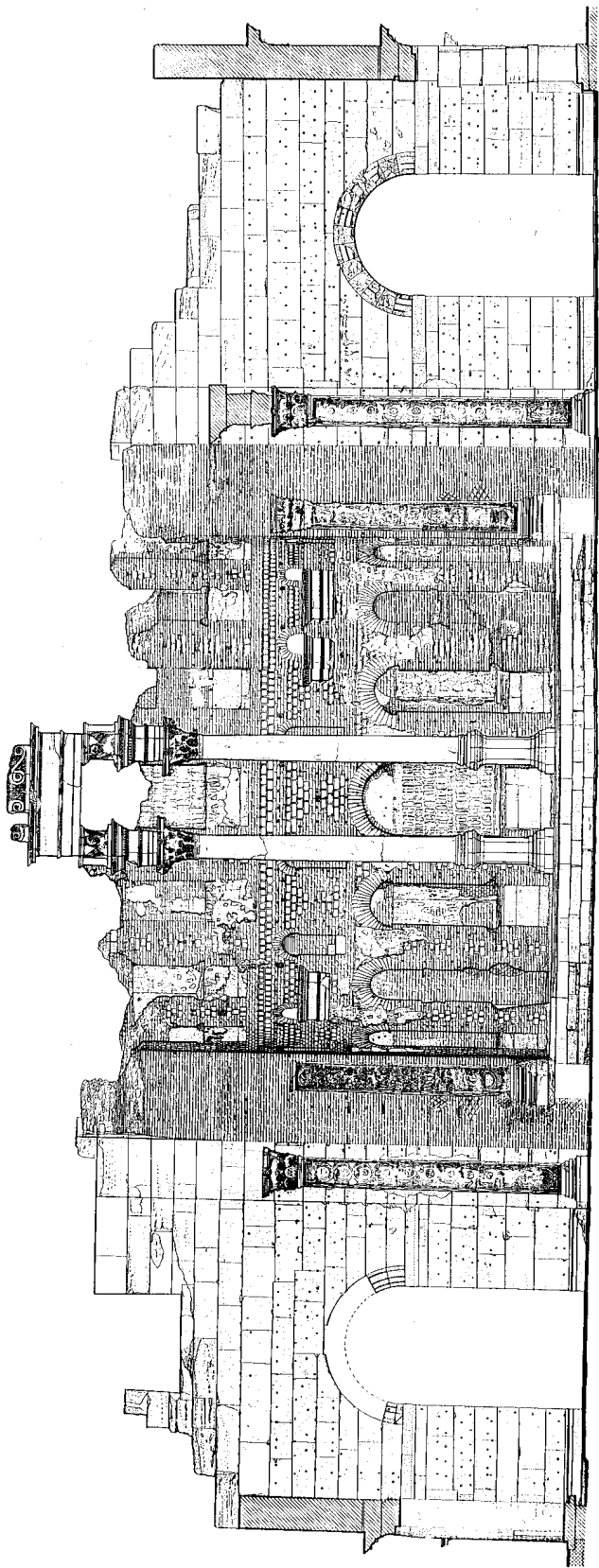
Fig. 27 Basilica: plan of north-west end, actual state.

surface towards the interior of the building. The floor was paved with slabs of Proconnesian marble, uniform with that of the central nave. At gallery-level only a few courses of the lateral walls remain. There appears to have been a doorway in the middle of the south-west side, opening (up one or two steps, to judge from the relative levels) on to the roof over the exedra in the north-east forum portico; and there are traces of one or more comparable openings at the corresponding point of the opposite wall. There are no fixing-pegs for marble; the walls were presumably stuccoed.

The end walls are more complex, the outer parts at either end of the aisles being of limestone *opus quadratum*, similar to that of the south-west outer wall and resting on a broad limestone footing, whereas the central sections, including the two apses, are of faced concrete. (See figs. 26–29.) The junction between the two types of masonry falls in each case within the central nave, about 50 cm. inwards from the inner face of the responding pilaster of the colonnade; and just beyond the outer face there is a corresponding set-back in the limestone masonry of about 20 cm. (50 cm. at the south end of the south-west aisle, the difference being made up in added brickwork), so that the aisles are that much longer than the nave. In the middle of the end wall of each aisle there is an arched doorway leading into the corresponding angle-chapel (pl. 33a). The base-moulding of the wall and the voussoirs of the doorway are of fine, greyish-white limestone and, when first erected, the latter carried simple framing mouldings, but (as in the case of the almost identical arches opening off the north-east forum portico, p.19) the mouldings have been cut back and the whole wall-surface above the base moulding uniformly veneered with marble. Directly above the arches there were doorways leading from the upper chambers of the angle-chapels into the galleries; the door-sills of two of these are still in position.

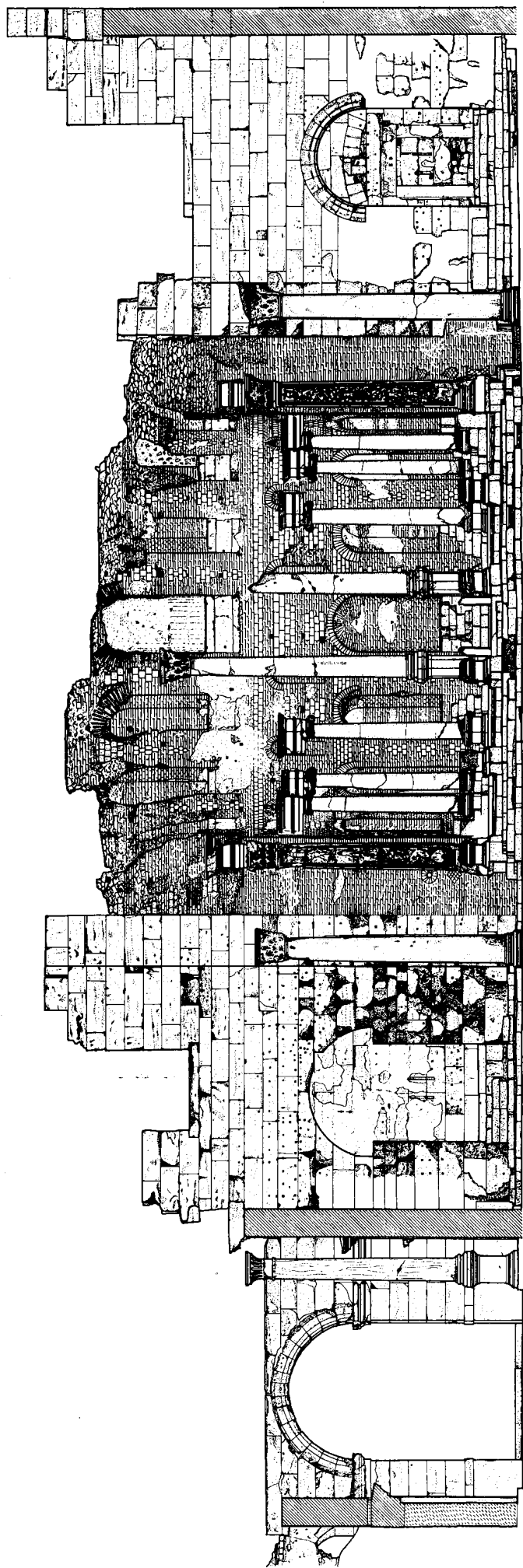
At the four outer extremities of these transverse walls the *opus quadratum* masonry is in all cases bonded into, and of one build with, that of the longitudinal walls up to a certain height: at the north and east corners, from pavement-level up to that of the lintels of the doors opening on to the corridors; at the west corner, up nearly to the crown of the arch leading into the west angle-chapel; and at the south corner, up to the spring of the corresponding arch into the south angle-chapel. From this point upwards the transverse wall is in each case straight-jointed against the outer wall, until at gallery-height the two are, wherever preserved, once again bonded into each other. At its inner extremities, on the other hand, the limestone masonry of the transverse walls can be seen, rather surprisingly not to have been begun before the concrete framework of the apses was already in place. Since the south-east apse (and presumably the north-west apse also) is itself certainly later than the outer perimeter wall against which it abuts, the following structural sequence appears to be established. The first element to be built was the outer perimeter wall of the Forum-Basilica complex, which was carried up to a considerable height, though not necessarily everywhere completed. To this first stage belong also a substantial part of the south-west long wall of the Basilica (which is bonded at both ends into the outer perimeter wall) and the lower courses of the outer ends of the two transverse walls, extending inwards as far as the doors into the angle-chapels. The building of the two apses in concrete constitutes the second stage, and it was not until these were complete to their full surviving height that any further work was undertaken on the two transverse walls. These were then completed up to gallery-height, at which point work was once more resumed on the outer walls. Except in the case of the apses, there was evidently a certain amount of latitude between one phase and the next, so that the line of division is not everywhere quite the same. But in its broad outlines the structural sequence is clear enough, and it shows that, whatever detailed adjustments may have been made to the plan during the construction of the building, the main lines of the Basilica were established right from the outset of the work.

Even in the laying-out of the plan the builder does not seem to have been unduly exercised by questions of absolute accuracy. The internal width of the building is virtually uniform, but the south-west aisle, which measures 70.20 m. from wall to wall, is 50 cm. shorter than its north-east counterpart. Similarly, although the north-east colonnade is almost exactly parallel to the two outer walls, the south-east colonnade is about 30 cm. out of alignment, so that the nave is that much wider at the north-west than at the south-east end. Discrepancies of this order occur throughout the building, a factor that must be taken into account in using the figures cited in the text.



0 1 2 3 4 5 6 7 m

Fig. 28 Basilica - sectional elevation of the north-west end at A-A', actual state.



0 1 2 3 4 5 6 7m

Fig. 29 Basilica: sectional elevation of the south-east end and adjoining passage-way at E-B, actual scale.

Ward-Perkins' text breaks off at this point, though it is clear from his initial draft that he had intended to write further sections for this chapter under the following headings:

- (b) The north-west apse*
- (c) The south-east apse*
- (d) The secondary rooms at the north-west end*
- (e) The secondary rooms at the south-east end*
- (f) The north-east corridor*
- (g) The problem of the roof*
- (h) The exterior*

If these sections were ever written, which seems unlikely, they are now lost. The drawings which were intended to accompany the whole chapter are, however, reproduced in figures 24–35. — PMK.

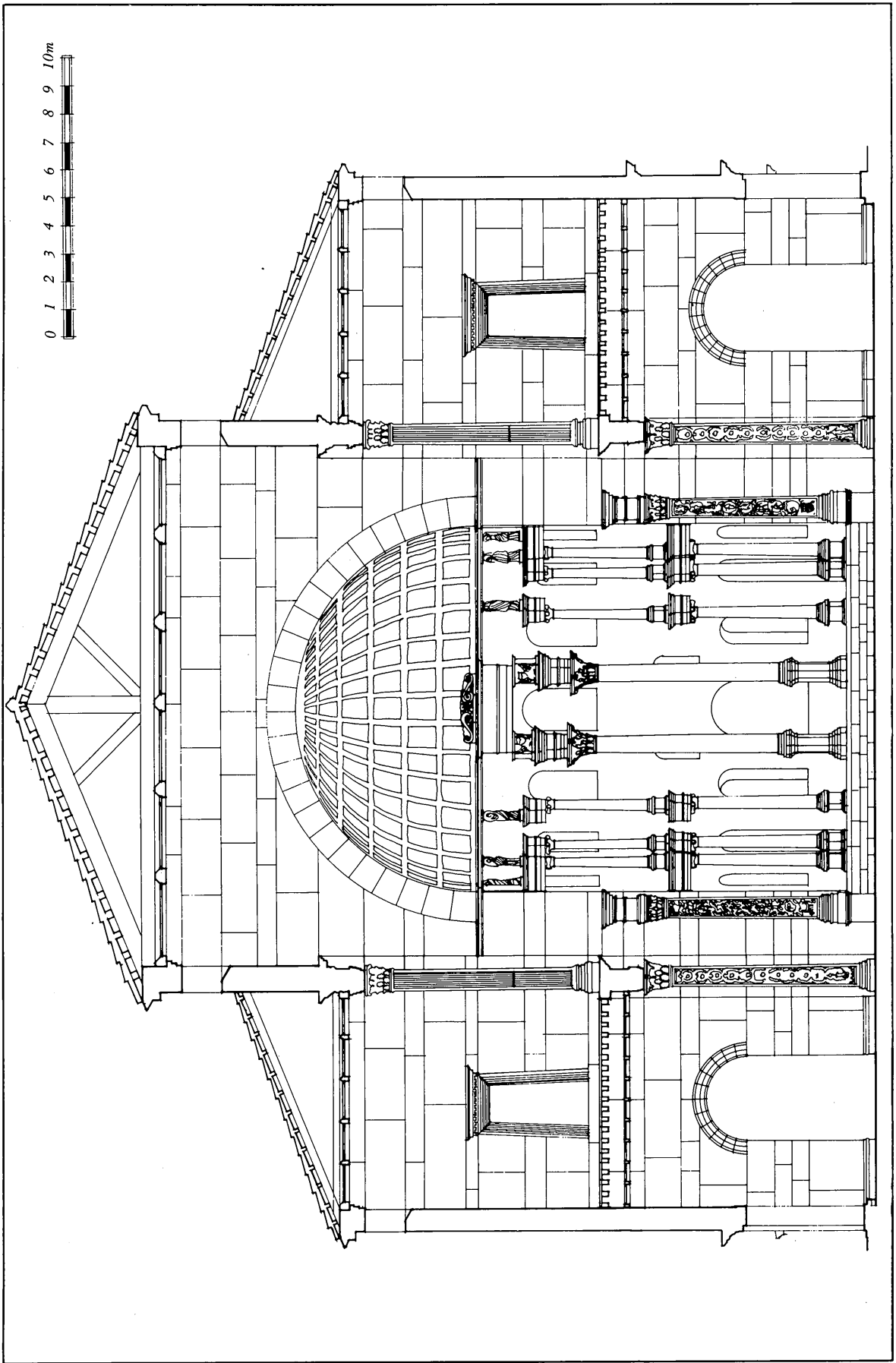


Fig. 30 Basilica: reconstructed sectional elevation, looking towards the north-west end.

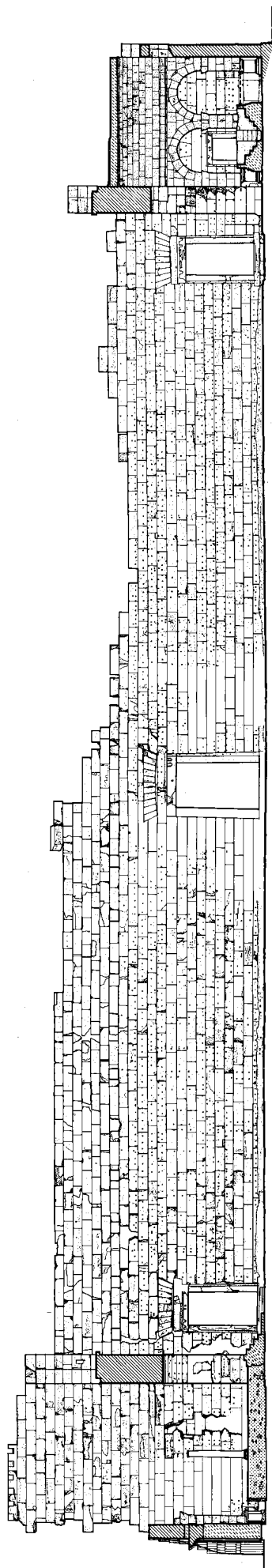
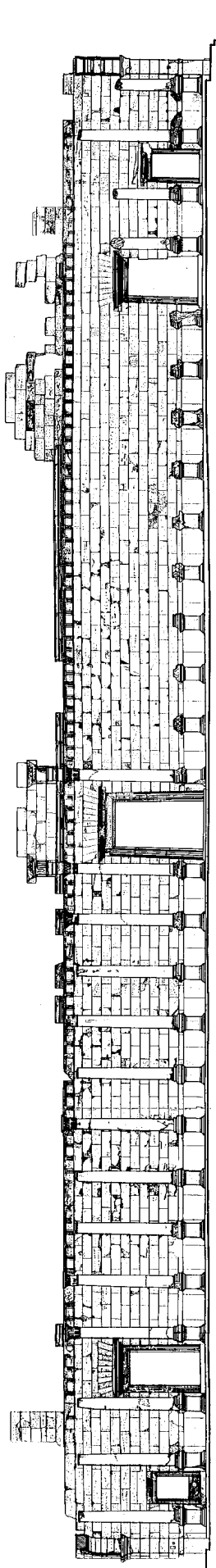


Fig. 31. Basilica: sectional elevation through south-west aisle and adjoining apse-chapels at C-C' looking towards the Forum, actual size.



0 1 2 3 4 5 6 7 8 9 10 m

Fig. 32. Basilica: sectional elevation of facade facing the north-east passage at D-D', actual size.

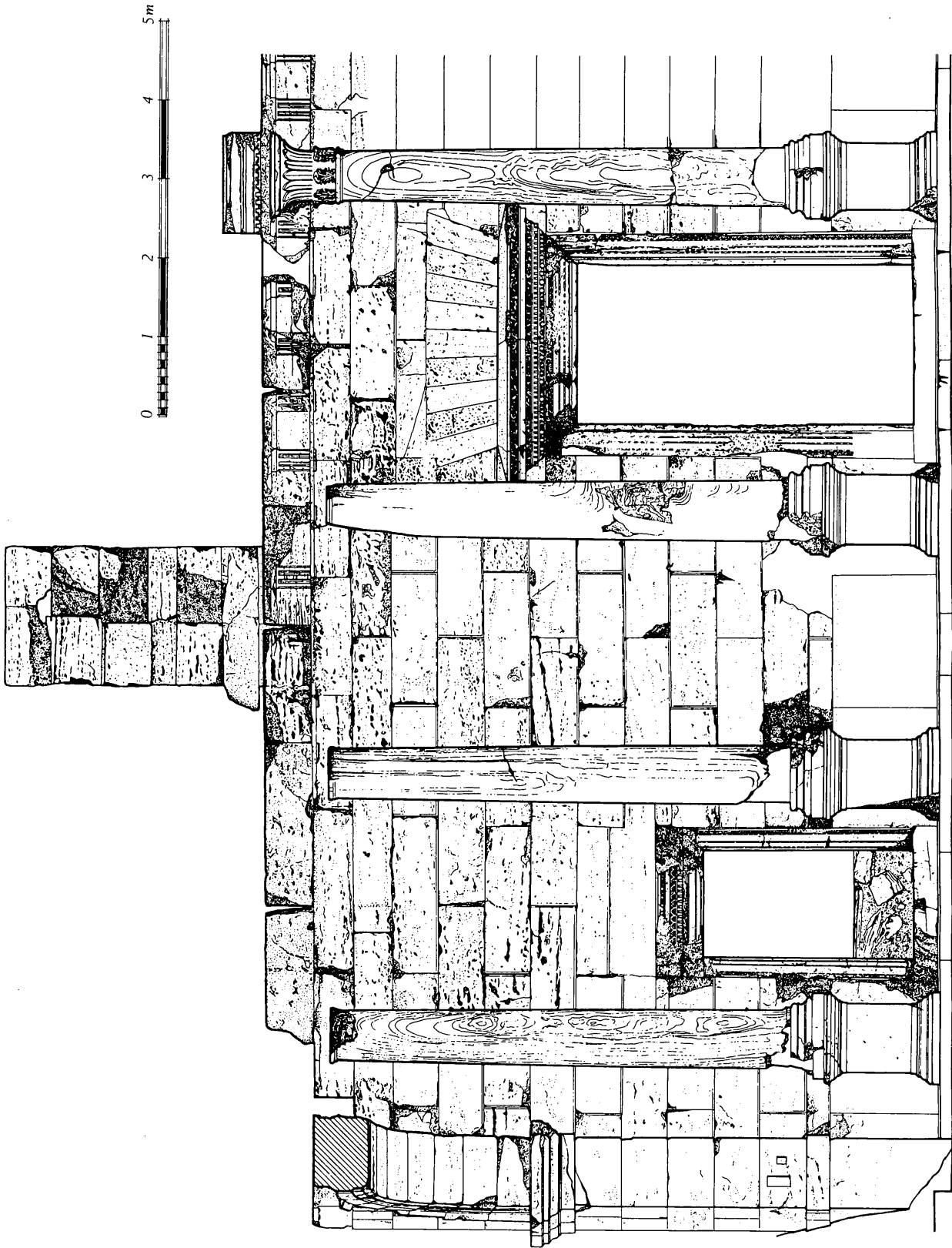
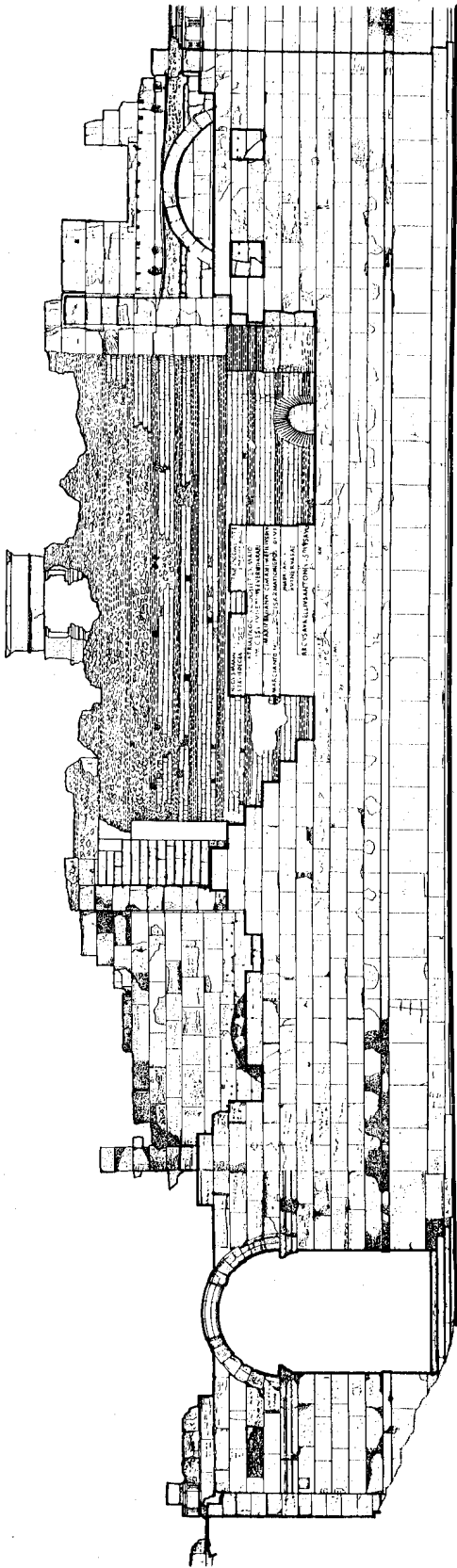


Fig. 33 Basilica: elevation of entrances to the east angle-chapel and the adjoining nave from the north-east passage, actual state.



0 1 2 3 4 5 6 7 8 9 10 m

Fig. 34 Basilica: external elevation of the north-west end and entrance to the north-east passage: actual base.

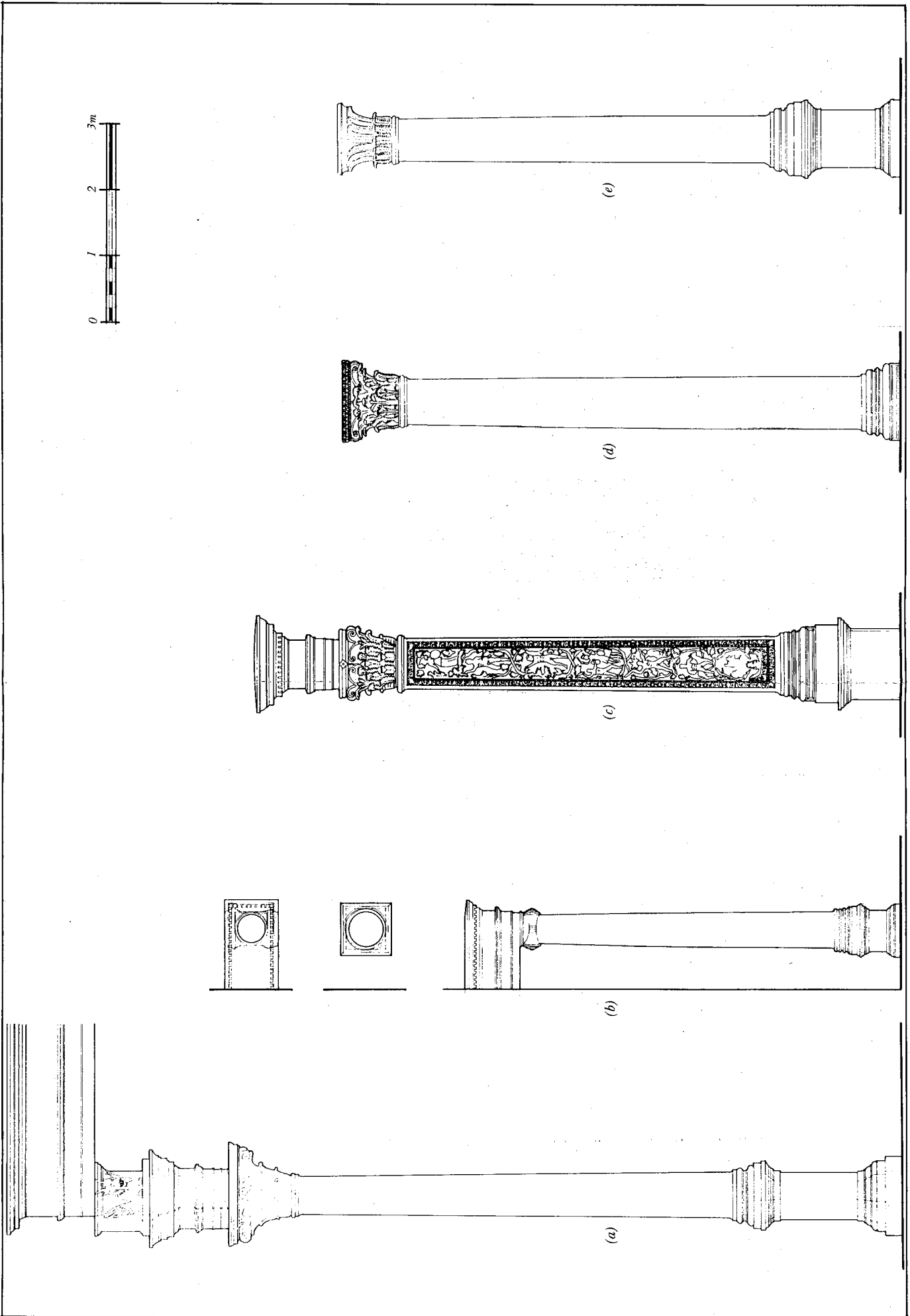


Fig. 35 Basilica, elevations of selected columns and capitals: (a) giant order, north-west apse; (b) lower engaged order of apses; (c) Hercules pilaster at south-east end; (d) column of lower order of nave; (e) column of north-east forum portico.

5. THE COLONNADED STREET

The element of the great Severan complex which has suffered most since antiquity is the Colonnaded Street. In this case it is not so much the hand of man as the forces of nature that have been responsible. Like the Great Nymphaeum and the piazza at the head of it, it seems to have been built very largely on ground that had been reclaimed from the former bed of the Wadi Lebda; and when at some uncertain date after the sixth century AD the stream resumed its ancient course, breaking through the dam which throughout classical antiquity had safely diverted the winter floods round the town, the result was sooner or later disastrous for all but the most massive structures that stood in its path. Fortunately, one wing of the Great Nymphaeum stood firm, forming a solid protective buttress behind the shelter of which the ruins of the upper part of the street remained substantially intact. Even here successive floods have left their mark, and there were considerable deposits of alluvial silt beneath the blown dune sand that finally covered the whole area. But the damage is mainly superficial. It is only as one moves down towards the harbour that the full force of the stream can be seen to have made itself felt, tearing up the pavement, overturning and carrying off the architectural elements, and finally scouring and destroying even the foundations (see pls. 1, 2, 34a). The outer south-east wall can be traced as far as the Byzantine Gate opposite the Basilica, and the foundations of the two colonnades for another 120 m. to a point opposite the Small Nymphaeum. Beyond this, excavation would probably disclose the line of the outer north-west wall all the way to the harbour, but of the street itself all trace has been destroyed.

The broad lines of the plan are clear enough (fig. 39). Designed to afford a monumental approach to the city from the new Severan harbour, it consisted of a spacious paved thoroughfare, some 400 m. long and about 21 m. wide, leading in a straight line from the south-western corner of the great new harbour quarter up to a monumental piazza beside the Hadrianic Baths and flanked on either side by tall, colonnaded porticoes. The porticoes were each about 10 m. wide and just under 11 m. high from pavement to ceiling, and the total width of the whole complex was no less than 42.50 m. At intervals there were transverse streets, which led into and through the flanking porticoes. Two large limestone arches stood at the south-west ends of the two porticoes, separating them from the piazza, but the actual street ran through without a break. There was presumably some corresponding feature at the harbour end, but this has vanished without a trace, destroyed by the wadi.

Before describing the visible architectural features of the street it will be well to glance at the foundations upon which it was built. Since it seems to have been built very largely on ground reclaimed from the wadi these were of necessity very massive, and they incorporated a system of drains sufficient to carry off not only the winter rainfall of the street itself and of the adjoining buildings, but also the drainage of the whole of that part of the earlier town which had previously been freely discharged in this direction, directly into the wadi. The drainage system of Lepcis awaits a full and detailed examination, but enough has been explored to indicate the general character of the Severan contribution and something of its detailed layout. As will be apparent, it occupied an important place in the initial planning of the whole

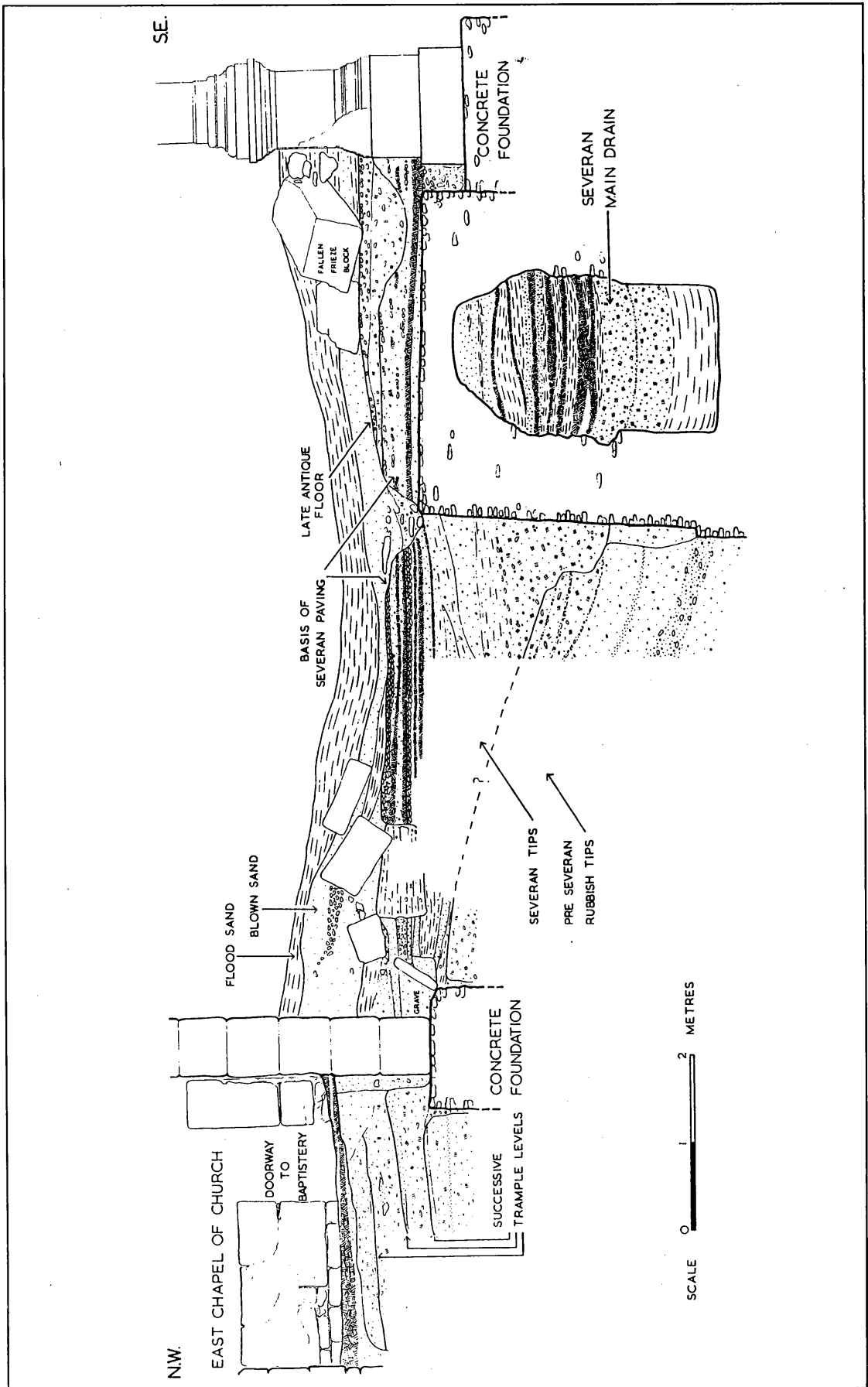


Fig. 36 Colonnaded Street: excavated section through the north-west portico.

complex, and it has a good deal to tell us about the way these initial plans were put into effect. [In addition to the discussion below, p.71, it is clear that JBWP intended a more wide-ranging description of the drainage lay-out for the entire complex, but there is no sign that this was ever written. — PMK]

Both the foundations and the accompanying drainage system have been exposed at a number of points in the lower part of the Colonnaded Street, where the successive layers of the superstructure have been stripped off and destroyed by the action of the wadi. To supplement this information a section was cut in 1951 across the north-west portico about 40 m. below its junction with the piazza, a short distance to the right of the doorway which now leads into a Byzantine church. This section (fig. 36) showed that both the outer wall of the portico and the colonnade rested on massive footings of concrete rubble, 1.40 m. and 2 m. wide respectively. The depth of these footings could not be determined within the space available (the whole area was at the time still littered with the fallen debris of the colonnade), but in the case of the colonnade footings it was certainly not less than 4 m. below the pavement level of the finished building. The squared limestone masonry of the outer wall rested directly on the top of its concrete footing, whereas that of the colonnade was capped with two foundation-courses of limestone, one rather roughly dressed, the other carefully dressed to form a visible stylobate flush with the pavement of the portico. Built up against the inner face of the colonnade and contemporary with it, though constructed separately, was a huge concrete drain, measuring 3.60 m. across its flat top and some 1.60 x 3 m. internally. [But note the markedly different interpretation of these features by Di Vita (1982, 103).] The remaining substructures of the portico can be seen to consist of tips of earth and rubbish, some of which are earlier than, others contemporary with or later than, the built foundations. The earlier tips slope sharply downwards towards the line of the street, so that, whereas the footings of the outer wall are trench-built from a point barely 70 cm. below the level of the portico pavement, only the lower parts of the drain (and *a fortiori* of the colonnade footing beyond it) were trench-built, with a foundation offset at 3.60 m. below pavement-level; the upper parts had been built free-standing within a framework of timber shuttering. The significance of these facts is clear enough. At this point at any rate, when the Colonnaded Street was laid out, the tips of earth beneath the outer north-west wall represented the approximate limits of the higher ground along the city's edge. To bring it up to this level the whole of the rest of the street had to be terraced up to a height of not less than 4 m.

Although it would be rash to generalize on the basis of a single exploratory section, there are in fact indications that the same conditions applied elsewhere down the street. Wherever exposed, the foundations and the accompanying drains appear to have been built free-standing and to have been remarkably deep, as were certainly the foundations of the Great Nymphaeum. The facts are readily explained if we assume that both Colonnaded Street and piazza (and possibly even parts of the Basilica and Forum) were laid out on ground which was reclaimed from the wadi bed or from the low ground beside it, and which was, for that very reason, available for building. So long as the dam above the town held this would have involved no major engineering problems; and while it makes good sense of what little we know of the pre-Severan course of the wadi as indicated by the orientation of the Hadrianic Baths and by the siting of the pre-Hadrianic drains it also helps to explain why, when in the Middle Ages the dam broke, the wadi was able so thoroughly to obliterate all except that part of the Colonnaded Street which was sheltered by the bastion of the Great Nymphaeum. Destroying the masonry and scouring out the loose fill, it resumed what had in fact been its original course.

The Footings of the Colonnades

These can best be examined where exposed in the lower part of the Street (pl. 35a). The blocks of the lower course are of slightly irregular width and in almost all cases were linked horizontally with wooden dovetail cramps and vertically, to the course above, with iron dowels. There is a setting-out line along the inner edge of the upper face. The upper course is plain except for the seatings of the marble plinths of the colonnade, each with two metal cramps. In many cases the positions of the plinths were marked by L-shaped guide lines at the angles, and there are a number of pry-holes for guiding them into place. Here and there (e.g. near the

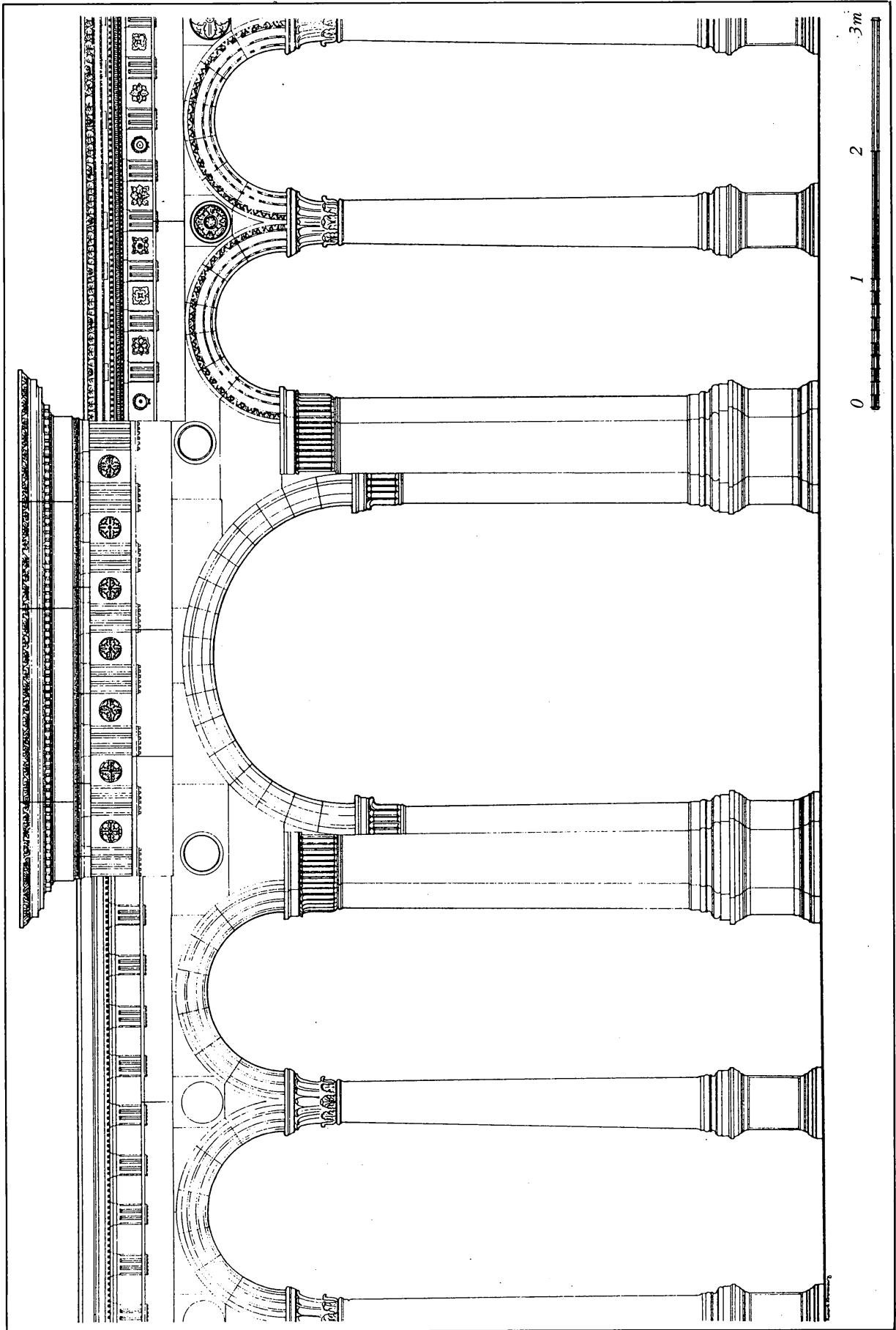


Fig. 37 Colonnaded Street: reconstructed elevation of archway framing the junction with the street at the south-west end of the Forum, with adjoining porticoes.

Byzantine Gate) the two courses merge into a single massive monolith (pl. 34b); and further to the north-east, near the point where the surviving footing breaks off, it can be seen to incorporate piers of masonry, about 4 m. apart and each consisting of two superimposed blocks of limestone, 1.05 m. square. Without further clearance their purpose cannot be determined. Perhaps they represent an alternative structural scheme that was begun in this stretch but abandoned soon afterwards, before the foundations were completed.

The Drains

In planning the drainage of the Colonnaded Street the builders had to take account not only of the surface drainage from the street itself and from the adjoining Severan buildings, but also of that from the whole of that part of the city which had hitherto discharged into the wadi between the Hadrianic Baths and the Harbour. To meet this they built two huge collector drains, which appear to have run the whole length of the street, one beneath each of the two lateral porticoes. That beneath the north-west portico picked up the drainage from the Forum and Basilica and from the quarters of the old town that lay immediately beyond (*Regio IV, Insulae 1-12*; see *IRT*, p. 281, map 5 for the *regiones* and *insulae* into which the city is conventionally divided) as well as, in its lower course, from the quarter that lay to the south of the Forum Vetus, in *Regio VI*. That beneath the south-east portico was responsible for the drainage of the greater part of *Regio II*, as well as for the outflow from the Hadrianic Baths and presumably, in its lower course, from the as yet unexcavated Severan Baths near the harbour.

These drains were massive concrete structures, rectangular in section and mainly built free-standing within a framework of planks. There were shafts for inspection and clearance at regular intervals, which must have been very necessary, since not only was the lower half found entirely clogged with silt, but even in antiquity all the wear had been concentrated in the upper half (see fig. 36). At intervals there must have been inlet channels to receive the waters of the lateral feeder drains.

The north-west drain is mostly deeply buried and inaccessible. Apart from the section described above, however, it was also exposed in a deep trench dug by Bartocini in 1958 (Bartocini 1961, fig 25 on p. 120). At this point it lay just outside the portico, against the outer face of the colonnade footing, beneath what had once been the kerb of the street opposite the arch of grey limestone, mid-way between the Basilica and the Small Nymphaeum. There is no reason to doubt that it ran the whole length of the street, discharging into the harbour, as indeed it was logically almost bound to do.

The south-east drain is exposed opposite the main entrance to the Forum. At this point it threw off much of its contents by means of a lateral effluent, discharging into whatever channel now carried the residue of the wadi itself. Even if the whole flow of the stream above the town had been successfully diverted by the dam, the wadi within the town must still have served to carry off the surface drainage of considerable areas on both banks. Whether this was in an open channel or in a closed duct we have no means of deciding for certain. On the whole, the former seems the more probable. The fact that one of the two main Severan drains could discharge into it suggests that it was of a considerable size, and the whole impression conveyed by the surviving remains is that there was a substantial architectural hiatus between the Severan complex and whatever lay beyond it to the south-east. We have probably to visualize an open channel, crossed where necessary by bridges.

Below the effluent the line of the south-east main drain was continued for some distance on a markedly smaller scale and then, about 40 m. short of the Byzantine Wall, it again becomes larger, a feature of which only further clearance could determine the significance. The south-east drain is last visible opposite the Small Nymphaeum, where it occupies the same position in relation to the colonnade-footing as the north-west drain opposite the grey limestone arch.

The Order of the Colonnades

The lay-out of the Colonnaded Street was in its broad outlines symmetrical about its long axis, with two opposed and equally balanced porticoes stretching the whole way from the piazza to the harbour. There were some differences of detailed treatment, but the only one of

substance seems to have been the greater elaboration of the facade in the section of the north-west portico fronting the Forum and Basilica. This distinction was further emphasized by the placing of two slightly larger decorative arches at the points of junction between this central section and the plainer sections above and below it. These arches marked the points of entry to the north-east basilica passage and to the street that delimited the south-west end of the Forum.

The order common to the whole street was an even taller version of that of the forum porticoes, the additional height being gained by raising the column-bases on moulded pedestals, as in the semi-engaged decorative orders of the north-east forum portico and of the north-east basilica passage (fig. 37; cf. fig. 10 and pl. 33b). The effect of these, coupled with the use of arches instead of the flat architrave of normal classical practice, was to lift the rafters to a height of over 11 m. above pavement level, a height that by any conventional standards was out of all proportion to the spacing of the columns (2.30 m. clear between them just above the base, 3.10 m. from centre to centre). The tendency to elongate the order, which is well marked throughout the Severan complex, here attains its most extreme expression.

The constituent elements of the upper part of the Colonnaded Street, from the piazza down to the arch at the south-west angle of the Forum, seem to be very largely still in place, as fallen, and may be taken as typical of those parts of the colonnades that did not receive more elaborate treatment. The plinths, arches and entablature were of yellow limestone, the plain Attic bases and Corinthian capitals of Proconnesian marble, and the columns of green Carystian cipollino. The entablature was Doric, identical with that of the outer wall of the Forum, and in the spandrels between the arches there were plain, projecting, shield-like bosses. The roof-timbers rested on the frieze rather than, as more commonly, on the architrave, presumably to allow space for a coffered ceiling, and they carried a flat terrace, not a sloping roof.

Structurally the central sector of the north-west portico, fronting the Forum and Basilica, differs in no essential from that just described, but the materials are richer and there is a great deal more carved ornament. As regards materials, the main differences are that the capitals and bases are here of Pentelic marble and that the limestone of the arches and entablature is of a finer, greyish-white quality. The capitals, instead of being Corinthian, are of the same lotus-and-acanthus form as those of the Forum, and the mouldings of the arches and entablature are elaborately carved, with rosettes and similar ornaments in the metopes and richly foliated bosses in the spandrels. The quality of this work (the details of which are listed below) is fully evident in the illustrations. The deeply drilled, rather summary counter-relief montage was well suited to the porous, brittle stone and is very effective in the strong Libyan light. The motifs are mainly, though not exclusively, drawn from the contemporary marble repertory.

In its simpler form, as for example in the stretch immediately below the piazza (fig. 37, left), the elements of the order are as follows:

Moulded limestone plinth, height 1.48 m. The dressing of the die imitates that of the similarly shaped marble plinths used elsewhere in the Severan complex (e.g. in the Temple), with a narrow band of drafting framing an area that is claw-dressed or, in some cases, dressed with both punch and claw.

Proconnesian marble column-base of the simple Attic form with a single scotia; height 27 cm.

Column of green cipollino marble from Carystos, height 5.85–5.90 m., diameter at base c. 80 cm.

Proconnesian marble Corinthian capital of standard Severan type, height 83–85 cm.

Limestone arch and spandrel made up of the following elements:

—Springer block, hexagonal in elevation. The mouldings of the arch are those of a plain 3-fascia architrave externally with the equivalent 2-fascia inner face.

—Five voussoirs, completing the arch.

—Spandrel block, hexagonal in elevation, the outer face carved in shallow relief with a plain, shield-like boss.

—Two small triangular blocks, each with one curved side, completing the spandrel.

Limestone architrave, frieze and cornice, each 50–51 cm. high. The vertical joints of the frieze course are concealed by the projecting outer flange of the adjacent triglyph. The upper surface of the cornice is rough, and cut down through the inner face of it are the slots for the roof-timbers of the portico, which rested on the upper face of the frieze. The inner face of the latter was left rough, and was presumably concealed either by a wall plate or by a hung ceiling.

The order is dowelled vertically with iron dowels: two each between stylobate and plinth, between plinth and column-base and between the individual blocks of architrave and frieze, and of frieze and cornice; one each between column-base and column, column and capital, capital and springer, springer and spandrel, and spandrel and architrave. The adjoining blocks of architrave and frieze are fastened horizontally to each other, and the spandrel blocks to the adjacent triangular blocks, with π -shaped cramps (pl. 46b). There are lewis holes in the upper

faces of the larger limestone members.

The more elaborate version of the order (fig. 37, right), where it forms a facade to the Forum and Basilica, is structurally identical with that just described, the only formal difference being the substitution of the more elegant lotus-and-acanthus capital for the plain Corinthian capital of the simpler version. The arcades and entablature are, however, decoratively far more elaborate. The mouldings of the arches both externally and internally are identical with those of the Forum (fig. 6), with the same considerable variety of detailed treatment. The bosses in the spandrels stand out in much higher relief than in the simpler version and are carved with an elaborately foliated quatrefoil design, bordered by a bead-and-reel and by a very simple leaf-and-tongue moulding. Here, too, the quality of the carving varies greatly (pl. 35c, d). On the inner face of the spandrel block there is a plain, shield-like disc in low relief. The frieze-course is capped with a continuous running-swastika key-pattern, supplemented on the triglyphs by a kymation (pl. 35b); within the triglyphs are various rosettes, some plain, some enclosed within a wreath. The most elaborate member is the console cornice (pl. 36a, b). Here, reading from top to bottom, the mouldings are: on the sima, a deeply cut leaf-and-tongue, punctuated by small, non-functional lion's head spouts, one corresponding to each console, and below it a kymation; the consoles are broad and very shallow, with an egg-and-dart framing-moulding and a simple, linear architrave-soffit motif on the underside; in the elongated soffits between the consoles are rectangular panels framing smaller, diamond-shaped panels, each containing foliate motifs; and finally, below the consoles, there is a line of rather small dentils (badly weathered on the block illustrated in pl. 36a).

Several of the Pentelic column-bases and capitals of the sector bear masons' inscriptions on the upper and under surfaces respectively (*IRT* 800 *a* and 803). One of the cipollino columns bears an inscribed 'M' on the drum, 28 cm. above the foot (*IRT* 804 *c*).

Openings at Lateral Street Junctions

Of the features that interrupted the uniform flow of the two flanking colonnades, by far the most elaborate of which there is any trace were the two arches of white limestone which stood at the south and east corners respectively of the Forum-Basilica complex. These marked the points of entry of two important streets leading down from the old town, and, within the framework of the street itself, they served to accentuate the transition from the plainer to the more elaborate version of the colonnade and so to emphasize the close relationship between the Colonnaded Street and the Basilica and Forum.

Of the two arches, that opposite the east corner of the Basilica has suffered far more from the destructive forces of man and nature but since, apart from minor discrepancies of dimensions, the surviving remains are identical with those of its better-preserved counterpart, it will be sufficient here to describe the latter. This (fig. 37, centre) consisted of an arch almost exactly double the width of those of the rest of the colonnade, the junction with which was effected by means of two huge piers of complex plan, each carved from a single monolith of specially selected fine white limestone. This stood on a pedestal of the same height and profile as those of the rest of the colonnade and from it there projected on one side a half-column forming a respond to the cipollino columns of the colonnade, and on the other the deep rectangular pilaster which carried the voussoirs of the central arch. In order to accommodate the wider span of the arch without raising the crown of it above the ceiling of the colonnade, the inner pilaster was shorter by about a metre than the rest of the pier. The capitals (pl. 36c) are of the same vertically fluted type as those of the very similar white limestone piers in the flanking halls at the south-west end of the Forum.

The voussoirs of the arch were decorated with mouldings which resemble those of the plainer stretches of the colonnades, and at either side there were composite spandrels, whose structure reflects the eccentricity of the spaces to be filled. In the middle of each, over the pier, there was a plain shield-like disc in shallow relief (pl. 36d). Above the spandrels and the crown of the arch, the rectangular mass of the entablature rose clear above that of the adjoining colonnades, its cornice extending to the full width of the arch beneath. It represented essentially an enlarged and decorated version of the same Doric scheme (pl. 37a): the profile and ornament are based on those of the decorated colonnade entablature in front of the Forum and Basilica, but there are significant differences of detail, particularly in the cornice.

Although the main lines of the reconstruction are not in any doubt, there are several uncertainties of detail. It is not certain, for example, whether the cornices of the adjoining colonnades were mitred at the point of junction, or whether they simply butted clumsily up against the outer triglyphs of the central arch as shown in figure 37. The former would be architecturally more correct, but there is no trace of any such mitred block and, studying the

monument as a whole, one is led to wonder whether the architect was worried by such niceties of architectural usage. It is certain, however that at entablature-level there was no organic connection between arch and colonnades. The break in continuity was in fact made the occasion for stepping the whole of the central section of the colonnade down just over 25 cm. by the simple expedient of slightly lowering the colonnade arches and recessing the architrave-block into the upper, outer angle of the right-hand spandrel-block.

Another uncertainty is whether there was any form of parapet over the adjoining colonnades. The form of the two terminal blocks of the arch cornice certainly suggests that there was a parapet, or at any rate that one was intended. But of such a parapet, logical as it might seem in view of the height of the terrace roof behind, there is in fact no trace whatsoever: the upper surfaces of the colonnade cornice-blocks were left rough, with neither dowels nor seatings for parapet-blocks. The height of the roof itself is not in doubt, since it is established both by the slots in the inner faces of the colonnade cornice-blocks and by the beam-slots on the arch, which are cut down through two-thirds of the depth of the frieze-course and extend a short distance up into the cornice. There are, moreover, on the inner face of one of the arch cornice-blocks remains of the waterproof concrete guttering at the edge of the roof, the position and profile of which suggest that the actual terrace level was at least 50 cm. above that of the top of the sima of the colonnade. It seems that there must have been a low parapet to contain the outer edge of the concrete terracing, but that in the absence of any trace of a more monumental feature, this was of an essentially practical character and perhaps of a somewhat makeshift construction, set well back and barely visible from road level.

Yet another doubtful element is what stood on top of the arch. That there was some substantial feature is evident from the dowels on the upper surfaces of the surviving cornice-blocks. The positioning of these (one is only 25 cm. from the outer end of the outer right-hand block, and the next is 1.50 m. further in) does not suggest seatings for statuary; but the absence of any surviving fragment of a further architectural course militates strongly against any form of attic—which would in any case have been out of all proportion to the substructure. The most likely explanation seems to be a low continuous plinth, possibly of marble, which served as a basis for a row of individual statues. Such a plinth, being of a valuable material and easy to reuse, might very easily have disappeared in the Byzantine period.

If there were other monumental features comparable to the arches just described, these have vanished without a trace. There were indeed other points at which arches of greater width than those of the rest of the colonnades had to be incorporated in order to serve streets running off at right-angles in both directions; but to judge from the two examples of which parts survive, both of which lay in the upper and better-preserved part of the south-east portico, the problem was handled quite simply by flattening the profile of the arch and by carrying the voussoirs up through the architrave so as to give the bare minimum of extra height required by the greater span. In this way the interruption to the colonnade was minimized. The architectural emphasis remained with the unbroken line of the cornice and with the continuously flowing rhythm of the columns beneath.

One of these wider arches (the narrower of the two surviving examples) fell at the eighteenth or nineteenth intercolumniation of the south-east portico, almost directly opposite the southernmost entrance to the Forum. In this case the span of the intrusive arch was a little over half as large again as its neighbours, and the voussoirs were carried up into, but not right through, the architrave-course. The wider of the two stood almost directly opposite the main, central entrance to the Forum. At this point the distance between the pedestals, which elsewhere averages about 2.10 m., was widened to no less than 4.12 m., and the surviving elements of the entablature show that the voussoirs of the arch were carried right up through the architrave, touching at the crown the underside of the frieze. Immediately in front of the arch the kerb of the street-paving breaks back, showing that the arch served a street linking up with, and approximately prolonging the line of, the cross-axis of the Forum and the important street that ran between *Insulae* 7 and 8 of *Regiones* IV and V. This must have been the main transverse street of the whole quarter to the east of the wadi.

There were doubtless other similar arches lower down the street, for instance in front of the grey limestone arch below the Basilica and possibly, though more dubiously (see below), opposite the north-east basilica passage on the south-east side. Since no recognizable

fragments of these have survived, one can only hazard a guess that they followed the same unobtrusive pattern as those just described. As one entered the street from the harbour or from the piazza, one's eye travelled right along it without a break except for the one stretch where the two monumental arches framed the frontage of the Forum and Basilica, subtly but emphatically proclaiming the unity of the whole Severan scheme.

The reconstructed elevation of the arch opposite the south corner of the Forum shown in figure 37 is based on the clearance and partial recomposition undertaken in 1951 and (except for the few details specifically noted) may be regarded as reliable since, even where the blocks are damaged or incomplete, the dowel-holes and cramp-holes, and in some cases also the beam-slots, enable their positions to be established beyond question. The pattern of dowels and cramps follows closely that of the colonnades, with such adjustments as were necessary for the greater size of some of the individual members and the partial subdivision of others into two separate courses. The only unexplained feature is the presence of dowel-holes on the upper surfaces of the cornice-blocks. It is suggested above that this may have carried a marble plinth, serving as a basis for a group of statuary.

There were three beam-slots, one at either end of the frieze-course and one near the middle. Since the width of the arch is almost exactly double the intercolumniation of the colonnade, this fact establishes with reasonable certainty that the roofing of the latter followed the normal and logical pattern of one main rafter to each column.

The carved ornament of the arch is closely based on that of the adjoining colonnades, only the capitals being of an entirely different form, a form which for some reason or another was felt to be more suitable to the material in which they were carved (cf. the white limestone responding pilasters at the ends of the forum arcades). The shield-like bosses are very simple, even simpler than those of the plainer version of the colonnade, but the entablature above is fully carved, similar to, though not identical with, that of the Forum-Basilica frontage. The frieze-course in particular has the same maeander and kymation and very similar rosettes in the metopes. The most unusual feature is the broad plain fascia at the base of the cornice, immediately above the maeander. The purpose of this was presumably to lift the cornice proper well clear of that of the adjoining porticoes. The cornice itself was bedded on a block decorated with an egg-and-dart and dentils and seems to have been corbelled out in two unequal steps, each with a miniature kymation at the base. Above this the only decorated moulding was the *sima*, carved with a bold motif of linked palmettes, alternately upturned and downturned (pl. 38a), a motif that derives directly from the marble ornament of the Severan complex.

The evidence for the two wider arches in the south-east colonnade consists partly of the positioning of the plinths, whether *in situ* or as indicated by the dowel-holes and setting-out lines, and partly of the *disiecta membra* of the arches themselves, still lying near where they fell. The latter include voussoirs with a curvature larger than that of the ordinary arches, and in one case a springer block with arches of two different curvatures (pl. 38b); also architraves cut away in a curve on the underside to accommodate the extrados of an arch.

The Interiors of the Porticoes

The interiors of the porticoes seem to have relied for their effect upon scale and proportions rather than upon any particular wealth of decorative detail or materials. Despite their very considerable width (10 m. compared with 8.50 m. for the forum porticoes) they were unusually tall in proportion, the rafters being no less than 11.40 m. above the pavement-level. Even if, as the rough inner face of the colonnade frieze-course suggests, there was some form of wooden ceiling hung from the rafters, they were still taller than they were wide.

By comparison with these grandiose proportions the detail seems to have been rather austere. One would have expected a stone or marble pavement, but as yet no trace of any such has been found. It is true that in the lower parts of the street any stone paving would have been an early victim of the destructive force of the wadi, as was that of the street itself, and it remains a possibility that further clearance at the head of the street may reveal something of the sort. The clearance undertaken in 1951 just above the arch at the south angle of the Forum did not offer conclusive evidence since the whole area had been much disturbed in late antiquity. Nevertheless, the remains revealed on that occasion (fig. 36) are much more readily interpreted as indicating that, whatever the original intention may have been, the pavement, as completed, was here a solidly constructed *battuto* of plaster, clay and rubble. The same lack of finish is apparent in the outer walls. Either the masonry of the stretch immediately above the Forum was meant to be covered with marble or plaster (and there is no trace of either), or else it was left deliberately plain in contrast to the far more elaborate treatment of the Forum facade. Until the street has been fully cleared it would, however, be unwise to be dogmatic.

The construction of the outer walls echoes the same rather austere note. At the head of the street on both sides they are well built but of severely plain ashlar masonry. On the north-west side the only relieving features are two monumental doorways (pl. 37b), which were evidently

intended to give access to some substantial building, or buildings, which may in fact never have been completed on the scale originally intended. (See below.) On the opposite side the outer wall is absolutely plain for 40 m. Then, just before the surviving remains break off, washed away by the wadi, there are sills, and in one case the jambs, of three large doorways. It is quite likely that, besides the openings for the passage of two or more streets, there were similar doorways along the whole stretch facing towards the Forum, serving a series of tabernae similar to, though plainer than, those across the street. To the rooms along this side must belong also the rubble concrete foundations still extant in the angle between the outer face of the wall and the projecting corner of the Nymphaeum.

The building to which the two large doors in the north-west wall gave access was demolished when a church was built on the same site in the sixth century (Ward-Perkins & Goodchild 1953, 29–31, Church 3) and all that can now be seen of it are some traces exposed in 1953 beneath the east corner of the Christian cemetery. These indicate a portico running at right-angles to the street and facing north-east, immediately to the left of the left-hand door on entering. The outer delimiting wall is built of sandstone and almost certainly, therefore, antedates the Severan complex. In front of it are the stylobate and two surviving marble column-bases of a colonnade, of which the south-east end of the architrave was carried on a limestone bracket projecting from the Severan street wall. Between the back wall of the portico and the stylobate are remains of marble paving, and beyond the back wall are traces of walls running at right-angles to it, parallel with the street.

The bracket is certainly part of the original build of the Severan wall and therefore the portico must also have been included in the original plan. There is, on the other hand, a striking discrepancy between the grandiose doorways and the very makeshift character of what has survived of the portico within. It may well be that, like the apsidal portico opposite the Great Nymphaeum, its actual construction belongs to a late stage of the building programme when funds were running out, and that it was then completed as best it could be with whatever materials were still available.

The lower part of the street was, structurally at any rate, less monumental in character. The only surviving stretch of the outer south-east wall is that just above the Byzantine Gate, and this is of an altogether rougher build, consisting of much smaller limestone blocks, dressed externally but laid to a ragged central joint that was filled with concrete mortar. This is so uncharacteristic of Severan work at Lepcis that it is tempting to view it as a later reconstruction. The lower section of the opposite outer wall, below the Basilica, is of correspondingly simpler workmanship, but in this there can be no doubt of its Severan character and date. The first stretch, down to the arch of grey limestone referred to in the following paragraph, consists of coursed concrete rubble laced with brick courses. Below the limestone arch it is similar coursed rubble but laced with horizontal timbers (pl. 39b), as in some of the tabernae of the east mole of the Severan harbour.

Nearly 50 m. below the Basilica the outer wall incorporates an arch of grey limestone, of first-century or early second-century date (pls. 39b, 40a). The arch itself is absolutely plain, and a curious feature of the mouldings at the head and foot of the jambs is that they project only towards the opening of the arch and are not carried round either the outer or the inner faces. It presumably marks the point of entry of one of the streets of the early town. Some 50–60 m. beyond this are the substantial remains of a small monumental exedra (see fig. 39), which may conveniently be termed the Small Nymphaeum since, though smaller and simpler, it bears a close family resemblance to the Great Nymphaeum, in the piazza at the head of the street. It measures about 14 m. across and 11 m. deep and was built throughout of rubble concrete faced with small coursed blocks and courses of brick. The rear wall was semicircular in plan, with a central apsidal niche flanked, three and three, by six rectangular, round-headed niches. The front opened into the portico between two columns, with responding pilasters at the outer angles, and the whole of the interior was faced with marble. There is no way of telling whether it was roofed or open to the sky.

In late antiquity the exedra was turned into a small church (Ward-Perkins & Goodchild 1953, 82f., Church 6). The architectural pieces used in the church include elements of an engaged order, but in the absence of any foundations other than those of the concrete outer wall itself, these cannot be part of the original fittings. From the condition of the surviving

remains it looks as if the building may already have been stripped before its conversion to Christian use.

The masonry of the upper part of the street comprises yellow limestone laid in 58 cm. courses. The outer face is dressed smooth (pl. 38c), with an occasional trace of purely functional drafting, whereas the inner face is quite rough (pl. 38d), striated with heavy oblique punch marks, and must have been meant to be covered with plaster. The blocks were fastened horizontally by iron π -shaped cramps and vertically by wooden pegs. The two large doorways in the north-west wall (pl. 37b), with their framework of fine greyish-white limestone and relieving flat arches above the lintels, follow one of the standard models in use in the Forum and Basilica. The corresponding doorways on the south-east side of the street were smaller and of a more severely practical character, the limestone jambs being rectangular in plan and set vertically instead of being carved with framing mouldings and canted inwards.

The two surviving column-bases of the portico behind the north-west wall (nos. 2 and 5, reading from south-east to north-west) are 55 cm. in diameter across the top and spaced at interaxial intervals of 2.85 m. Both are of Pentelic marble, one with and one without a square plinth, indicating (to say the least) rather summary workmanship. The base with the plinth very closely resembles those reused in the church, which are partly of Pentelic and partly of Proconnesian marble and which may very well have been derived from this portico. It is tempting to suggest that there may have been a similar portico facing south-west across what later became the nave of the church and enclosing a courtyard which was roughly symmetrical about the two doors, but no trace of a second portico is now visible.

The visible remains of the south-east outer wall just above the Byzantine Gate consist of the top of the concrete footing, 1.78 m. wide; a footing-course of stone blocks of irregular width; and two courses of the actual wall, which is here 1.05 m. wide.

The stretch of the outer north-west wall below the Basilica is still partly concealed by a large sand dune. At the upper end, where it abuts on the outer angle of the entrance to the north-east basilica passage (pl. 39a), a single band of brickwork is exposed, consisting of two courses of unusually large, heavy bricks, together 16 cm. thick; the individual bricks measure 33–34 cm. square by 4–5 cm. (in one instance as much as 7 cm.) thick. All the rest is of coursed rubble (8 courses together, 1.06 m. thick) with traces of timber lacing near the top of the exposed section. At the lower end of the same stretch, beside the grey limestone arch (pl. 39b), there is a single band of bricks of more normal size (17 cm. square; 3 courses together, 17 cm. thick). The wall is here 1.70 m. wide and incorporates the ragged outer edge of the arch, which is evidently part of a wall or enclosure, of which all except the arch itself was demolished when the Severan wall was built.

Below the arch the masonry is similar except that there is no brick course. At every fourth course the rubble core can be seen to have been levelled off with chips and small stones (8 courses, 1.27 m. thick). At two points the tops of brick arches (one intact, one collapsed) protrude from the dunes. On either face, just above the level of the crown of the arch, there is a socket for a longitudinal timber, and these timbers were linked at intervals of just over a metre by transverse timbers placed just below or above them. The timbers were 12–15 cm. in diameter and roughly squared.

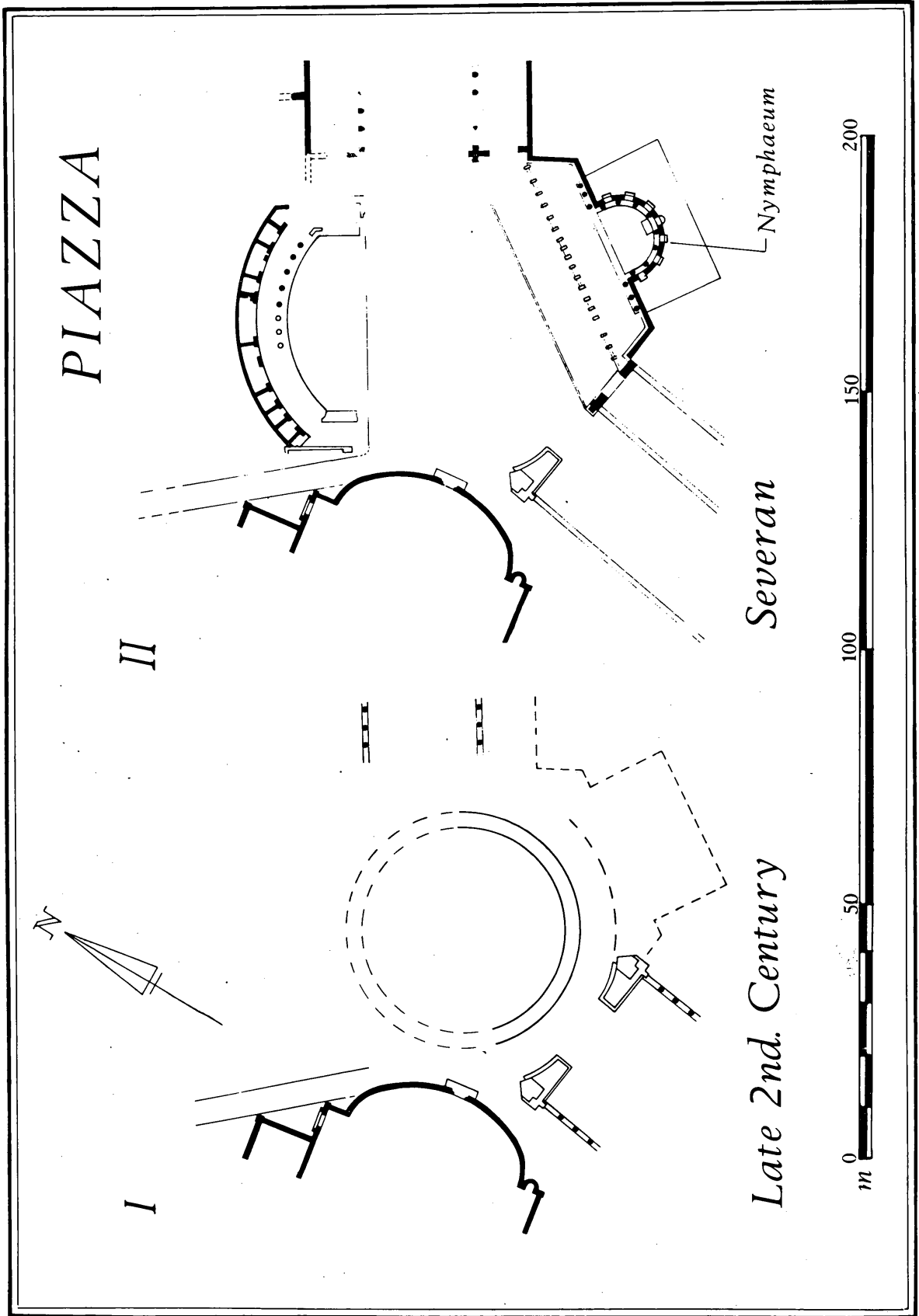


Fig. 38 Piazza: the development sequence.

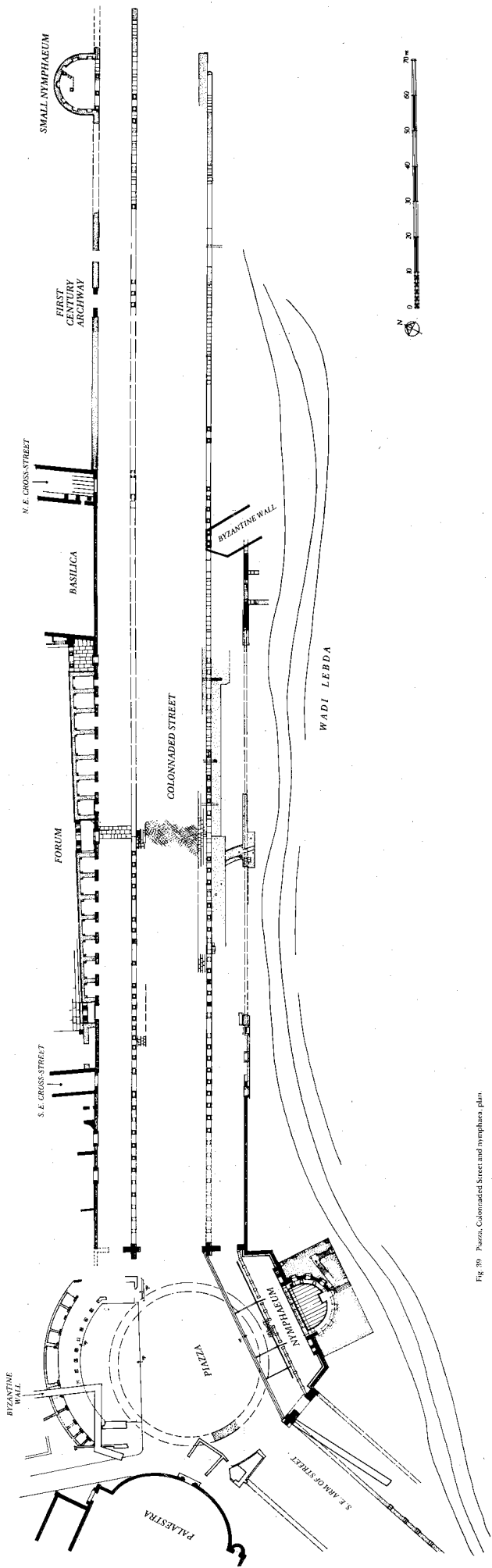


Fig. 39. Piazza, Colonnaded Street and amphitheatre, plan.

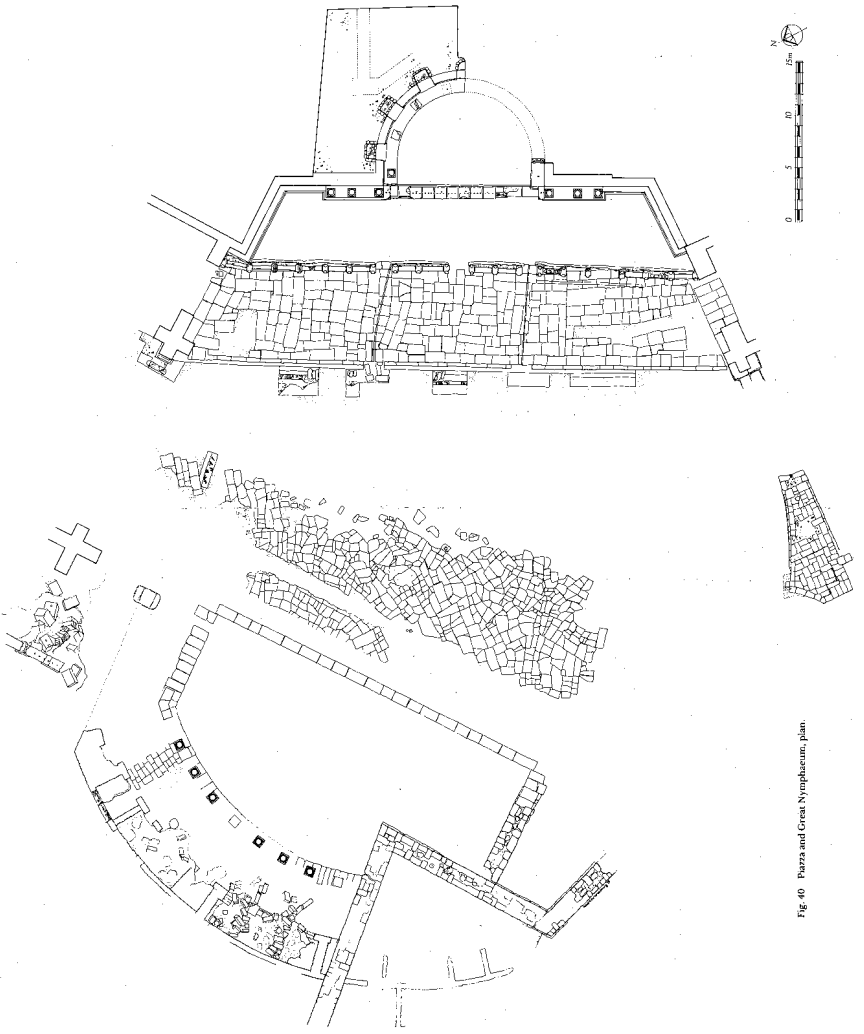


Fig. 40 Piazza and Great Nymphaeum, plan.

6. THE GREAT NYMPHAEUM

by Barri Jones and Roger Ling

Bibliographical sources not included in the general bibliography on pp. xi-xii are listed at the end of the chapter.

In the apparent absence of any English or Italian account of the Nymphaeum, this description has been prepared almost entirely from photographs and drawings. The drawings showing details of the orders appear to date in origin from 1937. For general studies of the typology of nymphaea see especially Meschini 1963; Ginouvès 1969, 136–67; Aupert 1974, 79–111; Bol 1984, 76–82. On the literary and epigraphic evidence see Settis 1973. Specifically on the Lepcis Nymphaeum: Romanelli 1961, 587 and fig. 691; Squarciapino 1966, 95 f., pl. H; Bianchi Bandinelli et al. 1966, 95–7, fig. 241, pls. 145–9; Rakob 1967, 182, pls. II, 77; Ginouvès 1969, 148. We are indebted to Dr. Susan Walker for comments on an early draft of this chapter; she should not, of course, be held responsible for any errors that remain.

In the late Antonine period, as we have seen on the previous pages, the junction at the head of the Colonnaded Street, where it met the main street from the Theatre and a second colonnaded street running up the wadi behind the Hadrianic Baths, was designed in the form of a circular piazza, 40m. in diameter, enclosed within a portico (fig. 38, I). This axially neutral scheme was dropped in the Severan reconstruction in favour of a scheme which emphasized the two colonnaded streets. The principal element in this change was the construction, on the east side, of a huge fountain building which straddled, and by its alignment bisected, the angle between the streets.

The Nymphaeum (figs. 40–45 and pls. 41–45) consisted of a central hemicycle (radius 7.70 m.) opening behind a shallow trapezoidal, open-fronted space whose side-walls were placed at right-angles to the adjacent street-colonnades. The hemicycle and the trapezoidal area each contained a basin. The one in the hemicycle was at a higher level and acted as a settling-tank to take the lime out of the water, while the other, now enclosed by a secondary stone balustrade with panels of latticework and pillars adorned with herms (pl. 42b), was for drawing. Water passed from the higher basin to the lower basin via lead spouts. The rear walls of the complex formed an elaborate facade similar to the *scaenae frons* of a Roman theatre. Built of ashlar masonry, they were originally veneered with marble and decorated with superimposed tiers of columns, the lower order being Corinthian with shafts of cipollino, the upper Corinthian with shafts of red granite. Between the columns were situated arched niches, which doubtless once contained statues. Behind this facade and supporting it was a solid mass of concrete which formed the core of the structure and presumably carried the pressure-tank (pls. 41b, 43a).

While the southern half of the hemicycle has collapsed and is lying on its side on the wadi edge, the northern half still stands almost to its full height (the ashlar facade surviving to 16 m.) with the concrete core largely intact. It contains a stairway giving access to the higher levels from the rear. At the rear it is faced with coursed rubble interrupted at regular intervals by levelling-courses of tiles, with a strongly projecting course of ashlar blocks at a height of some

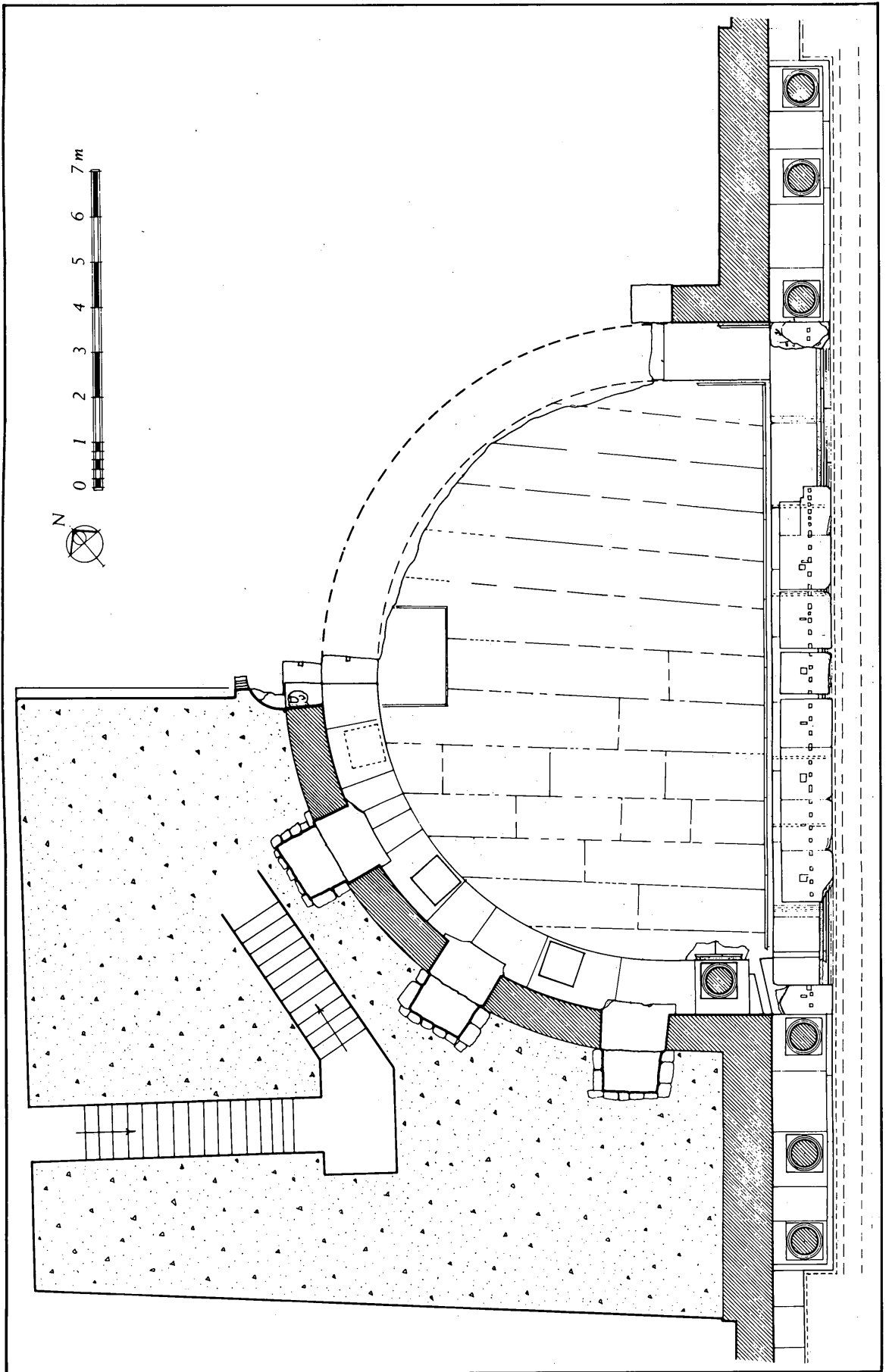


Fig. 41 Great Nymphaeum: plan of central hemicycle, actual state.

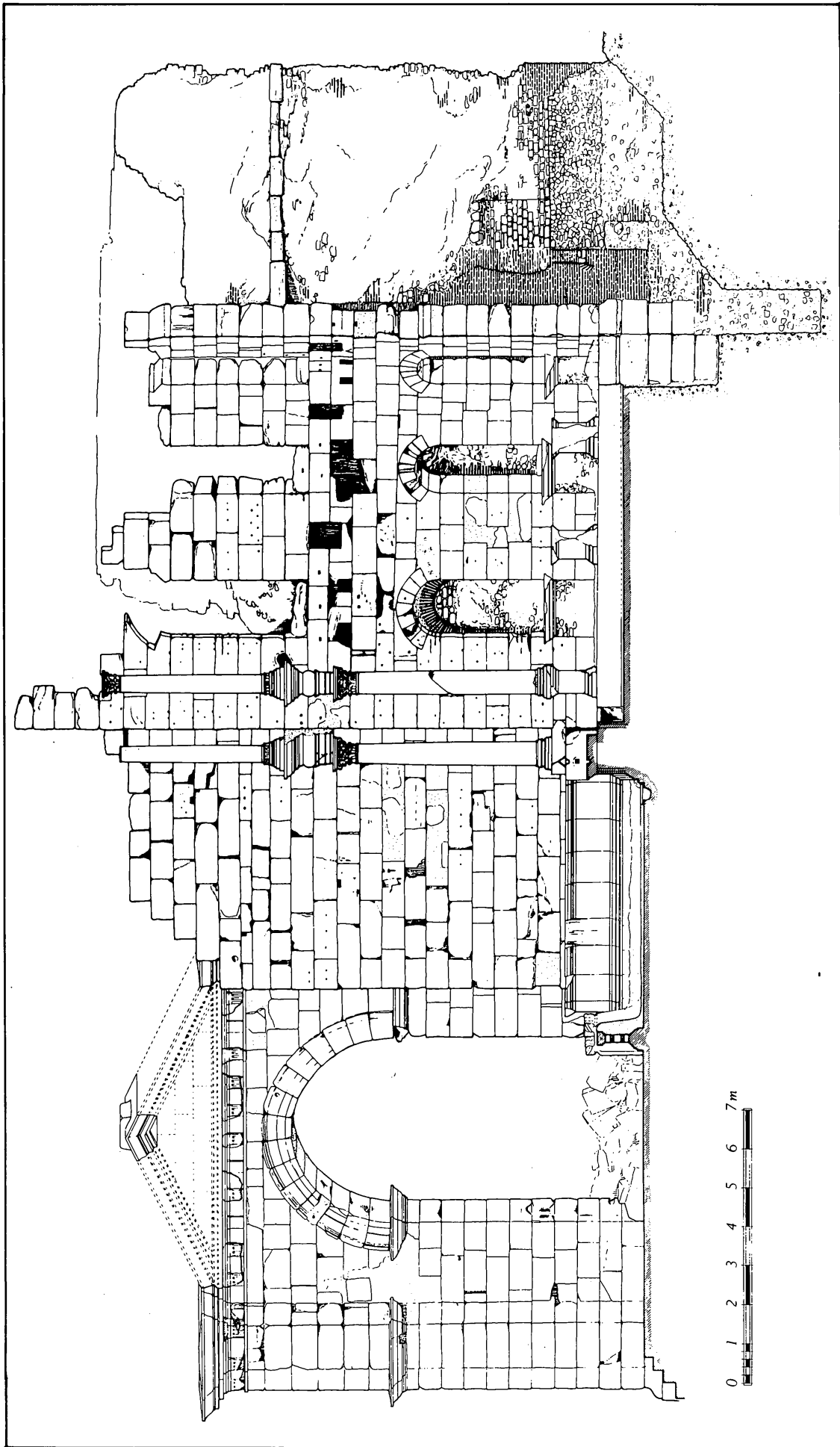


Fig. 42 Great Nymphaeum: sectional elevation looking towards the Colonnaded Street, actual state.

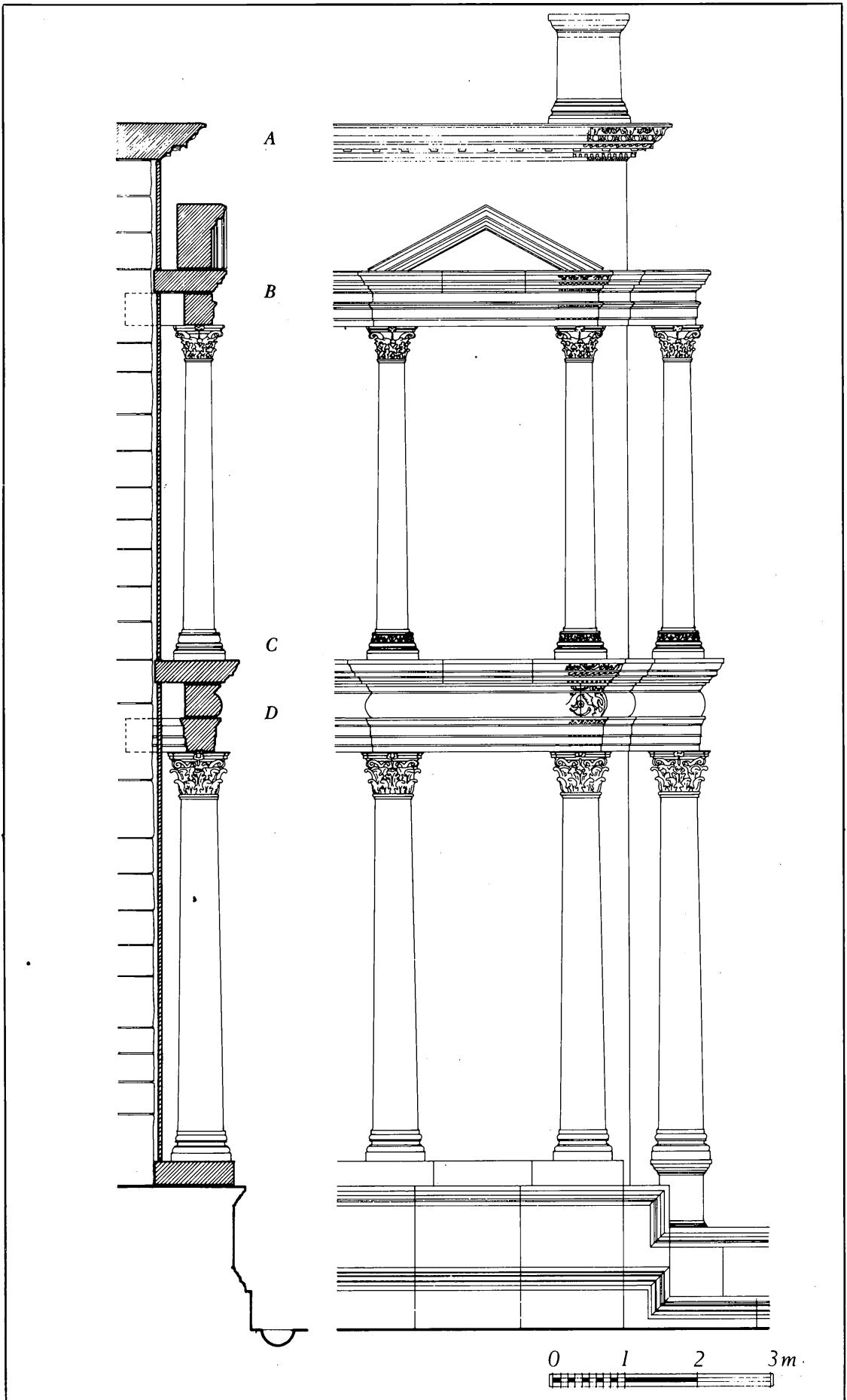


Fig. 43 Great Nymphaeum: reconstruction of the order.

8m. above ground. Also standing is the ashlar wall to the right (south) of the hemicycle, as well as the side-walls of the trapezoidal court.

The decorative detail of the facade has to be studied from the standing portions. All trace of the marble veneer has been removed, leaving only the holes for the nails by which it was fastened; but of the engaged orders sufficient remains to enable us to propose a reconstruction of the original scheme. The straight walls to north and south of the hemicycle were fronted by three columns (pl. 42a), respectively 2.6 m. and 2.0 m. apart (interaxial measurements). The hemicycle itself (fig. 41) originally contained equally spaced columns framing seven niches 1.50 m. wide whose interiors ran back to a depth of 1.95 m., cutting into the concrete core. The central niche was apsidal, while all the rest were rectangular. It is suggested in the reconstruction (fig. 45) that the pattern of columns and niches at the lower level was repeated at the upper level, but with a segmental arch spanning the central intercolumniation (pl. 42c). The irregular spacing of the three columns on the lateral walls reflects a hierarchical differentiation between them: the inner pair is spanned at the first level by a continuous entablature and can be restored with a triangular pediment at the upper level (pl. 44a), whereas the outer column remains isolated, as, for instance, in the facade of the library of Celsus at Ephesus (c. AD 113–18; Hueber 1978; Stročka 1978), though in that case the isolated columns appear only in the upper order. The attic was surmounted by pedestals that presumably supported statues. In the reconstruction only two are shown but there may have been more.

The lower order on the straight walls stands on a continuous podium 1.6 m. high with a projecting plinth and crowning moulding (fig. 43 and pl. 45a); above this a series of low plinths carries the columns. In the hemicycle, on the other hand, the columns rest on independent pedestals. The effect of these pedestals is repeated in the entablatures, which project above the columns but recede between them, thus creating an ambivalent relationship between the wall-surface and the columnar screen in front of it. This rhythmic advance and retreat is broken only by the above-mentioned continuous architrave above the first pair of columns to left and right of the hemicycle opening.

The decorative detail of the orders is consistent inside and outside the hemicycles (figs. 43, 44). In the lower order the columns have Ionic bases of Attic type resting on square plinths (pl. 45a). The architrave is divided into three fasciae, each surmounted by an astragal, with a crowning cyma reversa moulding decorated with a Lesbian kymation (figs. 43, 44, D; pl. 44b). Above this comes a frieze, convex in profile and decorated with an acanthus scroll containing rosettes (pl. 43b). A cyma recta decorated with a pattern of volutes and palmettes leads up to the cornice (pl. 43c), which consists of a line of shallow dentils surmounted by a further cyma reversa and by a straight-fronted corona decorated with a wave motif. The sima, which is separated from the corona by an astragal, is another cyma recta, this time decorated with an acanthus-leaf and palmette motif.

The upper order is very similar, though smaller in scale and with changes in detail: the column-bases, for example, show the Attic profile much compressed and surmounted by a drum decorated with acanthus foliage (figs. 43, 44, C; pl. 43c). The entablature (figs. 43, 44, B; pl. 44a) is simpler than that below: the architrave has only two fasciae instead of three; the frieze is plain and flat, with the same crowning astragal and kymation as the architrave; the cornice consists merely of a pair of fasciae, the upper one decorated with a wave motif. The sima has a concave profile, with a decoration of palmettes and volutes.

The attic, in front of which stand the pediments already mentioned, is surmounted by a Corinthian cornice with both dentils and modillions below a strongly projecting corona (figs. 43, 44, A; pls. 45c, 45d). The modillions are S-curved on the underside and straight-fronted; each is crowned by a little ovolo moulding decorated with egg-and-tongue. The face of the corona again carries a wave motif. The sima is again concave with a palmette and volute ornament, but is here separated from the corona both by a little cyma reversa with leaf ornament and by a large-scale ovolo with egg-and-dart.

Lofty walls with decorative screens of columns framing statue-niches in two or three storeys, with elaborate plays of advancing and retreating entablatures and contrasts between isolated columns and two-column *aediculae*, are a favourite motif of imperial architecture in the eastern provinces, occurring not only as decorative backdrops (in the *scaenae frontes* of theatres and in

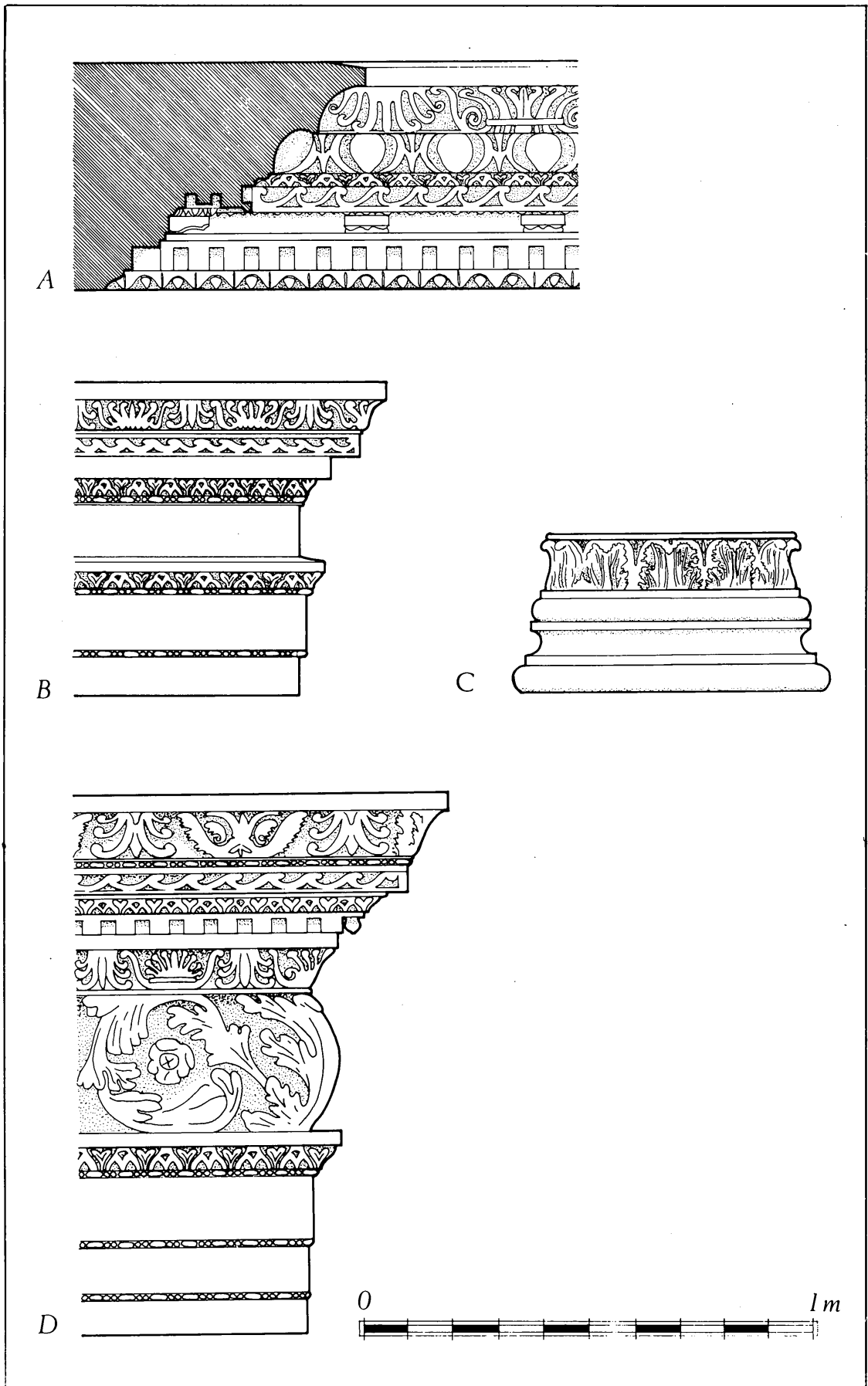


Fig. 44 Great Nymphaeum: details of the order (cf. fig. 43).

nymphaea) but also as building facades (the library of Celsus) and as a motif in interior decoration (the so-called Marmorsaal of the great thermal complexes at Ephesus and elsewhere) (see e.g. Strocka 1981, 36–70; Yegül 1986, 134–9). Their use in *nymphaea* can be traced back to the first century AD, the earliest surviving example being the great fountain-building at Miletus, dated to AD 79–80 (Hülse 1919; Kleiner 1968, 114–18; on the dating Kreiler 1975, 34–8). This was π -shaped with free-standing side-wings, a format repeated in the Trajanic *nymphaeum* at Ephesus (Miltner 1958, 50; 1959, 326–46) and in later examples (e.g. at Side in Pamphylia: Mansel 1963, 53–64). More significant for the Lepcis Nymphaeum are the semi-circular *nymphaea* built at Olympia and Athens in the Antonine period. The well-known example at Olympia, constructed about AD 150 to the commission of Herodes Atticus, is now believed to have had two tiers of columns and statue-niches, as at Lepcis Magna (Bol 1984, 50–82; for the earlier reconstruction see Schleif and Weber 1944; Mallwitz 1972, 149–55). With an apse 8.40 m. in radius, it was a highly impressive monument, and its location in a great international sanctuary, home of the Olympic Games, would have made it influential upon architects and planners throughout the eastern Mediterranean. The *nymphaeum* in Athens (Thompson 1955, 57–9; Thompson and Wycherley 1972, 202–3; Thompson 1976, 151–2) is much less well preserved, but its plan is similar to that at Olympia, and surviving fragments of sculpture suggest that it was similarly decorated. As at Lepcis it was conspicuously positioned overlooking a piazza on a prime route through the city, and would thus have attracted considerable attention.

It was perhaps such monuments as the *nymphaea* at Athens and Olympia which inspired the architect of the Severan Nymphaeum at Lepcis Magna. We know that Athenian craftsmen worked not only on the *nymphaeum* at Olympia but also on Severan projects in Lepcis Magna (Walker 1987, 68), so it would not be surprising if the ‘new’ city in Africa included a fountain-building inspired by the two prestigious examples erected two generations earlier in the leading centres of Greece (though, as Susan Walker has pointed out to us, the decoration of the Lepcis Nymphaeum looks more ‘Asiatic’ than Greek).

Other regions too adopted the type of the large semicircular *nymphaeum* articulated by niches and columns. In Asia Minor an example at Alexandria Troas (Koldewey 1884, 47, pl. III) may date from the same period as the buildings at Athens and Olympia; this city, significantly, is known to have gained an aqueduct in AD 134–5 under the supervision of Herodes Atticus, the donor of the *nymphaeum* at Olympia (Philostratus, *Vitae sophistorum* II.1, p. 548; Ameling 1983, 53–6). In Syria a grand example at Gerasa (Jerash, in Jordan), dated to the end of the second century (Kraeling 1938, 21 f., pl. VI a, plan XXVIII), is quite similar to the Lepcis building, except that the niches were closer together and alternated between a rectangular and an apsidal format. Another Syrian example, at Pella in Jordan, known from a coin of Elagabalus minted in AD 220–1 (Seyrig 1959, 68 f., 78, nos. 23–4), was evidently still more ornate, with a two-storeyed pavilion forming a centrepiece. Rather smaller versions are attested in north Africa, for example at Tipasa in Algeria (Aupert 1974), where a date in the late third or early fourth century seems likely. In all such smaller examples, and perhaps even in the larger hemicycles at Alexandria Troas (radius 6.05 m.) and Gerasa (radius 5.5 m.), the *exedra* was roofed by a semi-dome; but the *nymphaeum* at Pella, like that at Lepcis, was certainly open to the sky; and so too, in all probability, were the *nymphaea* at Olympia and Athens (Bol 1984, 72, 79 f., notes 244, 250–3).

Little can be said in the present publication about the detail of the orders and of their ornament in the Lepcis Nymphaeum. Ward-Perkins has already drawn attention, in general articles (1948, 64, 70; 1951a, 275), to two features which show links with the architectural vocabulary of the eastern Mediterranean: the use of free-standing pedestals to carry individual columns, and the insertion of drums decorated with acanthus foliage between the base and shaft of the upper-storey columns. The first, common in Syria and Asia Minor from the second century AD onwards, recurs at Lepcis Magna in the engaged orders of the gallery east of the Basilica, of the north-east portico of the Forum, and of the apse of the Forum, and, free-standing, in the colonnades of the Colonnaded Street. The second, used already in Tripolitania a few years earlier in the Arch of M. Aurelius at Oea, appears at Lepcis not only in the upper order of the Nymphaeum but also in the terminal bays of the upper order of the Basilica. Occurrences in Italy and the West are rare and evidently intrusive. The style of

carving in the architectural ornament, so far as can be judged from the available photographs, accords well with other Severan work in the city. The lacework effect of the acanthus-and-palmette pattern on the sima of the lower order, for example, is very close to the leaf ornament of the kymatia which frame the 'peopled scrolls' on the pilasters in the Basilica (Ward-Perkins 1951, pls. VI, VIII).

What sort of statues filled the niches at Lepcis, we can only guess; but that portraits of members of the imperial family were included is a reasonable assumption. The statues of the *nymphaeum* at Olympia included portraits of the donor and his family juxtaposed with those of the imperial family to enhance his prestige; *a fortiori* the monument at Lepcis, probably (to judge from the stamped water-pipe noted on p.104) a donation of the emperor himself, is likely to have contained imperial portraits. Alternatively, the statues may have included replicas or adaptations of famous works such as are thought to have adorned the *nymphaeum* in Athens and such as occurred in other buildings at Lepcis, notably the theatre and the Hadrianic Baths.

ADDITIONAL BIBLIOGRAPHY FOR CHAPTER 6

- Ameling, W. 1983 *Herodes Atticus 1. Biographie*, Hildesheim, Zürich and New York.
- Aupert, P. 1974 *Le nymphée de Tipasa et les nymphées et 'septizonia' nord-africains* (Collection de l'Ecole Française de Rome 16), Rome.
- Bol, R. 1984 *Das Statuenprogramm des Herodes-Atticus-Nymphäums (Olympische Forschungen 15)*, Berlin.
- Ginouvés, R. 1969 'L'architecture', in Gagniers, J. des, Devambe, P., Kahil, L. and Ginouvés, R., *Laodicée du Lycos. Le nymphée. Campagnes 1961-1963* (Quebec and Paris), 13–185.
- Hueber, F.J. 1978 'Bericht über die Wiederaufrichtungsarbeiten an der Celsusbibliothek, und über die bisherigen Ergebnisse der Untersuchung der Bausubstanz', *Proceedings of the Xth International Congress of Classical Archaeology Ankara-Izmir 23–30/IX/1973* (Ankara), 979–87.
- Hülsemann, J. 1919 *Das Nymphaeum (Milet. Ergebnisse der Ausgrabungen und Untersuchungen seit dem Jahre 1899 1.5)*, Berlin and Leipzig.
- Kleiner, G. 1968 *Die Ruinen von Milet*, Berlin.
- Koldewey, R. 1884 'Das Bad von Alexandria-Troas', *Athenische Mitteilungen* 9, 36–48.
- Kraeling, C. H. 1938 *Gerasa, City of the Decapolis*, New Haven.
- Kreiler, B. 1975 *Die Statthalter Kleinasiens unter den Flaviern*, dissertation, Munich.
- Mallwitz, A. 1972 *Olympia und seine Bauten*, Munich.
- Mansel, A. M. 1963 *Die Ruinen von Side*, Berlin.
- Meschini, S. 1963 'Ninfei e fontane,' in *Enciclopedia dell' arte antica classica e orientale* 5, 505–12.
- Miltner, F. 1958 *Ephesos. Stadt der Artemis und des Johannes*, Vienna.
- Miltner, F. 1959 XXIII. vorläufiger Bericht über die Ausgrabungen in Ephesos, *Jahrbuch des Oesterreichischen Archäologischen Instituts* 44. Beiblatt, 315–80.
- Rakob, F. 1967 'Römische Architektur', in Kraus, T. (ed.), *Das römische Weltreich* (Propyläen Kunstgeschichte 2), Berlin.
- Schleif, H. and Weber, H. 1944 Das Nymphaeum des Herodes Attikos, in *Olympische Forschungen* I (Berlin), 53–82.
- Settis, S. 1973 "Esedra" e "ninfeo" nella terminologia architettonica del mondo romano. Dall'età repubblicana alla tarda antichità. *Avfstieg und Niedergang der römischen Welt* I.4, 661–745.
- Seyrig, H. 1959 'Antiquités syriennes,' *Syria* 36, 38–89.
- Strocka, V. M. 1978 'Zur Datierung der Celsusbibliothek,' *Proceedings of the Xth International Congress of Classical Archaeology Ankara-Izmir 23–30/IX/1973* (Ankara), 893–900.
- Strocka, V. M. 1981 *Das Markttor von Milet* (128. Winckelmannsprogramm der Archäologischen Gesellschaft zu Berlin).
- Thompson, H. A. 1955 'Activities in the Athenian Agora: 1954' *Hesperia* 24, 50–71.
- Thompson, H. A. 1976 *The Athenian Agora. A Guide to the Excavation and Museum*, 3rd edn., Athens, American School of Classical Studies.
- Thompson, H. A. and Wycherley R. E. 1972 *The Agora of Athens. The History, Shape and Uses of an Ancient City Center (The Athenian Agora 14)*, Princeton, N.J.
- Walker, S. 1987 'Roman nymphaea in the Greek world,' in Macready, S. and Thompson, F. H. (eds.), *Roman Architecture in the Greek World*, London, Society of Antiquaries, Occasional Papers (New Series) 10.
- Yegül, F. K. 1986 *The Bath-Gymnasium Complex at Sardis* (Archaeological Exploration of Sardis Report 3), Cambridge, Mass.

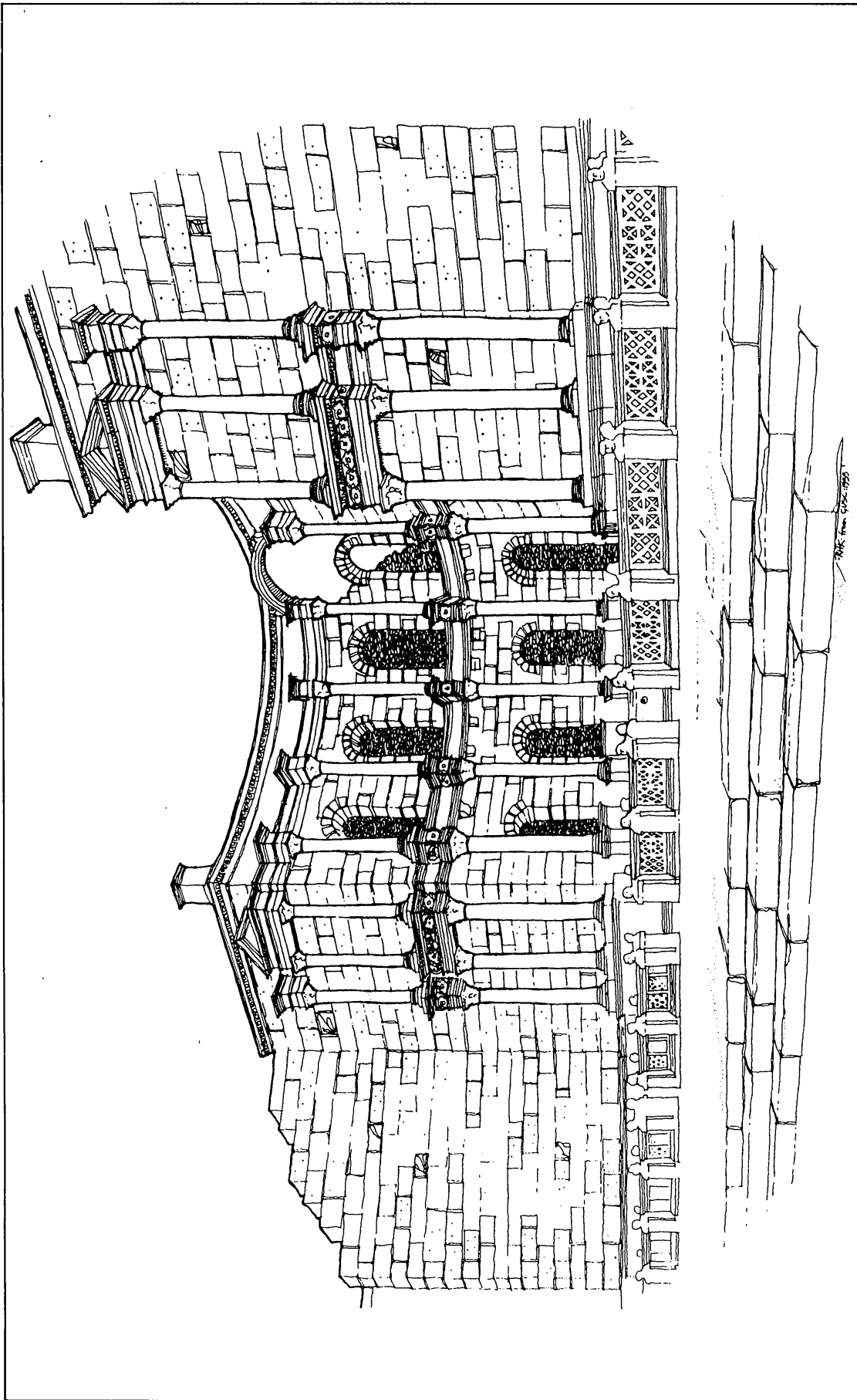


Fig. 45 Great Nymphaeum: reconstructed perspective view.

7. MATERIALS, BUILDING TECHNIQUES AND ORGANISATION

The Severan buildings of Lepcis Magna were built in accordance with a single broad plan over a period of not more than twenty or thirty years. Many of them are remarkably well preserved and they offer an unusually clear and complete picture of the conditions with which an architect of the Roman period might be faced and of the way in which he set about putting his project into effect. The object of the present chapter is to give a brief account of the materials that were available to him and of the various ways in which they were handled.

(a) MATERIALS

Marble and other imported stones

Apart from purely decorative marbles, three types of imported marble and one of granite were used extensively in the construction of the Forum and Basilica, of the Colonnaded Street, and of the Great Nymphaeum. These were the white marbles of Proconnesos and of Attica (Pentelic), the green-and-white striped marble of Carystos (cipollino) and the red granite of Syene (the modern Aswan). [Ward-Perkins wrote extensively on the subject of the production and supply of Roman marble. These writings, much of them relevant to Lepcis Magna, have been re-published and brought up to date in Ward-Perkins (1992).]

The marble of Proconnesos, from the island of Marmara in the sea of the same name, was by the end of the second century AD the most widely used of all the white building marbles of the Roman Empire. This position is owed partly to its excellent and remarkably consistent quality, and partly to the fact that the position of the quarries beside the sea, coupled with a highly efficient export organisation, made it the cheapest of the fine-quality white marbles. Its distinguishing characteristics are its medium-sized crystalline structure (midway between Pentelic and Parian) and the parallel bands of blue, or bluish, colour which are present in any large block. This was the standard white building marble of Severan Lepcis, used exceptionally for walls of *opus quadratum* (in the Temple) and regularly throughout the complex for column-bases, capitals and entablatures, as well as for paving, for decorative wall veneers and for other fittings.

The marble of Mount Pentelikon in Attica was primarily exported as a statuary marble, but from Flavian times onwards we find it used also as a high-quality building material (in the Arch of Titus, the pronaos of the Pantheon, etc. in Rome). That it was considered to be a finer (and doubtless more expensive) marble than Proconnesian is shown by the manner of its use in Severan Lepcis, where it was reserved for such special features as the sculptured pedestals of the temple facade, and the capitals and bases of the Forum and of that part of the Colonnaded Street which forms a frontage to the Forum. The evidence of the masons' inscriptions (see below, p.98) suggests that it was worked by a different group of workmen from those who

handled the Proconnesian marble, and that some of them at any rate came, like the marble, from Attica.

The green-and-white marble from the quarries above Carystos in the island of Euboea, better known as cipollino ('little onion') from its strongly laminated structure and colouring, was one of the most widely exported of all Roman marbles. Though occasionally used for wall veneer or paving (there are examples of the former in the Forum), it was not very satisfactory for this purpose, having a tendency to crack when cut into thin slabs. The great bulk of export production was in the form of columns, which were prefabricated to standard lengths and shipped in the rough, with broad (15–20 cm.) flanges at either end, from which could be cut the terminal mouldings. The use of such prefabricated members must have been an important factor in the architect's calculations, often involving considerable adjustments to capitals and bases, in order to bring all the members of a colonnade out to a uniform height. Nearly 200 of these columns were used in the Forum and Basilica alone, and approximately another 250 in the Colonnaded Street.

The red granite of Syene (Aswan), already in widespread use in Pharaonic times, was extensively exported both to Rome and to the provinces, its great strength and handsome colouring making it a special favourite for columns of great size (e.g. the second-century exedrae of the great courtyard at Baalbek). At Lepcis it was used in both orders of the nave of the Basilica and in the Temple, as well as in the decorative orders of the basilica apses and of the Great Nymphaeum. This accounts for no less than 78 monoliths of 6.80 m. or more in height, in addition to the smaller columns used in the engaged decorative orders of the Basilica and Nymphaeum.

The pavements throughout the Forum and Basilica are of Proconnesian marble, cut into rectangular slabs, the dimensions of which range from 1 m. to 3 m. in length and from 0.80 m. to 1.20 m. in width. These were methodically laid, that of the open central area of the Forum, for example, being based on two axial strips which meet in a single larger slab at the intersection of the two axes. (See also figure 24 for the Basilica.) Some use was made of the symmetrical patterns obtainable by laying side by side two adjoining slabs cut from the same block, but this practice does not seem anywhere to have been pressed to its logical extremes (as in much work of the Byzantine period). There are no traces of *opus sectile* or of mosaic. The broad expanses of shining white marble were evidently felt to be in themselves a luxury that called for no further sophistication.

Marble wall-veneer was extensively used in the Forum, the Basilica and in the Nymphaeum. For the most part this is represented only by the holes left in the walls by the bronze pegs which held the individual slabs in place. From these it is possible to reconstruct in considerable detail the pattern of much of the veneering, notably in the forum porticoes and in parts of the Basilica; but the marble itself has for the most part vanished. [Here and elsewhere in the text Ward-Perkins refers to a reconstruction drawing of the veneer scheme, which has not unfortunately come to light. — PMK]

Here and there fragments of the skirting are still in place. In the Basilica and in the forum porticoes these are of pinkish-grey porta santa (Chian) marble, and in the rooms opening off the Forum they are of Proconnesian or of mottled grey and white Greek marble of uncertain origin (marmo scritto). Loose in the Forum area are several small base-mouldings of pavonazetto (Phrygian) and of an indeterminate grey Greek marble, as well as numerous broken fragments of veneer slabs. Notable among the latter are several pieces of a distinctive black marble, which figures also among the 'levellers' (see below) for the pavements of the Basilica and of the Great Nymphaeum. This is the black marble (*marmor Luculleum?*) of which one large block and part of a second are now lying beside the Colonnaded Street, inscribed with what may be referred to as consignment notes, recording their despatch from the quarry on the order of the Praetorian Praefect, Fulvius Plautianus; they can be dated between AD 202 and 205 (*IRT* 530).

The 'levellers' referred to above were small pieces of marble set into the surface of the mortar bedding to facilitate its levelling prior to the actual laying of the marble slabs. Although one cannot be sure that all the qualities represented were in fact used decoratively within the building in question, they do afford a useful indication of the types in current use. In the Basilica the majority of the visible levellers are Proconnesian; there are substantial quantities of

porta santa, of pavonazzetto, and of giallo antico from Numidia; and a few pieces each of black marble, of onyx marble, of green porphyry from Laconia, and of verde antico from Thessaly. In the Nymphaeum the types represented are Proconnesian, cipollino, verde antico, Parian and black marble.

The temple floor seems to have been of verde antico, which at this date was still a relatively recent and highly prized innovation. It was patched in later antiquity with Parian, Proconnesian and the same mottled grey and white marble as that used in the forum porticoes. [For recent isotopic analyses of marble used at Lepcis Magna, see Walda & Walker 1984, 1988.]

Local Stones

Of the building stones available locally, the soft quaternary sandstone, which had been extensively used by the earlier architects of Lepcis but which was too soft to weather well, had already been superseded in monumental use well before Severan times. Instead, the Severan builders used various grades of limestone, all drawn from quarries within a range of about 5 km. from Lepcis, principally from Ras el-Hammam, the hill which dominates the nearer horizon towards the south-east. The architecture of the first century AD (e.g. the Forum Vetus, the Theatre, the Macellum, the Arches of Tiberius and of Trajan) had been dominated by a fine grey limestone, superficially not unlike a close-textured travertine, but by the middle of the second century the finer beds of this seem to have been exhausted; thereafter, the stone in general use (e.g. in the Hadrianic Baths and even in the core of the Severan Arch), though similar and very possibly from the same quarries, is coarser in texture and greyish-brown or brown in colour.

Not content with any of the existing qualities, the Severan builders opened up two new groups of quarries. From one of these, near the eastern end of Ras el-Hammam, came the bright yellow or brownish-yellow fossiliferous limestone which constitutes the bulk of the *opus quadratum* masonry of the Severan buildings. The other, the site of which has yet to be identified, produced a fine, close-textured limestone, ranging in colour from a greyish-white to a gleaming silvery-white. From the finer beds of this could be extracted very large monoliths, suitable for monumental pilasters and door-frames. It could also be carved, and it made a very effective foil to the coarser yellow limestone in general use.

Both types of stone present a wide range of quality. The builders naturally selected the better grades for the more prominent features of the finished buildings, but since all qualities may well have been present within the different beds of a single quarry or groups of quarries the finer distinctions do not in themselves matter. Both types, though strong, were rather brittle and easily damaged. Repairs are common (see below, p.98).

The lumps of limestone used as aggregate in the Severan concrete were presumably debris from the masons' yards at Lepcis itself.

Concrete (opus caementicium)

Concrete was used by the Severan builders for three main purposes: for foundations and drains; for such massive curvilinear features as the apses of the Basilica and the core of the Great Nymphaeum; and for a certain number of walls, mainly of secondary importance, whose structure was to be masked by marble veneering or by stucco. The element common to these three uses is that the concrete masonry was purely utilitarian. In no case was it meant to be visible in the finished building.

Like all Roman concrete it was not a concrete in the modern sense of the word, but a mortared rubble. It was laid, not poured, either within a trench or between flanks of wooden shuttering, and it owed its strength to the quality of the mortar. This is pale greyish-white in colour, the lime for it doubtless being obtained by burning the local limestone. The impurities in it are mostly small pebbles, with an occasional chip of brick or sandstone, derived presumably from the sand with which it was mixed. There is no evidence for the deliberate addition of crushed brick, still less of imported pozzolana. It was mixed from local materials, which were evidently quite sufficient to produce a fine, hard building-material, fully adequate

to the rather limited use for which it was intended. To cite a single instance, an attempt to sink a trial trench in 1953 through the concrete bedding of the forum pavement had to be abandoned since it was found to be too hard to be broken by hand.

Concrete was never common in Tripolitania; and though used quite extensively by the builders of Severan Lepcis, it was clearly not regarded by them as a monumental material in its own right, nor do they seem to have had any confidence in its hydraulic properties. It is significant that (unlike even Sabratha) the main harbour works were carried out in dressed stone; and, with the rather problematic exception of the basilica apses, the few vaults are of small dimensions.

The various types of facing used in connection with Severan concrete are described in a later section (p.95).

Brick

Fired brick, though used quite extensively in connection with the concrete work of the Severan buildings, is another material that was not characteristic of classical Tripolitania. Outside the Severan complex its use may be said to have been limited almost exclusively to baths and fountain buildings, where its heat-resisting and damp-resisting properties gave it a practical significance.

At least five different sizes of brick can be distinguished, of which four approximate to the standard measurements in use in Italy. These are

- 56–59 cm. square, approximating to *bipedales*
- 42–44 cm. square, approximating to *sesquipedales*
- 28–29 cm. square, approximating to *pedales*
- 20–21 cm. square, approximating to *bessales*

Except for the *bessales*, the dimensions tend to be slightly on the small side, but the intention is evident. The thicknesses are rather variable but a figure of about 4 cm. is normal. The fifth standard type ranges between 35 and 37 cm. square, averaging 36 cm. square; it is presumably based on some local unit, perhaps three quarters of a cubit.

Though normally fired to a warm, deep red, the Severan bricks are at times wholly or partly blackened both externally and in section. Some of them are finger-grooved with cruciform or curvilinear patterns, and a great many have a slight flange, showing where they were pressed into a wooden mould before firing. The *bipedales* of the Hadrianic Baths carry stamps, but as yet none have been identified in the Severan complex. No brick kilns have so far been located in Tripolitania although several pottery kilns are known. From the comparative rarity of roof-tiles it may be deduced that in Roman Lepcis flat, terraced roofs were the normal rule, pitched roofs the exception.

In the surviving Severan buildings brick is always used in close association with concrete. The principal examples of its use are in the apses of the Basilica, in the two Nymphaea, in the internal structures of the Forum, and in the surviving outer wall of the lower part of the Colonnaded Street. It was also used quite extensively in the harbour buildings, notably in the Pharos.

Crude, sun-dried brick was not a monumental material in Roman Tripolitania, and there is no record of its use in the Severan complex. It should be remembered, however, that it was still a material in widespread use, notably in the domestic architecture of Lepcis Magna and Sabratha. A well dated second-century example is the packing beneath the floor of the cella of the Temple of Liber Pater at Lepcis. It is by no means impossible that it was put to similar uses in connection with the flat, terraced roofs of the Severan buildings.

Wood

The principal use of wood was for roofing; and since it is very unlikely that any substantial stretches of primitive woodland still survived on the uplands of Tripolitania, the bulk of this must have been imported. Some of the timbers, (e.g. for the Basilica with its central span of nearly 19 m.) must have been of great size, and even the porticoes of the Colonnaded Street called for over 200 rafters, each over 10 m. long. To this must be added the timbers for the

wooden ceilings which, in some cases at least, were hung from the rafters; for the doors and door-frames throughout the Forum and Basilica; and for such of the lesser fittings as were not of metal or of marble.

A minor but important use of wood was for the wooden cramps and dowels which were used very extensively to steady the limestone *opus quadratum* masonry during construction (see below, p.96).

Metal

For the colonnaded orders and other similarly elaborate architectural features the wooden dowels and cramps used in the *opus quadratum* masonry were not felt to be sufficient. Their place was taken by dowels and cramps made of iron, which were fastened into place by filling the seatings with molten lead. Lead was also used for piping, e.g. in the Nymphaeum (p.104), and possibly (but of this there is no specific evidence) for waterproofing points of special stress in the roofs.

Bronze had a few practical uses, notably for door-hinges and their seatings and for the pins which fastened the slabs of marble veneer into place. Its main uses were, however, decorative—for the metal ornaments on doors and ceilings, for grilles and railings, for finials, and for statuary that was not of marble. Some of these bronze objects may have been gilded.

Since Tripolitania has no metals of its own, all of this metal was imported, and for the same reason almost all of it has since disappeared. There are very few actual surviving remains.

(b) MASONRY TECHNIQUES

Opus Quadratum (Ashlar) Masonry

The dressed stone masonry of the Forum, Basilica, Nymphaeum and Colonnaded Street is of a very simple, monumental character. With the exception of the outer perimeter of the Forum-Basilica complex, which will be described below, it consists of a single thickness of massive squared blocks, laid without mortar and held in position by the dead weight of the material and by the accuracy of its dressing. Except where interrupted by some intrusive feature such as an arch or doorway, it was laid in uniform courses, averaging 58 cm. (2 Roman feet) in height, and the individual blocks, *c.* 1.30 m long, were laid so that the vertical joints of alternate courses coincided, mid-way along the blocks immediately above and below. The average thickness of these walls is *c.* 80 cm. The blocks were normally fastened vertically by dowels and horizontally by dovetail cramps, both of wood. As will be shown in a later section (p.96) the purpose of this was not so much to strengthen the finished wall as to give it stability during the period of construction.

The appearance of the finished masonry varies greatly. One may distinguish three main categories of finish. In the first the exposed surface is quite rough, as left by the mason who initially squared off the block for use. Normally this was done by working over the surface piecemeal with a coarse punch, giving a rough, pock-marked appearance, comparable to the roughing-out of a piece of sculpture (pl. 46a). A not uncommon alternative was to run the punch obliquely across the face, leaving a series of parallel oblique striations (pl. 38d). In the second category one may distinguish two stages. In the first of these one or more edges of the exposed face has been trimmed to shape ('drafted') with a broad chisel, the rest of the face being left rough or lightly dressed with a toothed punch (pl. 46c). Such drafting may be termed 'functional drafting'. In the second stage this process has been carried to its logical conclusion by dressing the whole face back to a uniform surface. The third category, in which the four edges have been dressed back so as to give a patterned surface to the wall ('ornamental drafting'), is a special case and is described below. The functional drafting served a practical purpose during construction, enabling a block to be placed accurately in relation to a horizontal or vertical string-line. It is mainly to be seen, therefore, either on walls (such as the north-east and south-west walls of the main body of the Basilica) which were originally

intended to be visible, but which, owing to a change of plan were never brought to an all-over finish; or else on the principal face of a wall of which both sides were ultimately to be hidden by a skin of wall-veneer or of plaster. Traces of it can sometimes also be seen along the edges of blocks which have been brought to an otherwise smooth over-all surface. The first group is, of course, reserved exclusively for wall-surfaces that were never intended to be visible.

Ornamental drafting is restricted to the outer perimeter wall of the Forum-Basilica complex. (See pl. 11a.) Except where interrupted by doorways, this was of a single, unitary build throughout its length, distinguished from all the other walls of the Severan complex not only by the drafting but also by the incorporation of a well-marked plain orthostate, in elevation 1.30 m. square (the dimension was determined by the desire to match the regular vertical jointing of the rest of the wall) and 80 cm. thick. On the orthostate there rested a slightly projecting capping course, 30 cm. high. The wall above the socle consisted of 10 courses of *opus quadratum* masonry, in which the four edges of each block were dressed to a width of 2.5–3 cm. and a depth of between 5 and 8 mm., giving a strong decorative emphasis to the regular pattern of the coursing. In other respects this walling was identical with that of the rest of the building and it was crowned by a plain Doric entablature of conventional Severan type. Both the socle and the decorative drafting represent a long-established monumental convention, which had been common in the Hellenistic world and which had lingered on into the Roman period in Greece and Asia Minor and occasionally in Rome itself. [See Ward-Perkins (1948, 65 f.). Further discussion in the present volume was clearly intended. — PMK] In a simpler form, without the drafting, it is repeated at Lepcis in the small temple on the east mole of the Severan harbour.

The way the limestone *opus quadratum* of Severan Lepcis was actually handled by the builders is discussed in a later section of this chapter. In the present context it is, however, important to note that a wall of this material was regularly treated as an independent structural unit, needing no buttressing and bonded into its neighbours only if this was constructionally convenient. Not only were the stone and concrete elements of the several buildings erected quite independently, juxtaposed but nowhere structurally interconnected, but the same is true even of some of the internal *opus quadratum* walls, whose ends were simply straight-jointed against the main outer walls of the same material. In some instances the straight joint runs the full height of the wall, from floor to ceiling. This is true, for example, of some of the internal walls of the Forum, which in this respect were treated in exactly the same way as the equivalent concrete walls of the same building. In other circumstances the straight joint is only partial and, on examination, this can almost always be seen to occur at a point where the presence of a doorway or some similar feature has involved a break in the regularity of the coursing. In such a case it was regular practice to build first that part of the walling which could be carried up in a regular bond without interruption. The rest was not completed until after the insertion of the doorway or whatever other feature had upset the uniformity of the coursing. Very clear examples of this can be seen in the angle-chapels of the Basilica and again in the ashlar masonry of the Great Nymphaeum. These are discussed below in greater detail.

Two other aspects of this Severan limestone masonry call for brief comment. One is that the architects did not trust unsupported slabs of local stone to carry any substantial load. Lintels were always accompanied by a flat relieving arch; and although it was no doubt primarily for aesthetic reasons that the arch was adopted in the Forum and in the Colonnaded Street in place of the conventional flat architrave, its adoption did in fact mean that the heavy limestone entablatures were nowhere carried on free-standing architraves—an altogether more satisfactory solution to the problem than the wooden architraves which had been the only alternatives to marble in earlier Tripolitanian practice.

The other distinguishing characteristic of this stone is its brittle, almost vitreous quality. Not only did this determine the sort of architectural ornament which it would take, but it meant also that minor breakages during handling were very common. There are few stretches of Severan walling which do not, on close inspection, reveal some instances of patching during construction. The methods of patching are described below (p.98).

Outside those countries where marble was the natural building stone, *opus quadratum* in marble was, for obvious reasons of expense, something of a rarity, and the builders of the Severan Temple can have had few recent precedents to follow. It is not surprising therefore

that, apart from the substitution of metal for wooden cramps and dowels, they seem to have handled it exactly as if it were the limestone with which they were familiar. The decorative drafting of the temple is fully discussed elsewhere (pp.49, 50); it seems to have been a somewhat elaborate version of that of the outer wall of the Forum and Basilica.

The bonding of the angles and wall-junctions of the Forum and Basilica follows a consistent pattern, which may be illustrated from the following examples.

- (a) **The east angle-chapel of the Basilica.** The outer (east) angle of this chapel, which is also that of the outer perimeter wall of the Forum-Basilica complex, is bonded to its full height; so is the inner (west) angle backing on to the shoulder of the apse. Of the other two, both of which form T-junctions with the outer perimeter wall, the north angle is bonded up to the spring of the arch of the north-east door and straight-jointed above this point; the south angle is bonded as far as it is preserved. This pattern is substantially repeated in the other three angle-chapels.
- (b) **The 'Hall of the Thirteen Columns'.** The north angle, which is also the junction between the outer perimeter wall and the south-west longitudinal wall of the Basilica, is bonded to its full height. At the west angle, where the rear wall of the north-east forum portico forms a T-junction with the outer perimeter wall, the former is straight-jointed against the latter to its full height. The south angle is bonded up to the spring of the adjacent arch, above which it is straight-jointed. The east angle is straight-jointed up to the level of the door lintel and bonded above it.
- (c) **The walls at the north-west and south-east ends of the lateral aisles of the Basilica.** These are in all cases bonded into the longitudinal outer walls of the Basilica up to, but not above, a certain height; at the west corner up to the crown of the arch leading into the adjoining angle-chapel; at the south corner up to the spring of the corresponding arch; and at the north and east corners up to the lintels of the adjoining doors. The same walls are in both cases built up against, and structurally later than, the concrete masonry of the two apses; and at the west angle, where the masonry is preserved up to gallery height, the bonding is resumed at the level of the gallery floor.
- (d) **The halls at the south-west end of the Forum.** The longitudinal walls between each pair of halls, which are of ordinary *opus quadratum* masonry, are straight-jointed to their full height against the outer perimeter wall with its decorative socle.

These facts establish in broad outline a clear and consistent constructional sequence. When the outer perimeter wall was built, the junctions of all the *opus quadratum* walls of the Basilica were incorporated up to a certain height, thereby establishing the main outlines and dimensions of the plan. The internal walls themselves were not, however, immediately completed either in extension or in elevation. The building of the concrete apses was the next phase, and only when these were in place were the inner walls of the four angle-chapels carried to completion. Within the Forum the perimeter wall made no allowance whatsoever for bonding in the internal walls, whether of concrete or of *opus quadratum*, possibly because the loads that they were to carry were so much lighter than those of the Basilica; but some of them were certainly added at quite an early stage in the work. The rear wall of the north-east portico, for example, was already in place when the north-east wall of the 'Hall of the Thirteen Columns' was built up against it; and the latter is bonded into, and so contemporary with, the second stage of the building of the south-west longitudinal wall of the Basilica, above the level at which work had initially been halted.

The *opus quadratum* masonry of the Great Nymphaeum tells a similar story. On the northern and better-preserved side the first stretch to be built was the outer wing up to the level of the seating of the Doric entablature of the arch between the piazza and the Colonnaded Street. This is uniformly coursed with, and of one build with, the outer pier of the arch and the south-east outer wall of the Colonnaded Street. The *opus quadratum* masonry of the central part of the Nymphaeum was not added until later, after the construction of the main concrete mass, and it was straight-jointed up against the existing masonry of the outer wing, overlapping it for a couple of courses and then being carried on independently to the full height of the building. The final stage was the completion of the wings to the same height, the masonry of the outer section in this case straight-jointed against the inner. The vertical joints have no structural significance, nor do they indicate any change of plan. They were dictated by the phasing of the work and were purely a matter of constructional convenience.

Concrete Masonry

The use of concrete called for skills and techniques quite different from those employed in conventional *opus quadratum* masonry, and it is not at all surprising, therefore, to find two distinct groups of workmen handling the two materials. The work seems to have been deliberately phased so as to avoid any overlapping between the two groups. Ashlar and concrete were simply juxtaposed without the slightest attempt at any more organic constructional link between the two. A certain amount of subsequent adjustment of detail was evidently felt to be preferable to the confusion of trying to combine more closely the actual processes of construction.

Below pavement-level, for foundations and drains, the concrete was used without any facing, and was laid directly either in a trench or between the planks of a timber shuttering.

Above ground it was invariably faced, either with bricks or with small blocks of limestone (or with a combination of the two), supplemented occasionally with longitudinal and transverse wooden ties. Brick was the more flexible medium and also, since it penetrated further into the concrete core, the stronger, and it was for those reasons almost invariably used for such features as doorways, niches, quoins and 'bonding courses'. The small limestone blocks served to cover the rest of the wall-surface, to which they stood in exactly the same relationship as the 'tesserae' of *opus reticulatum*. They were normally laid in coursed bands alternating with bands of brick, which again served the same purpose as in reticulate work, namely that of anchoring the rather shallow stone facing more securely to the concrete core. The rubble of the core, too, was coursed; and although the courses did not necessarily correspond individually with those of the facing, the two were usually levelled off at frequent intervals. The brick courses did not normally run right through the core (the Small Nymphaeum is exceptional in this respect) but they were keyed in to a very substantial depth—as much as 90 cm. in the Great Nymphaeum. In one instance, again in the Great Nymphaeum, there is also a levelling-course of stone slabs which runs right through the core at a level immediately above that of the sills of the upper facade niches. The purpose of this was presumably the same as that of the tile courses common in the concrete work of the capital, namely to localise the effects of any settlement of the enormous mass of the concrete during the lengthy period of drying out.

Although not normally intended to be visible, the quality of the facing varies considerably from one part of the complex to another. The finest workmanship is to be found in the Forum and Basilica, whereas that of the harbour area is of a more utilitarian character. Timber lacing, for example, is found only in the lower part of the Colonnaded Street and in the warehouse on the east mole of the harbour; and in at least one instance, in the Pharos, the limestone facing between the brick courses is so rough as to be barely distinguishable from the core. A feature of the finest-quality masonry of this sort is the use of fine creamy or pale pink mortar to point in shallow relief the joints of both brick and limestone.

The outer face of the north-west apse of the Basilica will serve as an example of this characteristically Severan concrete masonry at its best. It is laid in alternate bands of 4 courses of brick and 4 courses of limestone blocks (heights of four consecutive bands, 31 and 35 cm. and 53 and 56 cm. respectively). The bricks are all *bipedales* and the limestone facing-blocks range from 15 by 19 cm. up to (in an extreme case) 11 by 50 cm. The joints are pointed in shallow, sharply cut relief with bands of pale pink mortar 2–2.5 cm. wide (pl. 31a). The inner face (pl. 30a), with its elaborate pattern of doors and recesses, was treated very largely in brick, with small panels only of limestone blocks. The bricks used include some *pedales* and *bipedales* and a large number of *sesquipedales*, the large niche-heads being turned in *sesquipedales* and the smaller bracket recesses in *pedales*.

Substantially the same formula (4 courses of brick to 4 of limestone) is repeated in the south-east forum portico (pl. 12a) and in the central exedra of the north-east portico. The tabernae of the north-east portico have 3 courses of brick to 5 of limestone; and those parts of the Great Nymphaeum facade which are not broken up by recesses have 3 courses of brick to 10 or more of limestone. In the more utilitarian versions brick is used even more sparingly (in the lower Colonnaded Street) or is absent altogether (the warehouses of the east harbour mole). All sizes of brick seem to have been used, as available. Of three successive bands in the south-east forum portico two are made up exclusively of 36 cm. bricks, the third of bricks of the same size with a generous admixture of *sesquipedales*. Those used in the Nymphaeum are again almost entirely of the 36 cm. size and very variable in thickness (mostly 2.5–3.5 cm., but some as much as 6 cm.), and whereas those of the bonding courses are widely jointed (3 courses to 28 cm., 4 to 37 cm.) those of the broader stretches of brickwork are much more closely spaced (10 courses to as little as 68 cm.).

Though the quality of the dressing and jointing of the limestone courses varies very greatly, the dimensions are relatively uniform. The following are some representative figures for the heights of the coursing (in each case, both here and in the preceding paragraph, one course indicates one course and one joint):

Basilica, N.W. apse	5 courses, 53–56 cm. (= 10 courses, 132–140 cm.).
Forum, S.E. portico	4 courses, 53–68 cm. (= 10 courses, 132–175 cm.).
Forum, N.E. portico	5 courses, 68–74 cm. (= 10 courses, 136–148 cm.).
Great Nymphaeum	10 courses, 156–163 cm.
Lower Colonnaded Street	8 courses, 156–163 cm. (= 10 courses, 195–197 cm.).

Reduced to a common denominator of 10 courses, these figures vary between a minimum of 132 cm. and a maximum of 175 cm. (and in one instance of much rougher work, 197 cm.).

(c) CRAMPS, DOWELS AND THE HANDLING OF THE MASONRY

Cramps

There were two sorts of cramps in use. One of these, the dovetail cramp, was the normal horizontal fastening between the blocks of limestone, and it was regularly so used in the *opus quadratum* walls, in stylobate footings (in the Colonnaded Street, pl. 35a) and in solid masonry masses such as the west mole of the harbour. The average dimensions of the sockets are: length, 31–33 cm.; maximum width, 11–12 cm., tapering to 8–9 cm.; depth 6–7 cm. There is nowhere any trace of metal and in at least one instance (a block from the forum facade, now lying fallen beside the south-east entrance) the cramp can be seen to have been fastened in place with mortar. It is almost certain therefore that, following a practice which originated in Pharaonic Egypt and which was widely adopted in the Roman world, these dovetail cramps were normally, if not invariably, of wood. Though not so strong or durable as metal cramps, they would have supplied the necessary extra stability during construction, which was the moment when these structures were subject to a great deal of extra stress.

The second type of cramp, the π -cramp, was made of iron, and it was used instead of the dovetail cramp wherever the blocks to be fastened were of marble or of the finer qualities of limestone, which in this respect was treated exactly as if were marble. In shape it resembles an elongated version of the Greek letter π , and it was made by taking an iron bar of square section, the two ends of which were then turned over and beaten out into splayed form. The ends were sealed into place with lead. As with the wooden dovetail cramp, its use can usually only be inferred from the presence of the characteristic cramp-holes near the ends of the upper surfaces of the blocks; very few actual examples have survived the depredations of a metal-hungry country over the centuries. There is, however, one complete surviving example on a white limestone spandrel block in the Colonnaded Street, near the middle of the forum frontage (pl. 46b).

Dowels

As with cramps, there were two sorts of dowel in regular use in Severan Lepcis, one of wood and the other of iron, the distinction between the two being again one of the material to be fastened: wood for the normal limestone *opus quadratum* masonry and iron for marble and for the finer qualities of limestone, including all free-standing entablatures. The wooden dowels were simply pegs which were fastened into the underside of each block; as it was lowered into place they fitted into holes which were cut to receive them in the upper surfaces of the blocks beneath. There can be no possible doubt of the material, since the fixing into place of an iron dowel involves the cutting of a channel through which to run in the lead sealing, and of such channels there is no trace on the ordinary limestone blocks (e.g. pl. 35a). The metal dowels were iron pins, about 10 cm. long and up to 5 cm. square, slightly waisted at the centre. The dowel-holes on the under surface tend to be rather small, barely large enough to take the pin, which may often have been simply hammered into place. The corresponding holes in the lower block are generally larger. This was largely to allow for the passage of the molten lead which sealed it into place, and partly to allow for minor errors of positioning. There are many instances of dowel-holes which cut into or incorporate lewis-holes, and it is clear that they were often, if not always, cut when the block was already in place; the exact position was perhaps marked by lowering and raising again the block above with its dowels already fixed in place. There are examples of upper-surface dowel-holes that have had to be enlarged, and in more than one instance completely recut, owing to faulty positioning (pl. 47b).

Normally a single groove was sufficient for running in the lead (e.g. pl. 24b), but with specially close-fitting members such as marble column-bases and columns, or columns and capitals, the groove was duplicated so as to provide an outlet for the air (pl. 47a). The number of dowels varied according to the size and function of the blocks. Where these rested directly one above the other (e.g. column and capital) there was normally only a single, axial dowel.

Elsewhere, wherever there was any form of bond, there were two or more. Thus, a capital carrying the blocks of a horizontal architrave has two dowel-holes in the upper surface, a capital carrying the springer-block of an arcade only one. An exception to this rule is that there were nearly always two dowels beneath a column-base. Occasionally there is no dowel-hole where one would expect one. This presumably represents careless or hasty work.

Lewis-holes

The usual, though by no means invariable, way of raising the blocks, whether of marble or of limestone, seems to have been by means of a metal device consisting of two small, outward-curving bars of metal, each with a loop at the top and hinged just above the centre like a pair of scissors. The lower ends were placed in a specially prepared slot, or 'lewis-hole', which was cut in the upper surface of the block to be lifted and which was slightly longer at the bottom than at the mouth. When the tackle was raised, the loops were pulled upwards and inwards and the lower ends were forced correspondingly outwards, locking firmly into place at the base of the lewis-hole. The greater the weight, the stronger the grip, the only limit to the weight that could be lifted by this simple device being the strength of the stone itself.

The average dimensions of the lewis holes are 12–14 cm. long at the mouth and a few centimetres longer at the bottom, by 6–7 cm. wide and 14–18 cm. deep. They were used either singly at the point of balance, or else two or more disposed symmetrically about the point of balance. Generally speaking, the number varies with the size of the block, but there was evidently a considerable variety of usage. A heavy cornice-block from the arch at the south angle of the Forum has four; the adjoining angle-block, hardly if at all less heavy, has only two. Just across the street a frieze-block of brown limestone measuring 3.10 by 0.50 by 0.95 m. has only one. Every now and then one comes across a large block with none. In such cases one can only presume that for some reason or other (a suspected flaw in the stone?) the builders preferred to lift the block by some other method, such as cradling it with ropes.

Many of the lewis-holes have been partly obliterated by dowel-holes, cut after the block had been hoisted into place. Others are found filled with chips of stone or marble, affording valuable confirmatory evidence of the amount of dressing that took place between the laying of one course and the next. (See pl. 47b.)

Levering slots ('pry-holes')

Many of the blocks have one or more shallow slots on the upper surface near the vertical joint in the next course above. These were to give purchase to the ends of the levers by means of which the blocks of the next course were guided into position. They can be a useful indication not only of the relative positioning of the courses but also of the direction from which they were built. They are not restricted to *opus quadratum* masonry, being found also, for example, on the tops of capitals for the guiding into place of the impost blocks of an arcade (pl. 47c). To judge from their shallow cutting they were not so much intended for shifting blocks that were already grounded as for guiding the exact positioning of blocks that were still suspended by the lifting tackle, during the last few centimetres of their descent into place.

Setting-out lines

Some blocks have, incised on the upper face, lines that were intended to mark the exact position of the blocks of the next course. A very clear example of this is the string-line cut along the upper surface of the foundation of the south-east portion of the Colonnaded Street to mark the position of the inner face of the actual stylobate (pl. 35a). Whether an inscribed line of this sort was usually necessary above pavement level may be doubted. One of the main purposes of the drafting of the individual blocks was to allow an actual string to be extended along the line of the joint. This was not practicable, however, where, as in this case, the lower course was wider than the one above it.

Another common practice was the cutting of a line, or lines, to mark the position on the

stylobate of a column-base or some similar feature. On the stylobate of the Colonnaded Street it was the angles of the pedestals that were so indicated. Within the Forum it was the axes of the column-bases that were marked, with four corresponding lines cut on the plinths of the bases themselves.

Repairs

Owing to the brittle nature of the limestone, particularly of the finer qualities, a great deal of patching was needed to replace angles or mouldings damaged during handling. Almost every second or third block of the forum porticoes has been so repaired at some point. Wherever possible the repairs took the form of a simple rectangular patch inserted into a prepared seating and held in place by its own weight, but the larger or more awkwardly placed of them were fastened by dovetail cramps. Examples of the latter can be seen in at least two voussoirs of the forum arcade, as well as in one of the spandrel-blocks on the rear face of the re-erected section of arcading in the south-east portico (pl. 8b). A fine pre-Severan example of a repair effected by means of dovetail cramps is the base of a huge cipollino column from the Hadrianic Baths, now lying abandoned in the Palaestra where, in late antiquity, it was being sawn into slabs for decorative use (pl. 47d).

(d) MASONS' MARKS, QUARRY-MARKS AND ASSEMBLY MARKS

Masons' Marks

A great many of the marble elements of the Severan buildings bear single letters or short inscriptions which relate to the processes of carving and erection. It is possible that a few of these, on the ends of columns, may be quarry-marks cut at the quarry before despatch as part of the system of checking and accounting that was regularly enforced in the major centres of production. The great majority, however, were cut on finished surfaces and must refer to work that was done after receipt of the marble at Lepcis itself.

For convenience of reference they may be considered as falling into five distinct groups:

1. On the upper surfaces of the Pentelic marble column-bases and on the under surfaces of the Pentelic marble capitals of the Forum, Basilica and Colonnaded Street; in both cases cut after the surfaces in question had been dressed smooth but before the cutting of the dowel-holes and the channels for running in the lead to fasten the dowels.
2. On the vertical faces of the plinths of the same series of bases.
3. On the cipollino columns that were used with 1 and 2 above.
4. On the red Egyptian granite columns of the Basilica (and once on a small column of grey granite, which may have come from the interior of the Severan Temple).
5. On various carved architectural members of Proconnesian marble in the Forum and in the Basilica.

In all, there are 128 recorded examples, of which no less than 99 are on Pentelic capitals and bases and 16 more on the cipollino columns that were used with them. Of the remaining 13, 6 are on columns of red granite, 1 on a column of grey granite and 6 on architectural members of Proconnesian marble.

It will be seen that the great majority are on, or are closely associated with, the Pentelic marble architecture of the Forum, the Basilica and the central sector of the Colonnaded Street. Wherever of sufficient length for identification, the texts appear to represent Greek proper names, given in the genitive (*Aristophontos*, *Aimeniou*, *Parasiou*, *Soter(os)* etc: see pl. 48a), and they were cut after the column, capital or base in question had been dressed to shape but, in most cases, before it was actually put into use. In the context it is hard to avoid the conclusion that these texts were the signatures of the workmen responsible for carving the individual architectural elements. Within this Pentelic group the only possible exception lies in the series

carved on the vertical faces of the plinths. In at least one instance there are two distinct and different inscriptions, one on the upper surface and one on the plinth, and whereas the signatures of the workmen *Aristophon* and *Soter*, for example, are scattered indiscriminately throughout the complex, the plinth inscriptions tend to be closely and consecutively grouped. 'Alexander(?)' signs four out of five successive bases in the south-east forum portico and 'T' five in a row in the north-east portico. If such grouping is significant, it suggests that some at least of the plinth inscriptions may refer not so much to the initial carving of the bases as to the final preparation and assembly of the several elements that went to make up a particular stretch of the order.

Five of the six inscriptions cut on the granite columns of the Basilica might theoretically be quarry-marks rather than masons' marks; but the fact that the sixth, which is otherwise indistinguishable, was cut on one of the shafts after it had received its final dressing (pl. 48b) strongly suggests that all of them relate to this latter process. This is certainly true of the cipollino columns in the forum. Not only were the inscriptions on the ends cut after the preparation of the columns for use, but of the six recorded signatures, two appear in otherwise identical form on the ends and on the shafts alike. There is, however, an interesting distinction between the two signatures in question. 'ΦΙ', which appears on the underside of one column and upside-down on the apophyge of two others, is a mason's signature, since it must in all three cases have been carved before the column was erected. 'M', on the other hand, is an ordinary mason only in the north-west portico, where he figures on the upper surfaces of the columns. In the south-east portico his signature appears instead on the shafts of four successive columns, in each case just above the marks of secondary dressing undertaken when the column was already in place. In this case he must have had a position comparable to that of 'Ale(xander)' and of 'T' in the preceding paragraph, being responsible for the final assembly of the order rather than the preparation of its individual elements.

[Ward-Perkins intended to discuss the full significance of this group of inscriptions in a later chapter.] Here, it must suffice to remark that on the Pentelic capitals and bases all the identifiable names without exception are Greek and cut in Greek lettering; the marble in which they are cut came from Attica; the capitals are of a type which was distinctively Attic and which was decidedly uncommon elsewhere [see Ward-Perkins (1948, 66–70)]; and even one of the names, *Eleuseinios*, suggests an Attic origin. It is hard to avoid the conclusion that the group of workmen responsible for this section of the work were themselves brought in from Attica to handle the marble with which they were familiar, and that they worked as a distinct and virtually independent unit within the wider organisation. They appear to have been in charge also of the associated columns of cipollino, the columns, capitals and bases being treated as a single structural unit. This is the more readily intelligible when one recalls that cipollino came from the island of Euboea off the north-east coast of Attica, and that cipollino columns had already been used in Athens in such monuments as Hadrian's Library.

The evidence about the remaining materials is too slender to justify any conclusions beyond the simple facts that the language and the lettering are Greek, and that the texts on Proconnesian marble were cut after the substantial completion of the members on which they appear, but in at least two cases before they were hoisted into position. One may suspect that, as with the Attic marble, the workmen engaged in preparing both the Egyptian granite and the Proconnesian marble were imported specialists. The former is a notoriously intractable material except to those who know how to handle it and both the motifs used on the Proconnesian marble members and the manner of carving them indicate derivation from second-century Asia Minor. [See Ward-Perkins (1992, 81–105).] It must be emphasized, however, that the inscriptions themselves tell us nothing more than that the sculptors of this group spoke and wrote in Greek.

[It was Ward-Perkins' intention to provide here a completely revised list of the recorded masons' marks. Unfortunately, this had not proceeded beyond a first draft which clearly still needed extensive work to be done on it: it has therefore been omitted. — PMK]

Quarry-Marks

With the rather dubious exception of the letters cut on the ends of the columns of red

Egyptian granite in the Severan Basilica (see above), there are no surviving examples of the texts that were regularly cut on marble columns or blocks before shipment from the quarry. Two reasons may have contributed to their absence. One is that few, if any, have been recorded on blocks of Proconnesian marble; the Proconnesian quarries must have used some other method of accounting. The other is that, although very common throughout most of the second century, by the turn of the century the numbers were everywhere falling off. Since there was little or no diminution of actual production in the majority of the big quarries this, too, must be due to some extraneous factor such as a change in accounting systems. It is significantly the Hadrianic Baths that have furnished the majority of the examples known from Lepcis, on blocks of Numidian (giallo antico) and Phrygian (pavonazetto) marble.

The only inscriptions at Lepcis which, though not at all typical, may be said to fall within this category are a pair of texts (one fragmentary, but seemingly identical) cut on two blocks of black marble now lying beside the Colonnaded Street opposite the Forum. The complete text runs: '*Dimittendus in splendidissimam coloniam Leptim Magnam iussu Fulvi Plautiani c(larissimi) v(iri) praef(ecti) praet(orio) ac necessari dominorum nostrum*' (IRT 530). It is in effect a consignment note recording despatch from the quarry to Lepcis on the instruction of Fulvius Plautianus, the notorious Praetorian Praefect who was executed for conspiracy in 205. Since it was in 202 that he became a *necessarius* of the Imperial family through the marriage of his daughter, Plautilla, to Caracalla, the block was shipped between 202 and 205. By that date parts of the building must have been sufficiently advanced for preparations to be made to give them their final facing of veneer marble. Whether the marble in question is the famous black *marmor Luculleum*, and whether in turn this came from Chios, are questions that need not be further discussed here. [See now the references in Ward-Perkins (1992, 157) under 'Teos'.].

Assembly marks

For the most part the dressing of the stone was done in such close proximity to the point of assembly that there was no need to mark the order of the finished pieces. An exception was the small limestone cornice which marked the top of the drum of the basilica apse, which was evidently carved on the ground and assembled ready-carved. The order of assembly was indicated by the greek letters A-A, B-B, Γ-Γ, etc., carved on the under surfaces of adjacent blocks, beside the joints (pl. 48c).

(e) OVER-ALL ARCHITECTURAL DESIGN

[This section of text is taken from a lecture delivered by Ward-Perkins in about 1972. As it discusses an aspect of the work which is not otherwise covered in this book, it seemed appropriate to include it at this point. — PMK]

It was probably normal Roman practice to draw up a detailed ground plan incorporating all essential working dimensions, but a great deal of the detail of the corresponding elevations had to be left to be worked out during construction. Both practices find ample confirmation at Lepcis. Leaving the problems of elevation on one side, we may concern ourselves initially with the planning and layout of the site. This was not by any means a straightforward task. The site available was an irregular quadrilateral, three sides of which were fixed by the lines of the pre-existing streets. On the fourth side alone was there a certain margin for manoeuvre, and even this could only be achieved by a very large terracing operation. Soundings beneath the piazza and in the area between the piazza and the Forum show that this is all made-up ground, reclaimed from the former bed of the wadi which had previously cut deeply into the west bank at this point. Excavation beneath the Forum itself (where a thick layer of concrete discourages extensive *sondage*) would be required to show how extensively, but it was clearly a major operation comparable in scale to the great terracing operations of imperial Rome (see p.69).

Once the exact line of the Colonnaded Street had been established (and the margin of choice was not a large one) the rest followed almost inevitably. One has only to glance at the shape of

the site that was now available for the Forum and the Basilica to realise why it was not possible to resolve the architect's project, as is often the case, into simple multiples of some basic unit of measurement. The Roman foot was one of the two units of length in regular use at Lepcis, as can be seen on the standard measure displayed in the market place. It was, for example, the module used in the construction of the Severan Arch. In the present instance, however, it was impossible to apply any simple scheme of proportions because in practice so very few of the buildings could be of a strictly regular plan.

Nonetheless, it seems possible to detect a certain number of meaningful figures. For example, it can hardly be by accident that the width of the open central area of the Forum, one of the few rigidly regular features of the design, is almost exactly 200 Roman feet. Again, the figure 240 (or fractions thereof) occurs with suspicious frequency, no doubt because it was a figure which lent itself admirably to simple fractional calculation. Both the total width of the Colonnaded Street, including the outer walls, and the internal length of the Basilica fall short of this figure by a negligible fraction; one of the radii of the Great Nymphaeum as originally planned was 80 feet and the straight front of it, as it was finally built, is 120 Roman feet in length. The pattern, which must reflect architectural practice at the time, is clear: the scale of the Severan marble map of Rome, the *Forma Urbis*, was 1:240. At the smallest end of the scale dimensions of the Lepcis buildings appear to have been conceived in multiples of 5 Roman feet.

The architect appears to have established one or two basic dimensions to serve as a module for calculation, but few were carried through into the final design in a form sufficiently consistent to be still recognisable. The overall width of the Colonnaded Street, the internal width of the Forum and the internal length of the Basilica are examples of such basic dimensions. Arguably, too, the interior of the Basilica was originally planned as a double square, of which the transverse dimensions had to be slightly adjusted (by some 3 or 4 feet) in the process of fitting the whole complex into the very irregular site. The basic guidelines of the plan must have been calculated prior to construction, with theoretical dimensions; but for the rest a great deal must have been worked out on the ground in accordance with a scheme that left a considerable margin for detailed adjustment in the development of secondary features.

The essence of the scheme finally adopted was to meet the irregularities of the site by an ingenious combination of illusionistic devices. Along the south-east side of the Forum a tapering, wedge-shaped block of tabernae absorbed the difference in alignment between the Forum and the street, and another similar block was interposed between the Forum and the Basilica. Along the north-west side the portico was gently tapered, and the worst of the irregularities occasioned by the curving line of the pre-existing street was relegated to the obscurity of a secondary hall at the west angle. Subsidiary rooms at the four corners of the Basilica (one of which became the Byzantine baptistry) served a similar purpose, so that the main hall became almost exactly rectangular. The answers to the problem were simple but effective. The main architectural units displayed themselves with all the dignified symmetry that Roman monumental tradition demanded. Only the most alert and architecturally conscious of visitors would have been aware that there had been any problem to solve.

(f) THE PRACTICAL ORGANIZATION OF THE WORK

It will be clear from the preceding sections that a great deal of the final working of the masonry took place on the site while the building was going up, much of it when the blocks were already in place. It has been suggested that it was this factor, as much as considerations of the strength of the finished building, which was responsible for the lavish use of wooden cramps and dowels throughout the *opus quadratum* masonry; and it undoubtedly will have assisted the many improvisations and adjustments of coursing and of spacing which are evident throughout the whole complex.

The same sort of approach is evident also in the marble architecture. From the positioning of many of the unfinished pieces it is quite certain that they were meant to be finished in place.

Furthermore, the builders were faced in this case by the additional problem that some of the most important architectural elements, namely the columns, were imported ready-made in a form which allowed only minor adjustments of scale and dimensions; and since in practice they varied quite considerably in length, they had to be very carefully matched with their bases and capitals if the latter were to provide a level seating for the architrave. This is made very clear, for example, in the one section of the basilica colonnade which has never fallen (p.57), the two standing columns of which differ in height by as much as 25 cm. (pl. 31b); and although this is a somewhat extreme case, one does in fact meet with a similar situation wherever one attempts the recomposition, either in theory or in practice, of the *dissecta membra* of one of these marble orders.

This variation in dimensions of what were theoretically members of standard size created problems that could only be worked out on the spot; and while it is possible that some minor architectural elements such as brackets or string-courses were finished separately and used as delivered, there can be no doubt that the majority of the work of carving and assembly went on side by side in the very closest association. In the south-east portico of the Forum one finds a single workman, 'Ale(xander?)', signing four successive column-bases, not on the upper surface as was the regular practice of the masons carving the bases, but on the vertical face of the plinth. In the context this can hardly be other than an indication of responsibility for the working and erection of the whole unit. A great many carved mouldings were left in various stages of completion with the evident intention that they should be completed in position. Many of the bases of the Basilica are unfinished (pl. 48d), and some of the columns of the partly engaged orders have been dressed only on the side that faced outwards. It is a fair generalization that a very great deal of the final working of the marble, as of the limestone, took place on the spot during the course of erection.

The same is true *a fortiori* of the concrete masonry, the secret of which lay, not in the preparation of the materials, but in the way they were handled. The bulk of the work involved was unskilled, and could be supervised by the fairly small group of skilled workmen whose business it was to build up the facing within which the core was laid. All of this was, of necessity, work that took place on the spot.

The careful phasing of the building operations, so as to avoid overlap and confusion between the various specialized groups of workmen, has already been remarked on in connection with the limestone and the concrete masonry of the Basilica and Forum (pp.23, 93-94). It only remains to observe that, wherever it can be tested, the same compartmentalized approach to the problems of organization makes itself felt throughout the complex. In the apses of the Basilica, for example, the brickwork undoubtedly envisaged from the outset a marble decorative scheme which, except for the central pair of columns, was identical with that actually erected. It was part of a unitary plan, involving both the concrete masonry of the apse and the marble of the decorative orders. But when it came to the actual construction there was no direct cooperation between the two groups of workmen. The concrete masonry was built first in its entirety. Only then were the marble-workers loosed upon it; and since the columns proved to be of a slightly different height to that originally calculated, the positions of the brickwork niches had to be adjusted.

Exactly the same structural dichotomy is apparent in the Great Nymphaeum. Here again the original plan envisaged a structure almost identical with that finally erected, but the concrete body of the building was already complete before the masons were allowed to add the facing of *opus quadratum* and the elements of the decorative order. Once again there proved to have been a miscalculation in the lengths of the columns as finally delivered, and the niches in the concrete work had to be adjusted accordingly.

Even within the limits of a single material and of a single architectural feature one finds evidence of further subdivision into smaller working groups. The upper and the central sections of the north-west portico of the Colonnaded Street, for example, were clearly in the hands of two distinct squads of workmen; when the two met at the monumental arch the relative heights of the two entablatures differed by as much as 25 cm. Even the indifference to bonding characteristic of so much of the *opus quadratum* masonry may be explained by the desire to avoid unnecessary and time-consuming complications in what could otherwise be treated as a single, uniform operation, to be undertaken by a single group of workmen. With

such a huge building programme in hand, there were obvious advantages in reducing as much of it as possible to a series of straightforward and distinct building processes.

Architecturally speaking, the effects of the building methods and organization just described were not in themselves of any great importance. Indeed, when the final veneer of marble or plaster had been added, many of them would have escaped the keenest eye. As will be seen, however, in the following chapter, they are of great importance in assessing the extent to which the finished buildings represent the original intent of the architect when the project was first laid down. They do, moreover, offer a vivid glimpse of the builders at work. One can study not only the activities of the individual groups of workmen, but also something of the way in which the work of each group was organized in relation to the whole. There can be few monuments of antiquity which offer a more complete and detailed picture of the actual processes of its own creation.

8. THE CHRONOLOGY OF THE SEVERAN BUILDINGS

That the Basilica and, by implication, the rest of the complex of buildings to which it belongs, were largely if not entirely the work of Septimius Severus and his son Caracalla is established beyond question by the terms of the great inscription which occupied the frieze of the lower order on both sides of the nave (*IRT 428*), and which was repeated in virtually identical form on the outer faces of the two end walls (*IRT 427*). It records that the building was begun and largely completed (*coepit et ex maiore parte perfecit*) by Severus himself and was finished (*perfici curavit*) by Caracalla in 216. The inscription from the facade of the Temple (p.53) is unfortunately too fragmentary to throw independent light on the building history of the complex, although it is consistent with a relatively late date within the sequence. There are, however, two other inscriptions which do pin-point earlier stages in the work. One of these (*IRT 398a*) is the matrix of a lead water pipe which was found in position in the Nymphaeum, inscribed with the names of Severus and his two sons, showing that by 211 at least the hydraulic installations of this building were already approaching completion. The other (*IRT 530*; see p.100) is cut on a block of black marble, recording its despatch to Lepcis on the orders of Fulvius Plautianus, who was disgraced and executed in 205. By that date parts at least of the Forum were evidently far enough advanced for the problem of facing them with coloured marbles to be receiving practical attention. One other inscription, found in the Nymphaeum (*IRT 607*), records a gift by a member of the Severus family, P. Septimius Geta, the father of the emperor, to record the munificence of his sister, Septimia Polla. But the terms of it suggest that it was erected before his son's rise to power, and in that case it must have been moved subsequently to the position in which it was found.

From these inscriptions we learn that the buildings were already well advanced just after the turn of the century, and that, although still incomplete in some details in 217 when the death of Caracalla brought further work to an end, they were formally dedicated in 216. In the form in which they have come down to us they are substantially the work of Severus and Caracalla. It has been suggested, however, that this is not the whole truth and that in the Forum and Basilica the Severan architects were incorporating and developing a scheme that had already been begun by Commodus. It is true that the text of the Basilica inscription specifically says that Severus himself began the work. But it would not be the first occasion on which the Severan dynasty received epigraphic credit for buildings begun in the previous reign: see, for example, *IRT 396*, recording the rebuilding of the frigidarium of the Hadrianic Baths. To that extent the epigraphic evidence is not absolutely conclusive. If the suggestion is to be taken seriously it is the buildings themselves that must furnish the evidence.

Three arguments in particular have been advanced in support of the suggestion that the nucleus of the Severan project was inherited from the previous reign. One is that the irregularity of the plan shows that the Severan architect found already established, and had to incorporate, elements of an earlier project; if not, why did he not they make the relatively slight adjustments that would have given them a neat, rectangular plan, with the Basilica set at right-angles to the Forum and the latter arranged symmetrically around an axis parallel to the

Colonnaded Street? Secondly it is argued that the complex, as completed, incorporated a number of changes of plan, indicating an original intention substantially different from that which was actually put into effect. A third reason for questioning the homogeneity of the surviving remains is the fact that so many of the walls which might reasonably have been expected to be bonded into each other are simply juxtaposed and must have been built successively, not contemporaneously. Though individually inconclusive, together these arguments constitute a case that has to be answered; and since the answers in fact tell us a great deal about the way the builders went about their work, it is worth examining them, one by one, in some detail.

The first argument, based on the irregularities in the overall plan of the Forum and Basilica, does not stand up to critical examination. Quite irrespective of the reasons for these irregularities (which are discussed above, p.100 f.), the order of construction of the surviving remains is clearly established, and the feature that can be shown to have been laid out first and built to a considerable height at a very early stage in the programme is the outer perimeter wall (p.94). Furthermore, at every point where the internal ashlar walls of the Basilica meet this outer wall, they are securely bonded into it (*ibid.*). It follows that the element common both to the Severan complex and to any hypothetical predecessor must at the very least have included a large rectangular hall with four angle-chapels and, adjoining it but on a different axis, the irregularly-shaped enclosure within which were subsequently laid out the porticoes and other internal features of the Forum. Far from explaining the irregularities of the Severan plan, the hypothesis of an uncompleted pre-Severan project merely thrusts the problem back in time; and if an earlier architect could have initiated such a plan *ex novo*, there is no *a priori* reason why a Severan architect should not have done so.

Granted, however, that the main outlines of the Severan plan were established on a single occasion, it remains true that the finished complex did incorporate a number of changes of plan which demonstrably took place during construction. With one exception, however, these can be seen to be the result of decisions taken when the work was already well advanced. The exception is, of course, the abandonment of the original scheme for a circular piazza at the head of the Colonnaded Street. Not even the foundations of this had been completed when it was scrapped in favour of the scheme embodying the Great Nymphaeum. Since the latter was already nearing completion (if not indeed already complete) in 211, the change of plan must have been adopted at a very early stage.

Elsewhere the changes are all relatively late. In the Forum, for example, the only modification of substance was the lengthening of the temple podium, and this incorporates rejected architectural elements from what was already an advanced stage of the work in the Basilica. Another major afterthought is the monumental passageway along the north-east flank of the Basilica, the walls and footings of which are both butted up against those of the original outer perimeter wall. The reasons for this change of plan [have been a recent subject for discussion between Ward-Perkins and A. Di. Vita: see Di Vita (1982)]. It must have been decided on when the walls of the Basilica itself had already reached a considerable height, but before they were completed.

All the other changes to the Basilica relate to the finished appearance of the building rather than to its structure. In the two apses the design of the semi-engaged decorative orders was considerably modified by the incorporation of the central bicolumnar features. This decision was taken when the walls of the apses were already standing to their full height. There were comparable changes also to the finished appearance of the end-walls of the nave and aisles, the masonry of which was first designed to be visible and was only later concealed beneath a facing of marble veneer. It is true that the decorative panels incorporated in the brickwork on either side of the apses could have been a *jeu d'esprit* on the part of the builders and were never intended to be shown. But this was certainly not the intention in the case of the mouldings over the doorways leading from the aisles into the angle-chapels (p.62; pl. 33a), which were at first carved in full relief and then had to be cut back to accommodate the veneer. One can even detect in the dressing of the masonry surfaces of these same end-walls the moment at which the instructions were changed, the point at which it became unnecessary to bring them to a fine finish. All of this amounted to a significant change in the finished appearance of the building;

but it was superficial, representing an enrichment rather than any substantial change to the original plan.

The third argument adduced for the modification by the Severan architect of a building that had already been started by others lies in the striking lack of structural cohesion between many of the individual elements. The matter of walls that are straight-jointed against other walls, instead of being bonded into them, is at first sight surprising. Here again, however, a detailed examination of the evidence gives rise immediately to the same objections as before. Even if one were to disregard as later modifications such structurally secondary features as the apses of the Basilica, the colonnades of the Basilica and Forum, the tabernae and the whole of the Temple, the remaining components of the scheme would still bear a remarkably close resemblance to a basilica (or something very like it) and an associated forum-like enclosure. The hypothesis of a pre-Severan building complex, incorporated and modified by the Severan architect, explains nothing. The structural anomalies exist, but they have to be explained otherwise.

The explanation is in fact far simpler. Far from indicating any major change of plan, the fact that a great many walls were built up against other walls that were already standing can be seen as the direct result of a coherent constructional strategy, whereby the whole huge enterprise was apportioned between a number of independent groups of specialised workmen in such a way as to ensure the minimum of interference between the individual groups. This was common Roman architectural practice, but there are very few monuments in which one can follow the workings of the system in such intimate detail.

The evidence for the subdivision of the enterprise into a number of rigidly demarcated compartments based on craft specialisation has been set out in a previous chapter (pp.94, 101f.) and need not be repeated here in detail. It will be sufficient to recapitulate a few of the most striking instances. That the stonemasons and the workers in *opus caementicium*, for example, had little or no direct contact with each other is made abundantly clear wherever their work converges. Sometimes, as in such major features as the apses of the Basilica and the Great Nymphaeum, it was the concrete-workers who were first on the ground; elsewhere we find them building partition walls up against already standing walls of dressed stone. The two materials were never bonded into each other. So, too, with the marble-workers, who contributed an independent group of specialists that was further subdivided into handling the Attic and the Proconnesian marble respectively, with very probably a third group handling the Egyptian granite. Even within the limits of the limestone *opus quadratum* masonry there is plenty of evidence for the breaking down of the work into a number of separate tasks, which were allocated in such a way as to ensure a minimum of interruption to the smooth progress of each. The outer perimeter wall provides a clear instance of this. Except for a few points where there was an obvious need for extra stability (e.g. at the junction with the two-storey angle-chapels of the Basilica) this wall, with its distinctive and potentially rather awkward coursing, was built quite independently of any internal walls. These were added later. In general, the internal walls of this robust and essentially static masonry were felt to be in no more need of bonding into the outer framework than were the equivalent concrete walls of the north-east and south-east forum porticoes. The confidence of the builders in the intrinsic quality of their work was fully justified by the later history of the buildings. A few walls were overturned by the lateral thrust of the sand dunes, a force which they were not designed to resist; but the rest would still be standing today if they had not been deliberately demolished in post-classical times.

Once it is accepted that the dedicatory inscription in the Basilica is telling neither more nor less than the truth, one can follow the subsequent progress of the work in surprising detail. Here again the essential evidence has been set out in the preceding chapters. At this stage it will be necessary only to recapitulate the broad outlines of the story.

The project must have been conceived very soon after Severus came to the throne in 193 and, so far as one can judge without a large-scale examination of the structures below pavement-level, it was from the outset designed very much as it was eventually built. The only really important changes of plan that we can document are two. One was a radical change in the design of the piazza, a change that was adopted quite early on in the work. The other was an ambitious scheme to extend the complex north-eastwards into the angle between the Basilica

and the Colonnaded Street. The ground was cleared, but in the event the scheme was abandoned even before the completion of the upper storey of the Basilica in favour of the monumental passageway which marks the limit of the central complex in this direction. [See on this topic Di Vita (1982) and discussion by Ward-Perkins following the same article.]

The first practical step was to demolish any buildings that may previously have occupied the site, to divert the wadi, and to build the massive concrete foundations which were to be the principal guarantee of the future buildings' stability. To this first phase belong also the planning and installation of the drains (including those that carried the run-off from the parts of the city which had previously discharged directly into the wadi at this point) and the levelling up of those parts of the platform which had been reclaimed from the wadi bed. To provide building materials, new stone quarries were opened up in the neighbourhood of Lepcis; brick kilns were established, presumably locally; and the first orders went out to Greece and Egypt for the marbles and granite that would be needed at a later stage in the work.

The bricks were delivered to the site ready for use and a good deal of stone, including some of the marble (notably, but not exclusively, the columns), was roughed out at the quarry before despatch. Otherwise all preparatory work was done on the site, in the initial stages much of it probably within the open central areas of the Forum, the Street and the piazza. The first feature of the Forum-Basilica complex to be built in elevation was the outer perimeter wall, enclosing the whole central building site. Not until this was substantially complete did the workers in concrete start on the two apses of the Basilica, and these in turn had finished their work before the stonemasons were allowed to complete the angle-chapels. The same sequence was followed in the Great Nymphaeum. In the Forum, once the perimeter wall and the south-west wall of the Basilica were in place, both groups could work almost independently, and in this case it was the stonemasons who had precedence at the few points where the two groups overlapped (e.g. in the rooms opening off the north-east portico). The Colonnaded Street presented fewer logistic complexities. Once the foundations were in place, a great deal of the work in elevation had to await the delivery of the marble columns. The masonry of the outer walls could have been carried out piecemeal whenever suitable workmen could be spared from the main complex.

With the substantial completion of the masonry framework, except for the upper storey of the Basilica and such gaps in the main walls as had to be left for the passage of the columns, it was the turn of the marble-workers and the associated stonemasons and carpenters to erect the columnar orders and to begin installing the roofs and ceilings. Not until these were in place could work have started on laying the marble pavements and covering the wall-surfaces with a facing of marble veneer. In the Forum work was well enough advanced by, at latest, 205 for the veneering to have been planned, and quite possibly work had started in the two lateral porticoes. The Temple, on the other hand, must still have been far from complete at the death of Severus, and the Basilica, with its far greater elevation and double internal order, was not roofed and ready for dedication until 216.

Of the other Severan buildings, the only one which we can document in anything like the same detail is the Great Nymphaeum, which was nearing completion, if not already complete, by 211. The Colonnaded Street was an altogether simpler problem. It could have been erected section by section, as materials and skilled workmen were available. It is a reasonable guess that the last section to be completed was the Forum-Basilica frontage, which was dependent on the same materials and craftsmen as the Forum itself.

When Caracalla's death in 217 cut short the work, certain marginal buildings were still unfinished. The area beyond the north-east basilica passage had been levelled but no new building begun; and, as suggested above (p.76), both the porticoed building on the site later occupied by the sixth-century church ('Church 3') and the north-western sector of the piazza, facing the Great Nymphaeum, appear to be later additions, improvised with whatever materials were still available. These were, however, buildings of modest pretensions, tidying up odd corners that had been left unfinished. They do not invalidate the statement that the whole great central complex of Severan buildings, including the harbour and its associated monuments, was planned, erected and dedicated within a span of twenty-three years, between 193 and 216. It is a monument not only to the architectural skills, but also to the logistic competence and organising ability of the Roman architectural profession.

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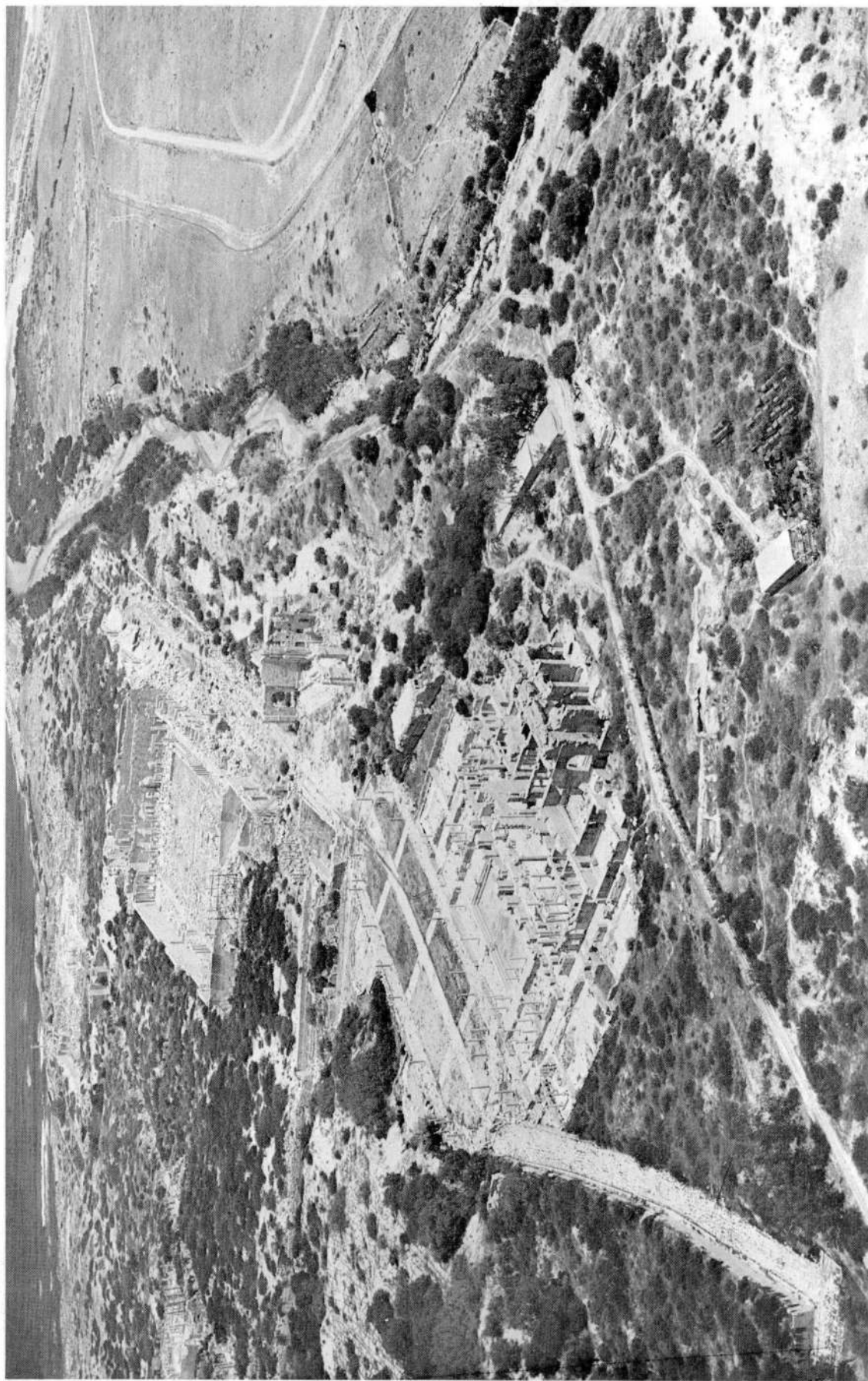
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PLATE I



Vertical view of the central part of Lepcis Magna. The old coastal road crosses the lower left part of the photograph, the Severan Forum and Basilica are near the centre and the silted harbour is at the upper right.

PLATE 2



Oblique view northwards across the Hadrianic Baths towards the Colonnaded Street and the Severan buildings, with the harbour in the background to the right.

PLATE 3



(a) Aerial view of the harbour area from the north-west. The lighthouse and temple on the eastern mole are clearly visible in the distance.



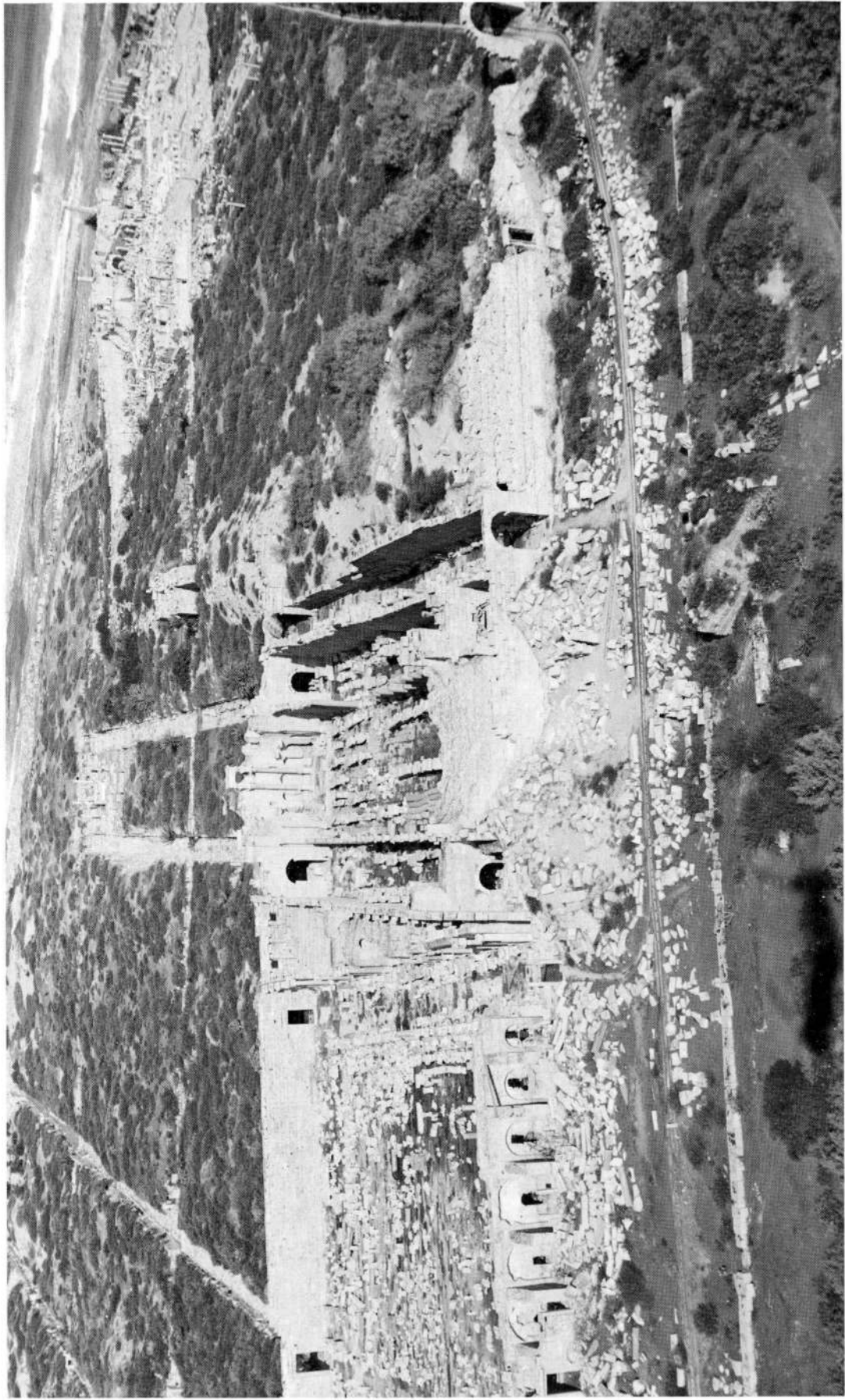
(b) The theatre and adjoining buildings under excavation during the 1930's with the market and Severan buildings in the background.

PLATE 4



Aerial view of the Severan Forum and Basilica, from the south.

PLATE 5



Aerial view of the Severan Basilica from the south-east. Note the north-east passage to the right of the Basilica and the first-century arch at the extreme right of the photograph.

PLATE 6



Forum: view towards the Basilica from the temple podium.

PLATE 7



South-east forum portico, showing elements of the arcades.



(a) *Forum portico: reconstructed elements of arcade, front face.*



(b) *Forum portico: reconstructed elements of arcade, rear face.*

PLATE 9



(a) *Forum portico: detail of frieze.*



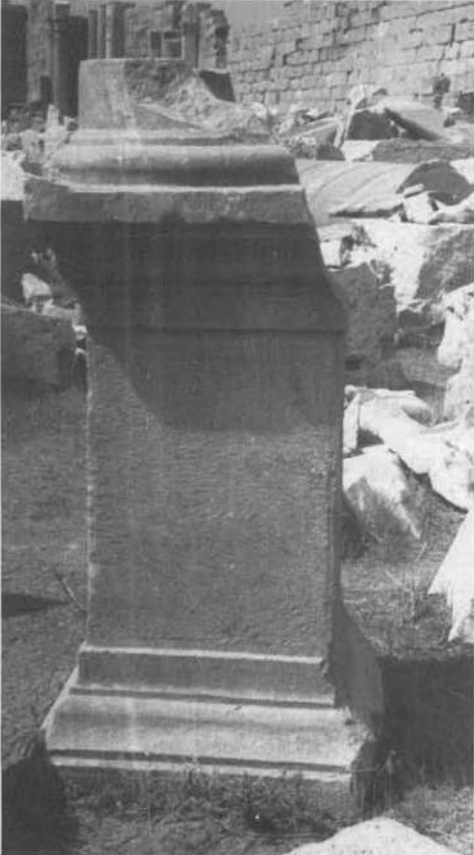
(b) *Forum portico: detail of elements at north corner, front face.*



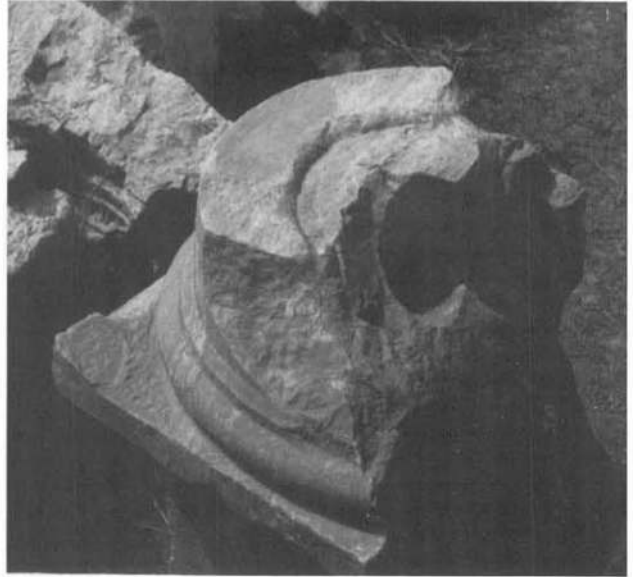
(c) *Forum portico: detail of elements at north corner, rear face.*



(a) *Forum portico: detail of carving on archivolt.*



(b) *Forum portico: pedestal from above arcades.*



(c) *Detail of upper surface of the preceding.*

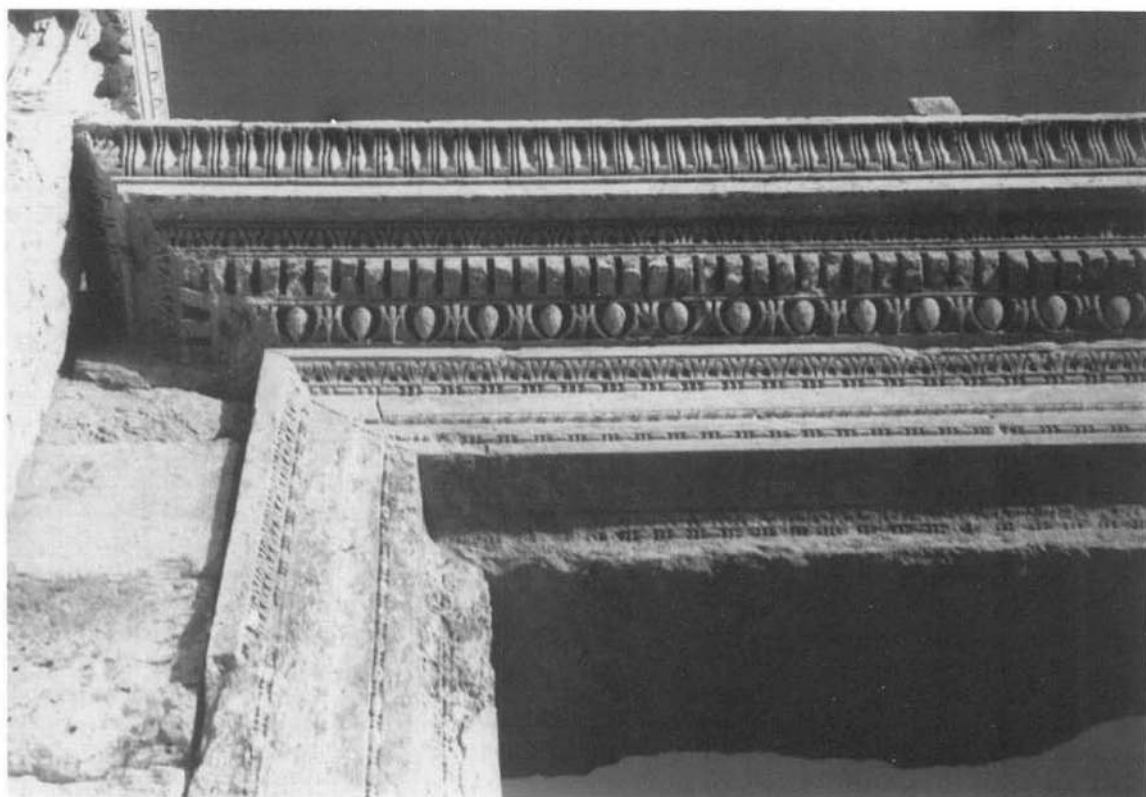
PLATE 11



(a) Forum: entrance from the street at the north corner. Note the orthostate course at the base of the wall and the ornamental drafting of the masonry above.



(b) Forum: principal entrance from the street on the north-west side.



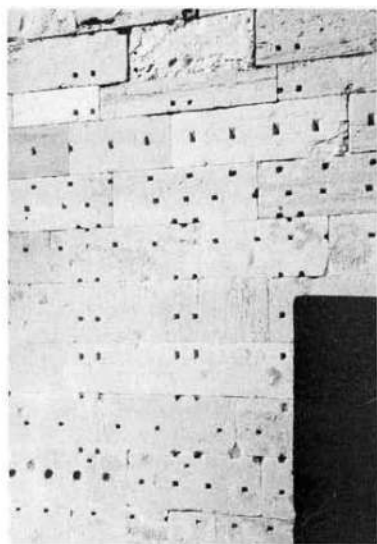
(c) Forum: detail of lintel from the preceding.



(a) Forum: rear wall of the tabernae on the south-east side, showing the surviving pilaster bases of the veneer decoration and entrances cut through the wall in the Byzantine period.



(b) Forum: pilaster capital from the veneer decoration.



(c) Forum: fixing-holes for the veneer in the ashlar masonry near the east corner.



(d) Forum: fixing-holes for the veneer on the inner face of the north-west perimeter wall.

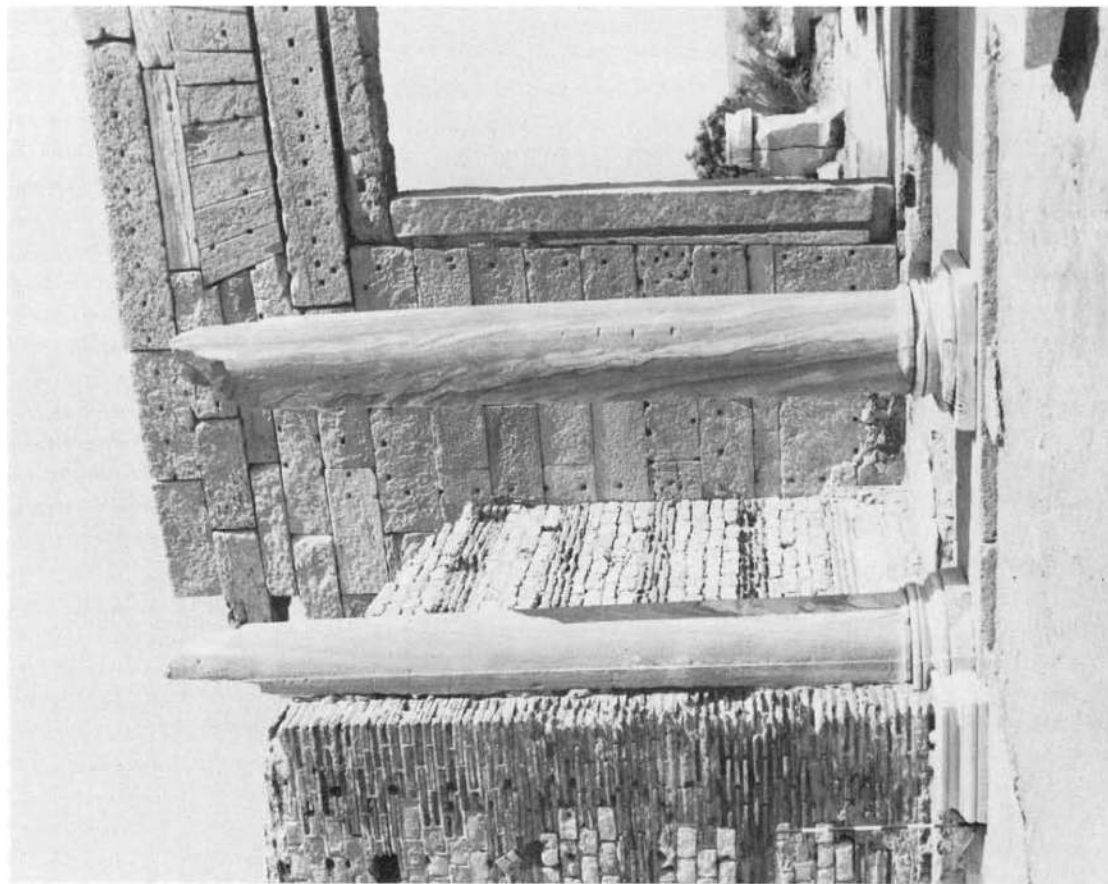
PLATE 13



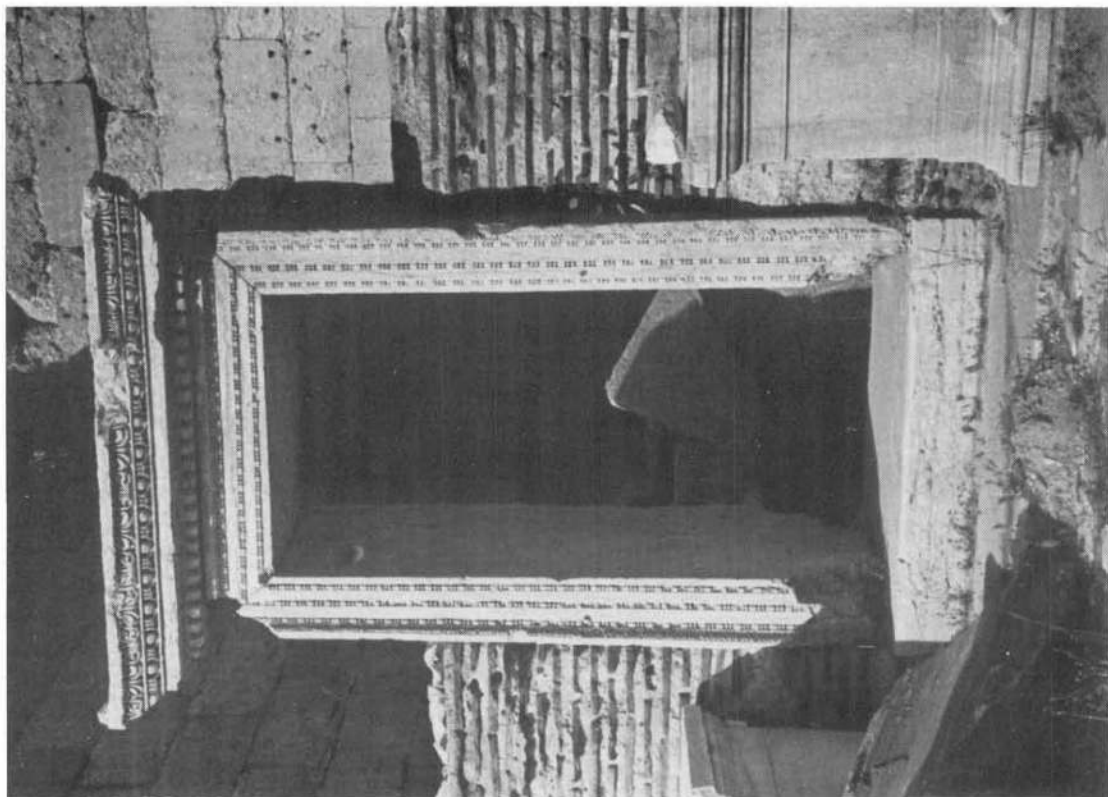
(a) *Tabernae 8 and 9 facing the Colonnaded Street, to the right of the principal entrance to the Forum on the south-east side.*



(b) *Forum: the northern half of the north-east portico.*



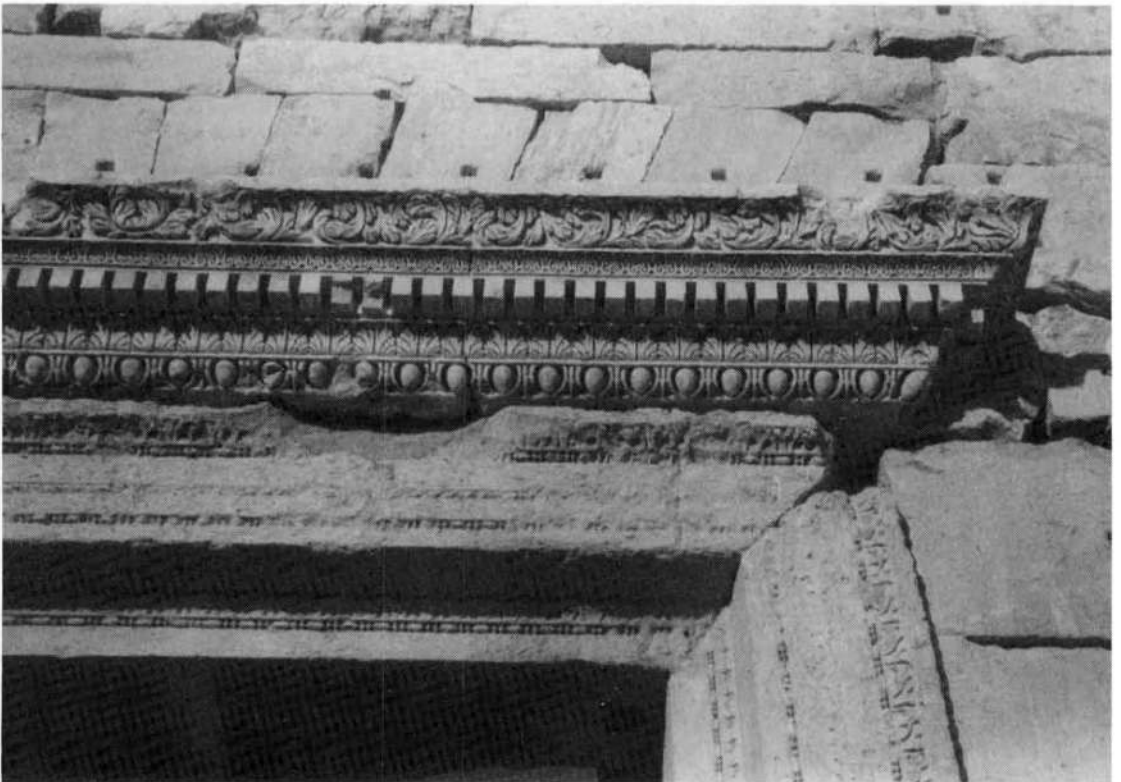
(a) Forum: inner face of the principal entrance on the south-east side.



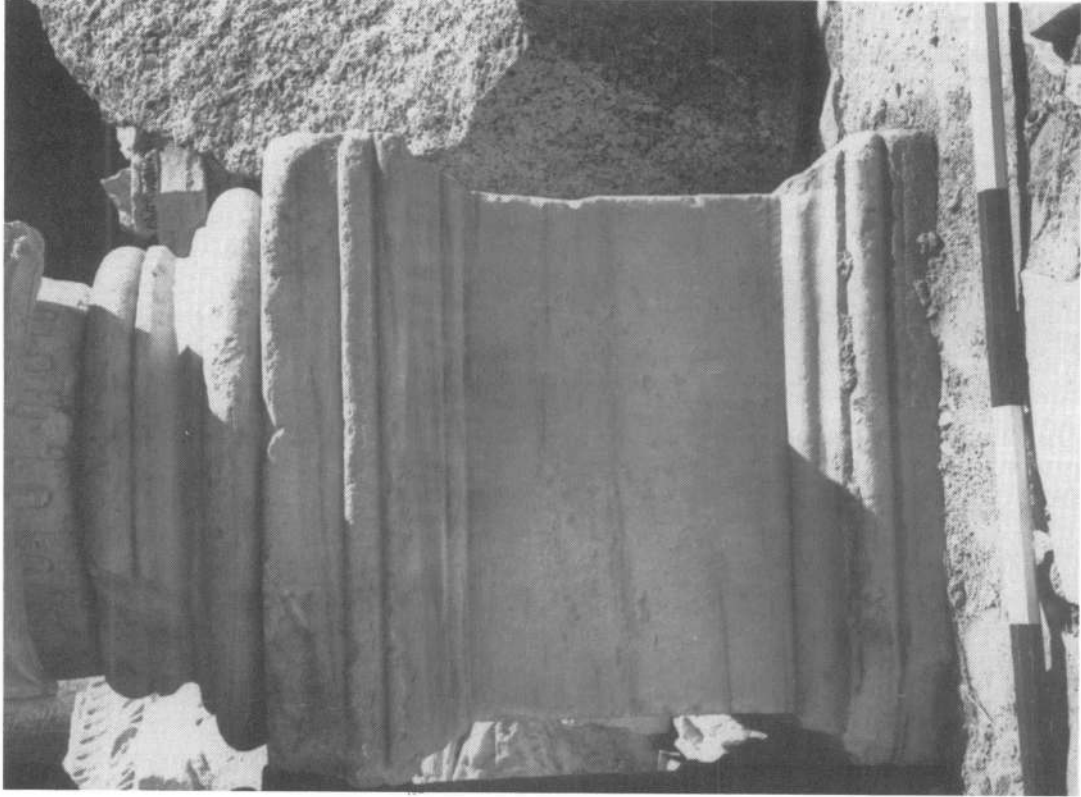
(b) North-east forum portico: central entrance to the 'Hall of the Ten Columns'.



(a) North-east forum portico: central exedra and principal entrance to Basilica.



(b) North-east forum portico: detail of principal entrance to Basilica.



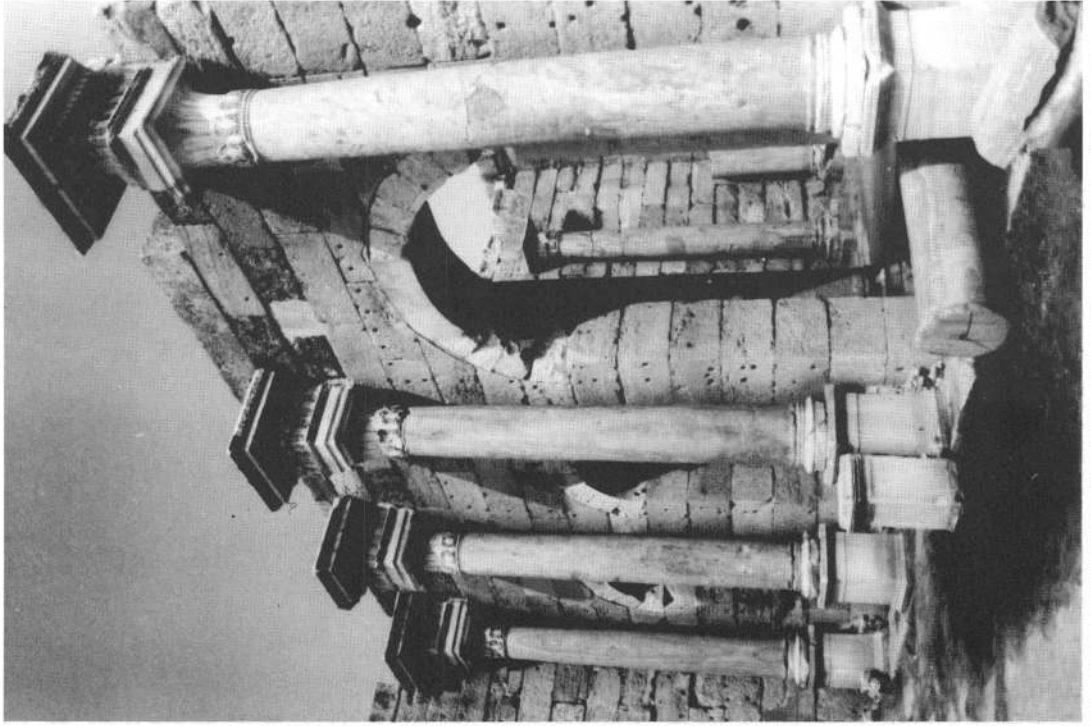
(a) North-east forum portico: pedestal of column in central exedra.



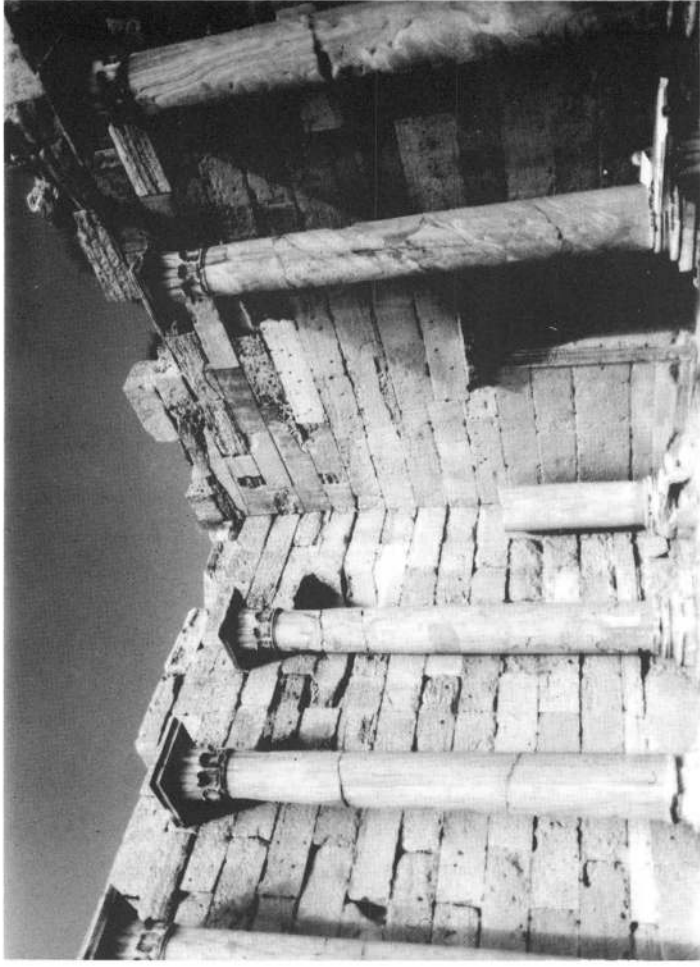
(b) North-east forum portico: Ionic capitals in central exedra.



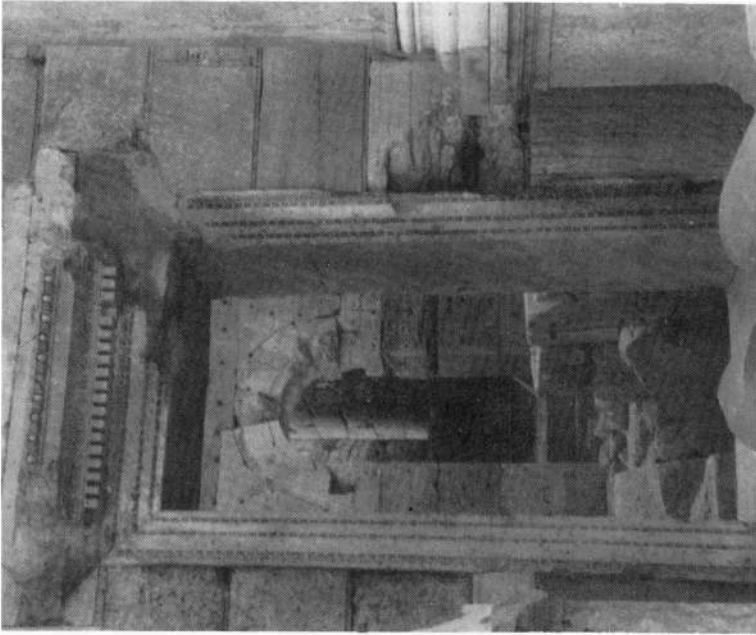
(c) North-east forum portico: architrave and cornice of column in central exedra.



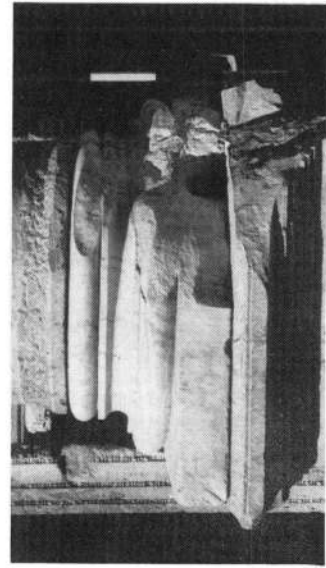
(a) Entrance to the 'Hall of the Thirteen Columns' from the north-east forum portico.



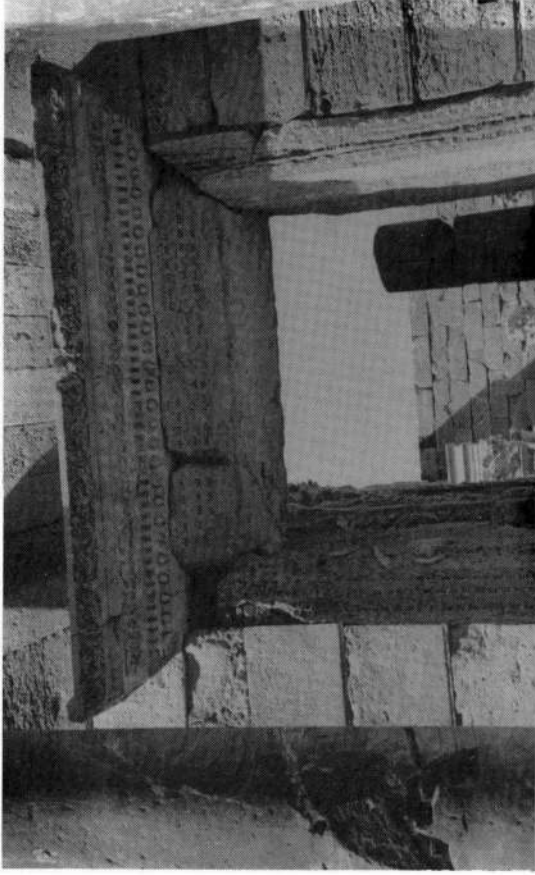
(b) Forum: interior of the 'Hall of the Thirteen Columns'.



(a) Doorway from 'Hall of the Thirteen Columns' into west angle chapel of Basilica.



(c) 'Hall of the Thirteen Columns', unfinished column-shaft.



(b) Doorway from 'Hall of the Thirteen Columns' into nave of Basilica.



(d) North-east forum portico: tritithon' in Room 7.



(a) Forum: Hall I at the west corner, from the temple podium.



(b) Forum: Hall I from ground level.



(a) *Tabernae 9-11 facing Colonnaded Street.*



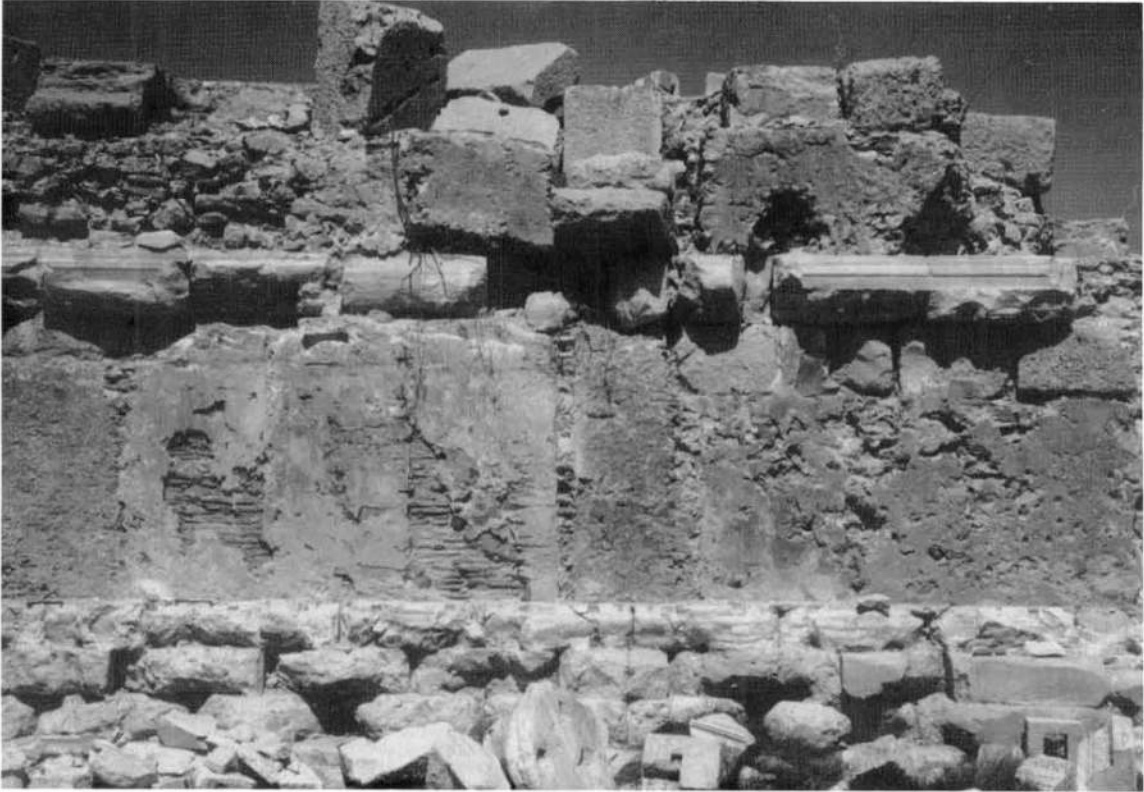
(b) *The podium of the Severan Temple from the east.*

PLATE 21



The north side of the temple podium. Note the scars of the steps towards the left.

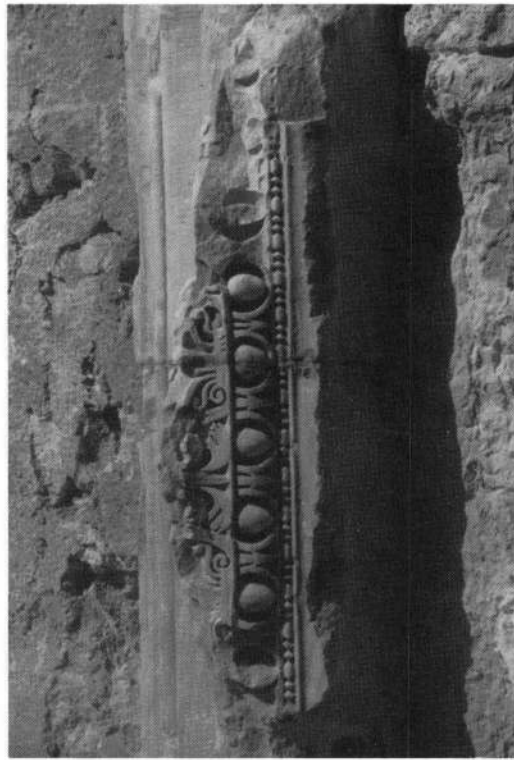
PLATE 22



(a) *Severan Temple: detail of south side of podium, showing the front of the original structure and subsequent extension to the right.*



(b) *Severan Temple: south side of podium, showing entrance to vaults.*



(a) Severan Temple: lower cornice of podium.



(b) Severan Temple: upper cornice of podium.



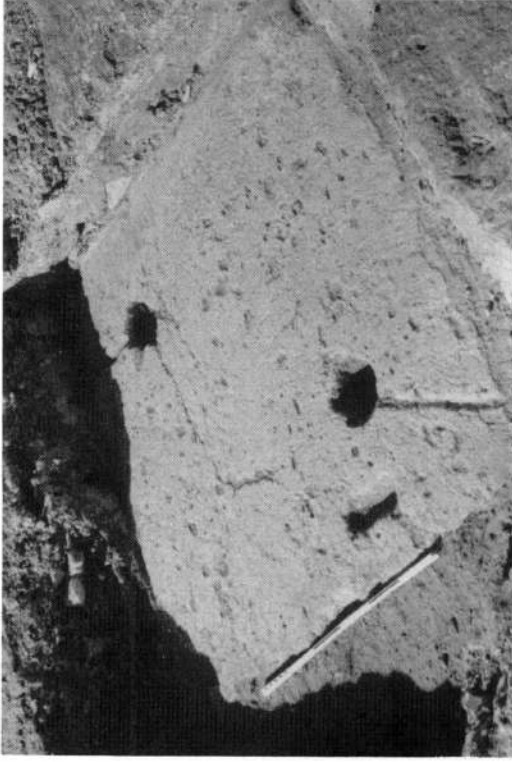
(c) Severan Temple: detail of surviving steps and marble griffin on north side.



(d) Severan Temple: detail of junction on north side between base moulding of podium and steps.



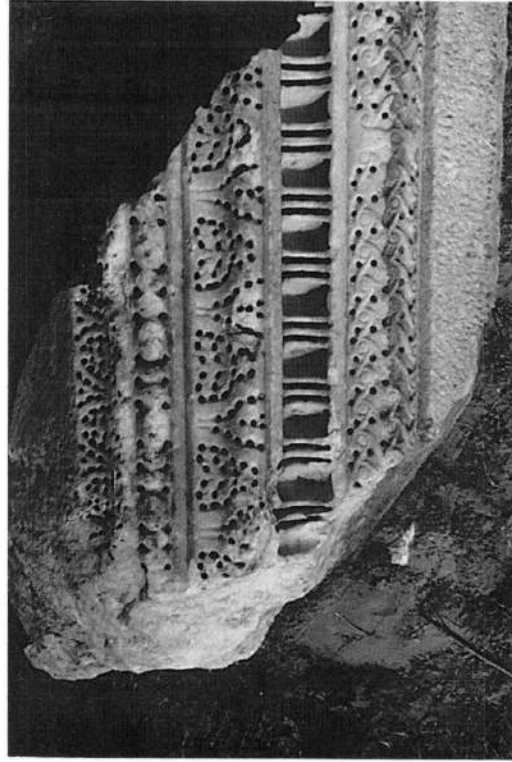
(a) Severan Temple: impression of re-used architrave at head of steps.



(b) Severan Temple: foundation block beneath column.



(c) Severan Temple: base of decorated pedestal.



(d) Severan Temple: base of decorated pedestal, showing unfinished details.



(a) Severan Temple: fragments of decorated column base.



(b) Severan Temple: fragments of decorated column base.



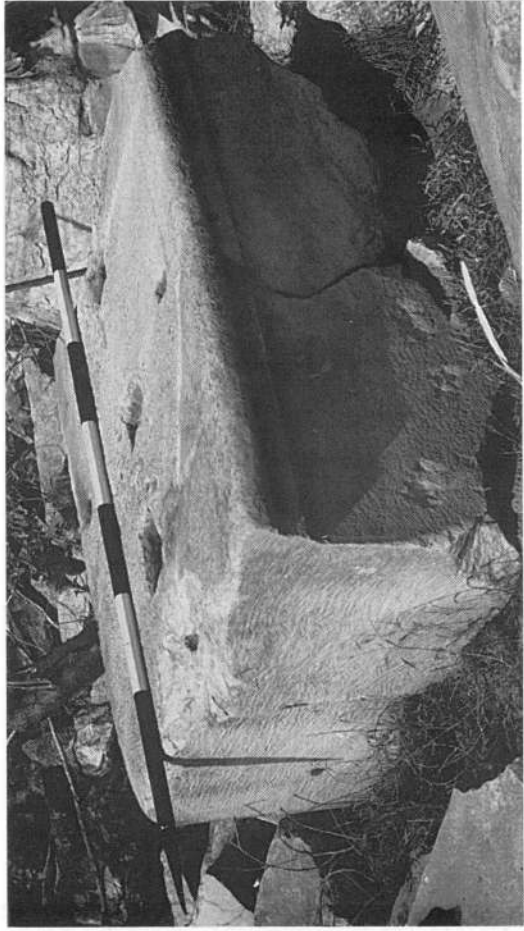
(c) Severan Temple: crowning moulding of decorated pedestal.



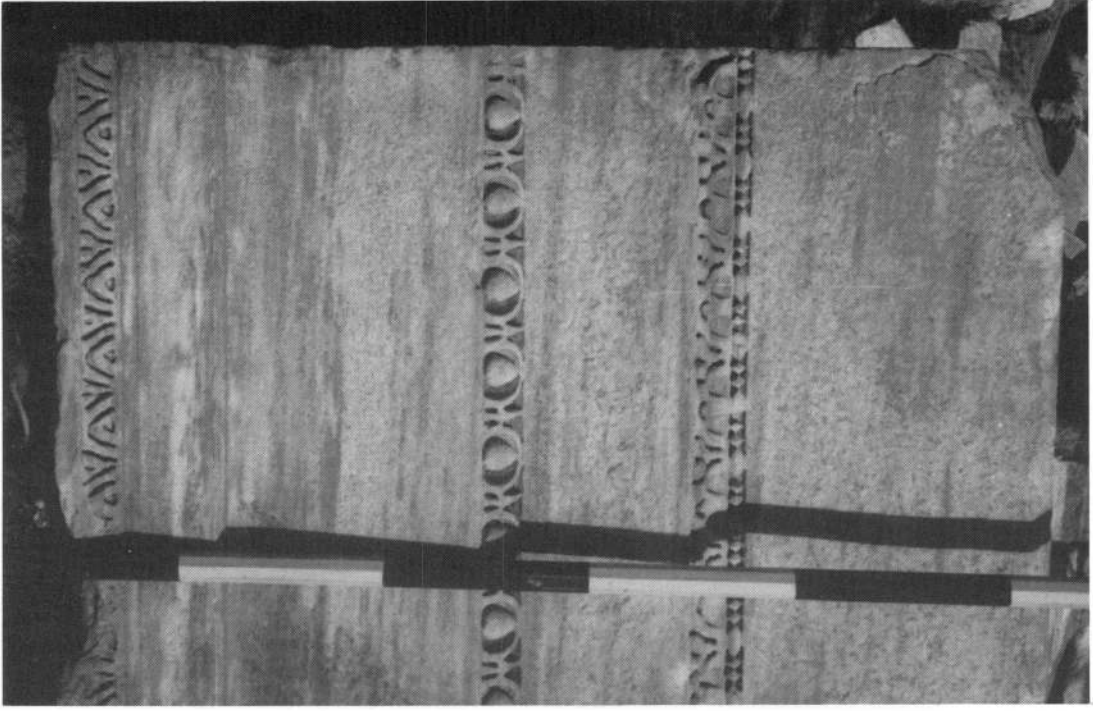
(d) Severan Temple: plain column base.



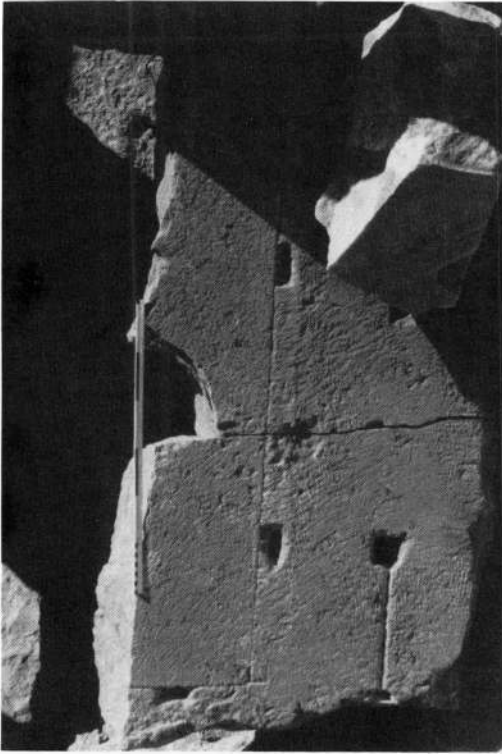
(a) Severan Temple: angle-block from end of gable.



(b) Severan Temple: block from cella wall with astragal molding.



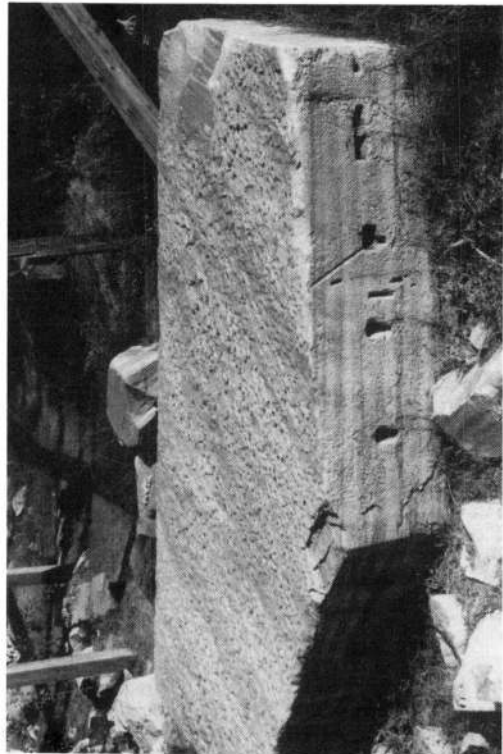
(c) Severan Temple: mouldings of lower architrave on cella wall.



(a) Severan Temple: footing block showing setting-out line for west corner of cella.



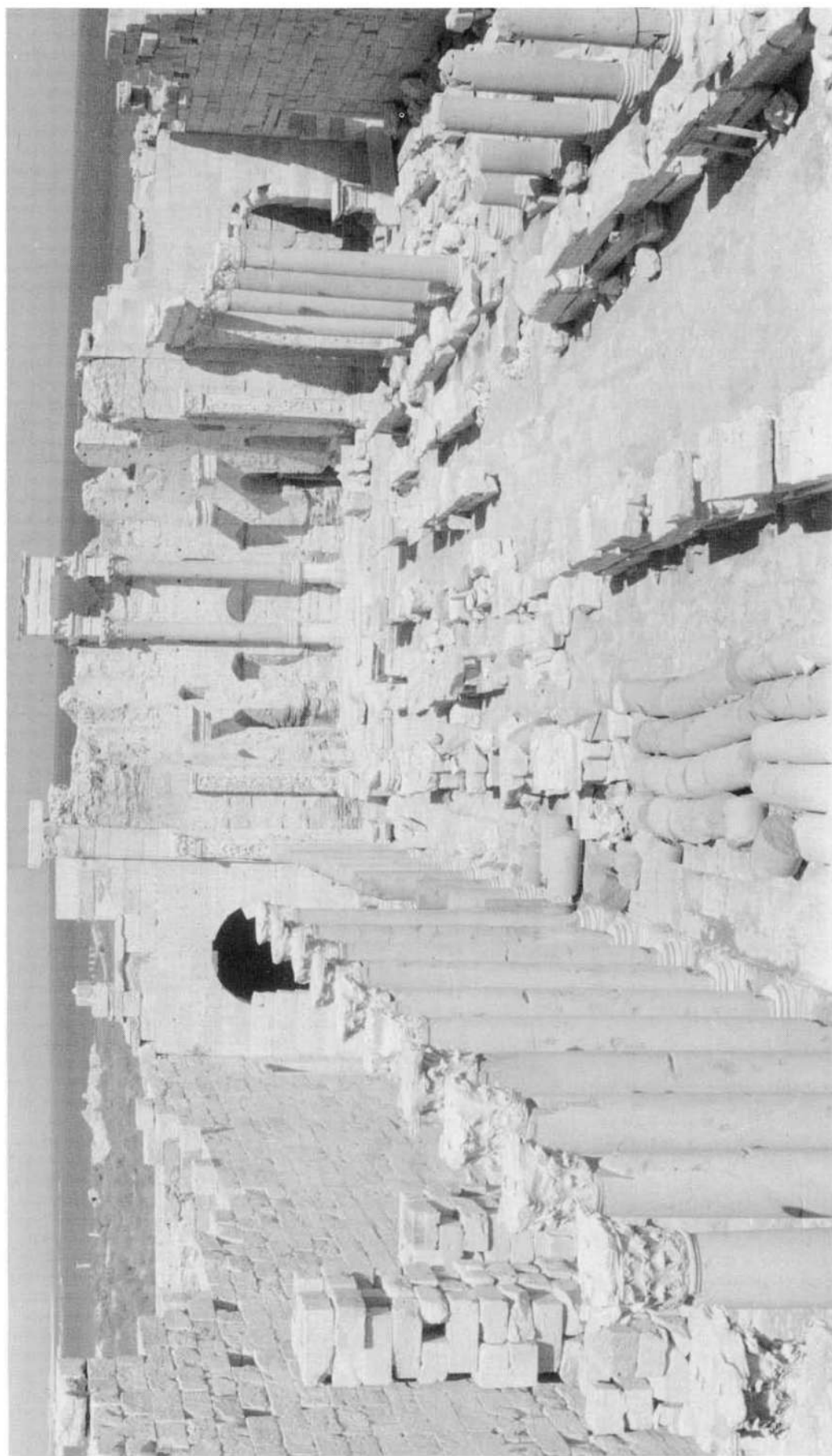
(b) Severan Temple: block from cella wall showing false drafting lines (= block (b) in fig. 22).



(c) Severan Temple: fallen apex block from rear pediment.



(d) Severan Temple: fragments of coffering.



Basilica: general view looking towards the north-west end.



(a) *Basilica: the north-west end.*



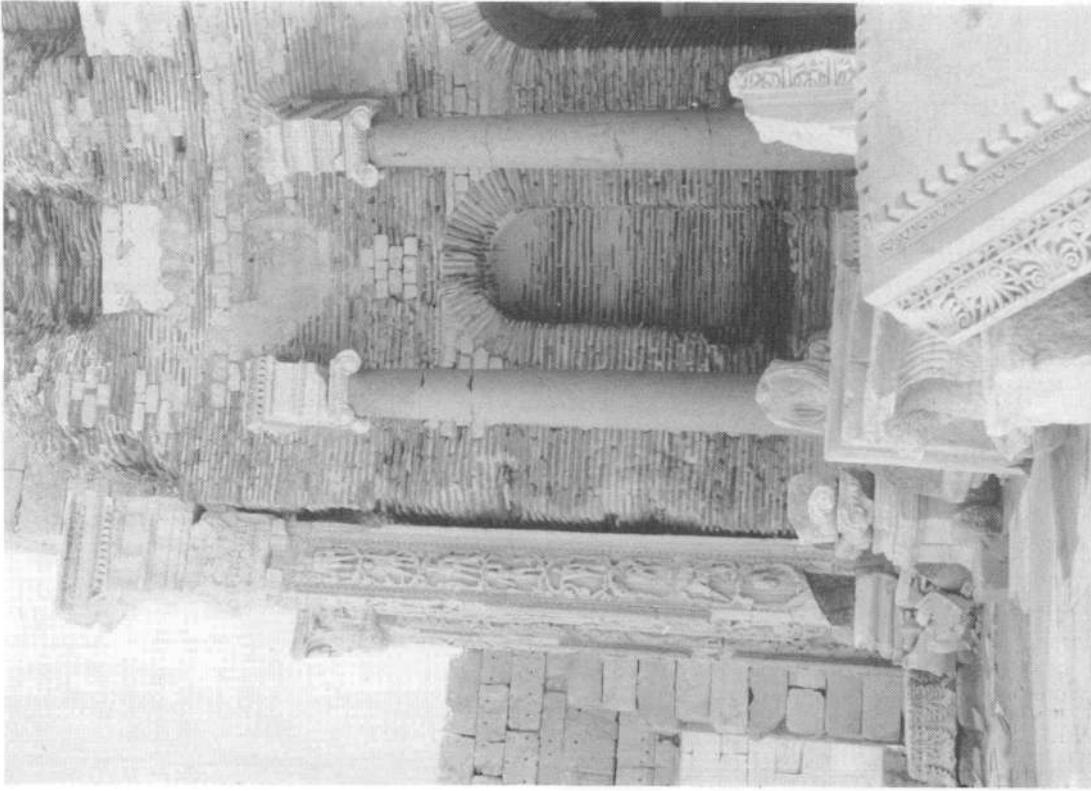
(b) *Basilica: nave and south-east end.*



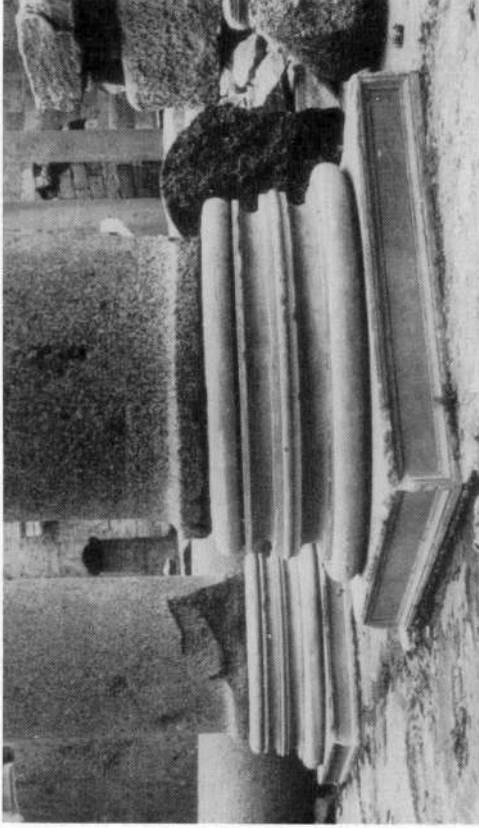
(a) *Basilica: north-west apse from behind.*



(b) *Basilica: the surviving part of the lower order of the nave at the north-west end. Note the differing heights of the capitals.*



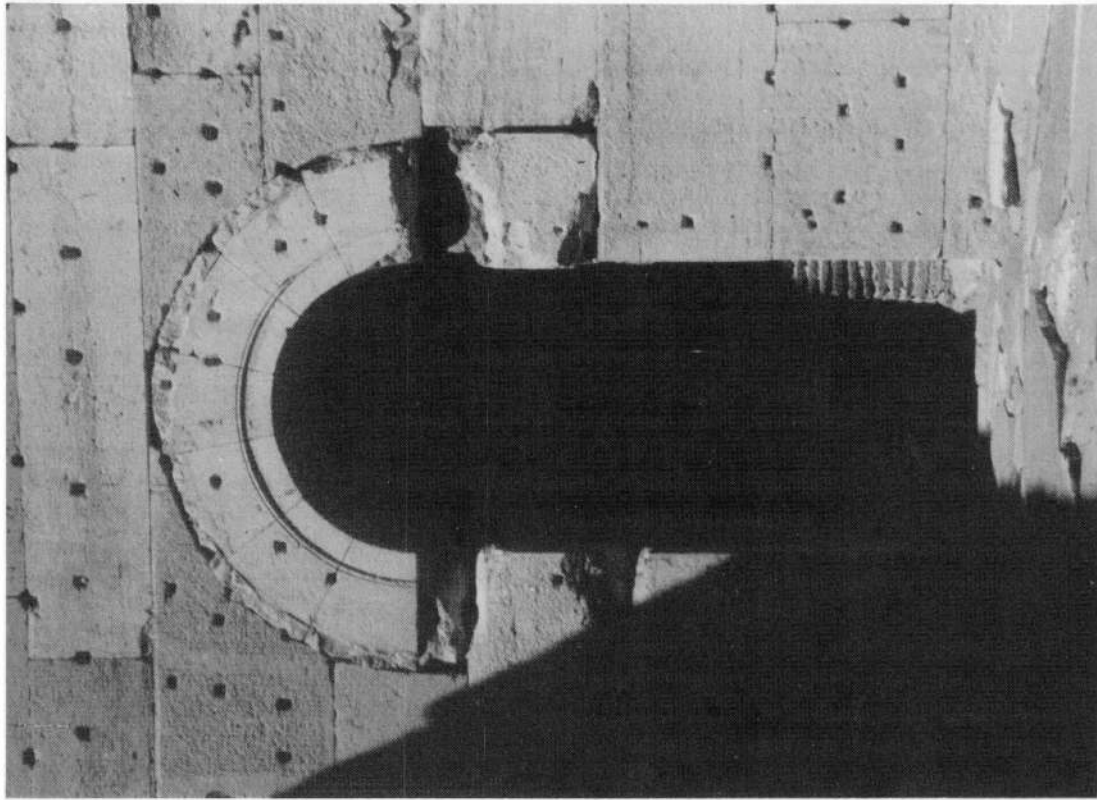
(a) *Basilica: detail of south-east apse.*



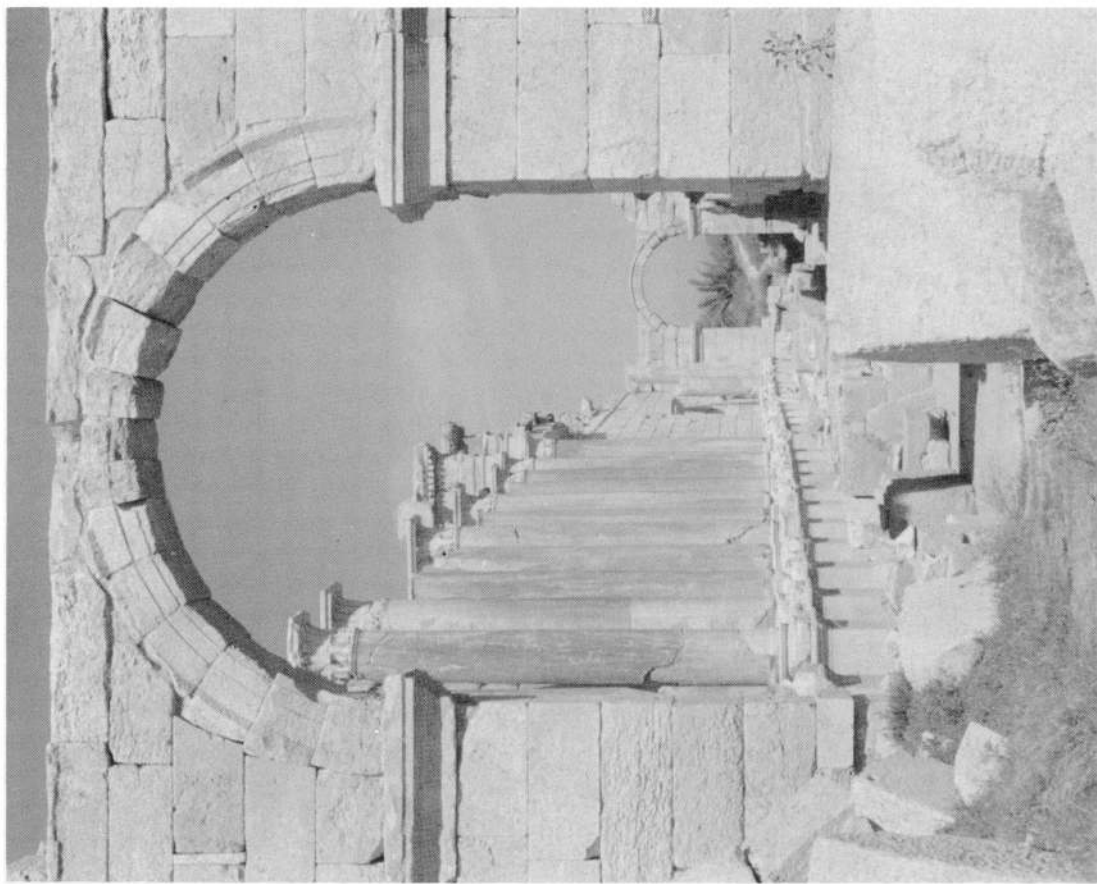
(b) *Basilica: column-bases of the main order in the nave: note the variations in height.*



(c) *Basilica: acanthus drum from behind terminal column of upper order.*



(a) *Basilica: doorway in west angle-chapel, showing original moldings on arch cut back in order to be covered by marble veneer decoration.*



(b) *Basilica: the north-east passage, seen from the Colonnaded Street.*

PLATE 34



(a) *The Colonnaded Street: looking inland after the flood of 6 November 1987.*



(b) *Colonnaded Street: south side showing foundation course and pedestals of colonnade. (The masonry behind is Byzantine.)*



(a) Colonnaded Street: lower foundation course, showing setting-out line and arrangement of cramps.



(b) Colonnaded Street: fragment of Doric entablature.

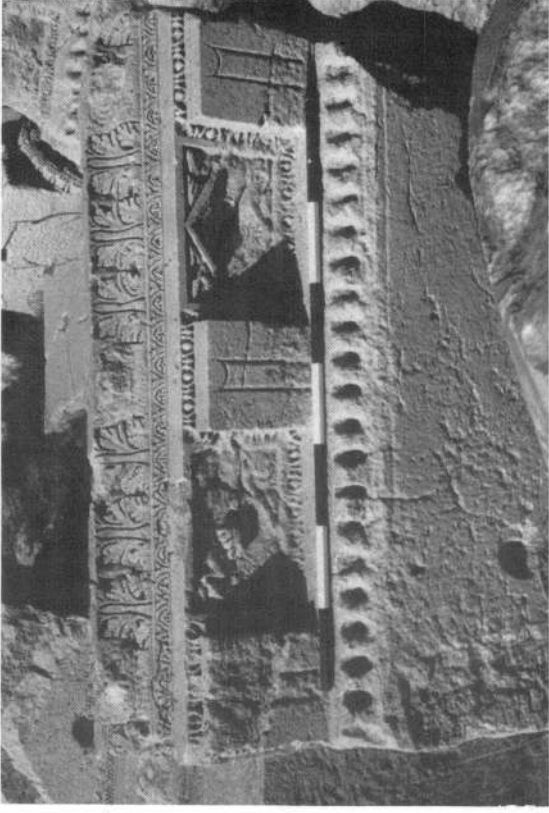


(c) and (d) Colonnaded Street: Decorated bosses from the spandrels between the arches, showing the range of quality.





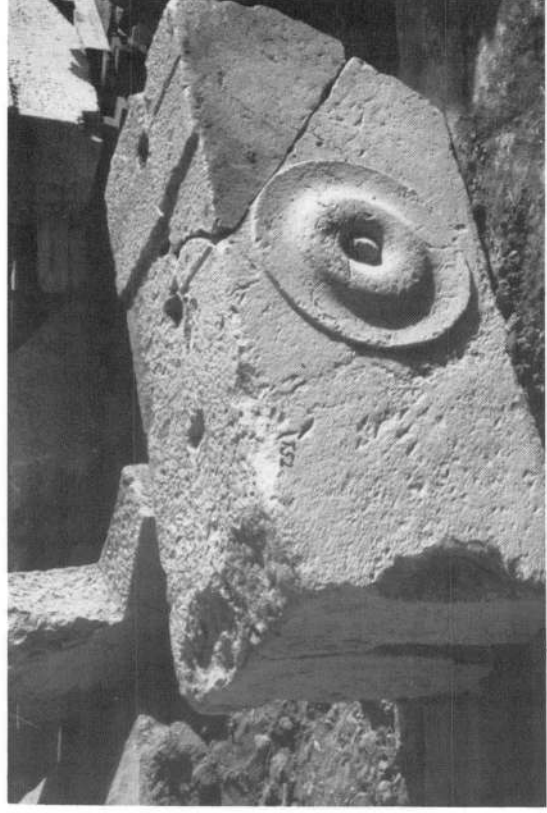
(a) Colonnaded Street: details of cornice.



(b) Colonnaded Street: details of cornice.



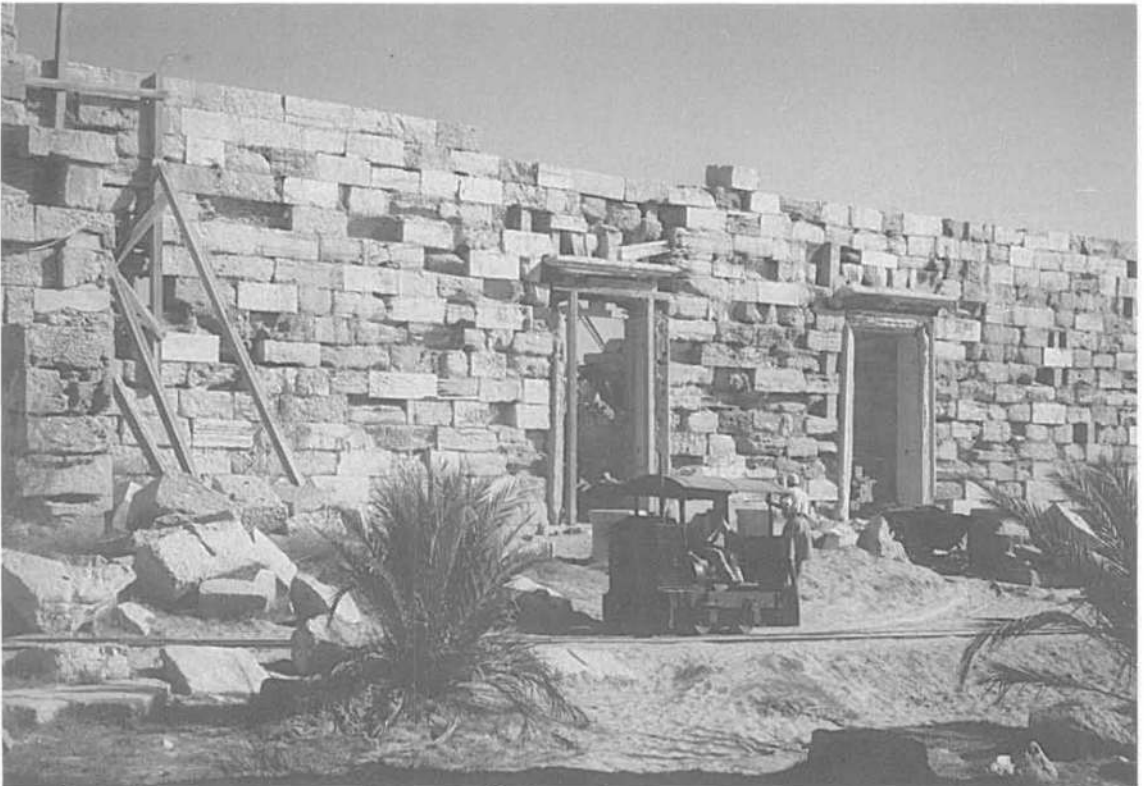
(c) Colonnaded Street: plaster capital of arch at junction with side-street.



(d) Colonnaded Street: spandrel block from arch at junction with side-street.



(a) *Colonnaded Street: Doric entablature from arch at junction with side-street.*



(b) *Colonnaded Street: doorways in outer wall on north-west side, to west of Forum.*



(a) Colonnaded Street: fragment of sima from arch at junction with side-street.



(b) Colonnaded Street: springer block showing evidence of adjacent arches with different radii.



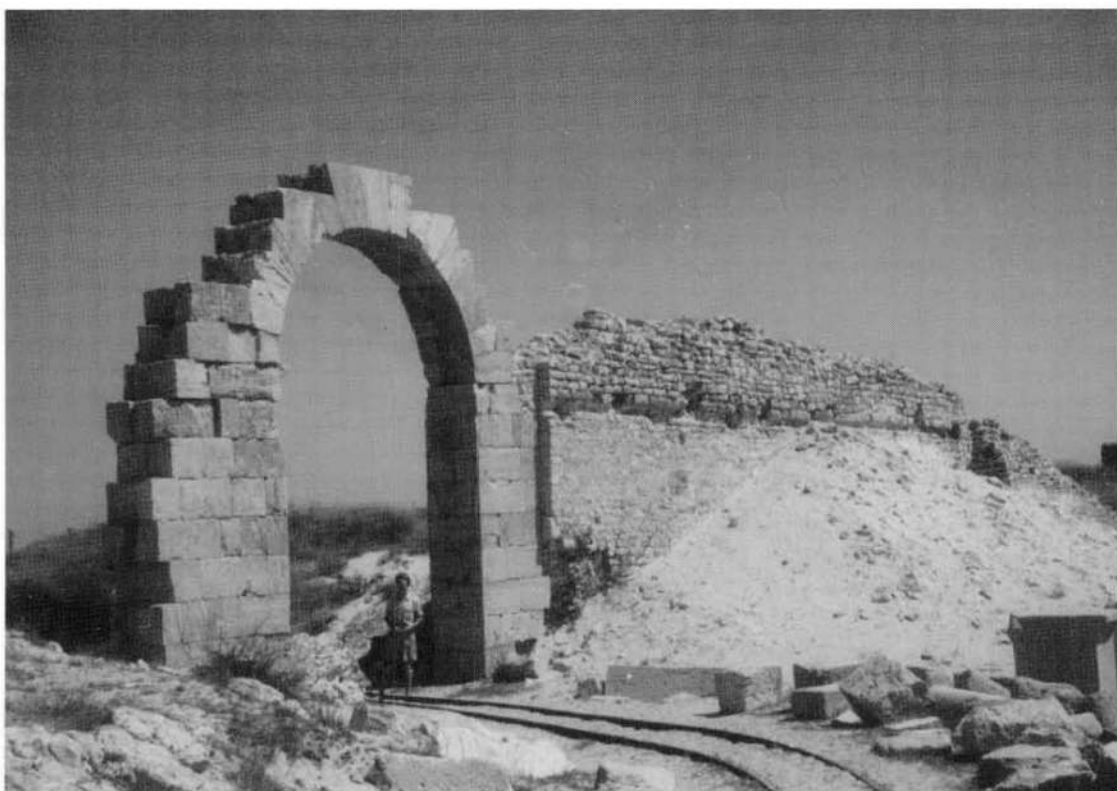
(c) Colonnaded Street: face of north-west outer wall towards the street, showing fine finish of ashlar masonry.



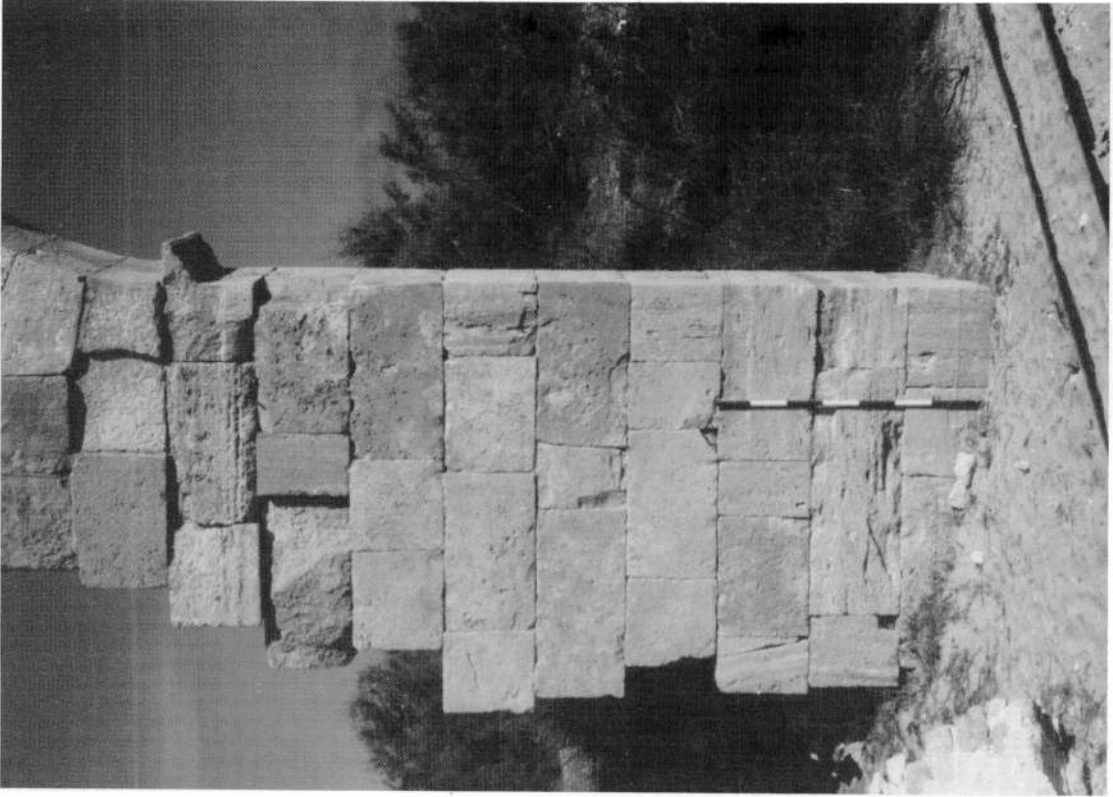
(d) Colonnaded Street: the opposite face of the wall illustrated in (c).



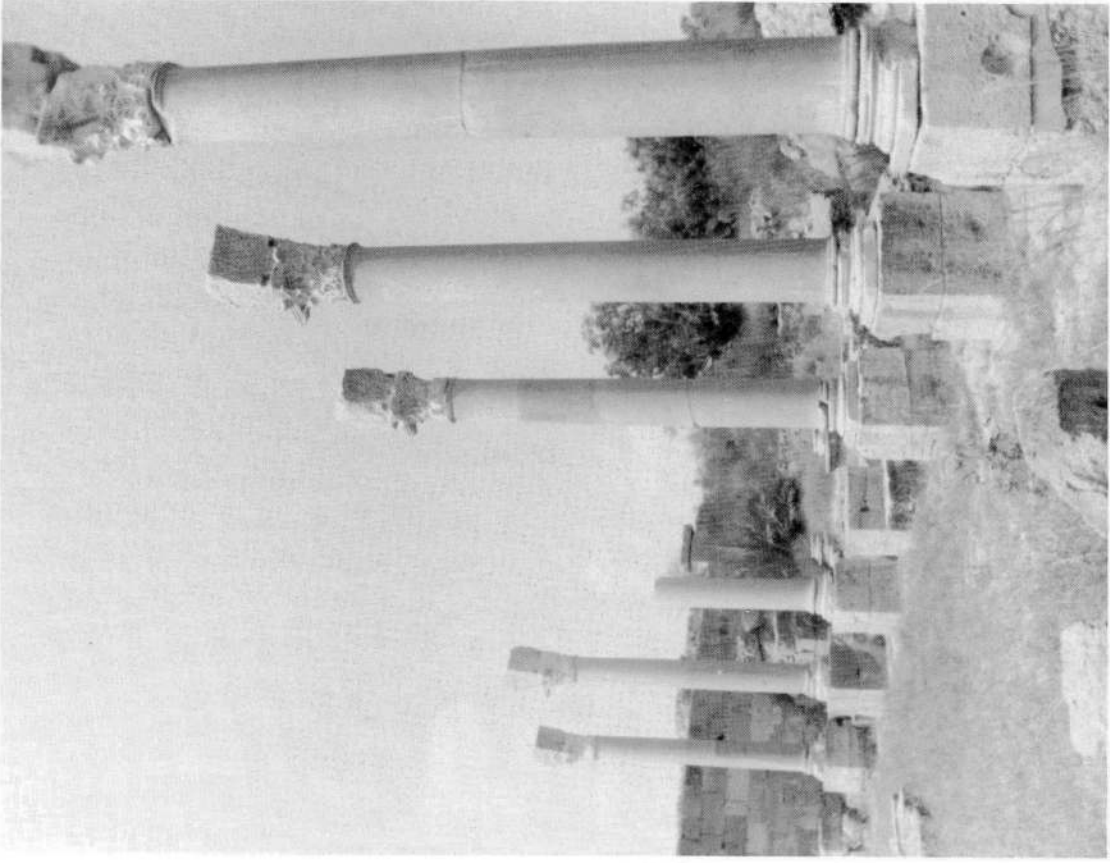
(a) *Colonnaded Street: outer wall at the entrance to the north-east basilica passage.*



(b) *Colonnaded Street: early arch of grey limestone in north-west wall below the Basilica.*



(a) Colonnaded Street: detail of arch shown in plate 39b.



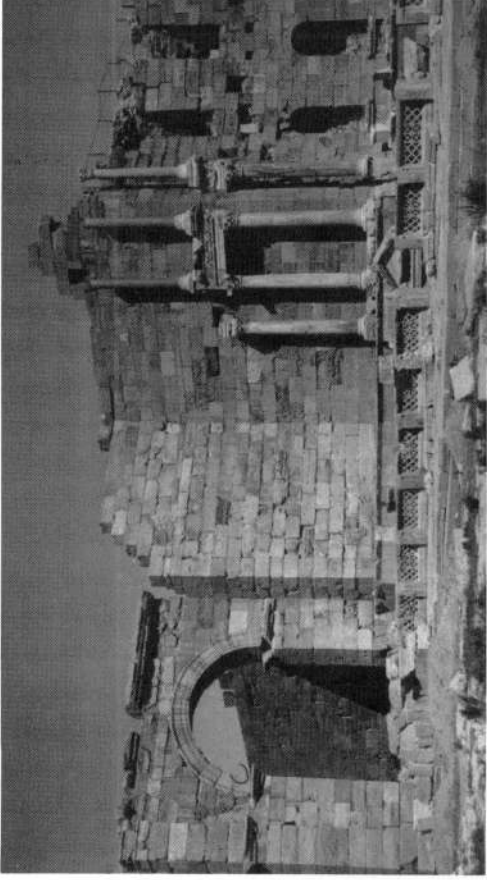
(b) Part of the curved portico facing the Great Nymphaeum across the piazza at the head of the Colonnaded Street.



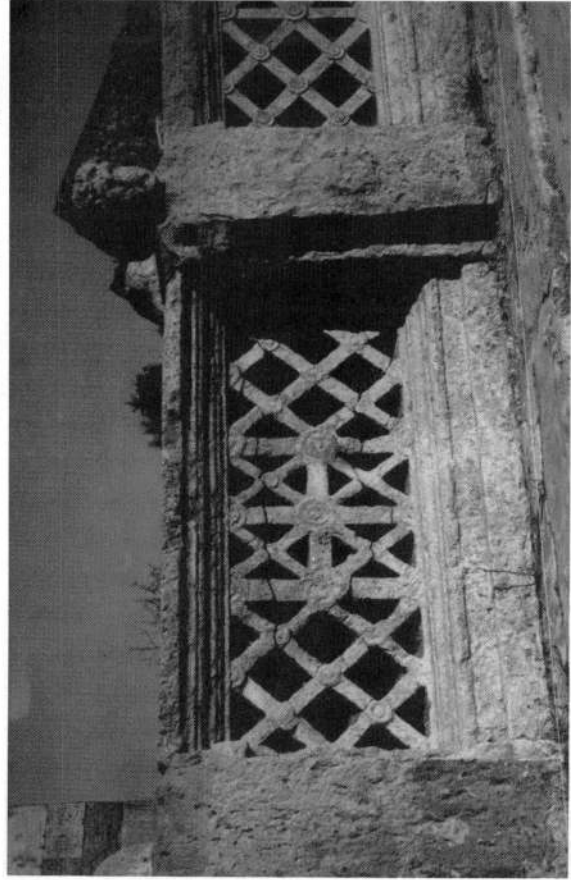
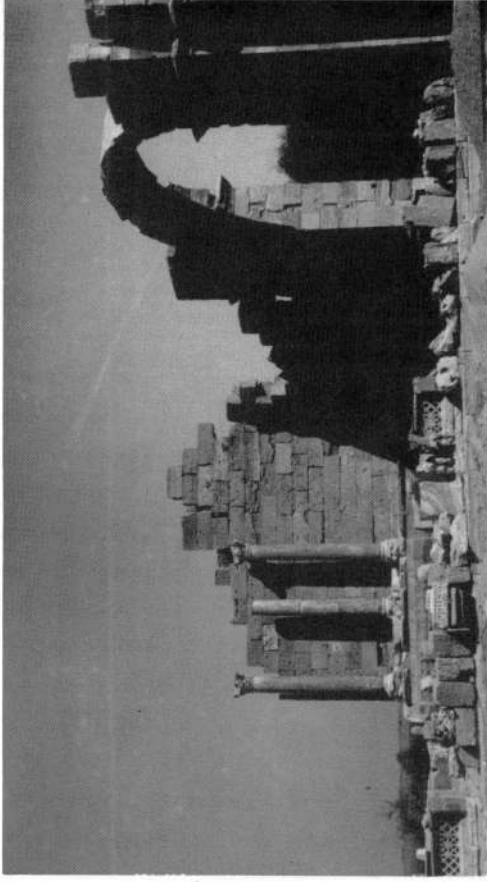
(a) *Aerial view of the piazza and Great Nymphaeum.*



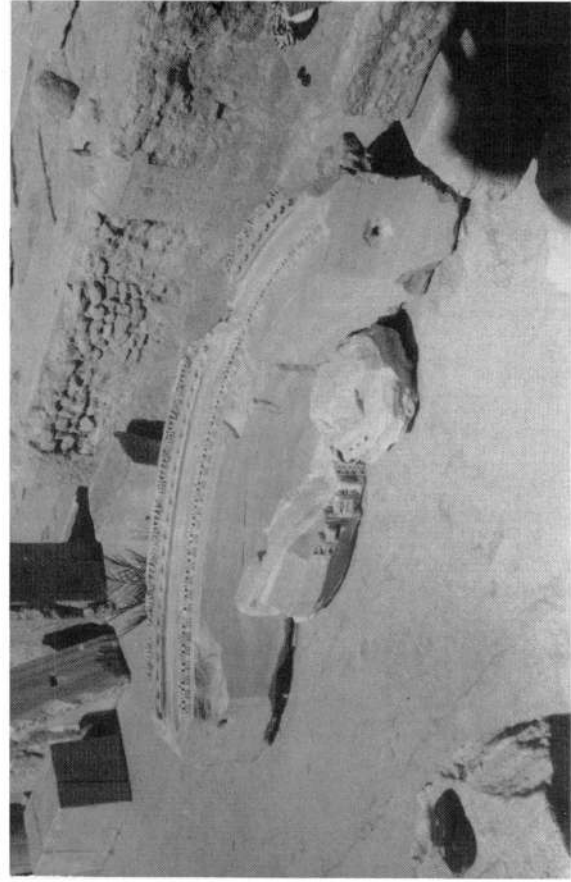
(b) *Great Nymphaeum: rear view of the surviving part, showing the concrete of the central hemicycle.*



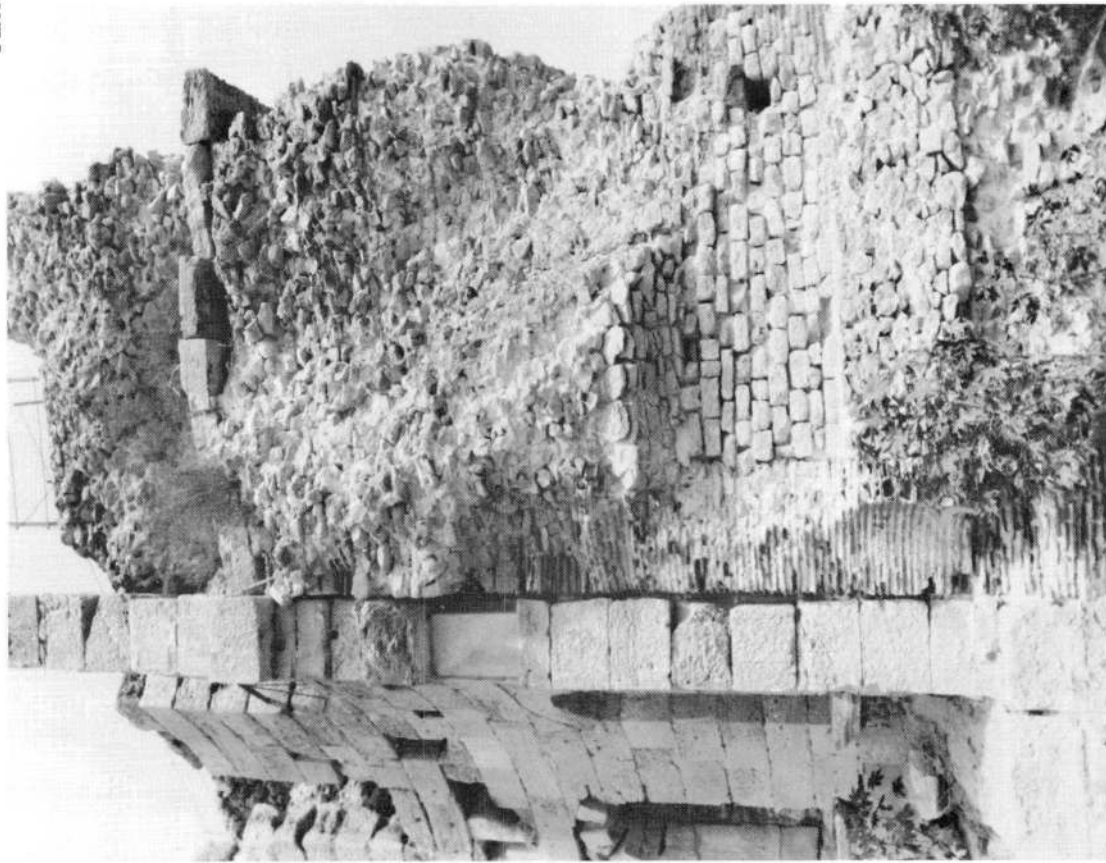
(a) The Great Nymphaeum, showing the lateral arches giving access to the adjoining colonnaded streets.



(b) Great Nymphaeum: detail of stone balustrade in front of lower basin.



(c) Great Nymphaeum: elements of the central segment arch.



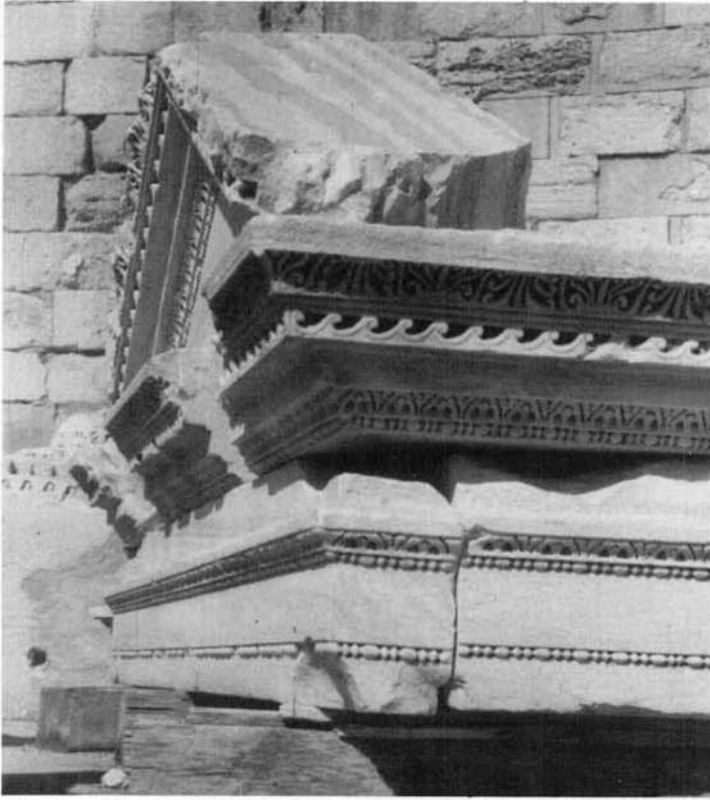
(a) Great Nymphaeum: cross-section through the hemicycle at the point of collapse.



(b) Great Nymphaeum: fragment of frieze from the lower order.



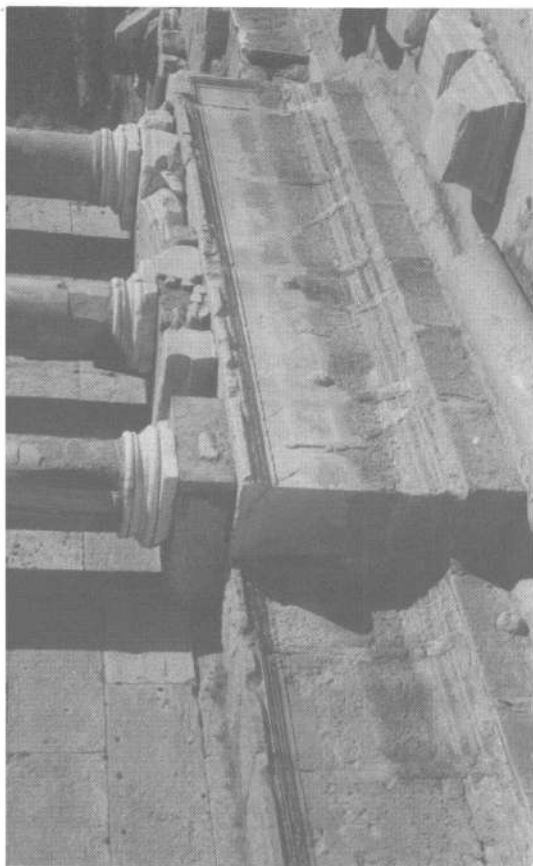
(c) Great Nymphaeum: cornice of lower order.



(a) *Great Nymphaeum: re-assembled elements of upper order and crowning pediment.*



(b) *Great Nymphaeum: detail of the trabeation between the upper and lower orders.*



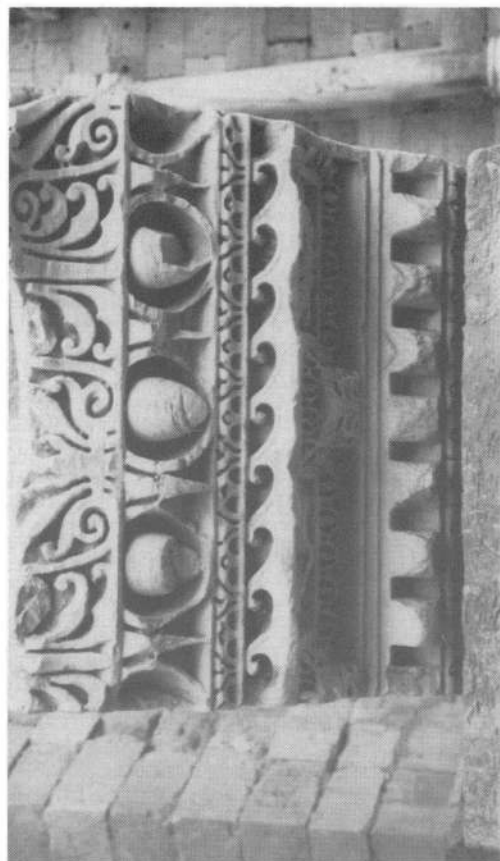
(a) *Great Nymphaeum: podium beneath the lower order.*

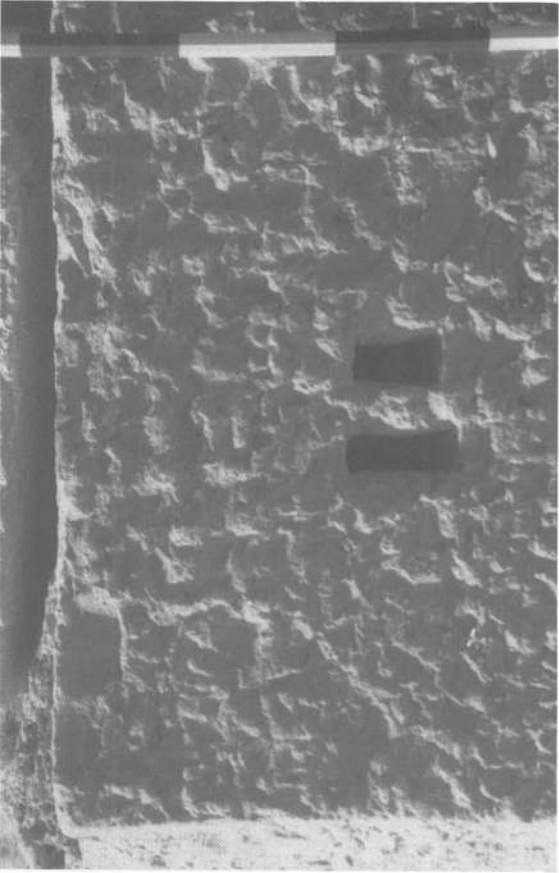


(b) *Great Nymphaeum: column-base of upper order with acanthus drum.*

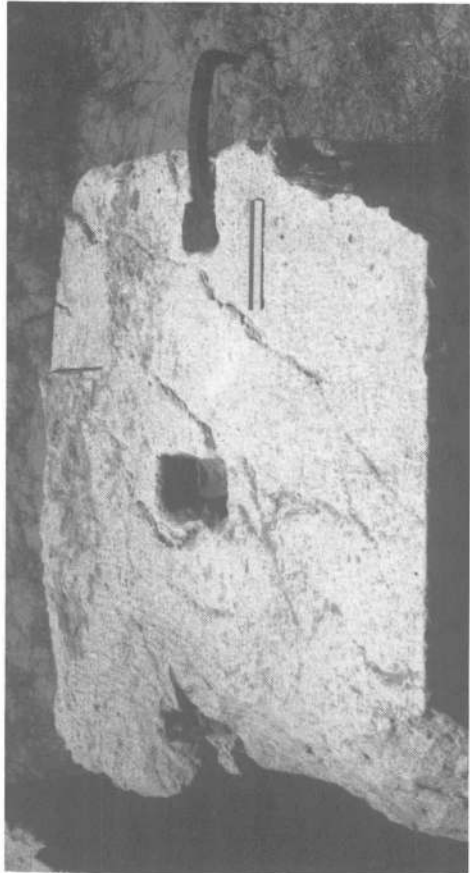


(c) *and (d) Great Nymphaeum: attic cornice.*

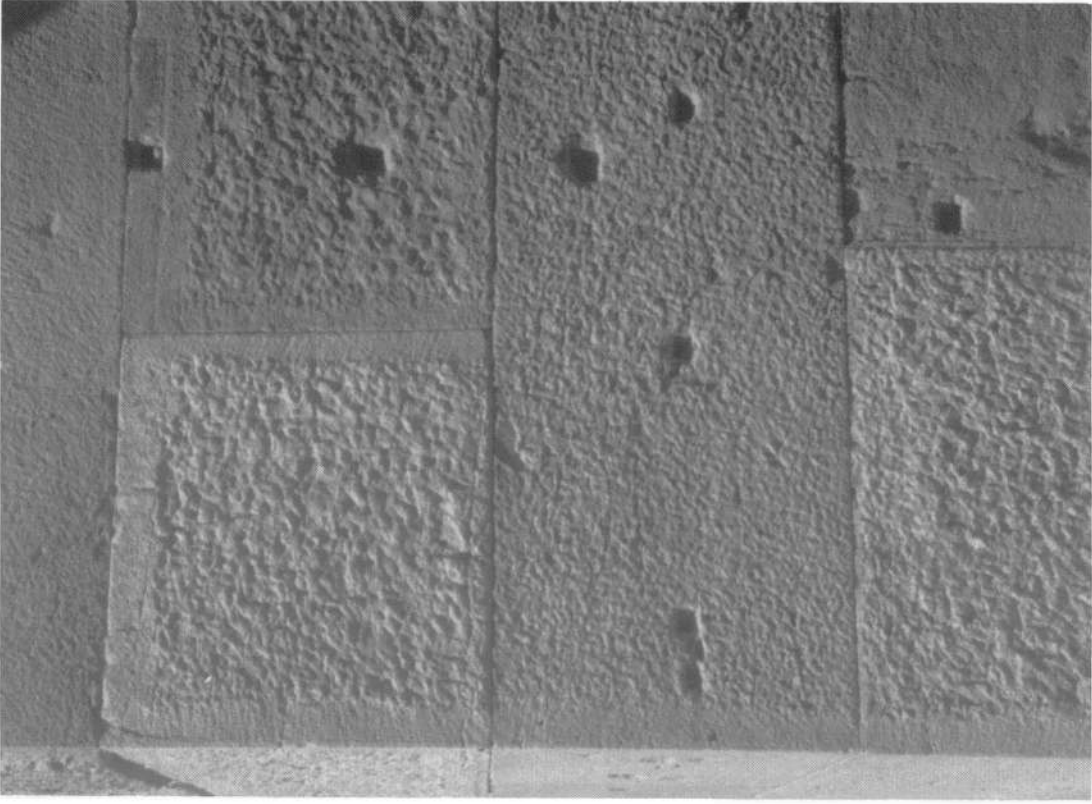




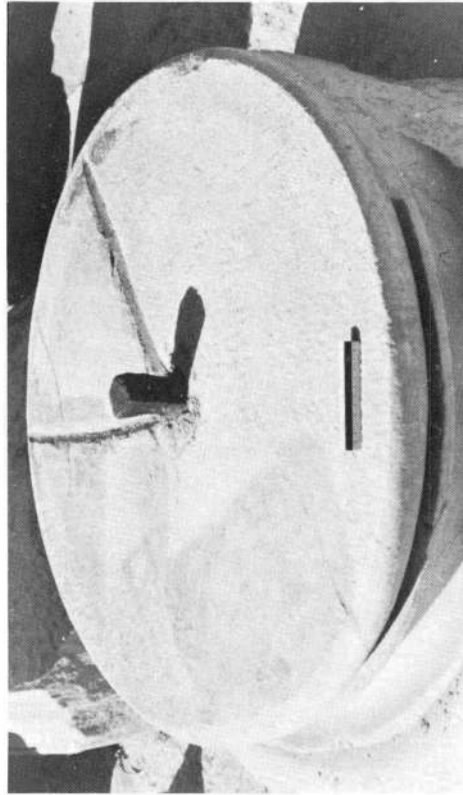
(a) Upper surface of springer block in the Colonnaded Street, showing masonry surfaces as initially roughed out.



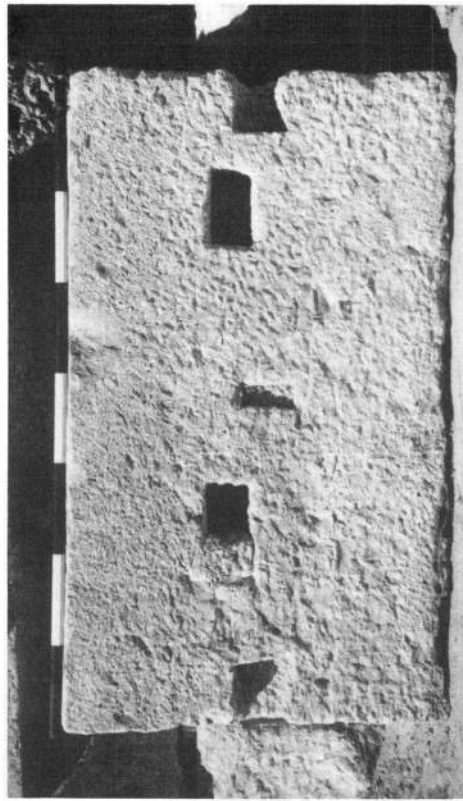
(b) Surviving pi-cramp in spandrel block from Colonnaded Street.



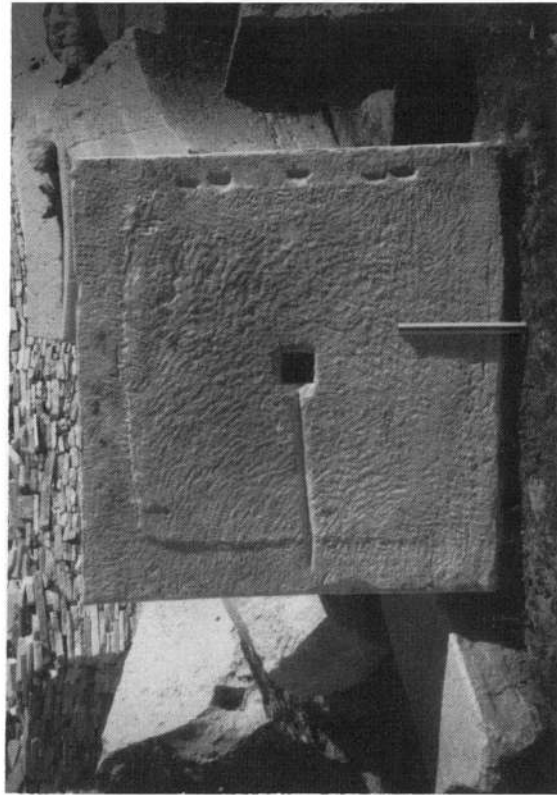
(c) Ashlar masonry in one of the angle-chapels of the Basilica showing carefully drafted edges and varying finish across the faces of the different blocks.



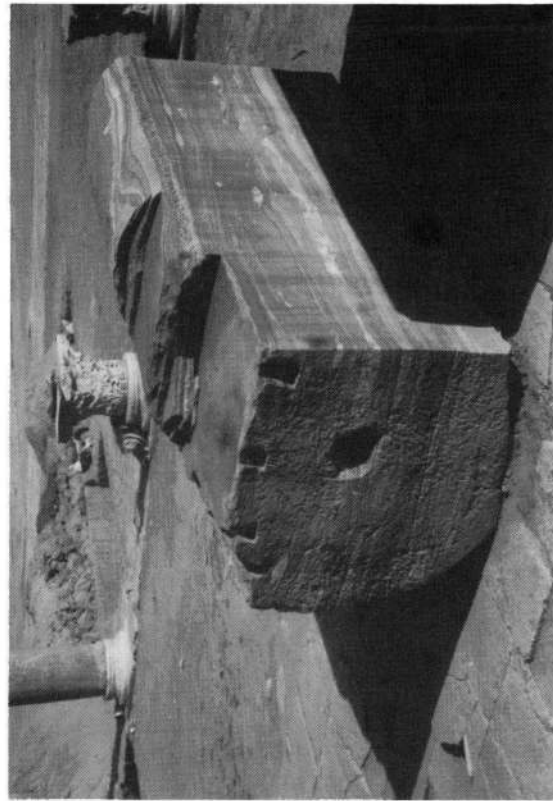
(a) Column-base in Forum, showing surviving iron dowel.



(b) Block from perimeter wall of Forum, showing sockets for dovetail cramps and vertical dowels (the left-hand one re-cut), with a central lewis-hole for lifting which has been filled in with stone chips.



(c) Top of capital in Colonnaded Street, showing dowel hole in centre and pry-holes towards edge.



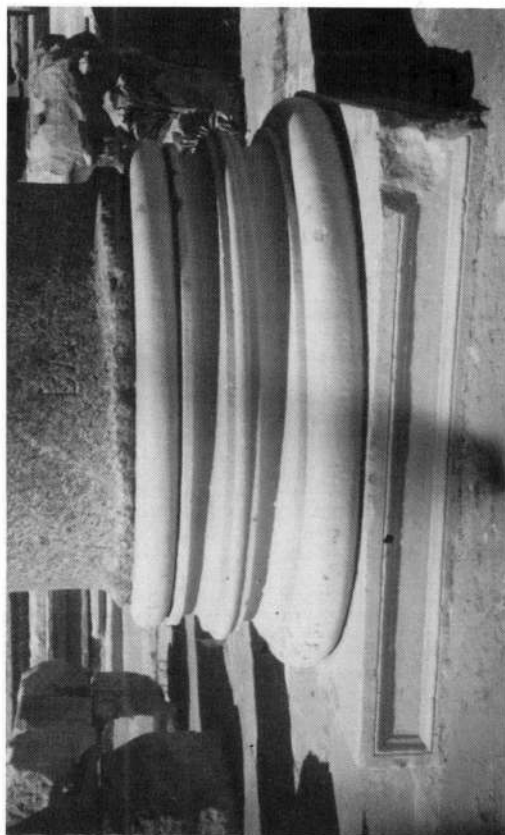
(d) Fragment of cipollino column from the Hadrianic Baths, with traces of ancient repair shown by cuttings for dovetail cramps.



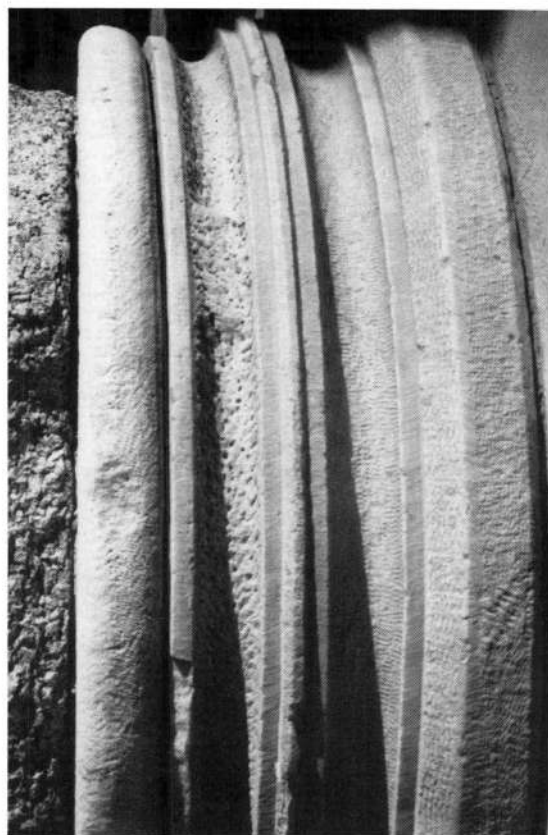
(a) Mason's mark ΕΛΕΥΘΕΡΙΝΙΟΥ on column-base in north-east forum portico.



(c) Assembly marks on cornice of basilica apse.



(b) Mason's mark on granite column in Basilica.



(d) Unfinished column-base in Basilica.

رخام البروكونيسيوس و تبين كماده جديده لبناء المياني النصبيه الضخمه في معظم اجزاء وسط و شرق البحر المتوسط ،قد ادي الى تداخل الطرز الفنيه المتعدده للنحت . كل التوقيعات في لبده الكبير الكبرى كتبت باللغه اليونانيه و ان الطراز ومن ناحيه فنيه غير متميز عن الطراز المعاصر المنتشر في آسيا الصغرى . هذا يقودنا الى الاستنتاج بان الفنانيين اليونانيون قد اشرفو على و في بعض الاحيان نفذو هذه الاعمال الفنيه . و يمكن الاشاره بان كثير من اعمال البناء و كذلك اعمال الخرسانه قد استنبطت من العالم اليوناني و اغلبها من آسيا الصغرى .

و هذا يعتبر اقدم مثل في استعمال الرواق في العمارة النصبية و هذا يدعي للتساؤل على مصدر هذا الالهام المعماري و الذي يمثل بداية تطور هذا الطراز المعماري و الذي نجد تأثيره واضح على العمارة البيزنطيه و الاسلاميه . لا يهم هنا ايجاد و تعريف مصدر هذا الالهام حيث يمكن اعتباره كحل عملي لمشكله عمليه و اسهل طريقه لاستعمال الاحجار المجليه .

و بلامكان التمييز بين نوعين آخرين من احجار البناء . الاول من النوع الجيد و يمكن وصفه بالحجر الجيري الرمادي - ابيض من مصدر محلي لم يحدد بعد . و يستخلص عادة على شكل دعامة تصل الى قدم طولاً و يمكن نحتها كعمود بديل للاعمده الرخاميه في حالة عدم توفرها او في حالة تطلب عمود ذات طراز معقد النحت غير متوفر في الاعمده الرخاميه الجاهزه .

النوع الثاني هو من الحجر الجيري الشبيه بالنوع مع فارق اللون و الجزئيات التي يتكون منها الحجر ، فاللون يميل الى البني و الجزئيات دقيقه وعاده استعمال في العناصر المعماريه التي تحتاج الى نحت مثل العوارض المستعمله في الفورم و الشارع المعمد .

و بعد الحديث عن المواد اللازمه نطرح السؤال التالي :

و ماذا عن الفنيين والعمال الذين انتجو هذا العمل ؟

و بالنظر الى ثرات لبده الكبرى العريق في البناء النصبية الضخم و الذي استمر لمدته قرنين نستطيع ان نقول و بدون تردد بان جزء كبير من القوى العامله جند محليا . و لكن مما يشير العجب نجد ان مساعدي المهندسين المعماريين و عدد كبير من الفنيين من الاغريق القادم من العالم الاغريقي الشرقي . و الدليل على هذا واضح جدا من التوقيعات المنقوشه على اعمالهم و الشامله على تيجان قواعد الاعمده المستورده من اتيكا . هذه التيجان من نوع فخم ذات ظاهج اتيكي اصيل و يمكن اجاع طرازه الى نفس طراز قلعة الرياح باثينا و هذا يؤكد بان المواد والفنيين او احدهم قد لتي من اتيكا . و بلاضافه الى نجد ان عدد كبير من التوقيعات المكتوبه باليونانيه على انواع اخرى من الرخام . و من التوقيعات التي اشيرت الانتباه و التي تكررت على نحوت قواعد اعمده الشيبولينو برواق الفورم ، و التي تبدو بانها توقيعات لفنيين متخصصين في نصب الاعمده بتيجانها و قواعدها في المكان المناسب و كوحده متناسقه مع بقية جيرانها . و هناك عدة توقيعات مختصره ظهرت بشكل غير منتظم على الرخام البروكونيسيوس و القرانيت و يمكن الاستفادة بان النحاتين كانوا يتكلمون اليونانيه و اكثر من هذا يمكن الافتراض بانهم قد قدمو الى لبده الكبرى للعمل على مواد من انتاج منطقتهم . و كل نوع من هذه المواد لها خصائصها و بعضها يحتاج الي ايدي ماهره (مثل القرانيت) . و انتشار

في نفس الوقت هناك جهود اخرى لابد بدلها لتوفير المواد اللازمه للبناء و الغير متوفره محليا من المواد المتطلب استيرادها هي الرخام ، الخشب لغرض التسقيف و لمساطب البناء ، و العديد من المعادن لاستعمالها في صناعة المعدات مثل الكلايب و اوتاد التعشيف الخاصه باحجار البناء ، الاضافات التريبينيه كالثماثيل والتشطيبات المعدنيه وغيرها . و يبدو ان كل الاعضاء المعماريه المهمه قد رتب استيرادها من فتره مبكره . فهناك ثمانون اعمده منحوشه من الجرانيت الاسواني يبلغ طول كل منها 24 قدم روماني يحتاج نصبها في الباسليقا فقط و كذلك 32 من نفس الاعمده و نفس الحجم خصت للمعبد . و لصعوبه توفير المواد الخالصه بالبناء مثل الحجر الخام فالمحاجر تحتاج الى بعض الوقت لتوفير الاحجار اللازمه و كذلك تحتاج الى قوى عامله فنيه و كبيره لتوفير هذه الطلبيه الكبيره و ذات المواصفات العاليه . اما عن الاعمده المنحوشه من رخام الشيبو لينو و التي زينت الشارع المعمد و الفورم فهي اصغر و ذات ابعاد شائعه بين 20 و 30 قدم . هذه الاعمده قذ نحتت من محاجر شار مستوى بكميات كبيره جدا . و التي تصل الى ما بين 400 - 500 من هذه الاعمده و بالتالي فان هذه الطلبيه تحتاج الى وقت طويل . اما عن الرخام الابيض و الخاص بالاعضاء المعماريه و الترصيف فقد استورد من بروكونيوس ببحر مرمره بتركيا و يمكن التوصيه عليه بفترة قصيره ما عدا القطع ذات الحجم الكبير . ونفس الظروف تنطبق على رخام البنتاليكوس المستورد من اتيكا باليونان و الذي استعمل في الشارع المعمد مع ملاحظه عدم وجود قطع كبيره من هذا الرخام . اما عن رخام الترصيف و تغليف الواجهات الملون يمكن التوصيه عليه عند نهايه البناء و بكميات صغيره مقارنة بباقي انواع الرخام . الاغراض اخرى و غير الخشبية فان الطلبيه الضروريه مثل الاعمده تستدعي التوصيه المبكره .

اما عن حجر البناء فهو متوفر محليا بكميات كبيره . و في خلال القرن الاول الميلادي كانت كل المباني العامه مشيده من الحجر الحجري المحلي الرمادي و الذي يشبه الترافنتينو في مظهره . و استنزفت موارد هذا الحجر الحجري الرمادي الجيد بعد القرن الثاني الميلادي و الذي ادى الى افتتاح محجر راس الحمام نتيجة الى حاجه المشروع السويري الى كميات ضخمة من الحجر و يقع هذا المحجر الى جنوب شرق لبده الكبرى . ويميل لون هذا الحجر الجيري الى الاصفرار البني و تختلف نوعيته من مكان الى آخر . و استخلص هذا الحجر بكميات هائله و بنوعيات مختلفه الجوده . فالنوعيات الجيده استعملت ككتل مربعه منسقه للبناء و النوعيات الرديئه استعملت في الميناء لكسر الامواج . و لم يمكن استعمال هذا الحجر كعارضات فوق النوافد و الابواب الا الاحجار ذات الاحجام الصغيره مدعمه بقوس ثانوي فوق العارضه و الذي ادى الى استعمال طراز جديد و الذي شاع في الفورم و الشارع المعمد و كذلك باختراع الرواق كبديل للعارضه الافقيه و هي تقليد كلاسيكي .

حسابه الى 1:240 (النهايه الصغرى لمقياس ابعاد مباني لبده الكبرى تبدو و انهيار ضربت في 15 قدم روماني) .

و يبدو ان المهندس المعماري قد اخذ مقياس بعد او بعدين اساسيين لتكون اساسا لحساباته و بعض هذه القياسات نقل الى المرحله الاخيريه من التصميم على شكل متواقف يمكن تمييزه . و الامثله على هذه الابعاد الاساسيه هي الطول العام للشارع المعمد ، العرض الداخلي للفورم و الطول الداخلي للباسليقا . و بالامكان ان نحادل بان الباسليقا قد صممت من الداخل في الاصل على شكل مربع مزدوج مع تعديل ابعاد الاضلاع المقابله بثلاثة او اربعة اقدام عند بناء المجمع ككل على موقع غير منتظم الابعاد . و يبدو ان المخطط الميدني بدأ يوضع حسابات الابعاد النظرية قبل بدء البناء و عدلت هذه الابعاد عند وضع المخطط على الموقع مع ترك هامش لعمل بعض التعديلات عند تطوير المرحله الثانيه من البناء .

جوهر التخطيط كان في النهايه هو تبني نوع من المرونه لتخطي بعض الصعوبات العمليه الناتجه عن عدم توافق الموقع باستعمال كثير من الخدع البصريه . على طول الجبه الجنوبيه - الشرقيه نجد ان المتاجر قد اخذت وشد لتحل مشكله عدم التوافق بين الفورم و الشارع و هذا الحل طبق كذلك على مشكله عدم توافق الفورم و الباسليقا - و على طول الجبه الشماليه الغربيه نجد ان الرواق قد تتناقص تدريجيا وانحنى في جهه اخرى نتيجة لوجود شارع سابق و الذي اهمل لتحل محله صاله ثانويه ، بدون وظيفه ظاهره ، بنيت في الزاويه الغربيه . و يرى نفس المشكله في الحجرات الاحتياطيه ، في اركان الباسليقا ، والتي حولت احدهما الى حجره تعميد في الفتره البيزنطيه ، عولجت بنفس الحل و النتيجة ان الصاله الرئيسييه اصيحت مستطيله . و بالرغم من ان الحلول لهذه المشاكل كانت بسيطه فانها لم تنقص من فعاليتها . نجد ان الوحدات المعماريه الرئيسييه قد عرضت بكل فخر التناسب و التواقف المطلوب منها تحت التقليد المعماري الروماني . و الزائر لهذا المجمع لا يلاحظ اى مشاكل تحتاج الى حلول حيث ان هذه المشاكل حلت بطريقه لا تلفت انتباه الا الخبير الخارق . هذا استعراض بكل المشاكل التي لايد من وضع حل لها قبل بداية العمل على الموقع .

الخطوه الاولى للبناء الفعلي و بعد تهديم اي مبنى سابق يقع في اطار المخطط ، هي وضع الاساس الضخم للمباني الجديده و كذلك بناء شبكة المجاري . عدد كبير من هذه الاساسات و المجاري بنيت في هذا الموقع الضخم بدون حفر في سطح الارض . و استعملت الخرسانه ذات القالب الخشي و التي وصلت في بعض الاحيان الى ارتفاع اربع امتار ، ثم ردمت برمل و رديم حتى شكلت مصطبه بالمستوى المطلوب . و في هذه المرحله يمكن تصور كل المجمع كنموذج مصغر للمخطط الاصلي .

بعد استلام المهندس المعماري المهمة الكبرى قام بثلاثة مهام اوليه و هي تحضير خريطه تفصيليه ،توضيف مساعدين فنيين و تجنيد القوى العماليه اللازمه و اخيرا توفير المواد اللازمه للبناء . و كلعاده و بناء على التقليد الروماني نجد ان الرسم التسطحي المفصل للموقع يشمل كل الابعاد و القياسات اللازمه لبدأ العمل ، و ترك التفاصيل الخاصه بالمقطع العلوي للفترة ما بعد البناء الاولي و هاتان الطريقتان قد اكدت في ليدته الكبرى . اولا دعنا نترك المشاكل الخاصه بالمقطع العلوي على جانب و لنهتم ميدئيا بتخطيط و تسطيح الموقع و هذا لا يعني ان المهمه سهله و غير معقده . يأخذ الموقع شكل تربييعي غير متساوي الاضلاع حيث يتكون من ثلاثة اضلاع ثابته تشكل خطوط شوارع سابقه و الضلع الرابع يشكل الهامش المرن لهذا المخطط . و نتيجة المحسات التجريبيه تحت الميدان و كذلك المنطقه بين الميدان و الفورم نجد ان كل هذه الارضيه تبدو انها مسترده و ربما كانت تشكل القاع السابق للوادي الذي كان يجري على الضفه الغربيه من هذه النقطه . و لا يمكننا معرفه مدى ضخامة عمل تسطيح المنطقه و الذي يمكن مقارنته بالتسطيح العظيم لروما الامبراطوريه ، الا بعد اجراء مجسات تحت الفورم (تحت الفورم توجد طبقه كثيفه من الخرسانه لا تشجع على عمل مجس) .

و بعد وضع الخط الثابت للشارع المعمد في المكان المناسب (لا يوجد هنا هامش خيار كبير) نجد ان البقيه تتبع المخطط الاساسي . و من خلال القاء نظره عابره على الموقع الذي يشغل الفورم و الباسليفا نشعر بان مشكله المهندس المعماري ليست بالبسيطه حيث لا تقتصر على تقسيم الموقع الى عدة وحدات كما هو معروف في معظم الاحيان . المقاييس التي استعملت في ليدته الكبرى هي نفس المقاييس الرومانيه المعروفه و المينيه على وحدة القدم الروماني و المنقوشه على حجر المعايير و المقاييس المعروفه في السوق البوني و هي نفس الوحده القياسيه المستعمله في القوس السويري . من الصعوبه في الطرف الحالي وضع جدول مبسط للنسب المعماريه و ذلك يرجع الى وجود عراقيل عمليه لعدد قليل جدا من الوحدات المعماريه تتمتع بتخطيط متناسب .

و لكن على اي حال يمكن ايجاد عدد معين من الارقام ذات معنى ، و على سبيل المثال نجد ان عرض فناء الفورم المركزي ، و هي احدى المواصفات الدقيقه للتصميم ،²⁰⁰ قدم و هذا لم يكن من محض الصدفة . و مره اخرى نرى ان القياس 240 قدم قد تردد من حين الى آخر و هذا كذلك لم يكن من محض الصدفة ايضا و ربما يرجع الى سهوله الرقم عند اجراء الحسابات الكسريه و كذلك نجد ان طول احد محاور النمفايوم يصل الى 80⁸⁰ قدم بناء على المخطط الاولي و ¹²⁰120 قدم في نهايه البناء . و النموذج الذي يعكس الممارسه المعماريه في ذلك الوقت واضحه في مقياس الرسم للخارطه الرخاميه السويريه لروما و التي تسمى مدينة الفورم و الذي يمكن

وتبع هذا نظام تعامد جديد باضافة ساحة البلايسترا (ساحة التمرينات) في نهاية القرن و شارع في ضفة الوادي لوصول تقاطع الطرق الرئيسي للمدينة القديمه مع الطريق الساحلي (قرطاج الاسكندريه) عند نقطة تقاطع الوادي. وهذه هي خلاصة الاطار العام للتخطيط القديم للمدينة في الفتره قبل اتخاذ سبتييموس قراره ببدأ البرنامج المعماري العظيم .

الظاهره الرئيسيه لهذا المشروع هي بناء الميناء الاصطناعي في حوض مصب الوادي . و توصل هذا الميناء بباقي المدينه عن طريق معمد على الضفه الغربيه للوادي و انتهى بميدان تقاطع للشارع المؤدي الى المسرح . على جانب هذا الشارع المعمد بنى مجمع يتكون من فورم (سوق) متكامل بمعبده و كذلك باسليقا (دار القضاء) فخمه . و اطلق على هذه المجموعه المركزيه بالشارع المعمد و الميدان اسم الفورم و الباسليقا .

ما هي الشروط التي امليت على المهندس المعماري ؟

لم نجد الاجابه على هذا السؤال في النقوش اللاتينيه و كذلك لم يذكر هذا المشروع الضخم في الوثائق القديمه في ما عدا المؤرخ البيزنطي بروكوبيوس الذي اشار الى تحويل مبنى الباسليقا الى كاثيدرائيه . و لحسن الحظ بقت هذه المباني دليلا شاهدا على طرق البناء القديمه . و يبدو ان المهندس المعماري و مساعديه ، و اغلب المواد المستعمله و كذلك الطرق القنيه قد جاءت من العالم اليوناني ليس من آسيا الصغرى فقط . و من حيث المبدأ تعتبر الاجزاء الرئيسيه لهذا المشروع و الممثلته في الفورم و الباسليقا ذات الطراز الغربي الاصيل . حيث نجد كثير من التشابه بين تخطيط الباسليقا ذات المحرابين و موقعها بجانب الفورم المستطيل و مخطط الفورم و الباسليقا التراجانيه بروما . و كما هو معروف ان طراز هذا المجمع يعتبر من اعم النماذج المنسوخه في الفتره الرومانيه . و بمأن هذا المشروع قد تبين من قبل الامبراطور فليس هناك مجال للشك بان المهندس المعماري قد تسلم التعليمات الامبراطوريه لبناء الفورم و الباسليقا على الطراز الشائع و طبقا للتخطيط الذي جذب كثير من الانتباه و الاعجاب في العاصمه الرومانيه . و هذا الطراز الناتج عن زواج الطراز المعماري الغربي بالمهارات الفنيه و المعماريه الرومانيه الشرقيه ، قد شاع في القرن الثاني و الثالث الميلادي و الامثله لهذا الطراز هي مبنى الحمامات في افسوتس و كذلك معبد اسكليبيوس سوتر في برجامون . و قد انعكست الجوانب المثيره للبلده الكبرى السويريه على العماره العالميه للعواصم الامبراطوريه تحت حكم التراخي .

المباني السويريه بلبده الكبرى :

خلاصه :

يتناول هذا الكتاب دراسة للمباني المشيده بمدينة لبده الكبرى في شمال افريقيا على شرف اشهر مواطني الامبراطور سيبتيموس سيفيروس . شرع البناء الفعلي لهذه المباني في التسعينات من القرن الثاني ب . م . و لم يتم التدشين رسميا الا بعد عشرين سنه في 216 ب . م .

في هذه الدراسه نوجه اهتمامنا خاصة الى المباني تامه الحفر من المجموعه المركزيه المتكونه من الفورم (السوق) ، الباسيليكا (دار القضاء) ، النمفيوم (النافوره) و هذه جزء من مخطط اكبر يشمل الميناء غير الطبيعي ، المناره ، المخازن و المعبد ، توسيع السركوس (ملعب سباق الخيل) و تشييد القوس ذي الاربع واجهات و الغني بالمنحوتات المنصب على تقاطع الشارع الرئيسي عند الجزء الجنوبي المركزي للمدينه . و يضا هي هذا البرنامج المعماري العديد من المشاريع التي شيدت بعد قرن تحت حكم التراخي .

و قبل فحص المباني السويريه بالتفصيل يحق علينا ان نفهم الاطار الحاوي لهذه المباني الجديده . و بناء على نتائج المجسات العميقه التي حفرت في الفورم القديم و المسرح ، نجد ان لبده قد اسست كمحطه تجاريه على مرسى طبيعي في مصب وادي لبده من قبل القرطاجيين . و هذا ينطبق كذلك على اويا (طرابلس) حيث نجد آثارا لمنطقه قرطاجنيه ترجع للفترة ما قبل الرومانيه قرب المرسى .

اقدم الآثار الموجوده الآن هي آثار الفورم القديم و الذي يتعامد تخطيطه مع مخطط المستوطنه البونيه في القرن الاول ق . م . او بعد هذا التاريخ بنصف قرن . ثم دخلت لبده الكبرى فترة التطور المعماري السريع .

و بالرغم من ان امتداد بعض المباني على نسق نظام التخطيط المتعامد ، نجد ان بعض الاحياء في الفتيه الرومانيه قد حاوت عن تعامد الاحياء المجاوره لها بدرجات و يمكن ارجاع هذا الى قصر نظر مخططي المدينه .

و في خلال القرن الاول الميلادي امتد التطور المعماري الى ناحيتي الغرب و الجنوب و كذلك الى الاراضي الواطيه باتجاه الشرق على ضفة الوادي . و الذي لم يستغل حتى فترة تشييد حمامات هدرين العظيمه في سنة 126 ب . م .

المحتويات

قائمة بالرسومات التوضيحية

قائمة باللوحات

مقدمة الكاتب

اختصارات و مراجع مختارة

مقدمة

الفورم (السوق):

(أ) المتاجر الواقعة في ناحية الجنوب الشرقي

(ب) المبنى العام في ناحية الجنوب العربي

المعبد

الباسليقا

(أ) الحجوات الواقعة بين الفورم و الباسليقا

(ب) المبنى الرئيسي

الشارع المعمد

التمفيوم (الناقورة)

مواد ، ادوات و طرق البناء

(أ) المواد و الادوات

(ب) البنائين و طرق البناء

(ج) كيفية البناء

(ح) علامات و أسماء البنائين المنقوشة علي الحجارة

التسلسل الزمني للمباني السوريه

الخلاصة

الفهرس

ينشر لأول مره في سنة 1993 من قبل

مصلحة الآثار الليبية ، طرابلس ،

الجمهورية ، بالتعاون مع جمعية الدراسات

الليبية ، لندن ، بريطانيا .

مقالة جمعية الدراسات الليبية رقم ٢ .

حقوق الطبع محفوظة .

طبعت من قبل انقريفينج سيرفيسيس المحدودة ، وحدة رقم 6 ، مجمع دينهيل روود

الصناعي ، مانشستر ، بريطانيا .

المباني السويرية في لبدہ الكبرى مسح معماري

جي.بي. وارد-بيركنس

باضافات من قبل باري حونس و روجر لثق

اعداد

فيليب كنرك

اعد الرسوم المعماريه ار.كرونينبورق

اعداد و مراجعة

باري حونس

نشر من قبل جمعية الدراسات الليبية ببريطانية
باليابة عن مصلحة الاثار الليبية

**المباني السورية
في لبدء الكبرى
مسح معمارى**