

# CORINTH

RESULTS OF EXCAVATIONS

CONDUCTED BY

THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

VOLUME I, PART VI

THE SPRINGS

PEIRENE, SACRED SPRING, GLAUKE

BY

BERT HODGE HILL



THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

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## FOREWORD

In all his many activities BERT HODGE HILL was consistently a perfectionist. When conducting excavations, for instance, he devoted unwearied attention to the recognition and the exhaustive examination of all observable evidence, insisting as well on its clear, accurate recording and its logical interpretation: even the minutest striations in a stratified deposit, or apparently trifling irregularities in the masonry of a wall might yield some missing link of information. In his teaching, which was blessed with an inspired gift of infusing his hearers with a share of his own interest and enthusiasm, he never failed to stress the need for exact observation and the supreme value of accuracy and thoroughness. As a friendly sponsor, critic and adviser he played an outstanding role, giving cheerfully and in generous measure of his time and thought to the manuscripts of his students, whom he always helped and encouraged with sound constructive suggestions. The light of his spirit shines through in the work of those who had the benefit of his teaching.

When he scrutinized his own writings BERT HILL was much more rigorously exacting, and he could never persuade himself to release any text until he was satisfied with its content, organization and phraseology. It was against the grain for him to publish an article in which some elusive contributory fact, even though not of major importance, was yet left unascertained while there still was a bare possibility that further effort and study might disclose it. So it was that some of his short pieces and his two chief monographs on Peirene and the Sacred Spring, which are presented in this volume, remained unpublished until after his death. Although they have not been finished as their author would have liked to complete them, they vividly illustrate his power of observation and his ingenuity in fitting the scattered bits of evidence together to form a convincing reconstruction.

It has seemed to many of his former students and friends that this publication of the fountains at Corinth, on which he labored so long and so devotedly, would form, despite the lack of the final touches he had hoped to add, the most appropriate memorial to BERT HODGE HILL. Here we see his searching methods, his logical deductive mind at work, and his uncanny ability to deal with a complex problem.

The manuscript dealing with Peirene passed through several versions and revisions, and was ultimately, in the middle 1930's, set into type by the Holzhausen Company in Vienna. The proofs were seen, corrected and annotated by BERT HILL, but the outbreak of World War II forestalled the publication that had been planned. After the end of hostilities this text was in some parts further revised, and it was left by its author in a very nearly finished state, so far as the actual description of the remains is concerned, although he had probably intended to discuss in greater detail—to the extent determinable—the precise dating of the successive phases in the construction of the fountain which are so clearly differentiated in the monograph. The general chronological sequence is in any event firmly fixed.

The presentation of the material in this section is altogether professional and impersonal; but the author must surely have had in mind somewhere to make mention of specific members of the excavation staff who in their turn had taken an active and effective part in the task of exploration. That work, especially in the first two decades of the operation, was, to say the least, arduous and far from comfortable. The clearing and cleaning of the underground tunnels required long hours under scanty illumination, by candle light or feeble old-fashioned lanterns (this was in an age before easily portable flash-lights had been invented), while one stood or trudged in deep sticky clay or mud under foot, with chilly water often up to one's waist; moreover, here and there, one was confronted by low ceilings or narrow partly collapsed sections, where a cramped stance was imposed, and a head incautiously raised made painful contact with the hard rough roof above. But these trials and tribulations were accepted as part of the day's work with little or no complaint in the pervading excitement and enthusiasm of sharing in the privilege of uncovering one of the most famous of ancient Greek fountains. It is needless to say that BERT HILL himself set a good example, always taking his full turn in these underground activities and adventures.

In consequence of the primitive and limited equipment alone available, great difficulties were met in those early days in the problem of measuring distances and angles where the tunnels changed direction, and in trying to lay out a reasonably approximate plan of this extensive subterranean system. Indeed, it was only after many years, as the undertaking progressed and gradually more and more ancient and modern wells that penetrated into the tunnels were identified at the surface of the ground, that an accurate plan could at last be drawn.

Amusing incidents were not lacking in the clearing of Peirene. One ingenious member of the staff, who, partially immersed in water, was obliged to crawl on his stomach over the slimy mud in an exceptionally low stretch of a tunnel, invented a new unit of measurement. Finding it virtually impossible to use a tape or even a meter stick in his awkward position, he advanced by heaving himself forward in short convolutions, which he counted and recorded as "belly paces," sometimes translated into "knee paces" in polite circles. Some of the unsung heroes who participated effectively in these subterranean researches deserve to have their names recorded. Apart from BERT HODGE HILL himself, the following seem to have been included at various times in the select company: SHERWOOD DICKERMAN, W. E. DOWNES, BENJAMIN POWELL, J. M. SEARS, ARTHUR FAIRBANKS, S. E. BASSETT, C. H. WELLER, L. D. CASKEY, WILLIAM DINS-MOOR, GEORGE ELDERKIN, ALLAN C. JOHNSON, ASHTON SANBORN, C. W. BLEGEN, EMERSON SWIFT, LINDLEY R. DEAN, and others, all before 1915. In more recent years JOSEPH SHELLEY and RICHARD STILLWELL became well acquainted with the tunnels, and LEICESTER HOLLAND may also have been initiated; still later OSCAR BRONEER played a leading role in the explorations that revealed the numerous wells and the network of tunnels and channels underneath the South Stoa, which are directly connected with the system belonging to Peirene. Report has it that Mrs. AGNES STILLWELL and Miss LUCY SHOE on at least one occasion also penetrated to the far ends of the tunnels. The available records of the participants are incomplete, and apologies are offered if some names have inadvertently been left out.

In one of his miscellaneous memoranda BERT HILL lists six different versions of the manuscript dealing with the Sacred Spring. The earliest was contained in his fellowship reports in 1902 and 1903. A considerably longer account was composed in Boston in 1905–1906, followed by two further revisions, one incomplete and one extensive, in 1906. The latter with some changes and additions was retyped in Athens in 1925. There was also a somewhat different version, apparently made in Corinth in 1911. The text of 1925 with additional emendations, corrections and supplements by BERT HILL, is the one that has been adopted for this publication.

These many variants display no disagreements regarding the facts, observations and theories; they were mainly experiments in an endeavor to find the most satisfactory sequence in the presentation of the material. BERT HILL had great difficulty in making a final decision whether to begin with the Fountain House and Reservoir or with the apsidal temple standing on the terrace supported by the Triglyphon. Provisionally he favored the latter order, but he was prepared to reverse the arrangement if he concluded that it would be more effective. He tried both plans often on the many visitors at Corinth who had the good fortune to be conducted through the excavations by him, but no preference for one or the other order could be recognized among his auditors. Whether they looked first at the temple with its altar and water channel and proceeded later to the fountain chamber with the lion head spouts, or *vice versa*, all were, with few if any exceptions, equally affected by the fascination and suspense in his account of his observations and deductions.<sup>1</sup>

The work of excavation in and about the Sacred Spring was to a great extent supervised by BERT HILL himself, and he followed it with close and unremitting attention. He thus acquired an unrivalled first-hand knowledge of the whole sanctuary in all its details. In the actual digging he introduced at Corinth modern methods, distinguished by patient thorough observation and careful recording of all the surviving evidence that was provided not only by the objects found but by their exact and relative places in the stratified deposits which contained them. This was something new and unfamiliar still in 1902. A beginning of such orderly research had already been made a half decade or more earlier by the British School in its work at Phylakopi in Melos, but no system of that kind had yet gained adoption on the Greek mainland. The investigation of this small Corinthian sanctuary formed a notable landmark in the history of excavation in its convincing demonstration of the superlative value of system and accuracy of method. This object lesson, as Professor G. KARO has pointed out, helped to usher in a new epoch in field archaeology, although a long time was still to pass before scientific rules of digging began to be widely applied in Greece.

The text that is here presented did not contain a full description of the middle section, II, of the Triglyphon which runs between the northern unit III, opposite the apsidal temple, and the southern part, I, superposed over the buried Fountain House. In the changes from early to late Greek times the terrace of the temple was considerably widened, the reservoir on the east had fallen into disuse, was filled with earth and covered, and a stairway was built leading down

<sup>1</sup> It is greatly to be lamented that tape-recording was not developed to its present efficiency in time to preserve one of those inimitable informal talks, each full of wit and the flavor of Vermont humor.

into what remained of the chamber with the lion head spouts. The whole middle section of the terrace wall was then moved forward toward the east, aligned with the northern sector and decorated with a triglyph frieze. Subsequently there was a further widening of the terrace, perhaps to provide space for the circular base of a large tripod.

The variant manuscript mentioned above, which is recorded as having been drafted by BERT HILL in 1911 at Corinth, deals at some length with Section II of the Triglyphon; and the successive stages that he was able to differentiate shed light on the history of the sanctuary down to the destruction of Corinth by the Romans and later. The editors have therefore ventured to interpolate at its proper place the description of Section II as it was written in 1911.

The Publications Committee of the American School considered it logical and appropriate to include in this volume all three water systems that were clustered about the Agora of ancient Corinth; and BERT HILL had accepted the idea. The Fountain of Glauke had survived in part in the conspicuous rock-hewn remains that rise up some distance to the west of the Temple of Apollo, on the far side of the Road to Sikyon which is mentioned by Pausanias. The Fountain was studied and published by GEORGE ELDERKIN in the *American Journal of Archaeology* (XIV, 1910, pp. 19–50) with many plans and photographs. In this book the description is presented almost exactly in content and wording as it was written by ELDERKIN, but the arrangement of the paragraphs and in some instances the sequence of sentences within paragraphs have been changed as indicated in his copy of the article by BERT HILL, who likewise suggested some few omissions and several additions. The original illustrations have been retained, supplemented by some others that were selected by BERT HILL and recommended for inclusion.

Almost all of the American School's successive Fellows in Architecture, and other draftsmen who tarried for a time at Corinth, assisted in the making of plans of the excavations. The first general survey was carried out in 1898–1899 by Prof. ARTHUR S. COOLEY, who mapped what was correctly believed to be the central region of the ancient town, and who indicated also the streets and houses of the modern village. This work was of considerable value to all later surveyors. In 1902–1903 Dr. T. W. HEERMANCE and BERT HILL measured and drew accurate plans and sections of the remains of the Sacred Spring together with its associated apsidal temple or heroon, and they definitely fixed its position in relation to the Temple of Apollo and the other monuments which had already been exposed. With a view to publication these drawings were put into finished form in Athens by GORHAM P. STEVENS.

Some years later, in 1906–1908, HENRY D. WOOD made a new general plan of the excavations so far as they had by that time been extended (*Corinth*, I, pl. III). During the ensuing two decades WILLIAM B. DINSMOOR measured and recorded in detail all the remains that had been uncovered and were being brought to light, and in 1927 he completed for publication a comprehensive plan (*Corinth*, I, pl. IV) showing all that had been accomplished on the site from the outset to that year. DINSMOOR, too, had spent innumerable hours in the depths exploring the reservoirs, tunnels, and passages of the whole underground system of Peirene. A comparison of the plan of 1927 with its predecessor of 1908 (*Corinth*, I, pl. III) will show how greatly the investigation of the underground part of Peirene had progressed in that span of twenty years.

Although many of the major problems concerning the fountain had been solved or had at least been clearly formulated, further advances were made during the next quarter century in the study of details. Cordial thanks are owed to many architects who toiled in measuring and understanding the remains and in producing drawings and sketches for the final publication. In addition to the basic plan Professor DINSMOOR provided the elevation and section of the Cyclopean Spring, Figure 24. To JOSEPH M. SHELLEY we owe the originals of Figures 4, 5, 8, 10, 19, 25, 31a to f, 38, 44, 45, 59, and Plates I, II, III, IV, V, VI, VII. Figures 16 and 31 are from the hand of DOROTHY H. COX. Plates VIII and IX reproduce drawings made by Professor RICHARD STILLWELL. The watercolors for Plates XII, XIII, XIV and XV are the work of PRENTICE DUELL. The perspectives of Peirene as it looked in a Late Greek period and in the time of Herodes Atticus (mid-second century after Christ), Plates X and XI, were drawn by GORHAM P. STEVENS.

For the Sacred Spring Professor STILLWELL supplied the drawings which appear in Figures 69, 71, 75, 83, 90, 92, 97, 98, 99, 101, 106, 107, 109, 119 and Plate XVII; the water color for Plate XVI is by PRENTICE DUELL, and Figure 78A is owed to JOHN TRAVLOS. Figure 122 is taken from an old colored plan at Corinth (probably drawn by BERT HILL or T. W. HEERMANCE) which was traced by WILLIAM B. DINSMOOR, Jr.

For the Fountain of Glauke Professor DINSMOOR provided the plans, sections and details reproduced in Figures 124, 126, 130, 137, 138 and 139.

The topographical chart of Corinth (Pl. XVIII) showing the location of water sources was prepared by WILLIAM B. DINSMOOR, Jr.

In the task of readying for the press these manuscripts which had not received their final touches from their author Professor CHARLES H. MORGAN has rendered indispensable help. Professor LUCY SHOE has borne the main burden of editorial responsibility, has read the proofs of the text in galley and page, has arranged and adjusted the illustrations and plates, and has also provided the index for the volume. Professor RICHARD STILLWELL has likewise given invaluable assistance on many problems.

It is a pleasure to have an opportunity here to extend in behalf of the Publications Committee of the American School of Classical Studies most cordial thanks to Adolf Holzhausens Nachfolger who not only safeguarded through the years of World War II and its aftermath all the material that remained in their hands in Vienna, but have likewise shown uncommon patience, understanding and good will through the inevitable delays in the preparation of this posthumous publication of BERT HILL's manuscripts.

ATHENS, GREECE  
APRIL, 1963

CARL W. BLEGEN

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## ABBREVIATIONS

- A. J. A.* = *American Journal of Archaeology*  
*B. C. H.* = *Bulletin de correspondance hellénique*  
*Corinth* = *Corinth, Results of Excavations conducted by the American School of Classical Studies at Athens*  
I = Harold North Fowler and Richard Stillwell, *Introduction, Topography, Architecture*, Cambridge, Mass., 1932  
I, ii = Richard Stillwell, Robert L. Scranton and Sarah Elizabeth Freeman, *Architecture*, Cambridge, Mass., 1941  
I, iii = Robert L. Scranton, *Monuments in the Lower Agora and North of the Archaic Temple*, Princeton, 1951  
I, iv = Oscar Broneer, *The South Stoa and its Roman Successors*, Princeton, 1954  
II = Richard Stillwell, *The Theatre*, Princeton, 1952  
III, i = Carl William Blegen, Richard Stillwell, Oscar Broneer and Alfred R. Bellinger, *Acrocorinth: Excavations in 1926*, Cambridge, Mass., 1930  
VI = Katherine M. Edwards, *The Coins, 1896-1929*, Cambridge, Mass., 1933  
VIII, i = Benjamin Dean Meritt, *Greek Inscriptions, 1896-1927*, Cambridge, Mass., 1931  
VIII, ii = Allen Brown West, *Latin Inscriptions, 1896-1926*, Cambridge, Mass., 1931  
X = Oscar Broneer, *The Odeum*, Cambridge, Mass., 1932  
XVI = Robert L. Scranton, *Mediaeval Architecture in the Central Area*, Princeton, 1957  
*Olympia* = Ernst Curtius and Friedrich Adler, *Olympia, die Ergebnisse*, Vol. II, Berlin, 1892  
*P. G. M.* = Lucy T. Shoe, *Profiles of Greek Mouldings*, Cambridge, Mass., 1936

# I

## PEIRENE

### INTRODUCTION

#### ANCIENT ACCOUNTS

Peirene was in antiquity the best known, and doubtless the chief, spring of “well watered” Corinth, εὐδρον ἄστῳ Κορίνθου,<sup>1</sup> and one of the famous fountains of the Hellenic world. It is first mentioned in extant literature in Pindar’s ode<sup>2</sup> celebrating the Olympic victories of Xenophon the Corinthian. The poet tells the story of Bellerophon, prince of the royal house ἐν ἄστει Πειράνας, “the city of Peirene,”

“Who, seeking to harness Pegasos, son of the snake-girt Gorgon, beside the springs, truly suffered much until at length the maiden Pallas brought him a bridle with a golden band.”

ὅς τᾶς ὀφιώδεος υἷόν ποτε Γοργόνος ἦ πόλλ’ ἀμφὶ κρουνοῖς  
Πάγασον ζεῦξαι ποθέων ἔπαθεν,  
πρὶν γέ Φοι χρυσάμπυκα κούρα χαλινὸν  
Παλλὰς ἦνεγκ’.

The Delphic oracle, quoted by Herodotos (V, 92, 2), foretelling danger to the Bacchiadae from the birth of Kypselos addresses them as “ye Corinthians who dwell round fair Peirene and frowning Korinthos”:<sup>3</sup>

ταῦτά νυν εὖ φράζεσθε, Κορίνθιοι, οἳ περὶ καλὴν  
Πειρήνην οἰκεῖτε καὶ ὄφρυόεντα Κόρινθον.

In the opening scene of the *Medea* of Euripides the aged attendant of Medea’s sons relates how he had overheard ominous talk about his mistress when he “came to the game of draughts where the oldest men are wont to sit beside the hallowed spring of Peirene” (*Medea*, 68–69):

πεσσοὺς προσελθῶν, ἔνθα δὴ παλαίτατοι  
θάσσοισι, σεμνὸν ἀμφὶ Πειρήνης ὕδωρ.

<sup>1</sup> Simonides, Fragment 96 (Bergk; Diehl 90); M. N. Tod, *Greek Historical Inscriptions*<sup>2</sup>, 1946, p. 19, no. 16 (*I.G.*, I<sup>2</sup>, 927).

<sup>2</sup> Pindar, *Ol.*, XIII, 61, 63–66. Although the word Πειράνας is not repeated with κρουνοῖς, it is clear, and has been universally understood, that the reference is to Peirene. Thus, one of the scholiasts paraphrases the passage: “Ὅστις . . . Πήγασον . . . θέλων ὑποζεῦξαι τῷ χαλινῷ, ἀληθῶς πλεῖστα ἔπαθε καὶ ὑπέστη παρὰ τοῖς κρουνοῖς καὶ ρεύμασι τῆς Πειρήνης.

<sup>3</sup> Κόρινθον would seem here to be rather Acrocorinth than the city, since it is more simply construed with περὶ, making οἰκεῖτε intransitive; and the epithet ὄφρυόεντα is more appropriate to the mountain than to the city. In fact, it is probable that ὁ Κόρινθος was in early usage strictly the mountain and that for this reason Akrokorinthos is uniformly masculine, while Korinthos the city is regularly feminine.

In the *Trojan Women* the chorus of noble captives, speculating with dread on the fate in store for them, count Peirene as one of the possible scenes of their slavery in exile:

ἢ Πειρήνας ὑδρευσομένα  
πρόπολος σεμνῶν ὑδάτων ἔσομαι;

“Or shall I be a drawer of water in the service of Peirene’s hallowed waters?” (205–206).

A third reference to Peirene in Euripides (*Electra*, 475) calls Pegasos Πειρηναῖον πῶλον (“Peirenaean colt”) in allusion to the tradition that he was bridled beside Peirene.

It is recorded by Athenaeus<sup>1</sup> that Laïs, then a young slave girl, was carrying water from Peirene when Apelles the painter saw her and marvelled at her beauty: “Ἀπελλῆς δὲ ὁ ζωγράφος ἔτι παρθένον οὔσαν τὴν Λαΐδα θεασάμενος ἀπὸ τῆς Πειρήνης ὑδροφοροῦσαν καὶ θαυμάσας τὸ κάλλος ἤγαγέ ποτε αὐτὴν εἰς φίλων συμπόσιον.”

A reference to Peirene by Plautus, whether drawn from Attic New Comedy or from the current knowledge of his own time, testifies, like the κρουνοῖς of Pindar and the σεμνῶν ὑδάτων of Euripides, to the copiousness of the fountain. The passage is *Aulularia*, 557–559 (III, 6, 21–23) where Euclio is made to complain:

“Praeterea tibicinam  
Quae mi interbibere sola, si vino scatat,  
Corinthiensem fontem Pirenem potest”

(“That music girl besides, she could take the fountain of Peirene at Corinth and drink it dry all by herself, she could—if it ran wine” [Nixon’s translation]).

The inference to be drawn from these passages is that Peirene was a very well-known landmark<sup>2</sup> of Corinth, that it was within the city,<sup>3</sup> accessible,<sup>4</sup> frequented,<sup>5</sup> with an abundant flow of water.<sup>6</sup> Notices in later literature likewise testify to the fame and copiousness of the spring<sup>7</sup> and to the excellence of the water.<sup>8</sup>

Strabo, who visited Corinth a few years after its refounding as a Roman colony, believed the remarkable well of clear water near the summit of Acrocorinthus to be the true Peirene of tradition; the lower fountain, reputed to be fed in part from the upper, he refers to as a copious spring near the foot of the mountain (*Geography*, VIII, 6, 21):

<sup>1</sup> Athenaeus, XIII, 54, 588c. On whose authority is not stated.

<sup>2</sup> Its name identifies the city; it is named alone and is sure to be known; mentioned with Acrocorinthus, the most conspicuous feature of the city.

<sup>3</sup> περὶ καλὴν Πειρήνην οἰκεῖτε.

<sup>4</sup> Where slaves were sent for water.

<sup>5</sup> Where old men gathered for games and gossip.

<sup>6</sup> κρουνοῖς, σεμνῶν ὑδάτων, a notable spring in a city famed as well watered.

<sup>7</sup> *Anth. Pal.*, XIII, 17; Ovid, *Ep. Pont.*, I, 3, 75, *Metam.*, II, 240, VII, 391; Alexander Aetol. in Parthenios, *Narr. Amat.*, XIV, 3; Alkiphron, *Epist. Paras.*, III, 15, 1; Cicero, *Epist. ad Atticum*, XII, 5.

<sup>8</sup> Pausanias, II, 3, 3; Athenaeus, II, 18, 43, b, IV, 45, 156, e.

ὑπὸ δὲ τῇ κορυφῇ τὴν Πειρήνην εἶναι συμβαίνει κρήνην, ἔκρυσιν μὲν οὐκ ἔχουσαν, μεστήν δ' αἰεὶ διαυγοῦς καὶ ποτίμου ὕδατος. φασὶ δὲ καὶ ἐνθένδε καὶ ἐξ ἄλλων ὑπονόμεων τινῶν φλεβίων συνθλίβεσθαι τὴν πρὸς τῇ ρίζῃ τοῦ ὄρους κρήνην, ἐκρέουσιν εἰς τὴν πόλιν, ὥσθ' ἱκανῶς ἀπ' αὐτῆς ὑδρεύεσθαι.

“Just below the summit (of Acrocorinth) is the fountain of Peirene, which, though it has no outflow, is always full of transparent potable water. They say that, under pressure from here and from other underground veins, the source at the base of the mountain is fed, which, flowing out into the city, provides it with an adequate supply of water.”

Pausanias, to whom we are indebted for the only actual description of Peirene surviving from antiquity, places the fountain a little outside the Agora, near the head of the street leading towards Lechaion (II, 3, 2–3):

ἐκ δὲ τῆς ἀγορᾶς ἐξιόντων τὴν ἐπὶ Λεχαίου προπύλαιά ἐστι . . . ὀλίγον δὲ ἀπωτέρω τῶν προπυλαίων ἐσιοῦσιν ἐν δεξιᾷ ἐστὶν Ἑρακλῆς χαλκοῦς. μετὰ δὲ αὐτὸν ἔσοδος ἐστὶ τῆς Πειρήνης ἐς τὸ ὕδωρ. ἐπὶ δὲ αὐτῇ λέγουσιν ὡς ἡ Πειρήνη γένοιτο ὑπὸ δακρῶν ἐξ ἀνθρώπου πηγῆ, τὸν παῖδα ὀδυρομένη Κεγχρίαν ὑπὸ Ἀρτέμιδος ἀκούσης ἀποθανόντα. κεκόσμηται δὲ ἡ πηγὴ λίθῳ λευκῷ καὶ πεποιημένα ἐστὶν οἰκῆματα σπηλαιῶς κατὰ ταῦτά, ἐξ ὧν τὸ ὕδωρ ἐς κρήνην ὑπαιθρον ῥεῖ πιεῖν τε ἡδὺ καὶ τὸν Κορίνθιον χαλκὸν διάπυρον καὶ θερμὸν ὄντα ὑπὸ ὕδατος τοῦτου βάπτεσθαι λέγουσιν . . .

“As you leave the Agora by the road toward Lechaion, there is a gateway . . . A little way beyond the Propylaea on the right to those entering is a bronze Herakles; and after this is an entrance to the water of Peirene. Concerning it they say that Peirene was turned from a human being into a spring through the tears she wept mourning her son Kenchrias, who was killed unintentionally by Artemis. The spring is adorned with white marble and there are chambers made like grottoes out of which the water flows into an open-air fountain. The water is pleasant to drink and they say that the Corinthian bronze gets its color by being plunged red-hot into this water.”<sup>1</sup>

Like Strabo, Pausanias records the local saying that the fountain in the city was fed from the spring on Acrocorinth. He says (II, 5, 1):

ἀνελθοῦσι δὲ ἐς τὸν Ἀκροκόρινθον ναὸς ἐστὶν Ἀφροδίτης . . . τὴν δὲ πηγὴν, ἣ ἐστὶν ὀπισθεν τοῦ ναοῦ, δῶρον μὲν Ἀσωποῦ λέγουσιν εἶναι, δοθῆναι δὲ Σισύφῳ . . . ἡκουσα δὲ ἤδη τὴν Πειρήνην φαμένων εἶναι ταύτην καὶ τὸ ὕδωρ αὐτόθεν ὑπορρεῖν τὸ ἐν τῇ πόλει.

“When you have ascended Acrocorinth there is a temple of Aphrodite . . . And the spring which is behind the temple they say was the gift of Asopos to Sisiphos . . . And I have heard it said

<sup>1</sup> For ἐσιοῦσιν of the manuscripts Hitzig, whom Frazer follows, reads ἐξιοῦσι, which obviously improves the text in point of straightforwardness, since it is natural to suppose that the periegete, having passed through the Propylaea, is moving on down the street and would not face about to describe the position of the first notable object met. It must be admitted, however, that there would be a measure of tautology in ἐξιοῦσι coming so soon after ἐξιόντων, and that Pausanias might more naturally have written ἐν δεξιᾷ τῆς ὁδοῦ or simply ἐν δεξιᾷ. If, therefore, we follow most editors and keep the reading of the manuscripts, ἐσιοῦσιν is probably best taken not with προπυλαίων, but rather as in a way anticipating the ἔσοδος of the following sentence, or as implying that the traveler has turned aside from the main street before seeing the Herakles and reaching the entrance to Peirene.

sometime that this is the real Peirene and that from here the water flows underground to the source in the city.”

Topographically the accounts of Strabo and Pausanias, though differing in emphasis, are in essential agreement. Each adequately describes and accurately locates the spring that to him is the real Peirene but places the second fountain with less precision<sup>1</sup> and does not describe it. Both record the local belief that the lower spring was fed from the upper, Pausanias somewhat skeptically,<sup>2</sup> Strabo with the rationalistic addition of “other subterranean veins of water” to account for the copiousness of the lower spring.<sup>3</sup>

#### MODERN TRAVELERS’ NOTICES

No attempt at identification of the fountain thus mentioned by Strabo and described by Pausanias is made by our earlier modern travelers and topographers, but before the end of the eighteenth century the local guides and antiquaries seem to have chosen and shown to visitors as Peirene one or another of the numerous fountains in the group of villages within the limits of the ancient city. Thus J. B. S. Morritt, writing of his visit to Corinth in March 1795, reports that

“Pirene is now almost dry above, but the spring by which the waters descend to the town remains, stripped however of its ancient ornaments. The water was formerly famous; it is even now the best I ever drank and has the lightness of Bath water, but it is cold and as pure as possible.”<sup>4</sup>

He does not state, unfortunately, just which spring this was, but it may safely be conjectured to have been one of those near the center of the town, though the lightness he praises might seem to point to the water of “Hadji Mustafa” (Pl. XVIII, 10), which is much less hard than that of any other fountain on the site.

In 1818 P. E. Laurent<sup>5</sup> found at the foot of Acrocorinth

“some caverns, still bearing the appearance of rooms: we took them (perhaps without sufficient reason) to be those wherein flowed the famous Peirenian water . . . There is now no spring in

<sup>1</sup> Strabo: πρὸς τῇ ῥίζῃ τοῦ ὄρους . . . ἐκρέουσιν εἰς τὴν πόλιν. Pausanias: ὀπισθεν τοῦ ναοῦ, which is not strictly accurate, since the spring lay to the south, not westward from the temple, as ὀπισθεν would imply.

<sup>2</sup> Since Pausanias obviously does not consider the spring on the mountain rightly entitled to the name Peirene, he finds no need to accept the explanation given of the identity of name. He seems to say, “If the well of Sisyphos is called Peirene, this is the way to account for its having the same name as the great fountain in the city.”

<sup>3</sup> It is clear that Strabo feels that the existence of two fountains both named Peirene calls for explanation and this he finds, quite reasonably, in the belief that they have underground connection and are two phases of the same supply—the upper the reservoir, the lower the outflowing spring. To him or his informant the outflow seemed too large unless “other veins” contributed to it. Indeed it may easily have been known at the time of his visit, from recent reconditioning of the lower fountain, that one of the principal tunnels through which the water was brought did not come from the direction of Acrocorinth at all.

<sup>4</sup> *The Letters of John B. S. Morritt of Rokeby*, ed. by G. E. Marindin, London, 1914, p. 183.

<sup>5</sup> Peter Edmund Laurent, *Recollections of a Classical Tour*, London, ed. I, 1821, p. 154; ed. 2, 1822, vol. I, pp. 291f.

the caverns or chambers I have just described, but a little lower down, in the bazar, a fountain raises its waters with considerable force through the hollowed shaft of an ancient column, and throwing them over its capital, fills a wide basin; it is surrounded by coffee houses . . . The water of the fountain was most luxuriously cold, and several persons affirmed that it proceeded from the Acro-corinth—(ἄπο [sic] τὸ κάστρο).”

Laurent was mistaken in his identification of the grottoes at the foot of the rock, but, as we now know, his fountain in the bazaar did actually have its water from Peirene, then deep under ground 150 yards away. However, the views that were to prevail through the 19th century were those of Clarke, Pouqueville and Leake, who placed the Peirene of Pausanias beneath the lower of the two terraces on which the ancient city stood.

E. D. Clarke, visiting Corinth in November 1801, identified as Peirene “a fountain in a cavern formed by a dropping rock consisting of a soft sandstone” which he passed on his right “within a mile of Corinth” as he approached from Sikyon. He argues that this fountain is Peirene from its location “in the road leading from Corinth to Lechaeum” and from its character—“a cellular cavity” with water dripping from its ceiling and thus reminiscent of the tears shed by the nymph Peirene at the death of her son Kenchrias.<sup>1</sup>

<sup>1</sup> E. D. Clarke, *Travels in Various Countries of Europe, Asia and Africa*, Part II, Greece, Egypt and the Holy Land, ed. 1, vol. III, 1814, pp. 730–732; ed. 4, vol. VI, 1818, pp. 547–549:

“Within a mile of Corinth we passed a Fountain in a cavern upon our right; formed by a dropping rock consisting of a soft sand-stone. Further up the hill, and upon the same side of the road, as we entered the straggling town now occupying the site of the ancient city, we observed some Ruins, and a quantity of broken pottery scattered upon the soil.”

After describing the Venetian earthworks some 550 m. northwest of the old temple, which he took to be the “ground plot” of an ancient “building, once strongly fortified,” he continues:

“The remarkable fountain before mentioned does not here guide us, amidst the mazy description of Pausanias, to the original name of the building. Corinth was full of fountains; there was no city in Greece better supplied with water; many of those fountains were supplied by means of aqueducts: but if we find a passage in Pausanias that seems to allude to the remarkable circumstance of a dropping spring within a cavern, we may perhaps succeed in establishing a point of observation for ascertaining other objects in its neighborhood. An allusion of this nature occurs where he mentions the water of the Nymph Pirene, who poured forth such an abundance of tears for the loss of her son Kenchreas, when slain by Diana, that she was metamorphosed into a fountain. Even the circumstance of the cellular cavity whence the water flows appears also to have been noticed by Pausanias; in whose time it was beautified with white marble. This weeping spring may therefore be considered the same with that which he has denominated the fountain of the Nymph Pirene; as it occurs in the road leading from Corinth to Lechaeum on the Sicyonian side of the Isthmus, precisely where that fountain was situate. This point being established, we might expect to make the fountain a land-mark for ascertaining the relative position of other objects. But Strabo has given the same name to another spring at the base of the Acrocorinthus; and Pausanias allows that this was not the only fountain called Peirene.”

As one ascends from the plain by the old road from the direction of Sikyon the “Baths of Aphrodite” lie about two hundred yards to the left. If Dr. Clarke passed it on his right he must have made a considerable detour from the regular route and have entered the town from the north or northeast rather than from the northwest. Otherwise we must suppose that there was an error in the record, for of the several springs to the right of the regular road none has the dripping water upon which Dr. Clarke lays so much stress.

The one spring closely answering this description is that which for a century has been called the Baths of Aphrodite (Pl. XVIII, 15)<sup>1</sup>. It lies about 725 meters due north from the center of the town in one of the deepest indentations in the face of the ledge forming the northern boundary of the site. There the clay which underlies the rock has been worn away to form a natural crescent-shaped grotto 20 m. long and 6 m. deep, from which ancient tunnels lead back eastward and southward. The overhanging ledge is normally saturated with water and there is a continuous shower from various points in the ceiling of the tunnels.

Pouqueville visited this spring when he was in Corinth in 1815, and even explored the principal subterranean passage as far as he could follow it by daylight. In the first edition of his *Voyage de la Grèce*, published in 1820, he describes the spring (known then simply by its Turkish name “Sou-Hamam qui signifie eau des thermes”) but rejects the theory that it is ancient Peirene. In his second and definitive edition, however, published in 1826, he makes slight verbal changes in the description and accepts the identification with Peirene.<sup>2</sup>

Colonel Leake, who was in Corinth in 1806 and published his *Travels in the Morea* in 1830, identifies the Peirene of Pausanias with “the single source below the brow of the height on which the town is situated.”<sup>3</sup> It has been generally and doubtless rightly supposed that he here

<sup>1</sup> *Hesperia*, XXXI, 1962, pp. 120–130.

<sup>2</sup> F. C. H. L. Pouqueville, *Voyage de la Grèce* etc., ed. 1, vol. IV, pp. 28f.:

“J’arrivai à cette source, qui tombe en cascade du creux d’un rocher formant une galerie ogivale. Je n’eus pas de peine à me convaincre qu’elle n’avait, comme on le croyait anciennement, aucun rapport avec la fontaine Pirène, mais que c’est une rivière souterraine pareille, quoiqu’en miniature, à la fontaine de Vaucluse. Malgré la nappe d’eau qu’elle donnait, je montai, par son embouchure, à un corridor de deux pieds de diamètre sur six de hauteur, qui aboutait à un espace plus large jusqu’auquel je n’osai m’avancer à cause de l’obscurité. Les habitants, qui ont des traditions fabuleuses sur cette source, ne lui donnent plus que le nom turc de *Sou-Hamam*, qui signifie *eau des thermes*.”

ed. 2, vol. IV, p. 461:

“Je fus d’abord porté à croire que c’était l’issu d’une fontaine souterraine mais en y réfléchissant je pense que c’est une des décharges de la fontaine Pirène.”

<sup>3</sup> W. M. Leake, *Travels in the Morea*, vol. III, pp. 242–243:

“Upon comparing the two descriptions of ancient Corinth, by Strabo and Pausanias, it is remarkable, that although both agree in regard to the reported communication between the well of Acro-Corinthus and the fountain Peirene of the lower city, they differ as to the position of the lower fountain. Pausanias describes it on the road from the Agora to Lechaem, Strabo as issuing from the foot of the Acro-Corinthus; and thus it appears that there were three sources at Corinth, all which, at some period of time at least, were known by the name of Peirene. All three are still observable; namely, the well in the Acro-Corinthus, the rivulets which issue at the foot of that hill, as described by Strabo, and the single source below the brow of the height on which the town is situated, in the position alluded to by Pausanias.

“It is not difficult to imagine, that between the times of Strabo and Pausanias a change may have taken place in the application of the name Peirene in the lower city, in consequence of the water of the northern fountain having been found by experience better than that of the sources at the foot of the Acro-Corinthus. The practice of the modern Corinthians gives countenance to this supposition; for they use the former fountain alone for drinking, while the water which issues from below the Acro-Corinthus, instead of being thought the lightest in Greece, as Athenaeus describes that of Peirene, is considered heavy; the water is little used for drinking, and the springs are the constant resort of women washing clothes.”

refers to the Baths of Aphrodite, which is the most copious of the springs under the hill, though it can by no means justly be called the “single source” there, since there are at least six other springs under the ledge having a flow of from one to five thousand liters per hour (Pl. XVIII). His further statement that the modern Corinthians use the northern fountain “alone for drinking” applies to none of the springs below the brow of the hill and it is probable that then as now the only public fountain not accessible to washerwomen and animals was that in the village square.

Having placed the Peirene of Pausanias where the water could not flow out from it into the city as Strabo says it did from his lower fountain, Clarke and Leake infer that the two fountains cannot be identical, and Leake identifies Strabo’s lower spring with certain rivulets which issue at the foot of Acrocorinthus (see p. 6, note 3).

The identification of the Baths of Aphrodite as the lower Peirene of Pausanias was accepted by very nearly all the writers on the topography of Corinth in the 19th century and the majority of them accept also the view that Strabo’s lower fountain is not identical with Pausanias’.<sup>1</sup>

Only Beulé (*Péloponèse*, p. 400) and Lolling (in Baedeker’s *Greece*, ed. I, p. 230), describing the Bath of Aphrodite, imply by silence that they doubt its identity with lower Peirene; and A. M. Skias, in the *Πρακτικὰ τῆς Ἀρχαιολογικῆς Ἑταιρίας* for 1892, p. 115, presented the conclusive objection that the Baths of Aphrodite, being outside and below the city, not only could not be Strabo’s lower fountain but also could not possibly be the Peirene of Pausanias, since that lay only a short distance from the Agora, which can hardly have been situated at the very edge of the town when there was ample space and favorable terrain in its natural place near the center of the city.

Persuaded that the Agora was just east of the modern village of Old Corinth, Skias chose as the fountain most likely to derive its supply from Peirene that known as Mourátaga, about 375 m. east of the village square (Pl. XVIII, 8). This has a flow of about six thousand liters per hour, brought by an ancient tunnel some 300 m. long which issues under a ledge at about 15 m. back (to the South) from the modern fountain, but the identification with Peirene remained only an unsupportable conjecture, since the limited trial excavations made by Skias for the Greek Archaeological Society in 1892 failed to find evidence of the Agora.

#### DISCOVERY AND IDENTIFICATION

The position of Peirene (Pl. XVIII, 1) was finally determined by the discovery in 1898 of a fountain corresponding exactly to Pausanias’ description, at a point consistent with his topographical indications, in the center of the city and at a level high enough so that its abundant supply flowed out into the town, as observed by Strabo. This fountain lies about 130 m. directly south of the modern village square and an equal distance east by south from the seven standing columns of

<sup>1</sup> Prokesch von Osten, *Denkwürdigkeiten und Erinnerungen aus dem Orient*, II, pp. 317–320; Fiedler, *Reise*, 2 ed., I, pp. 241–242; Götting, *Archäologische Zeitung*, II, 1844, p. 328; Curtius, *Peloponnesos*, II, pp. 528ff.; Vischer, *Erinnerungen und Eindrücke*, p. 263; Bursian, *Geographie*, II, p. 16; Tozer, *Selections from Strabo*, p. 218, note 1; Frazer, *Pausanias*, III, p. 24; Hitzig-Blümner, *Pausanias*, I, p. 498. Of these Curtius, Tozer and Blümner prefer to believe that there was only one lower Peirene and to take Strabo’s reference as indefinite or even a mistake.

the old temple, at a level 13 m. lower than its stylobate, i. e. at about 71.50 m. above the sea. As uncovered in 1898 and subsequent years, it consists of a square court, entered by two stair ways from the north, bounded on three sides by apses with high massive walls, and on the fourth, the south side, by a façade of six arches through which one looks down into square chambers once containing water. These are separated by well-made walls of poros which sustain the ceiling of natural rock—the ledge of sandstone and conglomerate—seen a little below the crown of the arches. They are, that is, grottoes, like the οἰκήματα σπηλαίοις κατὰ ταύτά of Pausanias' description. From them water flowed into a covered channel to supply spouts on three sides of an open-air fountain, ὑπαιθρος κρήνη (Fig. 1), quadrangular in plan, *ca.* 1.00 m. below the general level of the court and approached from the north by a broad flight of four steps. Both the court and the *krēne* within it were paved, and their walls revetted with marble—κεκόσμηται ἢ πηγὴ λίθῳ λευκῷ, as Pausanias says.

At the rear of each of the six chambers under the ledge is an Ionic entablature supported by a column between antae, standing on a low parapet, while behind the chambers are three deep draw-basins and beyond them four great reservoirs cut far back into the clay (Pl. II). To the left and right long tunnels reach out southeastward and southwestward to collect and bring the water. These are connected by cross tunnels, one directly behind the reservoirs, the other some distance farther back, and extend forward to the face of the ledge, where they may be entered from the court, the eastern by way of a small vestibule, the western through a high-walled room south of the west apse. This elaborate spring was recognized immediately upon its discovery and has been unanimously<sup>1</sup> accepted as the Peirene of Pausanias. The correspondence to his description—the adornment with marble, the chambers like caves, the open-air fountain—is too perfect to admit reasonable doubt. Moreover, the Lechaion Road, the Propylaea, and the Agora have proved to be in exactly the relation to Peirene to be expected from Pausanias' words. Additional testimony to the identity of the fountain is given by two fragmentary Greek inscriptions found in the court, one cut on a marble balustrade which in all probability originally enclosed the ὑπαιθρος κρήνη, the other painted in red on an architrave block and evidently from the early Byzantine redecoration of the façade. The former<sup>2</sup> has the word Πιρήνη[ης]; the latter<sup>3</sup> reads τὸν ὀρώμενον πάντα κόσμον τῆ(ι) Πειρήνη(ι) Πι - -. A fragment of marble revetment likewise found in the court has in Latin letters **AN**  
**PIRENE**.<sup>4</sup>

<sup>1</sup> Only Professor Skias, who had the honor of having been the only active objector to the identification of the Baths of Aphrodite as Peirene, found reason to doubt the identity of the newly found fountain. His principal objections were two: It had in its court an open air basin (δεξαμενή), not the κρήνη mentioned by Pausanias, and it was too far distant from the probable site of the Agora (*Comptes Rendus du Congrès International d'Archéologie*, I, 1905, p. 303; *Πρακτικά*, 1906, pp. 148ff.). When, however, search failed to find any trace of the market place in the position Professor Skias preferred, and when it appeared that after all the Hypaithros Krēne was not merely a water basin but an actual open air fountain with numerous spouts under which jars could be filled, no further doubts were expressed as to the correctness of the identification with Peirene.

<sup>2</sup> *Corinth*, VIII, i, p. 83, no. 122.

<sup>3</sup> *Ibid.*, p. 119, no. 198.

<sup>4</sup> *Corinth*, VIII, ii, p. 109, no. 136a.



FIGURE 1. GENERAL VIEW OF PEIRENE SHOWING THE FAÇADE AND THE HYPÆTHROS KRENE (1908)

A few scholars, although they regard the location of the Peirene of Pausanias as established beyond question, have continued to identify Strabo's lower spring with the modern fountain called Hadji Mustafa, close by the foot of the usual path up Acrocorinth (Pl. XVIII, 10). They hold that Pausanias' Peirene is still too far from Acrocorinth and at too low a level to suit Strabo's description of the spring at the foot of the mountain, flowing out abundantly into the city—τὴν πρὸς τῇ ῥίζῃ τοῦ ὄρους κρήνην ἐκρέουσαν εἰς τὴν πόλιν ὡσθ' ἱκανῶς ἀπ' αὐτῆς ὑδρεύεσθαι. The principal objection is not well taken, for the water flowing from Peirene actually to this day irrigates extensive gardens well within the limits of the ancient city, though these lie 1.00 m. to 3.00 m. above the ancient surface. Furthermore the flow from Peirene is some fifteen times as great as that of Hadji Mustafa, to which the phrase ἱκανῶς ἀπ' αὐτῆς ὑδρεύεσθαι can refer only if we suppose Strabo mistaken. That Peirene is not strictly at the base of Acrocorinth may be granted, but if Strabo's words are to be stressed, it should be noted that he describes the city as πρὸς αὐτῇ τῇ ῥίζῃ τοῦ Ἀκροκορίνθου (at the *very* base) while the fountain is only πρὸς τῇ ῥίζῃ τοῦ ὄρους. What is implied, if we take the two passages very strictly, is that a part of the city was nearer than Peirene to the base of the mountain.

We may, then, understand Strabo's brief mention to apply to the same fountain in the city as Pausanias' description, the only other Peirene being the spring near the summit of Acrocorinth known in modern times as Dragonera.<sup>1</sup> This latter perfectly answers the description of Strabo and to him it was the real Peirene, from which the fountain in the city below was believed to derive a part of its supply and its name. And he further records the tradition that it was at this spring on the mountain that Pegasus was drinking when he was caught by Bellerophon (VIII, 6, 21): ἐνταῦθα δέ φασι πίνοντα τὸν Πήγασον ἀλῶναι ὑπὸ Βελλεροφόντου, πτηνὸν ἵππον. If that was the accepted tradition in the fifth century B.C. also, then the Πειράνας . . . ἀμφὶ κρουνοῖς of Pindar and the Πειρηναῖον πῶλον of Euripides (above, p. 2) must be understood to refer rather to the spring on the mountain than to that below. However, Pindar's κρουνοῖς, "gushing streams," suits the copious lower spring but is entirely inappropriate to the well on the mountain, of which the supply was limited and did not flow out visibly at all—ἔκρυσιν μὲν οὐκ ἔχουσιν, as Strabo accurately states. It is difficult to believe that Pindar, composing his odes for a Corinthian and using material from Corinthian myths, was not informed of local tradition; neither can we readily assume a measure of poetic license leading him to characterize a still, deep, limpid well as a gushing spring. It is therefore most probable that in his time Corinthian tradition placed the capture of Pegasus near the great spring in the city. A comparison of the three passages, quoted above, in which Euripides mentions Peirene (*Electra* 475, *Medea* 68–69, *Trojan Women* 205–206) leads to the conclusion that the same tradition was held in his day. For it is fair to presume that the epithet in the phrase Πειρηναῖον πῶλον, alluding to the capture of Pegasus, refers to the same Peirene as do the other two passages, and these refer unmistakably to the much-frequented fountain in the city—unless we are to suppose that the very old men, παλαιῆτατοι, of the town were imagined to climb Acrocorinth of a morning

<sup>1</sup> Excavated in 1926, and fully described by R. Stillwell in *Corinth*, III, i, pp. 31–49.

for their games and gossip, and slave women to be sent to fill their water jars there rather than at the several-hundred-fold more copious spring below the hill.

We may conclude then that, as was tacitly assumed in the earlier part of this chapter, all the passages cited refer to the Peirene in the city and that in all probability it was the only fountain bearing the name until the destruction of Greek Corinth, while the upper spring came to be called Peirene only in early Roman times.<sup>1</sup>

#### EXCAVATION

The discovery of Peirene was the most notable result of the second regular season of excavation at Corinth by the American School. Among the twenty-one trenches dug during the exploratory campaign of 1896 had been one (Trench III)<sup>2</sup> in which was found a broad paved way in the valley at the east foot of the hill on which the old temple stands. In the belief that this road led up to the Agora (unless it should prove itself to be part thereof) excavations were carried on along both sides of it for a few days in 1897<sup>3</sup> and during the entire campaign of 1898. As it happened, the western part of Peirene lay within the field being excavated and would have been reached in due course in the latter part of the season's work. It was actually, however, discovered prematurely, so to say, through the enterprise of the foreman, Friedrich Lenz, who brought to the attention of the excavation staff the fact that the well in a garden next to the field in which they were excavating communicated with an extensive subterranean water system.<sup>4</sup> This they explored on April 10 and 12, 1898. Four meters south from the well a passage about 17 m. long running roughly east and west was reached, at either end of which were long rock-cut tunnels extending southward. The western, which was dammed near its north end, formed a reservoir which could be followed for 114 m.<sup>5</sup> From the dam the water was conveyed in terracotta pipes along the passage as far as the aforementioned well. Thence it flowed in an open channel at the bottom of a tunnel with poor, loosely built walls of dry rubble to the fountain called Paloukóvrysis in the village square (Pl. XVIII, 4), whence a part of it was diverted to a second copious fountain ("Tsibouri") 70 m. northeast of the square (Pl. XVIII, 5).

The tunnel at the east end of the passage was followed for 91 m. towards the southeast<sup>6</sup> where it seemed to end in a copious spring. The water in this tunnel, which was not dammed, flowed at a lower level than in the other, in a late aqueduct of similar construction, to a fountain

<sup>1</sup> That the name Peirene was applied to the spring on Acrocorinth only after the Roman conquest has been convincingly maintained by Professor C. W. Blegen in an unpublished paper on "Peirene in Literature" of which he has allowed me free use. A brief summary of his conclusions appears in *Corinth*, III, i, pp. 59-60.

<sup>2</sup> *A. J. A.*, I, 1897, pp. 460-464.

<sup>3</sup> Work continued only six days that year because of the outbreak of the Greco-Turkish War, and 1898 was therefore the second year of regular excavation.

<sup>4</sup> *A. J. A.*, IV, 1900, pp. 204ff. with rough sketch plan, fig. 1.

<sup>5</sup> To well J, Plate III.

<sup>6</sup> To the east and a little short of manhole B, Plate III.

("Kachrou") about 135 m. north-northeast of the village square, close by considerable remains of a Roman bath partly incorporated in modern houses (Pl. XVIII, 6).<sup>1</sup>

The passage connecting the two tunnels had a ceiling of rock and on its south side a wall cut in the clay like the walls of the tunnels, while the north side was the rough back of a wall built with piers alternately heavy and very slender, between which one could look into a series of square chambers which like the passage had a ceiling of native rock. They were nearly filled



FIGURE 2. EXCAVATION OF PEIRENE. THE FAÇADE PARTLY CLEARED. SMALL PORTION OF THE APSE OF THE BYZANTINE CHAPEL BETWEEN CHAMBERS II AND III (1898)

with earth, but the Ionic capitals and entablatures at their rear were visible and it could be seen that they were separated by partitions of excellent Greek masonry and that they had been more or less open toward the north. These rooms, it seemed certain, could be none other than the chambers like grottoes which according to Pausanias contained the water of Peirene. A part of the garden was thereupon purchased and the excavation, now extended to a line a few meters farther east than before, reached the façade of the fountain on May 10. In the remaining weeks of the campaign of 1898 four of the chambers were cleared and the quadrangular court (except

<sup>1</sup> The position of the three modern fountains is also shown in *Corinth*, I, pl. IV, upper right.

its southeast corner) was uncovered with its two entrances, as were the north apse and the room outside the southwest corner of the court (Fig. 2).<sup>1</sup>

The campaign of 1899 completed the clearing of the court and the chambers, and discovered the eastern and western apses and a circular basin in the center of the court (Fig. 3).<sup>2</sup> In 1901

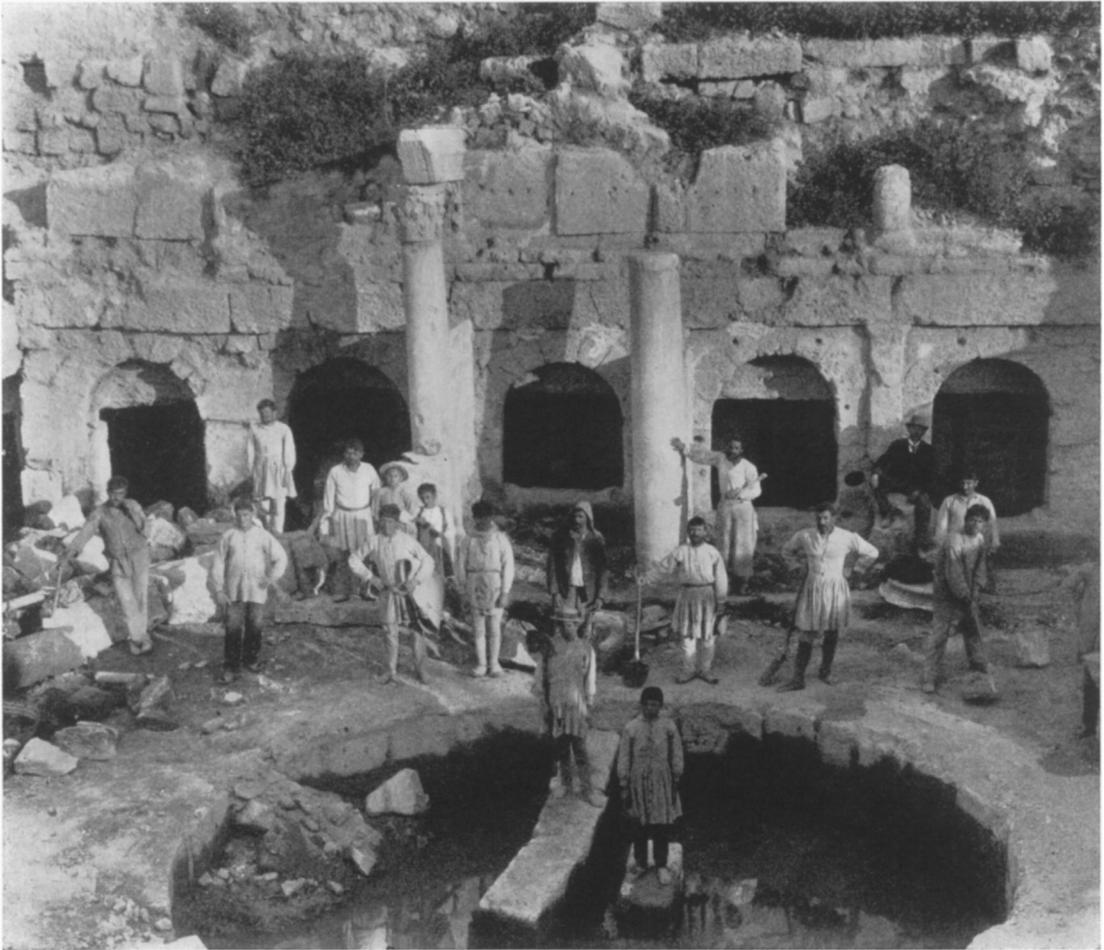


FIGURE 3. EXCAVATION OF PEIRENE. THE CIRCULAR TANK (1899)

the walls of this basin were removed to reveal the open-air fountain, ὑπαίθρος κρήνη, seen by Pausanias;<sup>3</sup> and in 1903 the paintings of marine life on the walls of the chambers, until then hidden by a heavy incrustation of lime, were brought to light (Pls. XII to XV).

In subsequent seasons were discovered the hexastyle stoa bounding the plaza of Peirene on the East (1910), the “Cyclopean” basin and cistern south of it (1908 and 1910), the earlier form

<sup>1</sup> R. B. Richardson, *A. J. A.*, II, 1898, pp. 235–236, 499; IV, 1900, pp. 204–226.

<sup>2</sup> R. B. Richardson, *A. J. A.*, III, 1899, pp. 682–683; IV, 1900, pp. 226–239.

<sup>3</sup> R. B. Richardson, *A. J. A.*, V, 1901, Suppl., p. 29; VI, 1902, pp. 321–326.

of the Roman court (1903 and 1908), the great reservoirs and the draw-basins between them and the chambers (1908 and 1909), the face of the Greek parapets at the back of the chambers (1931), and the Greek construction at the west end of the fountain (1910 and 1928).

Nearly all the investigation has been complicated, when not seriously hindered or even at points actually thwarted, by the fact that the ancient system supplied the two modern aqueducts which brought water to three of the principal village fountains. Until 1910 the sources of these two aqueducts were quite distinct—one taking water from the eastern supply tunnel, the other from the western. In 1898 and 1899 the part of the latter aqueduct that lay within Peirene had been replaced by an iron pipe, the dam of the reservoir being rebuilt a little farther back in the west tunnel. In 1910 the two sources were combined by way of the rear cross tunnel into a single reservoir held by dams 36 m. back of the façade in the western tunnel and back 24 m.<sup>1</sup> and 6 m. in the eastern. From this last dam iron pipes passing behind the eastern apse carried the water in just proportion to the two modern aqueducts.

In preparation for these changes, with financial coöperation of the parish council, the supply tunnels were cleared as far back as possible of their more obnoxious and mobile accumulation of silt, and the eastern tunnel was followed to its end, 75 m. beyond the farthest point previously known. The transfer of the village reservoir made it possible that year and the next to complete the cleaning of the four great ancient reservoirs and the supply tunnel immediately behind them.

In 1919, in connection with sanitary improvements made at Corinth by the American Red Cross, the Department of Antiquities, the Village authorities, and the American School, the main eastern dam was replaced by two new ones built near manhole A back 56 m. from the façade, a little beyond the junction of the eastern supply tunnel and the rear cross tunnel. From the two separate reservoirs thus formed the water was carried in pipes all the way to the village square, and thence distributed to the three fountains.<sup>2</sup>

As either reservoir alone has an adequate supply for all purposes except irrigation they can be emptied one at a time in winter for cleaning or repairs without inconvenience to the villagers. Advantage was taken of this fact in the winter of 1932/33 for work it had been impossible to undertake in 1919. The western supply tunnel and its principal branches were followed to their ends and cleared of accumulated mud (generally 1.00 m. to 1.50 m. deep), through fourteen manholes and wells successively located and opened for the purpose; and seven other wells and manholes not necessary to the purpose of cleaning were also excavated in 1933. It was thus possible to make the survey of the western system shown in Plate III.<sup>3</sup>

<sup>1</sup> At b, Plate III, just inside the forward cross tunnel.

<sup>2</sup> Paloukóvrysis was at this time shifted from its old place in the southeast part of Plane Tree Square—where the stairs come down to it may be seen in the general plan of 1907, *Corinth*, I, pl. III—to a point near the center of the square, as shown in *Corinth*, I, pl. IV. It was transferred once more, in 1934, to the southwest part of the square with greater heed to political than to hydraulic and economic considerations and now delivers less than one-sixth its proper share of the water of Peirene.

<sup>3</sup> It is to be expected that as excavation proceeds what has not been seen of the main line between F and M, of the tunnel communicating with K 2 to K 12 and of the branches at m and J 6 and beyond b and S will be explored. Except the branch from M, however, they will probably add only minor details to our knowledge of the system. [For the channel under the South Stoa see *Corinth*, I, iv, pp. 5, 59, pl. IX; for manholes farther west see *Hesperia*, XXIX, 1960, p. 231.—Ed.]

The great drain which carries off the surplus and waste water from Peirene was discovered in 1906 and cleared in part in 1907–1911, with the result that it could take water from the deepest of the Greek draw-basins of Peirene for the first time in a thousand years or more. Floods in 1918–1919 made the drain again ineffective; and in the latter year, as the principal part of the sanitary operations referred to above, it was finally cleared systematically, as far as it was found preserved—for a distance, that is, of some 273 m. from Peirene—and beyond that replaced by cement piping. The constant leakage and occasional overflow from the reservoirs is thus taken care of and the flooding of the lower parts of the excavation by heavy rains prevented.

#### NATURE OF THE SITE

Peirene as we see it today, with its chambers and reservoirs and the massive ruins of its court, gives the impression of an artificial fountain well placed to serve the Agora and the very important street leading up to it. It is in fact, however, a natural spring, and its presence, together with the natural lay of the land, caused the principal street and the market place to be just where they are.

The extensive plateau at the north foot of Acrocorinth on which the city was built—the *τραπεζῶδες ἐπίπεδον χωρίον* of Strabo's description—was divided into two terraces by a ledge 10–35 m. in height, in a line roughly E by N to W by S.<sup>1</sup> The lower, northern, terrace is about 350–450 m. wide, the upper about 350–900 m. in width. Both slope up toward the south, the former with a gradient of 1 in 80 to 1 in 20, the latter of 1 in 30 to 1 in 10.<sup>2</sup>

The contour of the ledge separating the two terraces has been much modified by quarrying and by generations of building, as well as by natural processes of erosion and deposition. Nevertheless the line may in general be made out. East of the village, where it is highest, it has changed least with time and is conspicuously to be seen, a dark line of rock tilted slightly up toward the east and resting upon a bank of clay, below which large masses of rock lie where they have fallen as the face of the supporting clay has been worn back deeply by the action of water and wind. Within and westward from the modern village the line of the ledge is to be traced mainly close along the north side of the east-to-west road that passes through the village square and out between the Odeion and the Theater to a bridge beyond the chapel of St. Paraskevi. From this point the ledge continues westward, while the road bears northwest to join the old "Argos Road" below the spring Kokkinovrysis and the Roman villa excavated in 1925. At three points the main line of the ledge was indented into what may be called bays, which received the surplus rain water from the surface of the terrace above. The first of them, about 90 m. wide by 70 m. deep, at the eastern edge of the village, and likewise the second, apparently a little narrower and deeper, some 200 m. east of the village square, had high banks and gave only steep access to the upper terrace. The third bay, beginning just below the present village square, was

<sup>1</sup> B–B–B in sketch map, *Corinth*, I, p. 79, fig. 46.

<sup>2</sup> The easternmost part of the upper terrace forms a broad shallow sort of basin sloping up to north and east as well as south and draining toward the northwest.

only 75 or 80 m. wide but extended southward some 160 m. from the main east-to-west line. Here at the head of the bay the rock of the ledge was much lower than elsewhere (75 m. above sea level as compared with 80 m. to 100 m.). This fact and the exceptional depth of the bay made this by far the easiest natural approach from the lower to the upper terrace. On the east side of the valley, 25 or 30 m. from its head, was the copious spring that was to be called Peirene, and a little farther up on the west side the much smaller one now known as the Sacred Spring (below, pp. 164–169).

The ledge whose line has been indicated in some detail above is formed of geologically recent sedimentary rock—conglomerate, sandstone, and poros—resting upon a deposit of clay of great but unknown depth, which doubtless underlies the whole terrace (Fig. 4).

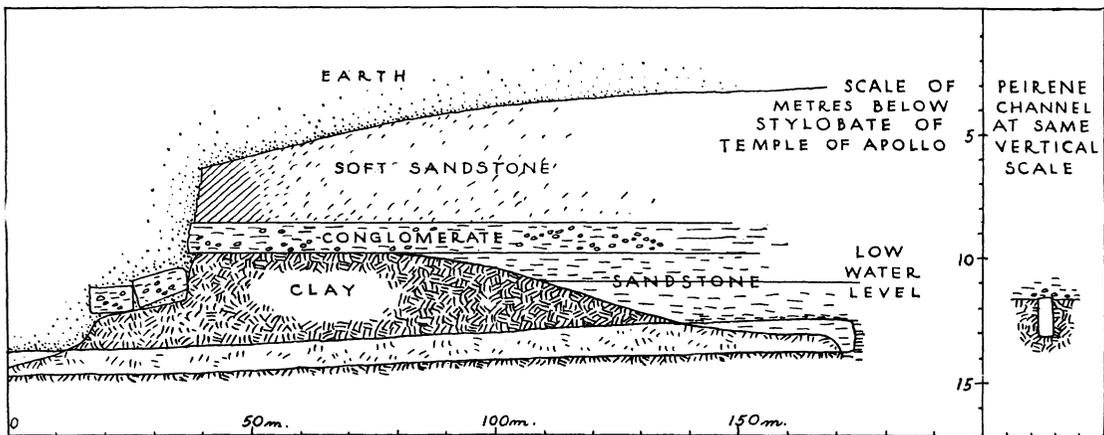


FIGURE 4. STRATIFICATION OF THE LEDGE WHENCE PEIRENE ISSUES AND TUNNEL THROUGH CLAY

The conglomerate and a fine hard sandstone are found immediately above the clay. Over them is a very soft reddish sandstone, perhaps more accurately described as extremely hard earth,<sup>1</sup> which reaches up to within 3 to 6 m. of the modern surface and constitutes the chief material of the entire terrace. Along much of the north side of the terrace this sandstone becomes more compact and changes into actual rock—the soft limestone or calcareous tufa known as poros (πῶρος or πωρινὸς λίθος), which constitutes most of Temple Hill, the rock-cut fountain of Glauke, and part of the seats and substructure of the Odeion; it may be seen cut in a high vertical scarp in and beyond the western quarter of the village. It is found also at a high level southeast and east of the village square, but little of it is now visible there.

The clay underneath this mass of porous material is very hard and uniform and quite impervious to water. It thus forms the floor of a great reservoir which holds the water that percolates from the surface through the upper strata of the terrace. This clay floor, the level of which has been observed in numerous wells, in the subterranean galleries of various water

<sup>1</sup> Known specifically as “stereo” in local excavation parlance. It is here called sandstone very loosely, as it contains little true sand, its principal constituent being decomposed limestone.

systems and at the face of the ledge, inclines gently upwards from south to north and rises gradually both to the east and the west from the valley by Peirene.

When water had filled this great reservoir and was still being steadily added from above, it naturally sought an outlet over the edge of the clay floor at the lowest accessible point. This point is just where we find Peirene; the top of the clay is there at a level 11.50 m. below the stylobate of the Temple of Apollo, while 200 m. to the east, behind the second bay mentioned above, its level is — 10 m. and 150 m. farther still it is — 9.50 m., and east of the village it rises much higher. On the west side of the valley the level of the clay is — 10.70 m. at the Sacred Spring; 50 m. north the level is — 10 m. It is obvious from these facts that Peirene must have been the principal spring and, except for the Sacred Spring and possibly other small ones in the vicinity, the only perennial outlet from the subterranean reservoir.

Two modern fountains by the highroad east of the village square, “Tekke” and “Mourátaga” (Pl. XVIII, 7, 8) are supplied by ancient aqueducts drawing water from the natural reservoir we have been discussing. It might perhaps be supposed that they also, like the elaborate system of Peirene, are developments from natural springs. This appears, however, not to be the case. In order to tap the reservoir both these aqueducts tunnel through the barrier of clay at 3.50 m. or more below its top (Fig. 4). Until they were constructed it is all but certain that in normal seasons all the water from the reservoir emerged in the valley east of the Temple Hill and that most of it flowed out at Peirene. In its natural state this was, then, probably a considerably more copious spring than it is at present.<sup>1</sup>

<sup>1</sup> The total flow of Peirene varies, in normal seasons, from a minimum of 7 cubic meters per hour to a maximum of about 12. In certain seasons, however, this figure has been considerably exceeded, as for example in 1919, when the flow amounted to 20 cubic meters. The combined flow of Tekke and Mourátaga varies from 7 to 9.5 cubic meters per hour.

An analysis of the water of Peirene, made in October 1932 by Professor E. I. Emmanouel of Athens University, gives the following results:

Out of 1 liter (1000 cubic cm.):	
Total Residue .....	1.0195 cubic cm.
Lime CaO .....	0.1340 „ „
Magnesium MgO .....	0.0939 „ „
Chlorine .....	0.1481 „ „
Sulphates SO <sup>3</sup> .....	0.0638 „ „
Nitrates N <sup>2</sup> O <sup>5</sup> .....	0.0850 „ „
Hardness—English Scale ..	33, 17

## EARLIEST PERIODS

The appearance of the spring in its natural state may readily be imagined—a rough-edged shelf of gray rock resting upon a bank of clay over which the water poured, possibly in more than one stream, and finding its way thence into a channel scoured in the floor of the narrow valley east of Temple Hill, flowed out to water the lower terrace. Both terraces, it may be supposed, were then covered with pines and the water course marked by plane trees and oleanders.

In very early times users of the spring doubtless fashioned basins from which water might be dipped at the foot of the clay bank, cut channels in its face, and fitted spouts (of wood or stone or bone or potsherds) to deliver water as fresh as possible. Starting from such simple primitive beginnings there must have been a very long series of adjustments and elaborations culminating in the extensive system seen today, the construction of which has almost completely obliterated all preceding forms of the fountain. There remain, nevertheless, traces of earlier arrangements at both sides of the spring—in the northern part of the eastern supply tunnel and in the very confined space between Chamber I and the western tunnel.<sup>1</sup>

<sup>1</sup> The compartments immediately behind the façade have since the second Roman period been rather tanks or basins than chambers; but they are for convenience designated simply as Chambers I to VI, being numbered from west to east as are also the Reservoirs 1 to 4 and Basins A, B and C.

EARLY GREEK PERIODS

Directly west of Chamber I (Pl. II), and meeting the south end of its west wall at an angle of *ca.* 15°, there is a wall (*e*, Fig. 5) of excellent construction, *ca.* 1.85 m. high and at present *ca.* 1.50 m. long. This is about half its former length if, as is probable, it originally extended south-

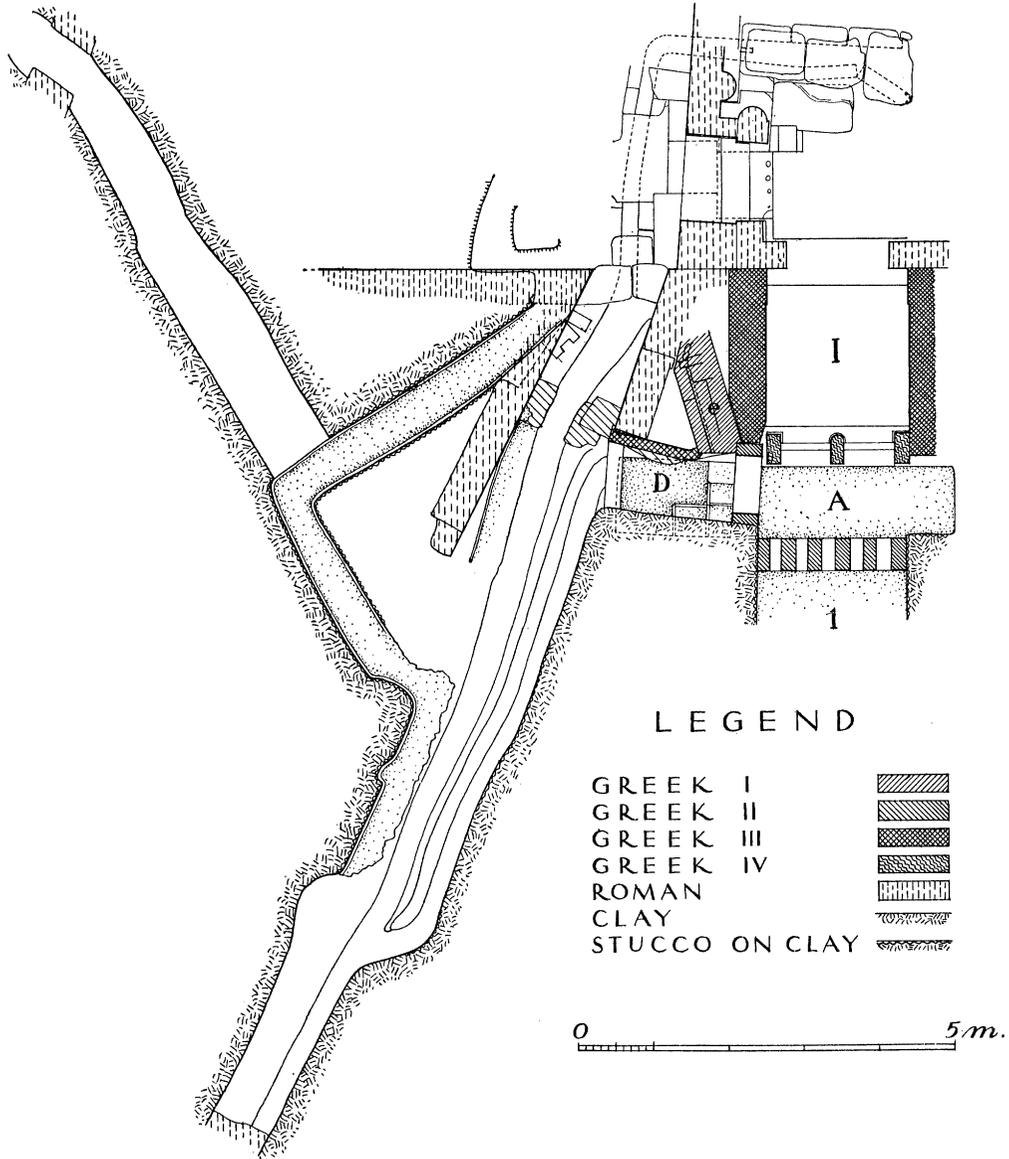


FIGURE 5. PLAN OF NORTH END OF WESTERN SUPPLY TUNNEL, WALL *e* OF EARLY FOUNTAIN HOUSE, BASIN D AND SURROUNDING AREA

ward to the clay bank behind and northward to the face of the conglomerate ledge above it. The north end was broken away to give place to an Early Roman wall, and the south was carefully cut back upon the construction of Basin D. The good preservation of the Greek and early

Roman walls on all sides of it permits examination of its west face only, which is shown in Figures 6, 7, and 8. The top course of the wall (course 1) measures 0.32 m. in height; between it and the conglomerate ceiling is a shallow filling course with very irregular west face and of varying height, serving as the immediate support of the conglomerate ledge. The second course, which projects 0.165 m., is 0.68 m. high and 0.57 m. thick as measured at its present south end. Below this the courses do not run evenly, one block 0.78 m. high, whose face is set back 0.045 m., occupying the same height in the wall as the three courses immediately north of it. Two of these



FIGURE 6. BACK (WEST SIDE) OF WALL *e* SHOWING UPPER WATER CHANNEL AND HOLE LEADING TO SPOUT

latter retreat 0.19 m. and 0.14 m. from the face of course 2, and the uppermost of the three, the face of which is now broken away, is a re-used block taken from an earlier water channel. With course 3 the wall reaches leveled hardpan (clay) here at *ca.* 13.15 m. below datum,<sup>1</sup> but on the east side the clay bed in which it is laid seems to be 0.50 m. to 0.70 m. lower. From all these irregularities it is clear that this side of the wall was not intended to be seen and that the other, eastern, side was its front.

Toward the rear of the top of the second course of the wall is a rectangular water channel 0.135 m. wide and 0.05 m. deep, lined with excellent waterproof cement. It was cut and stuccoed before course 1, which somewhat overlaps it, was laid and is therefore integrally of the original wall. Two holes 0.75 m. apart, obviously intended for spouts, lead out of the channel through to the outer or east face of the wall (Fig. 6). In the top of the third course is a second channel,

<sup>1</sup> In these pages measurements in meters preceded by the minus sign, with or without the word "level," are given to indicate vertical distances below the stylobate of the Temple of Apollo, which has for convenience been taken as the datum in recording levels in the excavated area. It is approximately 84.50 m. above the sea.

less well preserved, 0.09 m. wide at the bottom and 0.13 m. deep, from which two holes have been cut through the wall directly beneath those from the upper channel (Fig. 7). Unlike the upper, shallower, channel, the lower one is not contemporary with the wall but was evidently made at a later date, as is shown by the way the lower part of the second course was cut into so as to reach the upper surface of course 3 (Figs. 7 and 8). That the later channel superseded, rather than merely supplemented, the earlier one is clear from the fact that its spouts were placed each directly below one of the earlier spouts.<sup>1</sup>

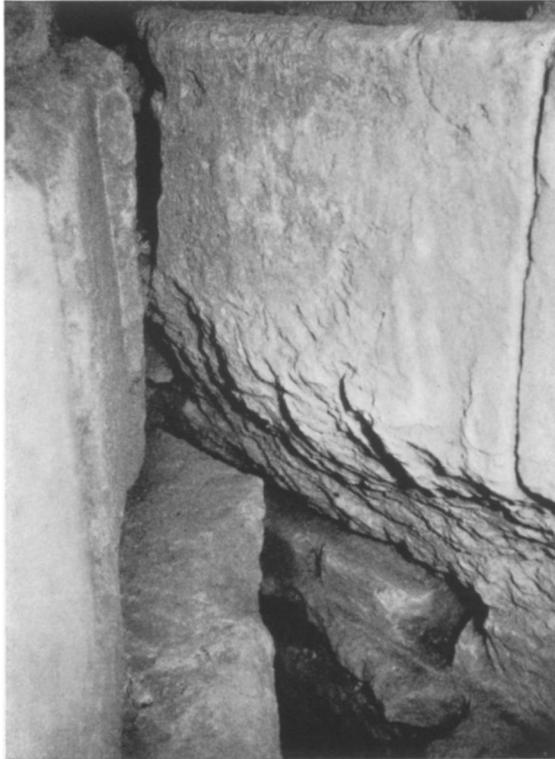


FIGURE 7. BACK (WEST SIDE) OF WALL *e* SHOWING ROUGH CUTTING FOR LOWER AND LATER WATER CHANNEL AND HOLE LEADING TO SPOUT

Both of these channels must have drawn their supply from conduits cut in the nearer part of the West Tunnel, the first *ca.* 0.25 m. below its top, the second 0.75 m. lower. Of the former there is now no trace, whatever marks it may have left on the clay having been lost with the disintegration of the surface of the tunnel walls. Several veins, however, scoured by water in the upper surface of the clay stratum and now visible at the top of the east side of the tunnel, would have emptied into a conduit cut in the face of the wall just below them (*a*, Fig. 31 b).

<sup>1</sup> It is worth noting that in their relative proportions these two channels follow a general tendency observed in Greek Corinth, the ratio of depth to breadth being regularly greater in the later than in the earlier examples.

Of the second conduit it is possible with good will to detect some actual traces in spite of the very bad state of the walls of the tunnel. On the east side, from *ca.* 10 m. to *ca.* 17 m. back from the entrance, the clay wall has broken down in such a manner as to suggest that here had once been a shelf 0.80 m. to 0.90 m. below the ceiling and from this line upwards are remains of a concave cutting similar to those above shelf-channels *a* and *b* of the East Tunnel (Fig. 10). Since they are at the proper level, these slight traces may reasonably be accepted as of the conduit that brought water to the lower channel of wall *e*. The extent southward of the conduit and the tunnel of its time (of which the probable form and dimensions are indicated by the line *b-b*,

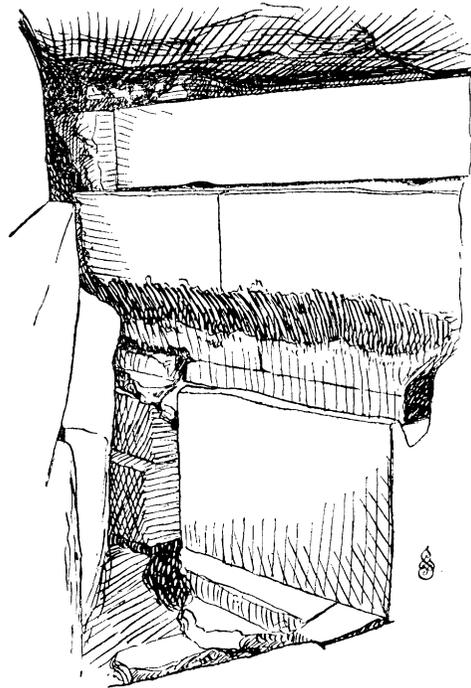


FIGURE 8. BACK (WEST SIDE) OF WALL *e*

Fig. 31 b) can only be conjectured; they very likely reached as far as the tunnel extends in a straight line, i. e. to *ca.* 26 m. from the entrance (*ca.* 4.50 m. north of the point marked *k* on Pl. II). The primary purpose in replacing the upper channel by the lower must have been to augment the flow of water. Other reasons may only be surmised, such as diminution of supply owing to development of the water-collecting system to the east, deterioration of the clay-cut channel, or even change of fashion in fountains.

The connection of the shelf-channels of the tunnel with the wall *e* was broken by the construction of the basin D, when the south end of the wall was cut away and the clay bank given its present form. There is thus no evidence to show just where the wall had met the clay. If they met at right angles, as would seem natural, the junction was at only 0.20 m. to 0.30 m. from the end of the wall as it now is.

The orientation of the wall *e* suggests that the fountain house of which it was part probably faced more northwesterly than the existing fountain, since *e* was undoubtedly an end wall (the west wall), not the back wall, of the building and may be presumed to have been perpendicular to its façade and rear wall. There is no difficulty in supposing that the face of the ledge previously had the direction suggested, since it has clearly been cut back to its present line over the front of the chambers and still exists 4 m. north of them at the south side of the East Apse. Nevertheless it must be granted that the ends of the building (which was after all structurally a cave) may perhaps have formed obtuse angles with its back wall—an adjustment not without advantage to the circulation of the water carriers—and that this may have had much the same direction as that of the later fountain. There is nothing to show how far eastward it extended, though we may presume that it reached at least as far as Chamber III.

This early fountain house can of course be restored only conjecturally, but a natural and feasible arrangement would be in general like that, for example, of the fountain with spouts high on three sides, pictured on the well known black-figured hydria from Vulci in the British Museum.<sup>1</sup> Our fountain was, however, much less elaborate, with its entablature only native rock supported by plain walls, alone or with simple, square pillars between. As the original spouts were only 0.40 m. below the ceiling, they must have been at least shoulder high and probably were really some 2 m. above the floor, to judge from the level of the clay bed under the southeast part of wall *e* (— 13 m.), which need not have been but a little lower than the actual floor. At the foot of the walls there would have been basins with parapets high enough to obviate the splashing that must otherwise have been intolerable,<sup>2</sup> and from them a gutter or a covered channel carrying the surplus water away to be used elsewhere or to be lost in the open drain to the north. It may be, naturally, and is in fact not improbable that the other walls of the fountain were not both like *e*, but that one (it would be the longer south side, which was of clay) had draw basins from which the water was dipped, instead of a series of spouts. Such draw basins would receive besides their own direct supply the surplus water from the spouts of the end walls.

The supersession of the original channel and spouts of wall *e* by those delivering water 0.75 m. lower (above, p. 21) did not necessarily involve any other change in the fountain, for the spouts were still high enough to have jars set under them and above the basins. It is likewise possible, however, that there were considerable changes, such as deepening the basins to increase their storage capacity against hours of heavy demand, or perhaps even a general remodeling to combine in a single fountain house the spouts and basins supplied from both the West and the East Tunnels.

<sup>1</sup> *Catalogue of Vases in the British Museum*, II, B 329; *Antike Denkmäler*, II, pl. XIX; E. Pfuhl, *Malerei und Zeichnung*, III, fig. 296.

<sup>2</sup> In the vase painting referred to above, as well as in numerous others representing fountains with spouts placed high, the painters have not troubled to indicate what became of the water when there was no jar to receive it. But if we take the drawings to be accurate as far as they go, we must suppose that the podia on which the jars stand while filling were hollow, with a hole at the top large enough for the stream of water but smaller than the foot of an ordinary hydria. Pointed amphorae and jars with narrow bases would be set down conveniently into the hole. It may be added, while we are taking thought for the hydrophoroi who came anciently to Peirene, that if there was a continuous basin under the spouts, racks or grates would be contrived to let the narrow streams of water pass but to hold the water jars to be filled.

That wall *e*, with the building to which it belonged, is of relatively early date is shown not only by the fact that it had existed through two distinct periods before the construction of basin D (which cut off its supply) and of Chamber I (by which its face was hidden), but even more by the fact that it originally delivered water at a very high level, only 0.25 m. or less short of the maximum practicable height (the top of the clay stratum). The wall is, nevertheless, by no means primitive, as may be seen from the type of construction, from the presence of re-used material, and

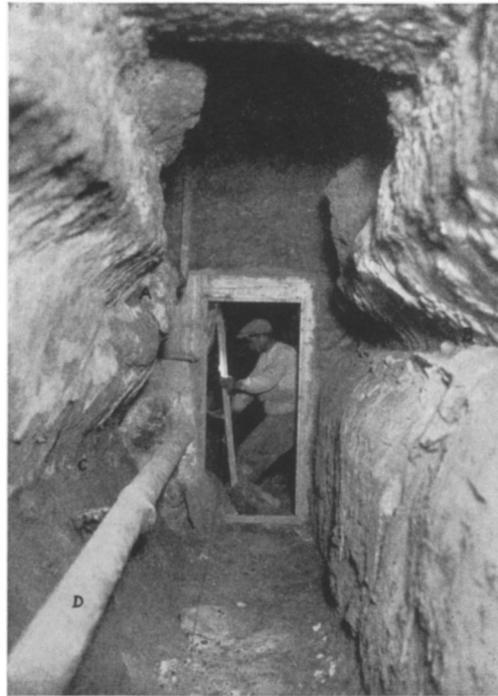


FIGURE 9. EASTERN SUPPLY TUNNEL, LOOKING SOUTH  
A, B, C. Location of Shelf Channels in Chronological  
Sequence. D. Pipe laid in 1919 for Village Water Supply

from the fact that the ceiling it supports lacks the thin layer of sandstone which, lying between the clay and the conglomerate, would naturally have formed the ceiling when the clay was first cut back.

Further remains of the early water system appear in the north part of the East Tunnel. This at first ran straight in a southerly direction and carried on its east wall a shelf-channel some 0.30 m. below the original sandstone ceiling (Figs. 9, A, and 10, 1, a). The channel itself is preserved only at its extreme south end, but the upper part of the groove cut in the clay wall to make the shelf for it can be seen at 4.70 m. to 6.20 m. and 11.70 m. to 15.30 m. back from the entrance to the tunnel.<sup>1</sup> The groove was approximately 0.20 m. deep and 0.20 m. wide, with its upper side set

<sup>1</sup> Distances back into the supply tunnels are reckoned as from the Greek façade (i. e. the front line of Chambers I-VI, behind the arches of the Roman façade) with which their entrances, the Greek doorway in the north side of the chamber east of VI and the Early Roman doorway 2 m. west of Chamber I, both align; and “façade” or “front,” when used in this connection, refers to the line of the Greek façade.

at a 45° slant in an even shallow curve. The shelf-channel comes to an abrupt termination at 15.30 m. from the façade, directly under a small natural fissure in the clay, whence it must have received its principal supply. At 1.30 m. from its end the level of the shelf is — 11.87 m. and the conduit could thus have delivered water at *ca.* — 12.00 m.

At a later time this tunnel was extended for a distance of three meters and then turned at right angles toward the east for about six meters. A channel in a shelf similar to that on the east side was cut in the west side of the tunnel and around the corner along the south side of the new eastern branch. This conduit, which must have supplied a greater quantity of water, is some

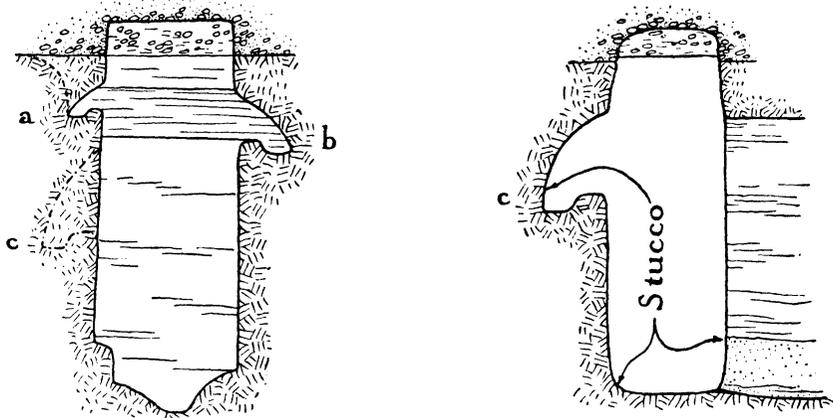


FIGURE 10. EAST TO WEST SECTIONS OF EASTERN TUNNEL, LOOKING SOUTH  
Left, at 13 m. from Façade (somewhat restored). Right, at 24 m. from Façade  
(Plate III, *b*)

0.20 m. lower than the first one, and delivered water at a correspondingly lower level (B, Fig. 9). The eastward extension of the tunnel tapped the vein which had formerly fed the channel in the east wall, and thus rendered it useless. Both of the channels in the eastern supply tunnel must once have fed a system similar to that on the West, and both are shown by the level at which they deliver water to be relatively early. Assuming, as we may, that the sources of the spouts at the West and of the shelf-channels at the East were independent, the systems were probably contemporary.

At a considerably later period, when the main East Tunnel was extended to some 57 meters from the façade, a new shelf conduit was cut in its east wall for its entire length, and at a level some 0.50 m. lower than the channel on the opposite side of the tunnel (Figs. 9, C, 10, c). This new conduit presumably supplied a series of spouts at the east side of the fountain, at a level lower than did its predecessor. It seems to have continued in use and to have delivered water to Chamber VI at a later period (see below, pp. 37–38).

## THE DEVELOPED FOUNTAIN OF GREEK TIMES

The earliest form of the complete fountain that is still in existence is the system of four reservoirs with three draw basins across their front, supplied with water by two long tunnels (Pls. II, III). The system is as a whole admirably preserved and could with comparatively small repairs be made to fulfill its ancient function.<sup>1</sup>

The reservoirs were cut back into the thick stratum of very hard clay from a line *ca.* 3.50 m. behind the face of the overlying conglomerate ledge as now preserved, and downward from *ca.* 1.50 m. (Reservoirs 3 and 4) and 1.80 m. (Reservoirs 1 and 2) below it. The two eastern reservoirs (4 and 3) are 19.80 m. long, the next (Reservoir 2) 25.40 m., and the westernmost (Reservoir 1) 25.70 m. They are cut with sufficient regularity, and their sides, though not absolutely straight, are parallel. The width of the reservoirs thus remains constant while the thickness of the clay partitions between them varies appreciably. The walls have in general an inward inclination of about 1 in 10, considerably lessened near the front. The ceiling has the form of a low elliptical vault, regular at the front but somewhat flattened and distorted as it goes back; it slopes downward toward the rear, while the floor slopes downward toward the front. The two smaller reservoirs are *ca.* 2.20 m. in height at the front and at the back *ca.* 1.60 m.; in the two larger these dimensions are *ca.* 2.40 m. and 1.90 m. respectively. They are lined throughout with a heavy coating of cement of a characteristic Greek variety: small pebbles and sand with a brown bonding material.<sup>2</sup>

Water was brought to the reservoirs from the East Tunnel by a branch 0.50 m. wide and 1.50 m. high, cut at right angles to it at a point *ca.* 24 m. from the entrance (b, Pls. II, III). The floor of this branch tunnel, on which the water flowed, and its walls to a height of *ca.* 0.30 m. were lined with good cement similar to that in the reservoirs. From the junction southward the main tunnel was also similarly lined, but for what distance cannot now be stated—very likely as far as shelf-channel C extended (above, p. 25). We may presume that it was at the time of the construction of the reservoirs that the East Tunnel was greatly lengthened, at least to the collecting branches f 1 and f 2 (Pl. III), perhaps to the very end.

The water was discharged from the tunnel into the reservoirs through funnel-shaped openings cut in the clay and lined with cement, which reach from slightly above the floor of the tunnel

<sup>1</sup> The clay wall above Basin C and the adjacent ceiling of Reservoir 4 were, however, found considerably damaged; and the reservoir, in particular, has since suffered seriously from the seasonal changes of recent years.

<sup>2</sup> Analysis of a sample of this lining by the late Professor William Foster of the Department of Chemistry of Princeton University, made at the request of the late Professor T. Leslie Shear, gave the following result:

Loss on ignition (CO + HO) . . . . .	26.44
Insoluble in aqua regia (silica and silicates) . .	36.22
Iron oxide, aluminum oxide (FeO + AlO) . .	5.58
Lime (CaO) . . . . .	22.62
Remainder (magnesia, alkalies, etc.) . . . . .	9.14
Total . . . . .	100.00

down to points near the ceiling of the reservoirs (cf. section X-Y, Pl. II<sup>1</sup> and Figs. 11, 12, 15). There are two of these openings into each reservoir (Figs. 11, 12) with the exception of Reservoir 4 (easternmost) which has only one (Fig. 15). All seven funnels discharged at approximately the same level, *ca.* — 13.6 m. (and consequently at unequal distances below the ceiling of the reservoirs), and all received water at one level over cement dams 0.07 m. to 0.14 m. high, the



FIGURE 11. SOUTH END OF RESERVOIR 1, SHOWING INLETS FOR WATER AND FORWARD CROSS TUNNEL, AA

inequality in their height being due to the slope of the floor of the tunnel. The water passing evenly over these low weirs would flow clear, leaving on the tunnel floor what sand and silt might have been brought along. This could be removed from time to time from the tunnel with much less labor than from the reservoirs, and without interference with the regular use of the fountain.

The fact has already been mentioned that Reservoir 4 has, by exception, only one intake. East of this there are two points in the north wall of the tunnel at which it is obvious that outlets have been begun, cut to a depth of 0.25 m. or 0.30 m. and left unfinished. The eastern of these abortive outlets, 2.40 m. from b, Plate II, is at the same distance from the East Tunnel here as

<sup>1</sup> This section is a composite of longitudinal sections through the eastern inlets of Reservoirs 2 and 3, the upper part taken from 3 and the lower from 2. The tunnel behind Reservoirs 1 and 2 is lower and much nearer to them, and the ceiling of Reservoirs 3 and 4 is relatively much lower than here shown.

is the axis of Reservoir 4 at the front. Evidently the outlet was begun under the mistaken impression that the reservoir was parallel with the tunnel. When the error was discovered—whether by boring<sup>1</sup> the short additional distance needed to reach the reservoir or simply by listening for agreed signals—a second trial was made at double the distance of the first from the main



FIGURE 12. SOUTH END OF RESERVOIR 3 WITH INLETS

tunnel; and it was so nearly successful that there was no further difficulty in finding the place desired for the funnel. Since this second niche might readily have been cut into a funnel in the right position to make one of a pair had it been planned to have two inlets into the reservoir, we must conclude that the single funnel actually made followed the original scheme, and that this was modified before the completion of the other reservoirs.<sup>2</sup>

<sup>1</sup> Any small hole thus made would be concealed by the waterproof plaster with which the niche is lined, which is intact.

<sup>2</sup> It is idle, doubtless, to speculate concerning the reason for the change; but it may be suggested that it was again due to measurements taken at the front (where alone they could be made) being assumed valid at the back. At the front the axes of Reservoirs 4 and 3 are 3.95 m. apart. If, however, a funnel were cut at this distance west of that into Reservoir 4 it would fall, not in the axis of Reservoir 3, but just where the western of the two inlets into that reservoir actually is, half way from the center to the southwest corner. Was the eastern inlet added for symmetry, and then the pair judged preferable to a single intake?

The false starts in making the inlet from the supply tunnel into Reservoir 4 show that it was the first of the reservoirs to be constructed, or, at least, the first to be completed and connected with the supply tunnel. Given a draw basin of its own (i. e. before Basin C took its present form), it could have functioned uninterruptedly while Reservoir 3 was under construction. It is, however, also possible, though much less likely (since the reservoirs must have been dug out one at a time to minimize interference with the use of the fountain), that the two reservoirs were put into operation together. In either case that they were constructed before Reservoirs 1 and 2 may be taken as certain. This is proved, further, by the fact that the tunnel passing behind 4 and 3 and obviously intended to supply 2 and 1 also actually cuts straight across these latter (b-c-b', Pl. II; Fig. 11, AA) which were evidently expected at the time the tunnel was dug to have about the same length as Reservoirs 4 and 3. The decision, then, to extend the two western reservoirs farther into the clay (and doubtless the decision to make them, as they are, some 0.50 m. deeper than the other reservoirs) was taken after the work had been begun and Reservoirs 4 and 3 had already been dug.<sup>1</sup>

Reservoirs 1 and 2 having been made longer, the supply tunnel was jogged back at c (Pl. II) so as to run behind their inner ends, and their intakes were made like those of Reservoir 3. Placing these presented none of the difficulty found with the eastern inlets, since the tunnel c-b' cutting across Reservoirs 2 and 1 revealed their exact position. This also simplified the cutting of the branch tunnel c-d, which was not made perpendicular to b-c (as probably would have been done had it been dug with the reservoirs unseen—just as b-c-b' had been cut at right angles to the main tunnel from which it branched), but took for *ca.* 4.50 m. the same direction as the nearer side of Reservoir 2. It then turned westward for *ca.* 6.50 m., leaving a clay wall 0.60 m. to 0.90 m. thick between it and the end of the reservoirs, and came to a blind end at d, over against the west side of Reservoir 1. This last arm was made low in height as compared with b-c and the 1.60 m. of the lower parts of the main tunnel. Beyond the original end at d the less regular, taller tunnel reaching from d to the western supply tunnel is of much later, doubtless Roman, date (see p. 63).

From the fact that the original tunnel ended as stated it is clear that the whole supply of the four reservoirs was derived from the East Tunnel. The flow from this source as measured in recent years has ranged between 4.2 cu. m. and 8.1 cu. m. per hour, the seasonal variation as well as that from year to year being considerable. To turn the water in the required direction there must have been of course low dams at b and c (Pl. II). These have, however, left no sure trace, though some remains of a Roman dam were found at b.

From the reservoirs the water passed into the deep draw basins lying north of them, Reservoirs 3 and 4 together supplying the long Basin C, while Reservoirs 1 and 2 have each its own

<sup>1</sup> It may be suggested that Reservoirs 1 and 2 were in fact at first 20 m. or so long, as originally planned, and were lengthened at some later date. The suggestion is negated by the absence of any trace of inlets corresponding to those of Reservoirs 3 and 4, the upper part of which would certainly be evident in the ceiling of the reservoirs, had they ever been cut at all.



FIGURE 13. CHAMBERS V AND VI AND PARAPET OF BASIN C FROM THE SOUTH AA. Coping of Earlier Greek Parapet



FIGURE 14. BASINS A, B AND C BEHIND CHAMBERS I-VI, LOOKING EAST

basin, A and B (Pl. II). At the front of each reservoir, to separate it from the draw basin, there is a sort of grille<sup>1</sup> 0.35 m. thick, of poros with stuccoed surface, consisting of six rectangular posts 0.183 m. wide, set 0.18 m. apart, surmounted by a plain rail or coping 0.15 m. high, which was just above the normal water level. The four grilles having thus the same level at the top vary in height, since the reservoirs are of unequal depth: Nos. 1 and 2 are 1.90 m. high, Nos. 3 and 4 1.40 m. These partitions, of a type rare if not unique in fountain architecture,<sup>2</sup> take the place of what would ordinarily be a wall with a single small opening that could be closed when desired, to keep the water in either the reservoir or the basin at will. In Peirene the supply of water is so plentiful that a reservoir would refill quickly and there was no need of the usual arrangement for conserving the water in the reservoirs at the times when it was necessary to clean the draw basins, but the reservoirs as well as the basins were emptied when the latter were to be cleaned. The three draw basins, A, B and C (Pl. II; Figs. 14, 21), extending across the front of the reservoirs average *ca.* 0.95 m. in breadth and are respectively 2.70 m., 3.80 m. and *ca.* 6.30 m. long. The ends and the north side are of clay below about level — 14.70 m. and of masonry above; the partition between B and C, 0.80 m. to 0.90 m. thick, is, except for minor repairs, wholly of clay, while that between A and B, 0.32 m. in thickness, is of poros. The basins were limited at the front by a low parapet, *ca.* 0.30 m. thick, over which the water was drawn. This had a very simple coping projecting about 0.02 m. toward the interior (Fig. 13, A–A) but on the outside it is perfectly plain with no projection.<sup>3</sup> The parapet, the end walls, and partition B–C were at approximately the same level (— 13.70 m.) as the stone grilles between the basins and the reservoirs behind; the partition A–B was 0.10 m. lower. The back wall rose some 2.15 m. higher between and over the reservoirs, to the top of the clay stratum where it ended in a broad cavetto which formed the rear part of the ceiling (Pl. VIII; Figs. 14, 21).

The floor of each of the draw basins is at the back continuous with that of the adjacent reservoir, but the central part is 0.22 m. to 0.25 m. deeper, hollowed out into an oval bowl in which the last of the water would collect and whence it could be readily bailed out, when the basin was cleaned. The presence of these bowl-like depressions indicates that there was no connection with a drain at the bottom of the basins, as there is for example in the Fountain of Glauke (see below, pp. 211–212), where a gutter in the floor served to carry off the waste water from scrubbing and cleaning. Here this must have been removed by hand.

Of the two partitions separating the draw basins, A–B was built 0.10 m. lower than the parapet and grilles, obviously to let water overflow from A into B or vice versa, when either basin chanced

<sup>1</sup> Shown in Section S–T, Plate II. The dimensions given are averages. The width of the posts varies from 0.17 m. to 0.20 m., the intervals between them from 0.16 m. to 0.20 m., and the height of the rail from 0.135 m. to 0.165 m.

<sup>2</sup> Paralleled in effect though not in form in Chambers I and IV of the Fountain of Glauke (below, pp. 217–218), where there was only a stone bar at water level corresponding to the real partition that separated Chambers II and III from the draw basin V; see below, Fig. 138.

<sup>3</sup> The face of the parapet has been seen in Chambers I and V only, and its height only in Chamber I, where it measured barely 0.46 m. after the existing poros pavement was laid.

to fill before the other. A channel 0.09 m. wide and *ca.* 0.10 m. deep<sup>1</sup> across the top of partition B–C (which as already remarked was level with the parapet) served the same purpose for B and C. Thus the several basins and reservoirs would all be evenly filled before any surplus water flowed off. The level might, however, be quite different in adjacent basins when neither was full. This seems to have happened frequently enough in the case of A and B to be deemed unsatisfactory,



FIGURE 15. SOUTH END OF RESERVOIR 4. Funnel connecting Reservoir with Forward Cross Tunnel at Top

for after some time a slot 0.06 m. wide and 0.12 m. deep was cut in the top of partition A–B through which the level would be kept uniform at and above *ca.* – 13.90 m. Subsequently the height of the partition was increased *ca.* 0.15 m. by an addition 0.16 m. thick of cement and fragments of terracotta; the slot was carefully closed with the same materials, and its place taken by a round hole 0.06 m. in diameter, 0.65 m. lower in the wall. Thereafter, except when the whole

<sup>1</sup> Though the bottom of this channel has been completely cut away its position is indicated by a change of surface of the thick stucco lining the sides, much of which is preserved to its original depth of 0.12 m. or 0.13 m. The channel was in Roman or later times deepened roughly to *ca.* 0.56 m., afterwards filled up to *ca.* 0.46 m. and there broadened considerably. This broadened part has been worn smooth by the passage of water. A small hole drilled obliquely through partition A–B is perhaps contemporary with the deepest cut in B–C. Holes cut at the foot of these two walls, and of A–D as well, are modern, for drainage (Figs. 14, 17).

was plugged to allow one basin or the other to be cleaned, the level in A and B must have remained always the same. And in fact the multitude of horizontal lines of lime accretion still to be seen on the Greek plaster (but not on the Roman patches) of the walls of Reservoirs 1 and 2 and Basins A and B are in every respect absolutely identical. There do not appear to have been changes in partition B–C corresponding with those in A–B, for no sign of them has been detected and it is incredible that the rough late deepening (p. 33, note 1), only 0.09 m. to 0.06 m. in width, of the channel across B–C should have obliterated every slightest trace of any well made slot or hole below the original channel, had any existed.

The west wall of Basin A shows the earliest provision now to be seen for the outflow of excess water, in a cutting 0.065 m. wide through the sill of the door A–D close to its south jamb (cf. Figs. 5, 16). The cutting seems to have been at first *ca.* 0.11 m. deep, later made 0.18 m., and was finally closed in the same manner, and most likely at the same time, as the slot in partition A–B. The wall A–D must then have been built up, probably with a light addition in cement 0.15 m. or 0.20 m. high similar to that on A–B with a narrow channel to let the water overflow at *ca.* 0.05 m. above the sill. Though this construction has wholly disappeared and its place has been taken by the mass of Roman concrete that covers the Basin D, its former existence and the level at which it held the water are plainly shown by exceptionally pronounced lines of calcareous deposit formed during a long period while the surface of the water was at – 13.64 m. to – 13.62 m., the maximum height of which we have evidence for Greek times, and obviously possible only after the parapet had been raised, as it was, from the original level – 13.70 m. to – 13.50 m. (see below, p. 44).

The four great reservoirs differ a little in width, as does also the thickness of the clay partitions between them, and they are reasonably symmetrically spaced, their axial distances from west to east being 3.75 m., 4.00 m., and 3.81 m. The draw-basins connecting with them are placed unsymmetrically, the west end of Basin A being in line with the west side of Reservoir 1, while at the other end of the fountain the east end of Basin C is some 0.35 m. east of the east side of Reservoir 4 (Pl. II). The partition between Basins A and B is placed equidistant from the axes of Reservoirs 1 and 2 and then Basin B is made symmetrical with respect to Reservoir 2. The partition (Fig. 14) between it and Basin C reaches to the west line of Reservoir 3. Thus Basin C, which stretches across the front of Reservoirs 3 and 4, is about 0.175 m. off axis with respect to them, its east end, as already remarked, being about 0.35 m. beyond the east side of Reservoir 4, while its west end is aligned with the west side of Reservoir 3.

An explanation of this irregularity may be afforded by the relation of Basin D to the rest of the system. This basin is rectangular, 0.96 m. wide and 1.45 m. long, cut in the clay and lined with waterproof stucco. From the northeast corner four steps lead down into it, the first three being against the east wall of the basin, while the last step is at right angles to the others, against the south wall. The bottom of the basin was originally at a level 14.99 below datum level.

The presence of stairs leading into a basin may generally be explained in one of two ways. Either they are to enable users to reach the water when it has sunk to a low level, or they provide access to the basin for the purpose of cleaning, in case it is not a draw-basin but a settling basin designed to trap the silt from the supply before the water passes into the draw-basins proper.

In the present instance, with such an abundant supply of water, the first explanation should be discarded, and hence we must assume that Basin D was a settling basin. This assumption is further strengthened by the obvious difficulty in reaching the stairs which led down into the basin, since much of the earlier construction of wall *e* was left in place and only a narrow approach was arranged at the northeast corner. A small channel cut in the west and north walls of Basin D,



FIGURE 16. DOOR OVER WEST END OF BASIN A

and also visible in the southwest corner of Chamber I, served as a by-pass by which water could be led eastward toward Basin C, assuring a continuous supply to at least one draw-basin at the times when the settling basin was being cleaned.<sup>1</sup>

The construction of Basin D can be explained only by the presence of a system of draw-basins existing before the introduction of the large reservoirs which furnished a far more abundant supply of water.

The fact that the partition between Basins A and B is placed symmetrically with reference to Reservoirs 1 and 2 indicates that it is contemporary with them, so that it need not be taken

<sup>1</sup> This is a normal arrangement; a parallel to it may be seen in the fountain of Glauke (pp. 212–214).

into account when speculating on the earlier form of the draw-basins. These may be presumed to have been at first two in number, of equal length, 7.00 m., divided by a clay partition 1.00 m. thick. When the four reservoirs were laid out, the eastern limit of Reservoir 4 was conditioned by the thickness which had to be left in the clay support between it and the eastern supply tunnel, and hence it does not align with the end of Basin C, as is the case with the west wall of Reservoir I and Basin A. Between these two points, the available space had to be divided between the four reservoirs and three partitions. The west wall of Reservoir 3 fell naturally on the line of the end of Basin C.

The introduction of the otherwise unnecessary partition between Basins A and B was doubtless to allow a part of the basin lying in front of Reservoirs 1 and 2 to be used while work was going on. The clay partition between Basins B and C may have been thinned down at this time, either for the purpose of making Basin B symmetrical with reference to Reservoir 2, or merely because the clay on the west side of the partition had been broken into and the simplest way of obtaining a smooth surface was to cut back.

It seems, as a result of our study, that before the reservoirs were constructed the water system under the overhanging ledge of rock consisted of the small settling Basin D (very likely less deep than later), supplied by the West Tunnel, which fed two large draw-basins AB and C, the back of which was marked by an unbroken clay wall. It may be presumed that in this period the East Tunnel continued to supply spouts.

In front of the draw-basins the clay was cut to a suitable level to support the pavement of the approach, which was sheltered by a roof of sandstone and conglomerate projecting about 2.50 m. beyond the parapet limiting the basins. We may confidently assume that the original approach was not through the six chambers we find preserved, since they so obviously fit neither the four symmetrical reservoirs nor the three unequal basins.

The poros blocks of the pavement of these chambers in some cases extend underneath the dividing walls and are consequently earlier than the walls or contemporary with them. In Chamber I, the only chamber in which the Greek floor has been laid bare, the blocks of the floor extending under the partition between Chambers I and II have been worn smooth close to the partition in a somewhat irregular line, so close, in fact, that it would seem impossible that the wearing of the floor can have occurred after the partition was built. From this it may fairly be inferred that the partition is later than the floor and was adjusted to it. This would confirm the inference from the plan of the reservoirs and draw-basins that the portico which preceded the six chambers was differently divided, and we may suppose that before the existing chambers were built there was a façade of five pillars with four openings corresponding to the four reservoirs. The paved floor of the chambers seems to have terminated in a low step in the line of the façade. The floor was of large blocks of poros 1.12 to 1.24 m. in length, about 0.70(?) m. in width and about 0.25 m. thick. They rested either on a thinner course of poros blocks or directly on the clay hardpan. As might be expected they slope downward somewhat from the rear, that is from the parapet of the draw-basins, to the façade. The floor level seems to have been the same in all six chambers, but in the narrow room beyond the east end of the system

the ground level was some 0.75 m. higher. The wall at the east side of Chamber VI would of course support the earth and flooring, if any, of the chamber beyond (to the east). In the period, however, before the construction of the six chambers it is necessary to suppose that there was either a low terrace wall supporting the ground at the east end or that a partition no longer existing separated the higher from the lower level.

The arrangement east of Chamber VI at the time of its construction is uncertain. The connection of the overflow with the draw-basins is no longer preserved, but the channel may be traced to within half a meter of the end of Basin C and its level is precisely that attained by the water when the basins were filled. Some time after the construction of the six chambers a wall (see below, pp. 52–53) was built slightly oblique to their line east of Chamber VI. It rests on the clay, higher than the chamber floor, and supports the rock ceiling, which was also considerably higher, a layer of conglomerate along with that of the sandstone having at some time fallen away. At the time of the construction of the oblique wall a tall narrow door, the threshold, west jamb, and part of the stone lintel of which are preserved, was built between it and the chambers on the prolongation of their front line. This door was apparently solely for the purpose of giving access to the eastern supply tunnel and was undoubtedly usually closed. It is on the analogy of this that there is shown in the restored elevation (Pl. IX, 1) a door also at the west end of the façade, though of that door there are no remains, the existing doorway in the same position being wholly of Roman date.

At about 1.50 m. north from the door east of Chamber VI there is a wall 0.35 m. thick, not quite parallel with the façade of Peirene, reaching from the oblique wall out to the face of the overhanging ledge which here turns north at the east end of the façade of the six chambers. The wall just mentioned is clearly Greek and rather early, though made largely of blocks which had seen other use. It was stuccoed with waterproof cement on both faces. The little chamber it forms with the oblique wall and the front of the chamber east of VI was entered from the west and constitutes a sort of vestibule to that chamber east of VI. The shelf conduit cut in the face of the oblique wall may perhaps have brought water to this little chamber, though if this is the case, the evidence is concealed by later construction. The oblique wall continues northwards for about 3.00 m., where the conglomerate ledge resting upon it turns sharply to the east. From this point the thin Greek wall, apparently later than the oblique one hitherto considered, extends as far eastward as excavation has proceeded, supporting the face of the conglomerate ledge.

Of the façade with five piers suggested above there are, however, save for the oblique wall at the west end, no identifiable remains. The early wall with the holes for spouts, *e* (Figs. 5–7), now hidden behind the west wall of Chamber I, may have been the west end wall of the portico. If this was the case the portico would not have been strictly rectangular since this wall is oblique to the line of the basins.

Cut across the rear end of the east wall of Chamber VI there is part of a stuccoed channel at the level of the third shelf-channel (C) in the supply tunnel at the east side of the fountain. It is undoubtedly *in situ* and may be taken to show that at one time water was brought to a spout

or spouts at the rear of Chamber VI. These spouts would have been about 1.40 m. above the floor, the water falling into a special channel.

Once they had been constructed, the principal features of the water system—the supply tunnels, the four great reservoirs and the three deep draw-basins—remained essentially unchanged throughout the whole Greek period of the city. The important changes during Greek times were in the portico underneath the overhanging rock. Whatever the original form of the supports of this portico, they were, after a time, replaced by the seven solid walls now seen sup-

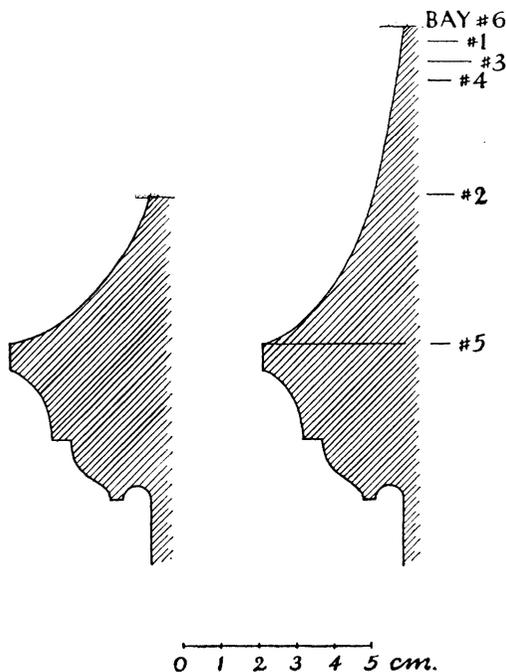


FIGURE 17. PROFILES OF ANTA CAPITALS

porting the conglomerate and sandstone ceiling. These are of perfectly fitted blocks in five courses, the top course being in some cases carefully shaped to fit the irregularities of the under surface of the ceiling, in others supplemented by small inserted blocks.<sup>1</sup> These walls are equally spaced and divide the old “portico” into six approximately square chambers.<sup>2</sup>

<sup>1</sup> The standard dimensions of the blocks are: length, 1.20–1.25 m.; thickness, 0.445 m.; height, 0.59–0.63 m. The wall blocks between Chambers I and II show the builders’ marks—the letter  $\Delta$ .

<sup>2</sup> The width of the chambers is as follows:

Chamber I, 1.92 m.	Chamber IV, 1.94 m.
Chamber II, 1.95 m.	Chamber V, 1.965 m.
Chamber III, 1.93 m.	Chamber VI, 1.91 m.

On account of the presence of the earlier oblique west end wall (Fig. 5, *e*) the new wall at the west side of Chamber I was set some 0.15 m. farther east than would normally have been its position if we assume that its place would have been in alignment with the west end of Draw-basin A. At the rear it is cut away obliquely to meet the west line of Basin A. At that point, built on the end wall of the basin, is a doorway or window 0.75 m. wide by 1.83 m. high (Fig. 16). The reveal of the jambs measures 0.33 m. and their faces 0.155 m. in width. The jambs are crowned by a very light moulding. The lintel is a plain block 1.065 m. long and 0.165 m. high. In fitting the jambs to the clay wall at the south and to the built wall at the north free use was made of waterproof cement, a quantity of which was employed also in fitting the top of the lintel to the rock ceiling. The threshold of the door is the coping of the west end of Basin A. The purpose of the door seems to have been to give access to the steps leading down into the basin D, west of A.

At the east end the seventh wall of the system of chambers was set about 0.15 m. eastward of the east wall of Basin C. This is the same distance as the west wall of Chamber I was placed eastward. Instead of narrowing the chambers slightly the builders apparently decided to keep the dimensions of the original plan and merely set the east wall, like the west one, a little to the east of its originally intended position.

At the front the partition walls end in plain antae which are surmounted by capitals of a form common in the second half of the fourth century B.C.<sup>1</sup> (Pl. VIII; Fig. 17). These capitals are uniform up to the abacus, above which they are carried on upward in a simple reversed cavetto to whatever height is required to meet the conglomerate ceiling. This section of the capital thus varies in height from 0.00–0.12 m. in accordance with the variations in the level of the ceiling which rested upon it.<sup>2</sup> The projecting portion of the capital was chiselled away in later times and is preserved only in a small section in the anta between Chambers III and IV, but its outline may be made out fairly clearly on the sides of the partitions between Chambers II and III, III and IV, and IV and V, best on the east face of the west wall of Chamber I. At the inner (south) end the walls, with the exception of the westernmost, are not finished in a single vertical line, but one course projects from the next above or below sometimes by 0.05 to 0.15 m. This naturally suggests that these ends of the partitions were intended to be either totally or in part concealed. Near the rear corners of the chambers, where the later plaster has fallen away, vertical anathyroses and the outline of crowning mouldings in the stucco on the partition walls show that walls, or more probably pilasters, were in contact with the partitions at a distance of 1.94 m. from the front of the antae of the façade (i. e. 0.25 m. forward of the later screen). Nothing, however, remains of these pilasters, and their form only can be conjectured. It is most probable that the construction was essentially similar to the later screen, though doubtless much simpler in design, i. e. a small pier or column between antae supporting a very plain entablature. It may

<sup>1</sup> *P. G. M.*, pp. 122–124, pls. LIX, 1–7, LXXVI, 23–25.

<sup>2</sup> The roof of the chambers was of native rock, somewhat over 2 m. thick, apparently artificially made even, projecting very slightly over the ends of the partition, but not covered or decorated in any way.

be that the antae were exactly like the jambs of the door over the west end of Basin A (Fig. 16). As the face of the antae was about 0.42 m. north from the parapet, these undoubtedly were set in front of it, not upon it. There would be just room for antae of the same dimensions as the

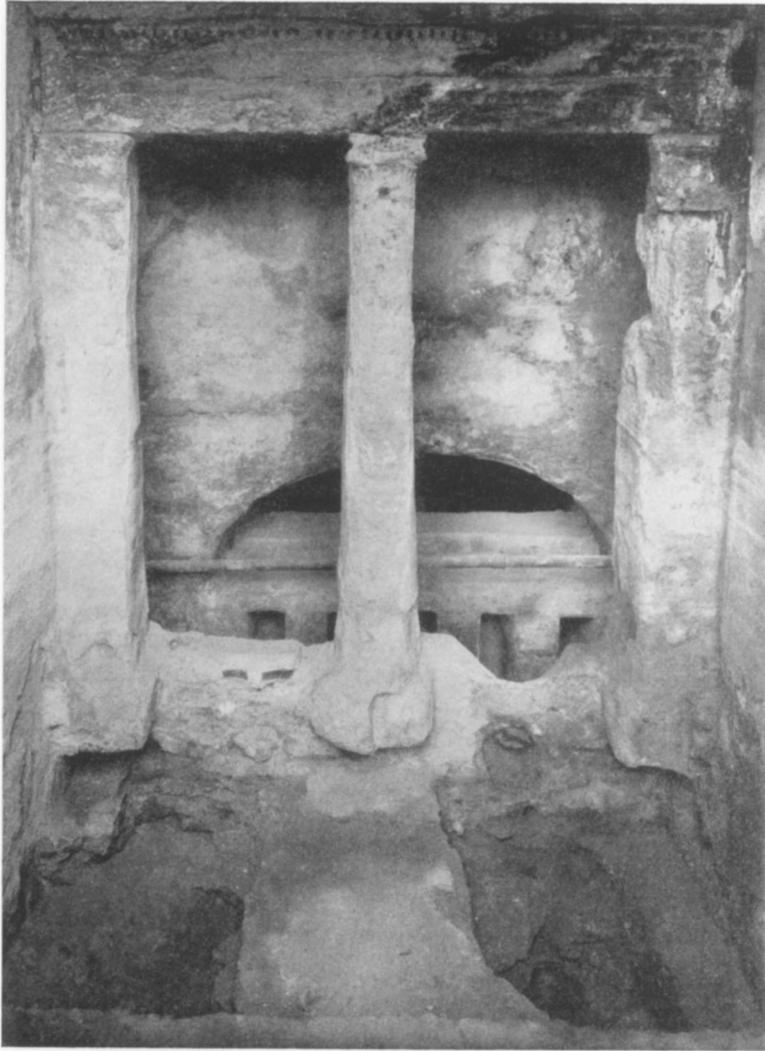


FIGURE 18. IONIC SCREEN IN CHAMBER I WITH GREEK PARAPET BELOW  
A small section of the filling of Roman times remains in worn groove at left. The pipe and the wall behind it in Reservoir 1 were modern, but have been removed

door jambs, 0.155 by 0.33 m., and if there were between them a pier of like size, the two openings would be the same as that of the doorway.

At a later Greek period the arrangement at the rear of the chambers was altered by the introduction of a new series of screens, set about 0.22–0.25 m. behind the plane occupied by the

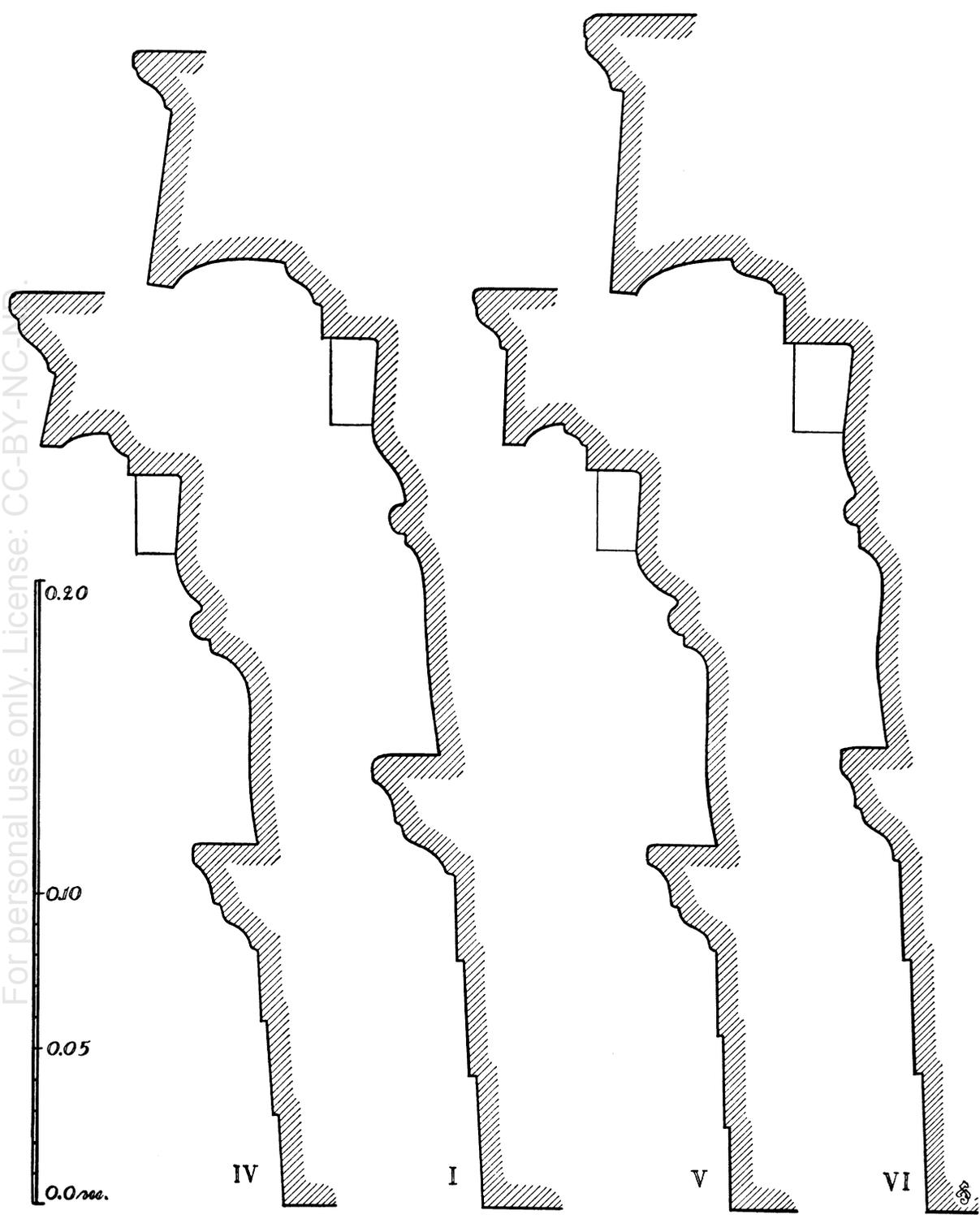


FIGURE 19. PROFILES OF ENTABLATURES OF IONIC SCREENS AT REAR OF CHAMBERS

earlier set. Each unit consists of a slender Ionic half column<sup>1</sup> between two antae, all supporting an entablature consisting of an architrave with three fasciae, a frieze, and a dentilled cornice<sup>2</sup> (Pl. VIII; Figs. 18, 19, 20). The capital and upper part of the shaft are worked on a single piece



FIGURE 20. IONIC SCREEN IN CHAMBER V AND RESERVOIR 4  
Roman Parapet cut away at Right showing Greek Parapet behind

<sup>1</sup> The diameter of the column diminishes from 0.20 m. at the bottom to 0.182 m. at the top. The height of the columns is as follows:

Chamber I, 1.65 m.	Chamber IV, 1.60 m.
Chamber II, 1.65 m.	Chamber V, 1.60 m.
Chamber III, 1.60 m.	Chamber VI, 1.75 m.

<sup>2</sup> The height of the entablature complete is:

Chamber I, 0.374 m.	Chamber IV, 0.294 m.
Chamber II, 0.385 m.	Chamber V, 0.202 m.
Chamber III, 0.375 m.	Chamber VI, 0.382 m.

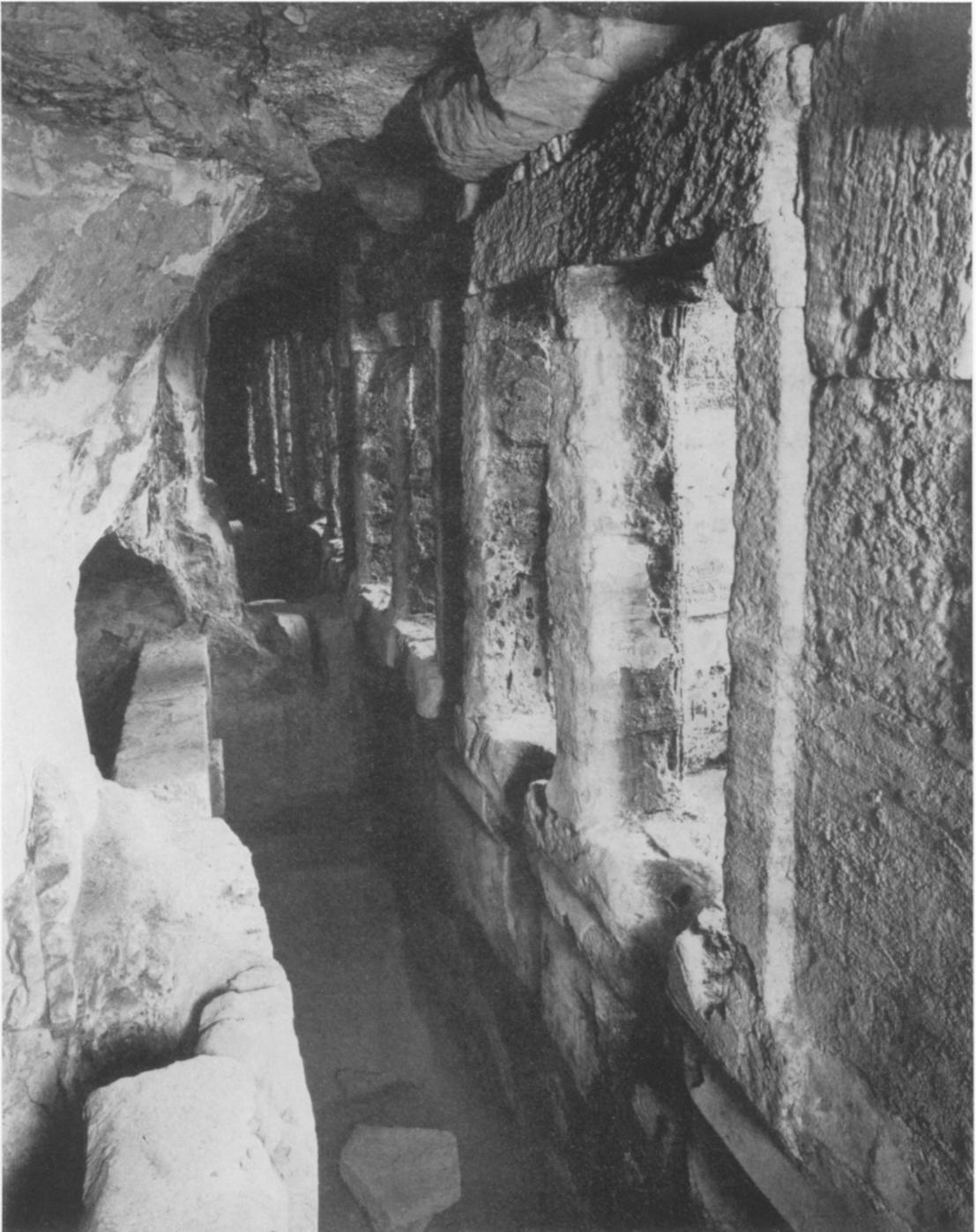


FIGURE 21. BASINS C, B AND A FROM THE EAST, SHOWING BACKS OF IONIC SCREENS AND DEEP WEARINGS  
IN GREEK PARAPET AT REAR OF CHAMBER V

of poros 0.19 m. high, while the rest of the shaft is monolithic.<sup>1</sup> Since the face of this screen lay about 0.20 m. forward of the face of the parapet on which it was partially supported, a course of hard limestone some 0.25 m. high was set on the earlier parapet, and projected forward under the columns and antae to form brackets (Figs. 13, B, 18). At the openings left between the supports this new course was set back to the plane of the remainder of the parapet (to be seen in Chamber I). The columns and antae are finished for only half their depth (the column shows eleven out of the full twenty flutings) and then are cut back to receive plaques 0.18 m. thick. No fragment of these plaques survives, and there is nothing to show whether they were decorated, possibly by painting, or not. The thin partition which they formed would, of course, have prevented the use of the draw-basins as such, and while this arrangement continued, water must have been delivered through spouts placed in each panel. This arrangement seems to have proved unsatisfactory after a short time, for the top of the parapet at the level of the stylobate of the Ionic columns and antae was deeply worn by water jars (Fig. 21) and subsequently repaired with fragments of pottery of Hellenistic and earlier times set in very thick layers of hardest Greek cement.<sup>2</sup> The parapet on which this new façade was set is at practically the same level in all the chambers, but the columns and antae vary slightly in height with the difference of level of the rock ceiling, which is lowest in Chambers IV and V and highest in Chamber II.<sup>3</sup>

Both before and after the alteration that included the construction of the six chambers, the overflow from the draw-basins was carried off in a small rectangular channel 0.09 m. wide and 0.12 m. deep, which, beginning at the east end of Basin C, was built in a terrace wall (Pls. IV, VI) running north from Peirene for a distance of about 20 meters to a separate fountain the remains of which may be seen in the south colonnade of the Peribolos of Apollo immediately beyond the northeast entrance to the court of Peirene. The terrace wall is visible at three points in the east apse, and at the southernmost of these there exist traces of an arrangement for drawing water from the channel. A stone basin, placed against the terrace wall with its rim on a level with the top of the channel, was fed through an opening cut in the western wall of the channel. The water in the basin thus disposed did not flow away, but remained at the same level as that in the channel, and whenever any was dipped out the basin filled again automatically to the normal level. It is likely that there were several similar basins along the wall. At the end of the terrace

<sup>1</sup> It is impossible to state whether the base and the lower part of the shaft were cut in one piece, since they are now covered with stucco. The separate members of the reredos are held together by iron dowels run in lead.

<sup>2</sup> The repaired portions of the parapet were in their turn very deeply worn and again repaired in Roman times (Fig. 18). This wearing may, of course, have occurred in the period between the destruction of the city and its refounding and in the earlier years of the Roman Colonization. That is, the last Greek repairs of the parapet may have been made only a little before 146 B. C.

<sup>3</sup> In Chambers IV and V there is a layer of sandstone below the conglomerate of the ceiling, which does not exist in the other chambers. In Chambers I, II and III this space is filled by the insertion of an extra course above the cornice of the reredos, while in VI the height of both column and entablature is increased by 0.15 m. and 0.09 m. respectively, so that this insertion of an extra course was not necessary. The ceiling at the front of Chamber VI is much lower than at the back where it meets the reredos.



FIGURE 22. "CYCLOPEAN FOUNTAIN," A, AND STYLOBATE OF APSE IN PERIBOLOS OF APOLLO, B, SEEN FROM THE WEST  
A. Basin. CC. Supply Conduit with Clean out Holes. DD. Late Greek Drain

wall the channel turned toward the east, and connected with a channel which, toward the “Cyclopean” basin and along the south wall of the fountain, was made accessible for cleaning by a series of four small rectangular openings just above it in the wall (Figs. 22, 23, C, C). The water was delivered to a small, irregular hexagonal basin measuring 1.68 m. from front to rear and 1.66 m.



FIGURE 23. “CYCLOPEAN FOUNTAIN” SEEN FROM THE WEST

in width at its widest part. Across the front of the basin was a parapet 0.67 m. high and 0.25 m. thick, of which the coping, 0.10 m. high, is now missing. Clear traces in the stucco at either end show that this was 0.195 m. to 0.21 m. wide and set flush with the face of the parapet. After its removal the parapet was much worn by the drawing across it of water jars, for which there are seven holes visible in its top (Fig. 23).

The basin was in a sort of artificial grotto made of great stones of conglomerate laid with each stone overhanging that beneath, in a manner which has its closest analogy in the store-chambers and corridors underneath the walls of Tiryns (Fig. 24). It is probably the earliest built fountain extant that drew water from Peirene, and in its original form was probably approached (although nothing is preserved) from a level not much higher than that of the hexagonal basin. The later approach to it between the parallel walls to the west is not preserved

either, and one cannot say positively whether it was by a stair or a ramp, but we do know that at one time it was entered from the west from a level *ca.* 1 meter lower than that of the later Peribolos of Apollo, and slightly lower than that of the court of Peirene. The last coat of stucco on either wall shows a sloping line at its foot that defines the latest ramp or stair, but it is not well enough preserved to show which, save that we can surely restore one step, at least, at the bottom. All that remains of the floor in front of the basin is a small platform, 2.20 m. long and in its present state 1.00 m. wide. This floor, the basin itself, and the existing wall are all covered with a cement not distinguishable from that lining the reservoirs of Peirene. It is, however, impossible to conclude from that fact alone that it is definitely of the same period; and to judge

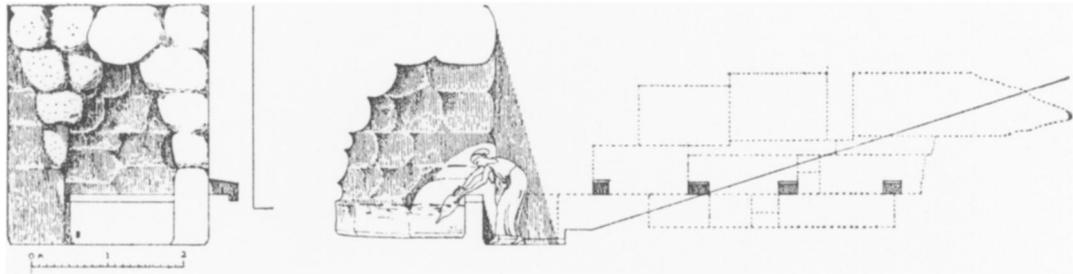


FIGURE 24. "CYCLOPEAN FOUNTAIN." ELEVATION AND SECTION

from the form of the grotto over the basin it is probable that it is appreciably earlier than the great water system of Peirene, though it certainly continued to be used after that system was constructed. Neither is it possible to determine the date of the "Cyclopean" basin by exploring the fill behind it, since it is completely hemmed in by later Greek and Roman construction. It is clear, however, that the parallel walls forming the approach to the hexagonal basin are of a later date than the basin itself, and the southern wall, with the conduit, is probably contemporary with the period of Peirene which preceded the construction of the six chambers.<sup>1</sup>

In late Greek times the connection with the "Cyclopean" basin was cut off and the water carried by the channel in the terrace wall was turned toward the west in a conduit which ran across the north side of the court in a terrace wall the top of which was lower than that of the eastern wall. A small section of the eastern end of the later wall is preserved underneath the northeast pier of the Roman court. Its line may be followed across the north apse, where the bed cutting for the wall is seen on the cover slabs of a large drain, 0.90 m. wide, which runs eastward from near the northwest corner of the court and empties into the great drain under the Peribolos of Apollo.<sup>2</sup>

<sup>1</sup> The excavation of the approach to the "Cyclopean" basin revealed the fact that, although it was certainly filled in the Early Roman Period, and may even have been covered in late Greek times, it had been opened again in the Byzantine period.

<sup>2</sup> This drain is made largely of re-used material, which from its nature shows that the drain itself must belong to a late Greek period.

The part of the north terrace wall which is preserved consists of an orthostate, 0.75 m. high, in the top of which the channel is cut. A capping course about 0.10 m. thick serves as a cover. A spout hole in the north side of the channel about 1.00 m. west from the corner shows that

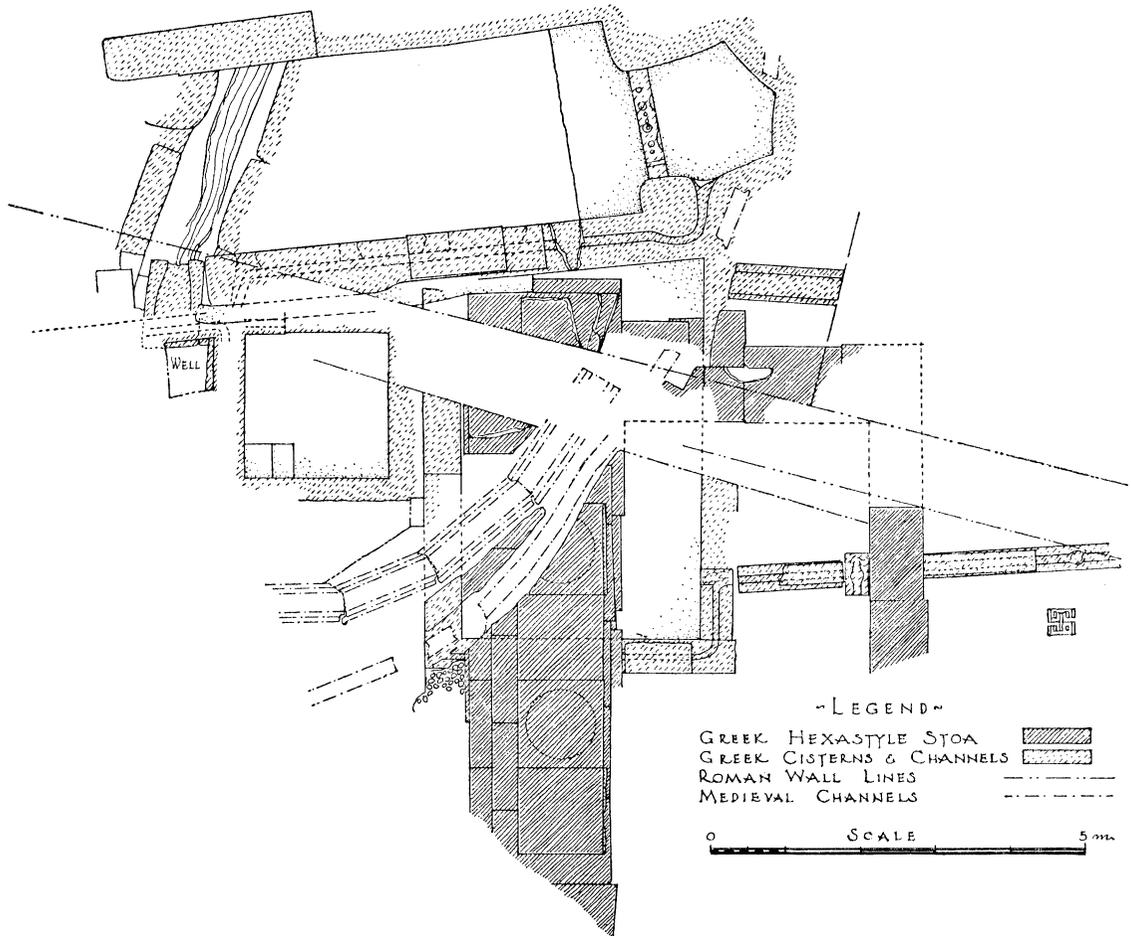


FIGURE 25. PLAN OF CISTERNS SOUTH OF "CYCLOPEAN FOUNTAIN"

for a time at least the eastern end of the wall was exposed on both sides. Subsequently, but still in Greek times, this hole was carefully plugged.

As has been noted above, the supply to the "Cyclopean Fountain" afforded by the overflow carried in the east terrace wall was not the original one. It is not known precisely whence the earlier supply came, but it is more than probable that the basin shared the supply of the two large cisterns immediately adjacent to it under the apse that faces the south side of the Peribolos of Apollo.

The two cisterns (Fig. 25) built of poros stone lie side by side, separated by a partition 0.50 m. thick, and at present 1.00 m. high, the well cut blocks of which are fastened by Z clamps. The one to the east measures 3.10 to 3.20 m. wide and 4.60 to 4.90 m. long, from north to south.

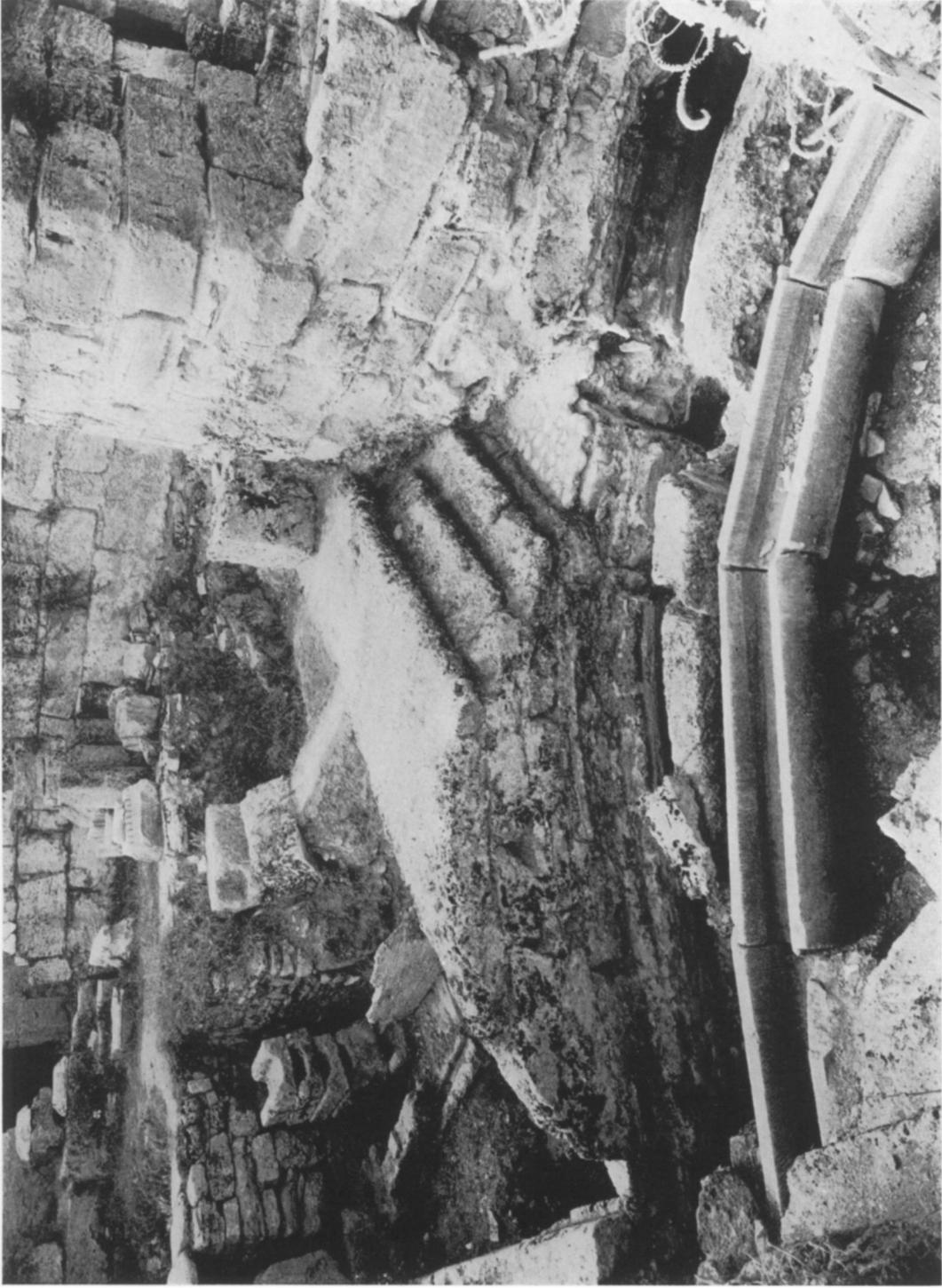


FIGURE 26. STYLOBATE OF HEXASTYLE STOA FROM NORTHWEST

The other was longer and probably of equal width, but its dimensions in this respect cannot be recovered. Both are lined with cement, which also covers the side of the “Cyclopean” basin, which forms part of the north wall of the eastern cistern, whose floor is 0.53 m. higher than that of the basin. The stucco preserved on the west face of the partition with Z clamps shows that the western cistern had its floor level some 0.30 m. higher than that of its neighbor, but in the

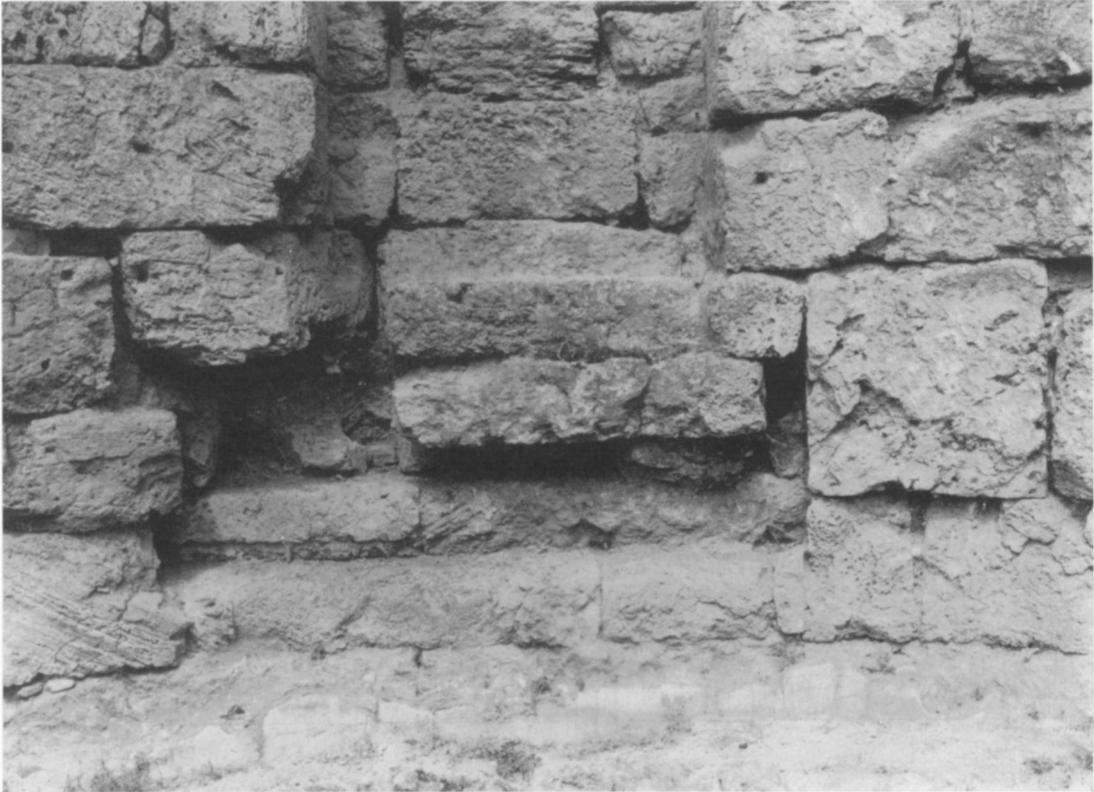


FIGURE 27. STEPS OF HEXASTYLE STOA VISIBLE IN EAST EXEDRA

northern part of the cistern and sunk about 1.10 m. below the floor there is an area some 2.00 m. square to which three steps at the southern corner gave access, probably for cleaning.

The supply to the two cisterns came from the east in a shallow rectangular channel, 0.105 m. by 0.06 m., which is interrupted twice at least by small oval settling bowls. The poros cover slabs of the channel lay close under the surface of the ground. The actual source of the water in the channel is unknown, but was presumably a small spring under the conglomerate ledge not far to the east of Peirene. A part of the water is delivered to the eastern cistern, and a part is carried in a channel cut in the east and south walls of the eastern cistern to empty into the western.

Both cisterns were presumably covered, and although of the arrangements for drawing water nothing is preserved, we may safely infer that the draw-basins connected with the cisterns lay to the west and north.

Over these cisterns on the terrace which faced westward across the court of Peirene, a hexastyle stoa was erected (Pls. II, VI, 1, IX, 1, X; Fig. 26), of which the euthynteria and three steps of the krepis are in a large part preserved. The building measures only 5.30 m. in depth and is 12.40 m. long. Although none of the columns remains *in situ*, their location may readily be determined and the plan is easily restored. The intercolumniation is uniformly 2.25 m., the corner



FIGURE 28. GREEK RETAINING WALL EAST OF PEIRENE. WALL ON RIGHT ROMAN PERIOD III

columns not being drawn in, although the building was undoubtedly of the Doric order.<sup>1</sup> The antae behind the corner columns are returned on their outer sides for the usual distance, equalling the width of a triglyph, but their inner faces equal their front faces in width, giving the effect of a square pier. The wall itself running back from the anta is thin, only slightly more than half the width of the anta-face, and this probably affords the explanation of the peculiarity of the anta.<sup>2</sup>

The steps are drafted at the bottom, the stylobate doubly so (Fig. 27), and were turned back as far as the anta, beyond which their lines were carried in three courses of stone with very slight projection. The lower diameter of the columns is 0.92 m. and several drums have been found which may be assigned to the building, but of the capitals and entablature no sure fragments have been identified.

<sup>1</sup> This peculiarity may be observed elsewhere in Corinth, as in the Northwest Stoa; *Corinth*, I, ii, p. 61.

<sup>2</sup> This is paralleled in the South Stoa (*Corinth*, I, iv, p. 39) which, except in magnitude, this stoa greatly resembles.

The orientation of the portico was determined, apparently, by that of the cisterns over which it was built. These were put out of use by the construction of the new building whose foundations rest squarely on the floor of the eastern cistern.

The area, some 4.00 m. wide, between the portico and the terrace wall to the west of it, was paved with small cobblestones set in brown cement, and fragments of this paving may be seen in the East Apse (Fig. 27) and just outside it to the north (Fig. 26).



FIGURE 29. LATE GREEK BASE IN THE AGORA, SOUTHWEST OF PEIRENE

The Stoa had been in use for some time when a waterproof pavement was laid at its south end, a little above the level of the bottom step and against the face of the middle step. This step must have been much worn both on its face and top when the waterproofing was applied, for this differs as much as 0.02 m. in thickness following the irregularities of the stone of the step. Apparently frequenters of the stoa often passed between the south column and anta on their way, it may be inferred, to a convenient spot to get water brought by the small channel in the eastern wall of the east supply tunnel. When the floor was raised, a small basin *ca.* 0.60 m. square with a slightly raised rim was provided just south of the first step. This basin continued, probably, to be fed by the channel just mentioned, but the flow must have been considerably reduced by the extensive alterations which had been made in the eastern supply tunnel (see above, p. 26).

The raised floor and also the basin were neatly cut, after some time, by the trench in which the lower part of a long retaining wall was constructed. This wall (Pls. II, VI, 1; see above, p. 37)

begins at the end and in prolongation of the east side of the east supply tunnel, runs north, at a slightly oblique angle to the face of Peirene, to a point some 3 m. distant from the south end of the Hexastyle Stoa, and then turns east for a distance of more than 17.50 m. The north face of this wall is distinguished by drafting cut on the bottom edge of each course, and it may be seen preserved to a considerable height east of the portico where this wall serves as the south wall of a house of the tenth century after Christ (Fig. 28).<sup>1</sup> The channel in the eastern supply tunnel was continued along the north-south part of this new wall, and probably served to supply a basin placed near the angle. A small window was left in the north face of the wall, opening out between the column and the anta of the portico. The undesirability of a narrow alley between the Stoa and this new retaining wall led to the construction of a partition or screen 0.16 m. thick which extended between the anta and the corner column, and from the corner column to the wall, effectively blocking access to the alley. A bench facing north was placed against the section between the column and the anta.

In the same period the front steps of the portico received a coating of waterproof cement. There is no evidence that this Stoa served any purpose but that of a lounging place for those who, like the very old men in the *Medea*, sat at draughts or, like Apelles and his cronies, looked for graceful figures of girls and boys in the throng of water carriers who came to the fountain. It is possible, however, that a door in the rear (east) wall allowed the Stoa to act also as a propylon to the court of the fountain from the area to the east. It is not suggested that this Stoa dates from the time of Creon and Medea, nor even from that of Euripides, though it is very likely that it is as old as the time of Apelles.

Save for the east side, with its terrace wall and draw-basins, and, later, the imposing Hexastyle Stoa, and the fact that along most of the north side of the court there was also a terrace wall, probably with spouts and dipping-basins, we know little about the court of Peirene in Greek times. Its level, as shown by the hard trodden area at the foot of the north terrace wall and the preserved foot of the east terrace, was about 14.50 m. below datum. The actual floor level of the space in front of the draw-basins was about — 14.20 m. Immediately west of the court there are no visible remains to be dated surely earlier than Roman times, but a little farther out, north of the east end of the later Propylaea, there may be seen worn blocks of a series of narrow terraces forming in effect a kind of stairway by which in the Greek period the fountain could be approached from the market place. There exist also, in the area between the platform of the Roman Propylaea and the west apse, several foundations for monuments of Greek times, which lined the north side of the approach (Figs. 29 and 30). It is fairly certain that an entrance was provided near the northwest corner for people coming from the north.

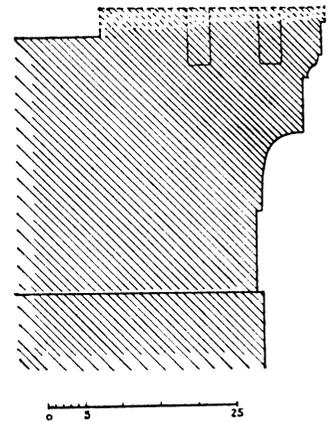


FIGURE 30. PROFILE OF LATE GREEK  
BASE

<sup>1</sup> *Corinth*, XVI, p. 39, fig. 2.

## SUPPLY TUNNELS

Before describing in detail the complicated system of tunnels that collected and brought water to the four great reservoirs (Pl. III), it will be advisable to discuss briefly a few technical points with reference to their construction.

The east and west supply tunnels that brought water to the fountain in the period before the construction of the reservoirs were of a characteristically early type<sup>1</sup>, which has a shelf conduit cut in the wall of the tunnel for carrying the water, the tunnel itself being made high enough for convenience in digging it and in carrying out the excavated materials. They are thus, to near manhole A, usually from 1.50 m. to 1.70 m. high, the ceiling of the tunnel being at the level of the bottom of the conglomerate. In width they usually measure from 0.50 m. to 0.65 m. Typical sections of these tunnels are shown in Figures 10 and 31, b. These tunnels were worked from the face of the clay bank, and, as we have seen, the eastern extended inward some 57 meters. The original length of the western tunnel is hard to estimate, because the sides have fallen in, but it must certainly have been more than 20 meters.

The chief difference to be noted in the later system of tunnels is the absence of the shelf conduit, the water being carried on the tunnel floor. The result of this is to make the gradient (1:200) of the tunnel floor a determining factor in the vertical position of the tunnel, and consequently to necessitate cutting up into the conglomerate or sandstone layer which overlies the clay so as to obtain a sufficient height for a man to carry excavated material along the passage, while downstream the floor was so low that the height of the tunnel (the level of the ceiling determined before) was much greater than that required.

The contour of the ceiling varies from flat to elliptical, depending apparently on the material in which it is cut, the flat ceiling occurring generally in sandstone, the elliptical in clay. In the case of conglomerate, either cross section may be noted, but the general form is slightly elliptical.

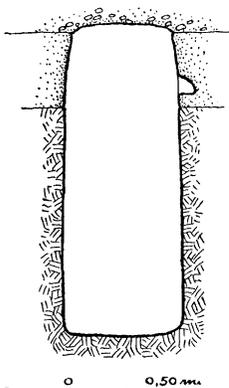
An invariable feature of such tunnels is the series of small niches cut at intervals for the placing of lamps to give light to the workmen (Fig. 31, a). The spacing, as observed in the east tunnel, varies from 0.85 m. to 1.25 m., the height of the niches above the floor being on the average 1.29 m. They may occur only on one side of the tunnel, or they may be alternated, each succeeding niche being on the opposite side of the tunnel, or, exceptionally, both sides may be provided with a full series of lamp niches.

Vertical shafts reaching down from the surface to the tunnel are sunk at intervals to facilitate the removal of clay and rock. They are elliptical in plan,<sup>2</sup> 0.65 m. to 0.70 m. wide, 1.15 m. to 1.25 m. long, and are provided with toe-holes on opposite walls at the ends of the short axis to allow climbing up or down. The long dimension of the shaft normally follows the direction of the tunnel.

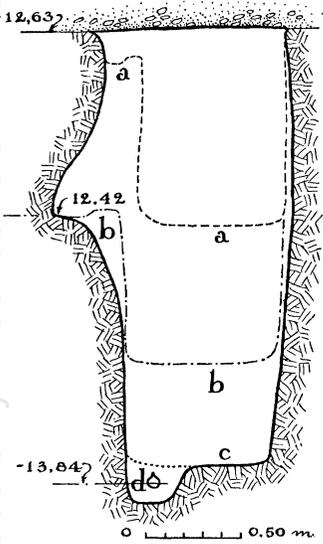
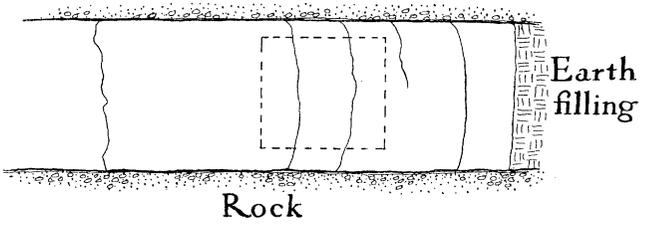
<sup>1</sup> Good examples of tunnel with shelf channel elsewhere in Corinth: Type 1, from Temple B to Triglyphon III, see below, p. 134, Figs. 75, 78; Type 2, from Sacred Spring Basin south to edge of cliff, see below, p. 156, Fig. 97.

<sup>2</sup> A probable explanation of the elliptical form is afforded by the assumption that a windlass was erected over the shaft and was so arranged that when a full basket was drawn up the empty one would be lowered, and it was necessary to provide space for the two to pass.

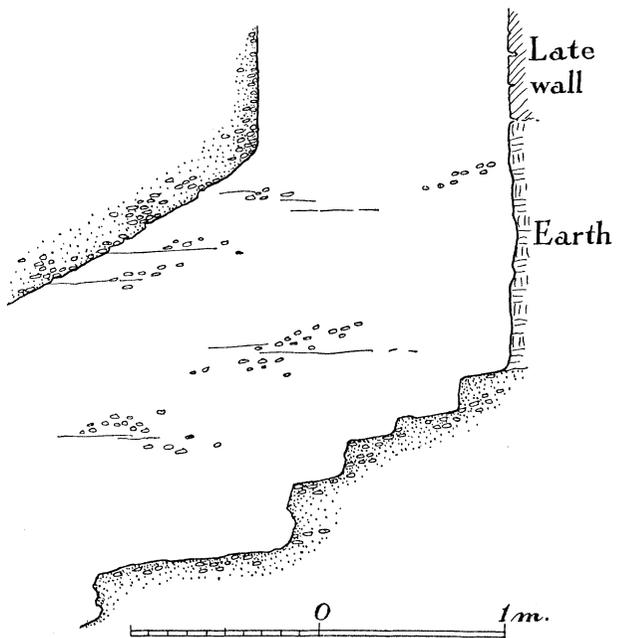
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For personal use only. License: CC-BY-NC-ND.



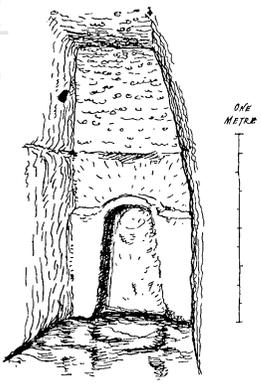
a. TYPICAL SECTION OF SUPPLY TUNNEL



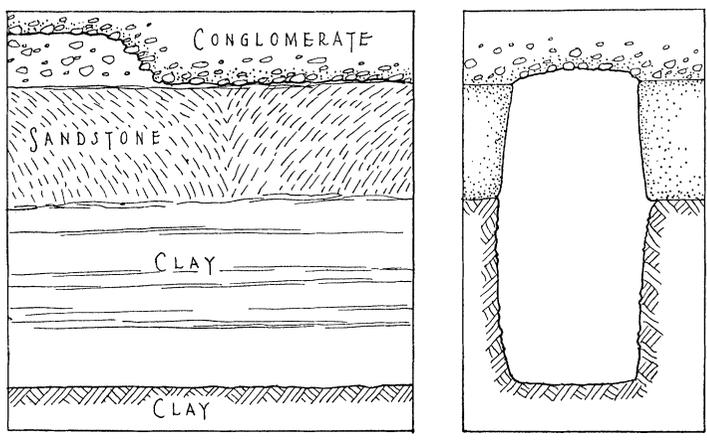
b. WESTERN SUPPLY TUNNEL, EAST-WEST SECTION, LOOKING SOUTH, AT 10 m. FROM FAÇADE. ACTUAL AND EARLIER FORMS. d. ROMAN LEAD PIPE



c. MANHOLE G, PLAN AND SECTION



d. WESTERN SUPPLY TUNNEL. NICHE AT END OF BRANCH S 7



c. REAR CROSS TUNNEL. Sections at h<sup>1</sup>. Longitudinal, looking Southwest; Transverse, looking Northwest

FIGURE 31

## EASTERN TUNNEL

The four great reservoirs originally derived their supply from the eastern tunnel. The original tunnel from the front of the fountain, since it did not connect exactly with Manhole A, was swerved slightly to the east to reach it (Fig. 31, f, left); it was extended towards the south-east in three sections dug from Manholes A, B, and C. The tunnels were regularly dug upstream.

Although the axis of Manhole A points directly to B, the tunnel was dug on a line  $12^\circ$  too far to the right (south). Hence, having been carried to the required distance, it was found to end too far to the south, and was connected with Manhole B after a series of three trials, as is

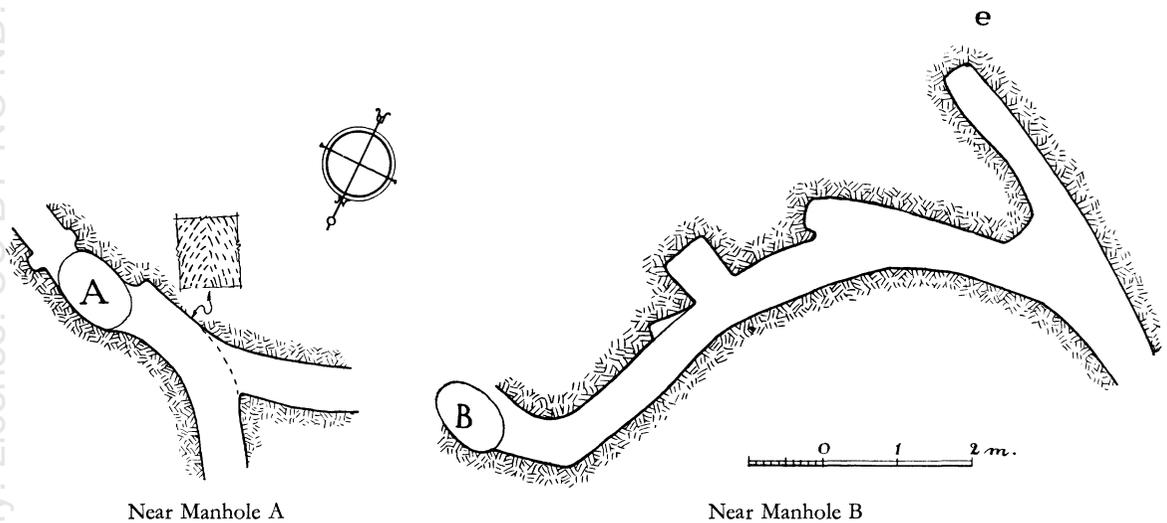


FIGURE 31, f. EASTERN SUPPLY TUNNEL, PLANS

clearly shown by the plan, Plate III; Figure 31, f, right. As considerable water flows along this bend we may explain the rectangular pocket *ca.* 3 m. short of B as due to an effort to expedite the inflow into the tunnel and so reduce the flow into B, which of course had all to be lifted up by buckets some 11 or 12 m., in order that men might work at the bottom of B.<sup>1</sup>

The next section of the tunnel, from Manhole B to Manhole C, was laid out with great precision and the manhole and the tunnel met almost exactly. Through some error, the direction of the tunnel beyond C followed the prolongation of the line B-C for about a meter and a half, but the error was discovered and rectified by striking a new line from C, about  $14^\circ$  to the left (north). The new section, 27 m. long, brought the tunnel to Manhole D, slightly to the left

<sup>1</sup> For some distance south of A, the tunnel, instead of having the normal height of 1.60 m., is from 2.05 m. to 2.40 m. from the floor to the ceiling, notwithstanding the fact that this necessitated cutting up into the hard conglomerate for a distance of some 0.40 m. This perhaps represents an experiment which was intended to allow work to be carried on with as little soiling of the water supply as possible. It would be feasible, having a tunnel of extra height, to lay a sort of plank floor above the bed of the tunnel so that the workmen did not actually walk through the stream. Whatever explanation may be offered, this experiment was discontinued after a distance of 13 m., where the ceiling resumed its normal level.

of the true axis. At about 11 m. from C are branch tunnels to the south and north, the former 9 m. long and the latter 4 m., both made obviously to collect water. The shallow pocket just short of D may be explained in the same manner as that suggested for the similar pocket near B.

Beyond Manhole D the tunnel was extended about 16 m., having, at about 11 m. from D, a branch towards the south, from which there is a considerable inflow of water, although the principal source where the water flows in copiously over the clay is at the end of the main tunnel. This last section of tunnel grows gradually lower as it approaches its end, there being, of course, no practical purpose in making it larger than was necessary for convenience of construction.<sup>1</sup>

In the foregoing description it has been assumed that the several sections of tunnel were part of a single building programme. This seems on the whole most probable, because of the close correspondence in the orientation of the manholes. It is just possible that the tunnel east from C ended at one time a little beyond the collecting branch tunnels, for the ceiling there drops about 0.38 m. as if the end were near.

#### WESTERN TUNNEL

The western supply tunnel is of greater extent (main line 260 m. as compared with 175 m.) and far more complicated in plan than the eastern. In its northern part it is also much less well preserved. For some 75 m. its clay walls have fallen in and its line can be traced only at the ceiling and at the floor, which is, however, for the most part buried out of sight. The bad state of preservation is due to two facts: first, since the clay stratum here is nearly level and there is not, as towards the east, a layer of sandstone of gradually increasing thickness between it and the conglomerate, the walls of the tunnel were of clay for practically their whole height and reached up only slightly into the conglomerate rock above; second, this tunnel has for at least eighteen centuries served as a reservoir and has been kept filled with water up to *ca.* 0.75 m. from the top, without having the walls protected by stucco.

The northern part of the tunnel is so high (2.30 m. to 2.50 m.) as to suggest that the floor is not at its original level. To collect water the tunnel had of course to extend up to the top of the clay; but there would be no reason for cutting it to more than normal depth, i. e., about the height of a man, until it was desired to deliver water at a lower level. It is not improbable that approximately the original level of the floor is shown by the clay preserved behind the oblique wall at the west foot of wall *e* (Fig. 5). This level is *ca.* — 13.15 m.

The tunnel was doubtless begun to strengthen and direct the flow, collecting the water from several small streams as its line crossed theirs. At the very first it would have consisted of no more than a deepening of a main vein as far back as a man's arm and tools could reach. The earliest actual tunnel had most likely the form shown as *a-a* in Figure 31, b, made only large enough for a man to work in a crouched position. Unless the little shelf channel was built so as to catch *all* the water and was thereafter kept in perfect repair there would have been a certain

<sup>1</sup> At the lowest point the ceiling and floor are only 0.65 m. apart and the width of the tunnel is only 0.45 m.

amount of water flowing in the bottom of such a tunnel. Perhaps it was this that determined the level of the second channel and spouts in the wall *e* (above, pp. 20–21). If so, then our hypothetical first tunnel had its floor at *ca.* — 12.40 m. and was *ca.* 0.90 m. high (Fig. 31, b, *a-a*), an arrangement both reasonable and practicable. This would serve until it became desirable to extend the tunnel. A point would then be reached beyond which it would be increasingly difficult to draw out the excavated clay and stone. Then the tunnel was deepened so that men carrying baskets on their shoulders could walk upright (Fig. 31, b, *b-b*). This involved excavating and removing nearly twice as much material as before, but undoubtedly cost less labor, besides making a tunnel of much more convenient size for cleaning and inspection.

In the west tunnel the ceiling is cut up to a level *ca.* — 11.30 m. as far back as 45 m. from the façade and then lowered gradually and very slightly. This would allow the tunnel floor, starting at *ca.* — 13.15 m., to keep a gentle upward slope, for drainage, and still leave the workmen headroom.

The western tunnel extends first *ca.* 20 m. directly south. Thence, quite unlike the eastern one which keeps its initial direction for some 57 m., it follows a slightly winding course bearing in general a little west of south. From *ca.* 35 m. back the line is nearly straight, *ca.* 32° west of south for *ca.* 25 m. There, near Manholes F and G, the tunnel forks, the left arm extending 60 m. in a nearly straight line west of south and the other arm about 120 m., also in a straight line, southwest. Facing the entrance to the left branch, across the line of the main tunnel, is a manhole of a type different from any so far described (Fig. 31, c). A flight of steps runs upward in a sloping tunnel 0.85 m. wide. Although the lower steps, which were cut in the clay, no longer exist, the steps are well preserved when the conglomerate is reached. The upper part of the flight is still unexcavated, the present upper end being formed by a small chamber with a shaft above it, both of medieval construction. It seems that here, instead of using a windlass to remove the material excavated from the tunnel, the dirt was carried out all the way on the workmen's backs. The width of the stair tunnel was sufficient to allow workmen to meet and pass conveniently.

From the lower end of Manhole G the tunnel running west of south reaches Manhole H at a distance of 26 m., where there is a branch towards the west which ends (at I) at a distance of about 7 m. Fifteen meters farther south there is a second branch to the west, which it has been possible to follow for only about 7 m. (to m). Unlike the branch from H, this seems to have been cut largely from the west, and it must either lead to a manhole not yet uncovered or connect with a part of the water system not yet explored. The tunnel G–H continues beyond the last-mentioned western branch for 15 m., where it ends. For the last 3 m. the ceiling is gradually lowered until the height of the tunnel is only 1.40 m. About 2 m. short of the end on the east side there is a branch 1.50 m. long, presumably cut with the expectation of reaching Manhole J. This manhole was, however, actually reached by a short tunnel about 1.50 m. farther south. It is quite clear that the whole tunnel G–H was cut from the north, including the western branch from H and the short eastern branches near J.

The relation in time of the branch GH to the southwestward branch FM (see below, p. 59) is not to be determined from the available evidence. It may be that the southernmost part of

GH was cut to reach Manhole J, that is, to connect with the long tunnel under the South Stoa which was in part constructed from J.<sup>1</sup> The whole line from F, however, does not seem to have been cut solely to reach J, since otherwise there would be no reason at all for the blind branch at H and no apparent reason for the other western branch (at m) 15 m. south of H. It is preferable, then, to take the branch GH and some 20 m. at least beyond as earlier than, and independent of, J and the system with which it connects.

The southwest branch from F runs in a straight line toward Manhole M, 97 m. away under the west wall of the South Stoa, and continues in the same line for about 40 m. From F to F<sup>1</sup>, the tunnel, of which only the ceiling has been seen, shows that it was widened, probably in the Roman Period, from a width of about 0.55 m. to one of about 0.80 m., when a dam was built converting the entire tunnel into a reservoir. F<sup>1</sup> is at present a circular shaft, 27 m. from F, and its center lies directly over the original side line of the tunnel. It is probable that F<sup>1</sup> is not a manhole, but merely a well, serving to tap the channel or possibly to ventilate it. At 32 m. southwest from F is a branch to the north ending at Manhole F<sup>2</sup>, which had a cover of well fitted poros slabs. About 10 m. farther on in the main line is a well, F<sup>3</sup>, not unlike those found under the South Stoa, on the north side of the channel; it once drew from the tunnel, but the connection seems to have been blocked in Greek times and the well filled. From this point to M the tunnel is unexcavated. M is a circular well, 0.80 m. in diameter; from it there is a branch towards the northwest (p) which brings in a very small quantity of water. It has been followed for only about 8 m.<sup>2</sup> and the exact source of this small stream is therefore unknown. At various points between M and R water flows in through the south wall of the tunnel, the inflow from these minor sources being about equal to that from the branch of M. Thirteen meters beyond M, on the prolongation of the line from F, at q, a channel joins the main southwestern line from the southeast, the important ramifications of which will be considered farther on.

Each of these channels has several short branches for collecting water. In the southwest line, the first of the lesser branches enters from the south at about 12 m. from the junction; 3 m. from the main tunnel it passes under Manhole R, beyond which it has been followed in a straight line south for about 5 m. without reaching its end. At present it yields no water. Twelve meters farther southwest along the main line, at u, are two branches, one 2 m. long towards the southeast and another extending some 6 m. to the northwest; each brings a small quantity of water. The longer of these two branches passes under the well S, but beyond that its extent is unknown. The main line seems to have ended at one time at v, some 37 m. from the junction. Near its end a branch leads 5 m. northwest to Manhole T, a little short of which the main line is carried on toward the southwest (see plan). About 2 m. from the beginning of the new main line there is a manhole, U, to the left (south) of the tunnel, and beyond it a branch about 10 m. in length brings water from the south (x<sup>1</sup>). At 55 m. from the beginning of the new main line (w<sup>1</sup>), a branch

<sup>1</sup> *Corinth*, I, iv, p. 59, plan IX.

<sup>2</sup> [The excavations of 1959 and 1960 traced this branch some 30 m. further in the same direction to the second of two manholes.—Ed.]

to the southeast leads to Manhole V at 3.50 m. from the main line and beyond it to a chamber, and beyond that still, to a tunnel with a flight of steps curving up toward the north (W). The well, the chamber, and the stairway were accessible until comparatively modern times.

Seventeen meters beyond the branch leading to the stairs, the main line reaches Manhole X and a little beyond it divides into two arms (to  $y^1$  and  $y^2$ ), each of which brings a considerable flow of water. A short branch leading from the manhole westward to a small spring ( $z$ ) is also a collector and at 5 m. north (at  $w^2$ ) from the west side of the main tunnel there is also a considerable inflow. These are the springs of the Peirene system nearest Acrocorinth and the water flowing from them may perhaps have been imagined by the Romans, who cleared out the tunnels, to have been derived from the well-house on that hill.<sup>1</sup>

To return to the junction q, 13 m. from M, the branch towards the southeast continues in a straight line for about 14 m., where it curves to the east to reach Manhole N. The principal southeast branch is carried with only a slight bend from Manhole N to O, and from O south-eastward to 14 m. beyond P, collecting water along the whole length of this last stretch. The principal source is at the very end, but water is also contributed by three branches on the east side of the tunnel and by six on the west.<sup>2</sup> The next to the last branch towards the east, s 7, about 8 m. north of P, is peculiar in that it ends in a small, rather carefully cut shrine (Fig. 31, d) in the form of a shallow niche with sides inclining inward slightly and with an elliptical top. Close above it the rock has been cut back about 0.15 m., leaving the vault free and flanked on either side by a shelf roughly 0.15 m. square, at about 0.06 m. below its top. The workmanship is naturally similar to that of the tunnel, but it is considerably more careful. Whether the shrine was meant seriously to take a relief, a statuette, or some sort of offering, or whether the workmen were simply indulging their fancy here near the end of their job, it is impossible to determine. No trace of an inscription was found in or near the niche, and no remains of what may once have been set within it. Two of the branches on the southwest side of the main line end in extremely

<sup>1</sup> This suggestion is made on the supposition that there may have been some basis for the traditional connection between the fountain on Acrocorinth and Peirene in the city. It is, however, quite as probable that there was no foundation for it at all. At any rate, it is not possible to suppose that the fountain on Acrocorinth, with an inflow of perhaps 30 liters per hour, supplied a fountain with a discharge of 3,200 liters per hour. The amount of water supplied by this southwest branch, when measured in April, 1933, was 3,504 liters per hour.

<sup>2</sup> An opening in the east wall of Manhole P at 3 m. below the ancient surface (−4.07 m. to −5.80 m. below datum) gives access to a well cut tunnel running east of north that passes by the manhole only some 0.30 m. away. The tunnel measures 1.60 m. in height and from 0.60 m. to 0.52 m. wide. In the bottom along the center is a channel 0.13 m. deep and 0.095 m. wide at the bottom with sloping sides. The channel and the floor of the tunnel are thickly coated with stucco which is turned up against the walls for a height of 0.10 m. The entire tunnel is cut through the red sandstone familiarly known as *stereo*. The tunnel extends in a straight line northward 27.50 m. to where there is on the east side an ancient manhole, beyond which it has not been followed. To the south the tunnel runs 5.47 m. Just before the end a curving arm enters from the east. An elliptical manhole, exactly over the tunnel, occurs at 17.50 m. from the junction. Beginning at the manhole and reaching westward is a branch that slopes uphill and probably was for a stairway or ramp. A short branch, 1.25 m. long, just short of the end, leads to an elliptical manhole, beyond which it was impossible to go.

careful cutting. One of them simply makes the last meter of the tunnel as exact and even as possible. The other, the second towards the northwest from Manhole P (s 8), has at the end the outline of a niche with elliptical top, which was, however, little more than begun.<sup>1</sup>

Three meters northwest of Manhole N a tunnel about 109 m. long branches off toward the east and extends under the South Stoa. It is about 0.60 m. wide and 1.75 m. high, and as its floor is about 0.60 m. lower than that of the tunnel from which it branches, its elliptical ceiling does not reach the conglomerate stratum but was cut wholly in the clay. On the north side of this tunnel, at 15 m. and 23.50 m. from its west end, are short branches to wells (J<sup>1</sup>, J<sup>2</sup>), which probably served as manholes used in the construction of the tunnels. At 41 m. from the beginning of the tunnel on the south side, and at 72 m. on the north side, are also two construction manholes of the usual elliptical form (L<sup>2</sup>, J). The first of these intersects the tunnel, while the latter is some 0.70 m. away from it. At 30 m. a change in the level of the ceiling and an irregularity in the south wall show where construction gangs met.

Along the north side of the tunnel was sunk a series of circular wells at intervals of about 5 m.<sup>2</sup> They are in general close to it, the clay wall between the well and the tunnel being usually 0.25 m. to 0.40 m. thick. A small opening about 0.20 m. wide and 0.50 m. high close to the floor of the tunnel<sup>3</sup> connected it with the bottom of the well.<sup>4</sup> In the few cases where they were sunk at a greater distance from the tunnel the wells were connected with it by branch tunnels which are of about the same dimensions as the main one. The wells known to be of this type are J<sup>1</sup> and J<sup>2</sup>, already mentioned, and J<sup>5</sup>. These, and the Manhole J, which takes its place in the series of wells, were closed off from the tunnel by a thin wall of squared stones with a low opening at the bottom. Their connection with the tunnel was thus essentially the same as that of the other wells. The wells are circular, about 0.80 m. in diameter where they are cut through the sandstone and conglomerate, and slightly larger at the bottom where they are cut into the clay. Above the sandstone they are lined with four or five courses of well cut blocks up to the floor of the Stoa.<sup>5</sup> This built part of the well is usually 0.62 m. to 0.65 m. in diameter. The well curbs were of poros.<sup>6</sup>

<sup>1</sup> The inflow from the main southeast branch measured in April, 1933, was 5,760 liters per hour, a little more than half the contribution of the western tunnels to the supply of Peirene. The total supply of the entire western system was then 11,460 liters per hour.

<sup>2</sup> *Corinth*, I, iv, p. 59, plan IX.

<sup>3</sup> Some of the openings have been worn to larger dimensions but all seem to have been originally at least as small as stated.

<sup>4</sup> The tunnel cut underneath the South Stoa has, where its walls are sufficiently well preserved, at a low level opposite the openings from the wells sometimes one, sometimes two holes for lamps. These are additional to the lamp holes cut at the usual height a little below the ceiling. It may be presumed that they were used for lamps shining into the bottom of the well opposite.

<sup>5</sup> *Ibid.*, p. 60, fig. 38.

<sup>6</sup> *Ibid.*, pp. 60–61, fig. 39, pl. 14, 1–3.

Twenty of these wells have been seen from below and four from above.<sup>1</sup> Of the four, one (Manhole J) is in use as a well to this day. A second, J<sup>7</sup> (the fifth to the West from J) was in use until comparatively recent times, probably until the eighteenth century. The other two were filled after long use in the Byzantine period. It has been possible to make some examination of the contents at the bottom of a dozen or more of the wells. From these it is clear that the wells were filled in late Hellenistic or early Roman times; that is, when the city was destroyed by Mummius or immediately upon its rebuilding in the first century B.C. The position of the wells in a line approximately parallel with the axis of the long South Stoa about 15 m. from its front, and at regular intervals suitable to the width of chambers or shops at the back of the Stoa, makes it sure that the wells are contemporary with that building and were sunk to give the tenants a supply of fresh running water.

At the east end, 37 m. from Manhole J, the tunnel communicates through a small opening cut in the clay wall with a similar tunnel extending eastward, presumably as far as the east end of the Stoa.

This latter tunnel was dug independently of the first and the opening through which they communicated measured only 0.27 m. by 0.22 m. It is only through this opening that the eastern tunnel is connected at all with the Peirene system. A small amount of water (*ca.* 0.8 cu. m. per hour when measured in May, 1933) flowed from the eastern into the western tunnel and passing through Well J entered the Channel H-G and so ultimately was delivered to Peirene.

In the short run westward from J the floor of the channel is about 0.60 m. higher than in the long tunnel under the Stoa, thus effectively preventing the wells from going dry.

Just alongside of Manhole L<sup>2</sup> is a well which had been filled, probably as early as the sixth century B.C., which the excavators of L<sup>2</sup> apparently did not observe, although they cut into it slightly.

About 2.00 m. from Well J<sup>1</sup> and just south of the main tunnel another well (L<sup>1</sup>) was cut in late Byzantine or modern times. An opening was broken from it into the main tunnel and a branch tunnel was cut from it southward. This branch seems to be about 6.00 m. in length, but it has not been cleared and its purpose is unknown, although it is likely to have been to let the main supply flow to another well. The floor of this branch tunnel, which is of very inferior construction, is about 0.50 m. higher than that of the main tunnel. Twenty-five meters farther west there is a branch well (Q) of obviously similar purpose but rather better construction, leading from the main southeast supply tunnel. Except in its upper and obviously modern part, this well is well constructed and may date from late Roman or early Byzantine times. The well was in use until a very late period. The upper part of the lining is modern and reaches to within about 0.80 m. of the present surface of the ground.

<sup>1</sup> [This paragraph, although augmented by the results of the excavation of the South Stoa after it was written by Mr. Hill, has been left as he wrote it, as a record of his earlier work in this area, the conclusions of which have been confirmed by the excavations. —Ed.]

## CROSS TUNNELS

Connecting the main eastern and western collecting systems are two cross tunnels which remain to be described. The southern of these (Fig. 31, e) starts from Manhole A and reaches the main western tunnel at a point about 4 m. west of Manhole E. It was cut from both directions and tool marks on its sides *ca.* 18 m. from A show exactly where the two construction gangs met.<sup>1</sup>

From Manhole E the tunnel extends for about 35 m. in an almost straight line towards Manhole A; the section beginning at A is straight for about 13 m. but does not aim directly at E, so that two sections, which should have met after only 2 m. more of digging, were actually 6 m. apart. Each tunnel then swings to the right and they meet, as stated, in the middle of the curve some 3 m. from the ends of the straight sections. From the fact that the long section from E was laid out accurately towards Manhole A, while the shorter section from A does not aim directly at Manhole E but rather at Manhole F, it may be possible to infer that the straight part of the section from A had already been cut with the intention of reaching the western tunnel at F. A possible alternative explanation is that it was intended merely as a branch of the main east supply tunnel. The junction of the cross tunnel with it, close by Manhole A, is such as to show that the eastern tunnel is the older. It is certain also that the western supply tunnel was already in existence when the cross tunnel which slopes gently down from A to E was constructed. The purpose of this connection was doubtless to divert a part of the water from the east to the west tunnel when the supply delivered by the former to the reservoirs was too great. Presumably the cuttings noted above as for temporary dams served later to hold permanent gates controlling the flow.

The eastern part of the second, northern, cross tunnel has been described in connection with the four reservoirs (above, pp. 26–29). Its western part, which enters the western tunnel 9 m. north of Manhole E, is irregular in line and entirely different in construction from the regular Greek tunnels and is probably to be ascribed to a date after the Roman refounding of the city. The eastern part of it, of excellent construction, is contemporary with the reservoirs which it supplied.

<sup>1</sup> Cuttings in the wall of the tunnel about 3 m. in from Manhole A indicate a temporary dam to prevent water from the main channel being diverted into that under construction. There are similar indications of a second dam about 14 m. farther west.

Evidence as to methods of construction are best preserved in walls of sandstone which retain the tool marks; clay walls fall away in time, thus obliterating them, while conglomerate is so full of small stones that in it the tool marks never were clear.

## FIRST ROMAN PERIOD

Peirene was apparently little damaged at the time of the destruction of the city by Mummius, if we may judge from the survival of the delicate columns at the rear of the chambers, as well as, indeed, from general considerations; for sacking the city must have been such a dusty, hot and thirsty task that it would have been highly improvident to destroy or dismantle fountains before the general work of demolition and spoliation had been completed. And after that Peirene can, so far as we know, have offered the final plunderers nothing at once portable and valuable, while they are unlikely to have been attracted by intrinsically worthless souvenirs, even if chipped from a fountain of great renown.

For the fate of Peirene during the hundred years in which the city lay desolate there is no sure evidence. The water must have continued to flow without serious diminution and would naturally have been used for irrigation either in the lower part of the city proper or, perhaps more probably (along with water from such lower springs as Lerna and that now called the "Baths of Aphrodite"), down in the plain just below the city, assuming that this area was included in what Cicero characterizes as "that most excellent and fruitful land of Corinth which was added to the revenues of the Roman people by the successful campaign of Lucius Mummius."<sup>1</sup>

It is not unlikely that some of those to whom this rich territory was leased and of those who collected the taxes on it drew water from the old chief fountain. But if so, any wearing thus caused in the parapets of the draw-basins was obliterated by regular use in the first years after the refounding of the city. The meager testimony of coins is likewise indecisive, though two of those found under Chamber I (where alone examination has been made beneath the floor) may conceivably have fallen there after 146 B.C. and before 44 B.C. They are a Macedonian piece<sup>2</sup> issued by the quaestor Gaius Publilius *ca.* 148–146 B.C., and a coin from Patras<sup>3</sup> of a class assigned to the long period 146–32 B.C. The former, however, may not improbably have been lost—or offered to the nymph Peirene—by one of the men in Mummius' army who had come down from Macedonia with Metellus for the Achaean campaign; and as to the latter we shall doubtless best assume, until the Nikostratos in whose administration it was struck can be dated with some precision, that it was brought to Corinth after the establishment of the colony.<sup>4</sup>

Two other coins found in the sand under Chamber I show unmistakably that the fountain continued to be used in its old form down into the reign of Augustus. Both of these are coins

<sup>1</sup> Cicero, *De Lege Agraria*, I, 2, 5.

<sup>2</sup> *Corinth*, VI, p. 42, no. 245, pl. VI.

Æ. Obverse: Head of Athena Parthenos r., in crested Athenian helmet.

Reverse: ΓΑΙΟΥ  ΤΑΜΙΟΥ. Feeding ox r., head full-face; below  (monogram of Bottiaea).

<sup>3</sup> *Corinth*, VI, p. 54, no. 328, pl. VII.

Æ. Obverse: Head of bearded Herakles r., bound with taenia.

Reverse: Athena r.; in r., couched spear, on l. arm, round shield. ΝΙΚΟΣΤΡΑΤΟΣ ΚΑΛΙΚΤΡΑΤΟΥ ΠΑΤΡΕΩΝ; to l., palm, to r., .

<sup>4</sup> An Athenian coin attributed to *ca.* 100 B.C. was found at a Late Greek or Early Roman level under the north apse.

of Corinth as a Roman colony. One,<sup>1</sup> issued by M. Antonius Theophilus and P. Aebutius, as *duoviri quinquenales*, is assigned by Miss Edwards tentatively to 24/23 B.C., the first quinquennial year after Corinth became the capital of the Province of Achaëa. The other,<sup>2</sup> issued by M. Novius Bassus and M. Antonius Hipparchus, having on the obverse the head of Augustus and on the reverse the head of Julius Caesar, is placed by Fox, with whom Miss Edwards agrees, a little after 17 B.C.

During the last Greek days and the period of desolation, and the first years after the refounding of the city, the parapets between the Ionic columns and antae were very deeply worn, and at one point in Chamber I, actually the place where the coins just discussed were found, the floor was worn or broken through. Whether used much or little or not at all during the period of desolation, the fountain and the extensive system of tunnels supplying it doubtless suffered more or less from neglect. It is probable that any repairs thus made necessary, especially to the parapets at the rear of the chambers and to the waterproof lining of the reservoirs, were carried out soon after the reoccupation of the city. It is reasonable to suppose that the reconditioning of the whole water system was a part of the general program of restoration in the first Roman Period.

During this first Roman Period, the façade of the fountain remained as it had been at the end of Greek times, with a long ledge of conglomerate rock resting upon the walls of the six chambers beneath. To the west and east, as well as in the interior, certain changes were made which must now be considered. The line of the façade was carried westward by a new wall of characteristic Early Roman construction, built entirely of re-used Greek blocks, which have a deep bevel cut with a toothed chisel on two edges, giving the joints a half V section.<sup>3</sup> The wall is 5.00 m. to 6.00 m. high, and masked the ledge for a distance of 5.00 m. where its face had been broken back (Pls. II, VI, 2, IX; Fig. 32). Beyond that, the upper courses rest on the conglomerate, which is cut in a straight line projecting a little from the face of the wall, and serve to retain a filling of earth and small stones and masons' chips, which brings the level to about 1.00 m. to 1.50 m. above the rock. Less than a meter beyond the original end of the façade an opening 1.87 m. high by 0.96 m. wide was left in the wall as a doorway giving access to the

<sup>1</sup> *Corinth*, VI, p. 17, no. 23, pl. I and p. 5.

Æ. Obverse: **M . ANTONIVS . II . VIR . QVINQ**. Table with four straight legs; upon it, wreath; border of dots.

Reverse: **P . AEBVTIVS . II . VIR . QVINQ**. Sacrificial vase; palm-branch to r. and around it; border of dots.

The facts that Theophilus was until the battle of Actium Antony's representative at Corinth and that Aebutius during another year of office issued coins bearing the head of Antony (*Corinth*, VI, p. 17, no. 20), of which one was found under the room east of Chamber VI on May 26, 1938, suggest as a possibility, at least, that their joint magistracy is to be assigned to the period before the fall of Antony.

<sup>2</sup> *Corinth*, VI, p. 18, no. 30.

Æ. Obverse: **[M NO]VIO BA[SSO . . .** Head of Augustus r., bare.

Reverse: **. . . II VIR**. Head of Julius Caesar r., laureate.

H. B. Earle Fox, *Journal international d'archéologie numismatique*, II, 1899, p. 101, no. 15.

<sup>3</sup> Cf. *Corinth*, I, p. 170.

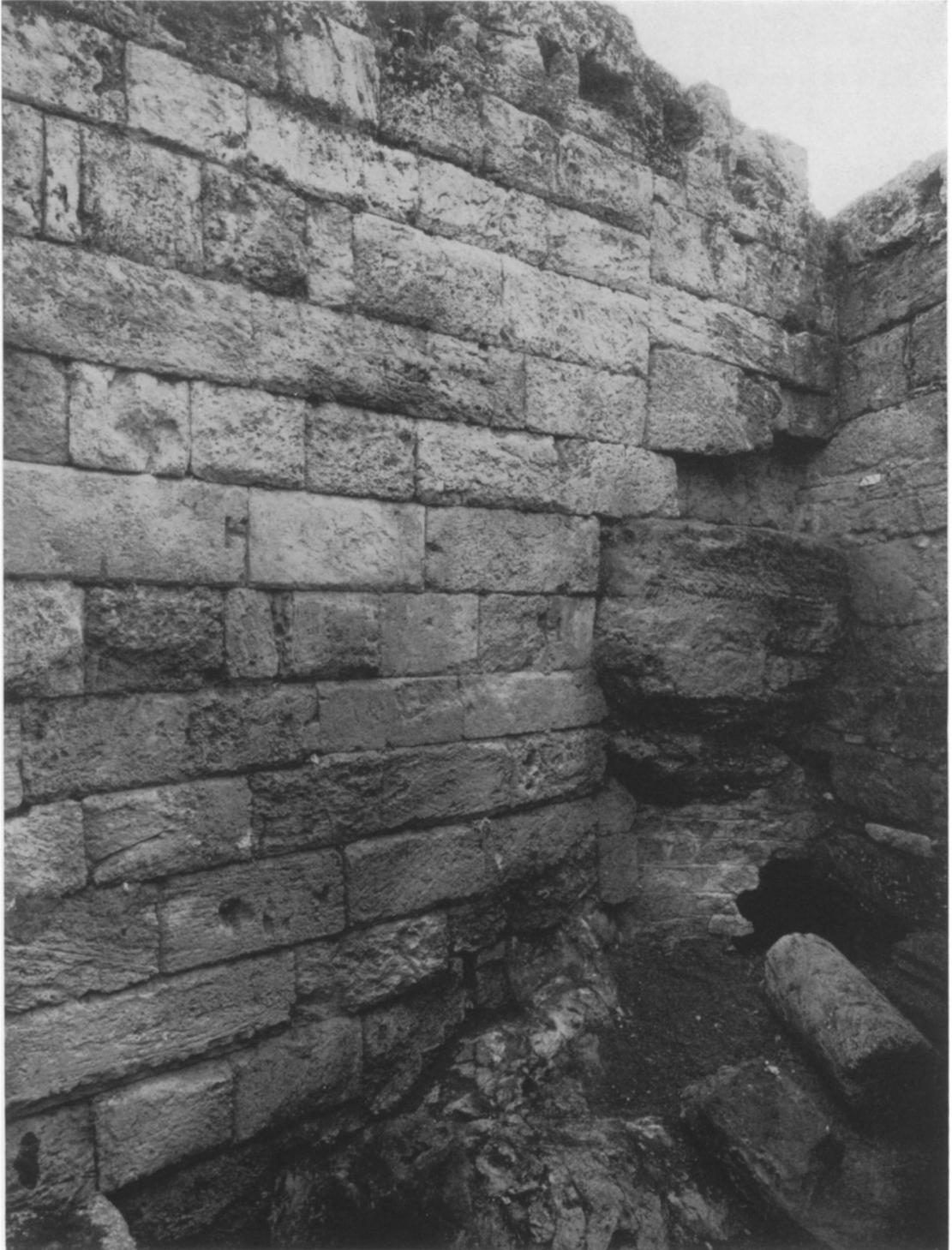


FIGURE 32. ROOM WEST OF SOUTHWEST CORNER OF COURT. VIEW OF SOUTH WALL, ROMAN PERIOD I

western supply tunnel of the fountain.<sup>1</sup> At the same time, walls were constructed extending southward from the jambs of the door and supporting the conglomerate ceiling, the stability of which was endangered by a number of vertical fissures (Fig. 5).

These walls took little account of the Greek construction that they met, cutting off completely the stuccoed channel which had carried water northward at the western end of the fountain. The eastern of the two Roman walls reaches from the jamb of the door back to the thin screen which the Greeks had placed over the north and west sides of Basin D. The other Roman wall extended farther back, to about 1.50 m. short of the clay wall of the tunnel (Fig. 5). These two Roman walls are built wholly of old Greek blocks in the same manner as the wall aligned with the façade of Peirene. In the opening left between these two walls, the Greek tunnel, which extended a short distance to the northeast and then northwest to deliver water at the west end of the fountain, was enlarged and followed as far as its bend, and then a new tunnel (see Pl. III) was driven, with rather roughly cut walls, 1.20 m. high and 0.80 m. wide, to the southeast corner of the Propylaea, beyond which point it has not been practicable to follow it. It undoubtedly once went farther and is likely to have passed between the easternmost and the next pier of the early poros Propylaea. The purpose of the tunnel was undoubtedly to carry part of the western supply of water from Peirene down along the eastern side of the Lechaion Road. With the extension and transformation of the Propylaea, probably in the second century A.D., this tunnel was thrown entirely out of use. There is nothing to indicate how long it had been in use, nor the date of its construction.

Another tunnel was made to carry water from the western tunnel to Reservoirs 1 and 2. It is cut entirely in the clay in a somewhat winding course and connects the western tunnel, from a point about 35.0 m. back from the front of the fountain, with the west end of the branch tunnel that in the Greek system brought water from the east to Reservoirs 2 and 1 (see pp. 29, 63 above),

There is nothing in the character of these two Roman tunnels to show their relative date. If they are contemporary or if the southern is somewhat earlier than the northern, it will follow that the latter carried off surplus water while the main western supply was conveyed directly to the reservoirs through the former. If the northern is the earlier of the two it is to be presumed that, like its Greek predecessor, it carried away the main western supply. In that case the southern tunnel was cut to dispose of the main supply when the northern one ceased to take it, that is at latest at the time of the construction of the Propylaea.

<sup>1</sup> The level of the sill of this door is 1.15 m. higher than the entrance to Chamber I, and hence we must assume a low terrace wall about 1.00 m. high somewhere between the two.

[A later note on this sentence reads—Ed.]:

As may be seen in Fig. 32 the construction changes *ca.* 0.40 m. after the evenly projecting native rock is reached. The coursing is not the same and the blocks are more evenly finished, their edges levelled much more lightly. The wall continues west *ca.* 2.20 m. from the southwest corner of the room where it meets the line of the long north-south wall aligned with the east edge of the first Propylaea. The top course of the high wall (two courses at the southeast end) seems to belong with the western extension. The beam cuttings in this top course are of the Roman III Period or later and were put out of use by the southeastern extension of the Propylaea, which, to judge by the way it meets the west apse, is later than the Herodes Atticus reconstruction of Roman VI.

East of Peirene, a wall was constructed, parallel to the façade, on a line some four meters north of it (Pls. II, VI, 2). It begins one meter south of the southwest anta of the Hexastyle Stoa, extends eastward some 4.00 m. past the rear line of the Stoa, and then turns south at right angles to meet the Greek wall which supports the conglomerate ledge. This Early Roman wall, which was carried high and completely concealed the face of the ledge, resembles that which forms the western extension of the façade. The wall was built to be visible down to about the middle step of the Hexastyle Stoa, which was almost certainly still standing. For near the west end of the early Roman wall the late Greek screen between the anta of the Hexastyle Stoa and its corner column and between the column and the wall under the ledge was reënforced on these two sides and a southern and an eastern side were added, making what looks now like a stone box. It may, however, have extended higher and have formed a sort of square well. A hole about 0.25 m. in diameter was cut at the bottom of the west side to allow the escape of water down to the waterproofed area, whence it flowed presumably to the nearest drain. The east wall of this box or well was cut to fit against the face of the anta of the stoa. From this fact the inference mentioned above that the stoa was still standing in early Roman times seems sure. There is nothing to show how long the stoa, or this part of it, continued to exist. While the adjacent ground level still remained little changed, the rear wall of the stoa was removed and on its foundations was built a new structure of which three or four blocks of one heavy course remain.

Parallel with the heavy Roman wall masking the face of the ledge and 4.50 m. south of it are remains of a well built wall standing on the rock exactly in the line of the early Roman wall at the west end of Peirene (Pls. I, II). The upper part of the latter is preserved for a length of about 2.00 m. above and behind the western part of the existing façade of Peirene. It is well laid and well finished and was visible until the existing poros façade was constructed. Since the wall at the east aligns exactly with it and is of the same character it seems safe to assume that the wall extended the whole way across above the fountain. None of the long wall now exists except as stated. Its place is taken by a heavy foundation of large stones and rubble with an entirely rough north face which, like its predecessor, served as the support for the rear of the building looking south into the Agora. Unlike its predecessor it was never visible from the court of Peirene. There is no evidence for the date of construction of this wall, but the greater part of it may be assigned conjecturally to the first century A.D. The earlier, well finished wall was concealed by the second story of the façade of the fountain when the earlier chambers were transformed into basins in the second Roman Period. The level of the area in front of Peirene remained the same as in the late Greek Period, and the approach also seems to have undergone no change.

## SECOND ROMAN PERIOD

For about a generation after the refounding of the city the fountain was used in essentially its old form. The whole aspect was then altered by the addition, just outside of the Greek façade, of a screen of poros stone pierced by six arched openings, and ornamented with applied half



FIGURE 33. FAÇADE OF CHAMBERS I, II AND III AND SOUTHWEST CORNER OF COURT IN ROMAN PERIOD II  
AA. Bases of Marble Pilasters, Roman Period VI. B. Trace of Mosaic Floor, Roman Periods IV, V

columns of the Doric order carrying an entablature, above which rose a similar series of Ionic half columns (Pls. II, IV, 1, VI, 2, IX, 2; Figs. 1, 33, 34, 38). A parapet some 0.80 m. high, with a moulded coping, served as a base for the façade (Fig. 35), and projecting podia, also with moulded tops, carried the Doric half columns, which were unfluted.

The addition of the new façade with its supporting parapet transformed the old Greek chambers into water-basins. Above the old floor of the chambers was laid a mosaic floor of rough terracotta cubes set in very strong cement upon a concrete bed. The new level is about 0.16 m. to 0.20 m. above that of the old floor, and is nearly horizontal, whereas its predecessor sloped downward towards the front. The parapet at the front of the new basins was about as high above the floor as the inner parapet had been above the Greek floor, and the water must have

been delivered at a level some 0.15 m. higher than in Greek times. This represents the highest level possible without constructing dams in the tunnels. Many signs of wear, now best seen in the parapet of Chamber VI, testify to much use of the fountain as thus rebuilt, and there may be seen here and in the top of the adjacent podium deeply worn cuttings for the pointed bottoms of water jars<sup>1</sup> (Fig. 35). The waterproofing of the old walls was renewed and the new



FIGURE 34. FACADE OF ROMAN PERIOD II IN FRONT OF CHAMBERS IV-VI  
At Left, East Exedra with Entrance to Eastern Supply Tunnel behind

parapet covered with waterproof plaster. Probably at this time the Ionic columns on their brackets at the rear of the basins were also plastered over and thus became unfluted (Fig. 36).

The semicircular arches of the six openings in the new façade spring from a moulding, or a sort of capital, *ca.* 0.10 m. high, projecting 0.06 m. at the top in the only places where it seems to be fully preserved (on the inside of the east side of Chambers III and IV and the west side of Chamber V). This moulding has for the most part been cut away, but where it remains, it appears to be a heavy cavetto over a shallow archaizing hawksbeak. Each arch consists of nine blocks, the keystone not being differentiated from the other voussoirs, and the lowest stone

<sup>1</sup> It is interesting to note that whereas the eastern face of the Podium V-VI shows this wear, the projecting member east of Arch VI shows no wear. The explanation naturally lies in the right-handedness of persons using the fountain.



FIGURE 35. FACADE OF CHAMBER III  
A. Original Parapet of Roman Period II with Deeply worn Coping. B, C. Later  
Insertions raising level of Parapet. D. Filling to Narrow Arch in Roman Period VI



FIGURE 36. IONIC SCREEN IN CHAMBER VI, WITH RESERVOIR 4 BEHIND

being cut to form the spring for two adjacent arches. The distance between the jambs of adjacent openings varies from 0.90 m. to 1.00 m.<sup>1</sup>

The unfluted Doric half columns between the arched openings were 2.90 m. in height including the capital. These columns, which are in part cut in the wall blocks and in part applied, rested on podia 0.50 m. wide which projected 0.40 m.<sup>2</sup> (Fig. 38). The wall is set on the coping moulding of the parapet, back from the face at the top from 0.035 m. in Chamber I to 0.06 m. in Chamber VI, while the projection of the moulding from the face of the parapet varies from 0.08 m. to 0.13 m. The similar moulding on the podia projects from 0.155 m. to 0.17 m.<sup>3</sup>

The ends of the façade terminate, in the lower order, in square pilasters, in front of which, and about one meter away, was a square pier, of the same dimensions as the pilaster, having on its northern, or outer, face an engaged half column. These free standing piers with their attached half columns were carried on an extension of the moulded parapet which jutted forward at right angles to the façade (Fig. 37). The western extension of the podium bonds with the main façade, and serves to replace the terrace wall suggested above (p. 67, note 1), between Chamber I and the door to the west supply tunnel. At the opposite (east) end, however, the extension does not bond with the wall, for the capping course of the podium is cut into to accommodate the capping stones of the extension, which has no mouldings but only a simple bevel projecting 0.12 m. At the east the opening between the corner pilaster and the pillar in front of it formed a doorway into the vestibule through which access was had to the long eastern supply tunnel of the fountain. The north wall of this vestibule had survived from Greek times, but the wall was now cut away obliquely to give the desired width to the doorway as seen from the outside. The lintel of the opening was formed by the epistyle of the lower order. The upper part of the forward springing member here masked part of the conglomerate ledge which formed the ceiling of the vestibule, much as in the main façade it hid most of the rock and the terrace wall resting upon it. At the west end the corresponding member stood free, as is shown by the fact that the west surface of both the pilaster at the end of the main façade and the pillar with attached half

<sup>1</sup> The height of the arches varies from 2.54 m. to 2.60 m. The width of the arches in front of the chambers is as follows:

Chamber I, 1.39 m.	Chamber IV, 1.37 m.
Chamber II, 1.43 m.	Chamber V, 1.48 m.
Chamber III, 1.43 m.	Chamber VI, 1.34 m.

<sup>2</sup> The Doric columns are preserved only in part, but the diameters that can be measured are as follows:

Between Chambers I and II	0.39 m. at base.
Between Chambers II and III	0.375 m. at neck.
Between Chambers III and IV	0.40 m. at base.
	0.375 m. at neck.
Between Chambers IV and V	0.42 m. at base.
	0.375 m. at neck.
The width of the abacus is	0.50 m.

<sup>3</sup> [The dimensions given by Mr. Hill in this paragraph vary slightly from those used by the draughtsman in Fig. 38. There is in fact no little variation between measurements taken at different points across the façade.—Ed.].



FIGURE 37. CONSTRUCTION AT SOUTHWEST CORNER OF COURT  
AA. Stylobate, Roman Period III. B. Pier of Roman Period VI filling earlier Niche. C. Steps of Roman Period IV.  
D. Capital of Square Pilaster, Roman Period II

column north of it, as well as the end of the architrave-frieze, were smoothly finished and stuccoed; that is, the west face was certainly visible. The shafts of the square pilasters at the ends of the façade, above mentioned, were made of blocks entirely separate from those of the wall, but the capital was cut on a block that bonded into the wall itself. Too little remains to indicate the original form of the eastern of these pilaster capitals, but the western (Fig. 37, D), of which the trace remains on the wall, shows clearly the form of a column capital rather than that of a square pilaster. It is barely possible that there were originally half columns instead of pilasters at the ends, but such an arrangement would fit badly with the clear indications that remain of the arrangement of the support in the forward-springing extensions.<sup>1</sup>

The architrave blocks that surmount the lower order of the façade are 2.38 m. long and 0.54 m. high. Their faces have been entirely hacked away to accommodate the marble revetment of a later period. From their height it is clear that they belonged to the frieze as well as to the epistyle, and conformably with the diameter of the columns there should have been five triglyphs and five metopes in each block, measuring respectively 0.20 m. and 0.276 m. in width. At the ends of the façade, where the architrave extended from the pilaster to the pillar with the attached column north of it, nothing remains to show whether the Doric frieze was carried along its face. This is, however, likely, and the arrangement was probably about as suggested in Pl. IX, 2. At its northern end this architrave-frieze was probably finished in a manner similar to contemporary blocks from the buttresses found under the basilica west of the Lechaion Road.<sup>2</sup> Over the architrave-frieze the next course, 0.185 m. high, the face of which has been hewn away, was presumably a Doric cornice.

Up to the rock ceiling of the chambers the blocks of this façade are reasonably uniform in thickness—0.35 m. to 0.37 m.—with the backs smoothly dressed where they would show within the chambers. The ends of the Greek partitions were sometimes hollowed out to make an *anathyrosis*, sometimes left practically intact. Their capitals were completely hewn away except at the one or two points noted above (p. 39). The new facing blocks were cut for contact with the ends of the division walls at their edges only. The voussoirs were shaped behind with some care to fit the none-too-regular face of the ledge of conglomerate. The wall was built without mortar, and no clamps or dowels have been observed except for holding some applied blocks of the half columns.

The engaged Ionic columns of the upper story rest on bases of the usual Attic form with scotia and fillets between an upper and lower torus (Fig. 38). The lower part of the shaft (0.365 m. in diameter) is cut with its *apophyge* in the same block as the base, and both are included in the course

<sup>1</sup> The block which bears remains of the half column capital at the west end is set back so far into the wall (0.05 m.) as to suggest that a normal pilaster capital was set in front of it, as a result of a change in the original plan, which did not provide for the forward-springing wings. This suggestion is further borne out by the fact that the podium for the eastern wing, as noted above, does not bond with the main façade. The podium of the western wing may originally not have been intended to carry anything.

<sup>2</sup> *Corinth*, I, pp. 199–200.

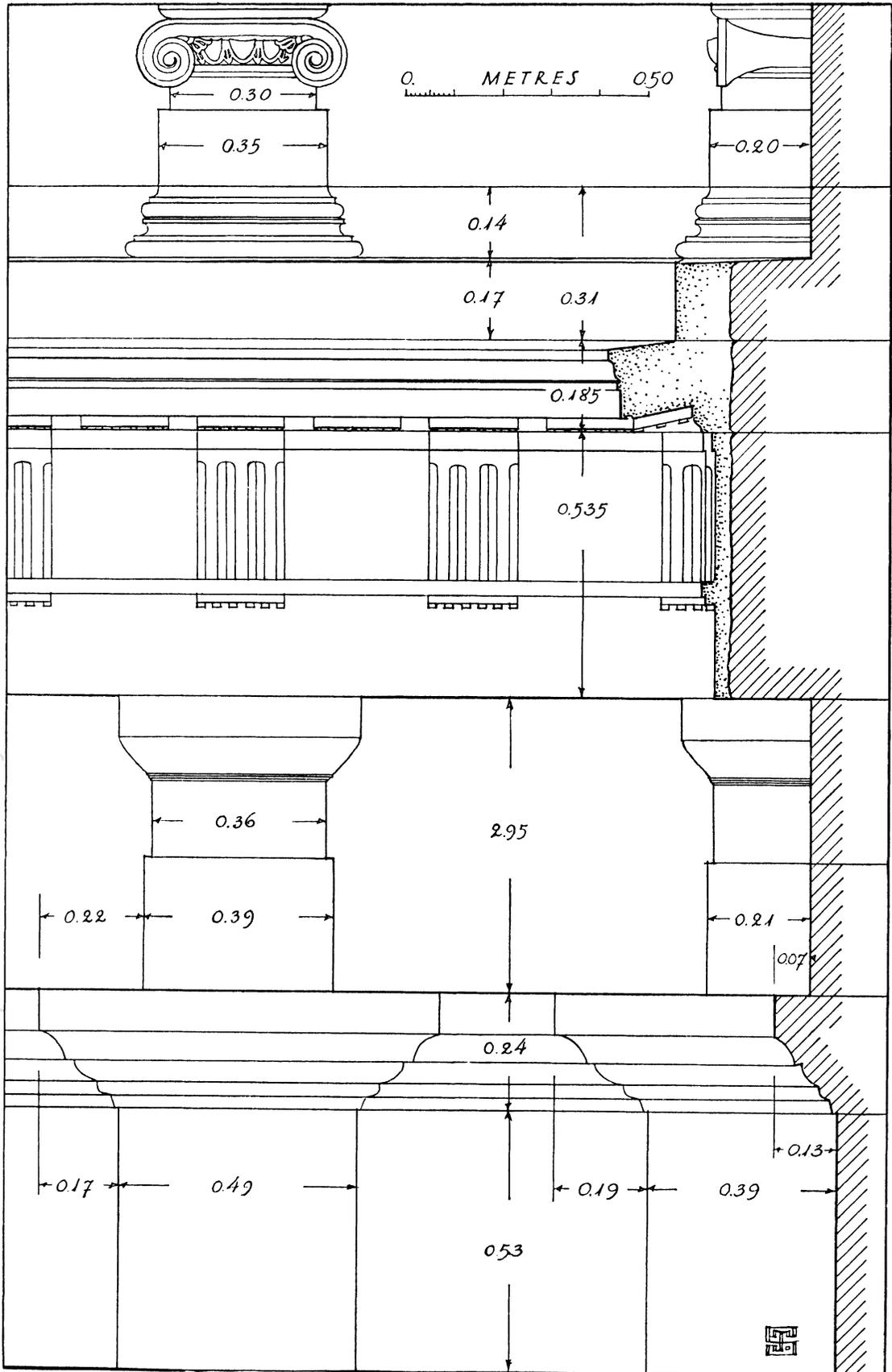


FIGURE 38. DETAILS OF FAÇADE, ROMAN PERIOD II



FIGURE 39. BACK OF EARLY ROMAN FAÇADE FROM SOUTHEAST, ROMAN PERIOD II

whose lower part forms a straight plinth, on which the bases appear to stand.<sup>1</sup> Four of these bases are preserved *in situ*, and parts of three columns, between which the wall consisted of blocks 0.87 m. high and 0.33 m. to 0.40 m. thick, roughly finished on the back, where they were evidently not intended to be visible (Fig. 39). Indeed they are well below the probable con-

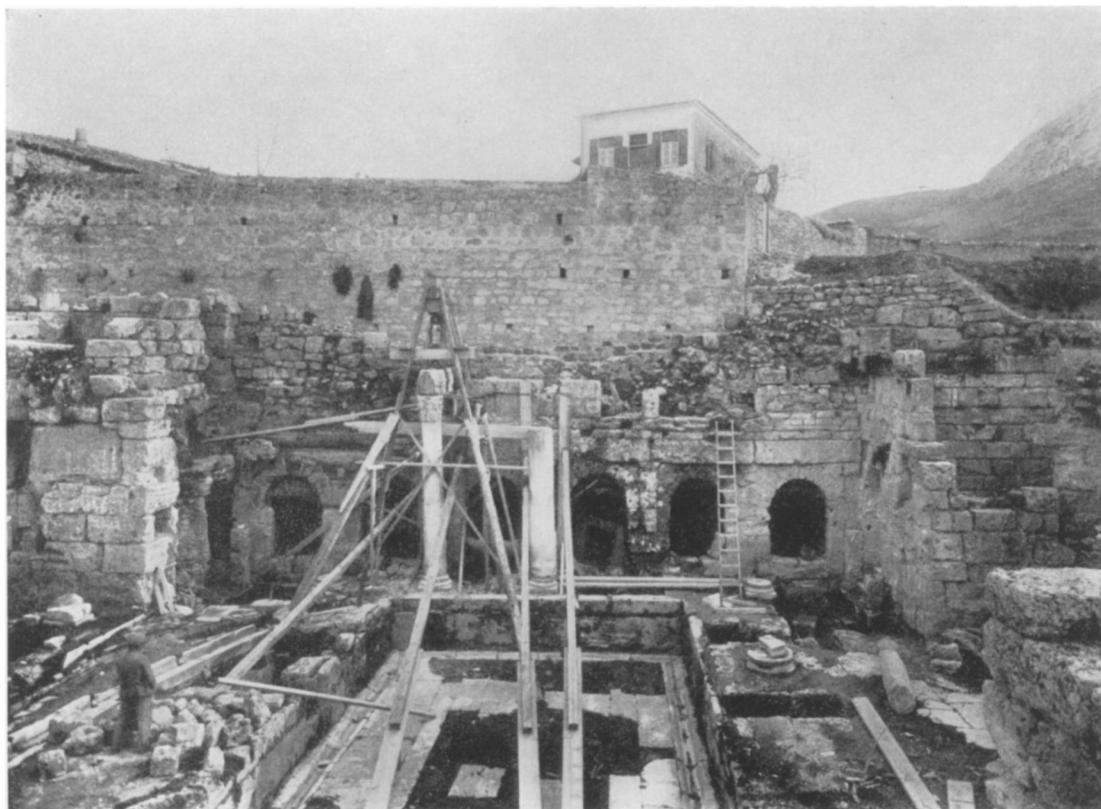


FIGURE 40. PUSHING BACK THE FAÇADE (1926)

temporary ground level to the south. They and the whole wall below are too light to have been intended to serve as a retaining wall, and this function must have been fulfilled by the early Roman wall described above on p. 68.

When the fountain was excavated the façade was found to be tipped forward dangerously, so that it had to be supported by masonry buttresses and iron props.<sup>2</sup> It had already leaned for-

<sup>1</sup> One of the blocks of this course once formed a part of a Greek ceiling with coffers 0.315 m. wide and 0.06 m. deep. This is one of the relatively few re-used blocks observed in the façade. The principal others are the architraves over Chambers III, V (when found; no longer in place, see note 2), and VI, the backs of which show excellent Greek workmanship.

<sup>2</sup> One of the latter gave way, and most of the architrave with the blocks above it over Chambers V and VI fell in 1904. In January and February, 1926, the wall was cleared behind and freed of earth and stones and roots; it was then pushed back a maximum of 0.34 m. (measured at the cornice of the lower story), and fastened securely with iron bars and concrete to the rock behind (Fig. 40). It still leans somewhat more than it did in the second century A.D. With normal proportions the total façade should rise to about 1.50 m. to 2.00 m. above the Agora level to the South.

ward appreciably in antiquity, for a stone inserted in repairing the east side of Arch II (repairs made before the covering of the poros with marble) can have been placed only when the wall had been thrust out about 0.05 m.; and the half columns cut partly away for the marble revetment are cut more deeply above than below, obviously in order that the marble slabs might be set vertically. The amount of inclination thus indicated is, between Arches II and III, 0.08 m. in the height of the columns.

Immediately in front of the façade is a step, stuccoed on its top and face, allowing persons drawing water from the chambers to reach more easily over the parapet. At either end of the façade, and parallel to it at a distance of 1.25 m., a low balustrade abuts against the podium of the forward-springing wings (Fig. 37). It is 0.35 m. thick, with a semi-cylindrical coping, at the bottom of the outer (north) face of which is a band 0.115 m. high projecting 0.05 m. This exists *in situ* at the northwest corner of the area for a length of *ca.* 0.095 m., but two blocks of the coping respectively 1.10 m. and 0.60 m. in length were found in the débris of the excavation of Peirene. The purpose of this balustrade may have been to act as a retaining wall for the gradually increasing level on the east and west sides of the area in front of Peirene, and it may have extended out only for a short distance at either end.

## THIRD ROMAN PERIOD

After an appreciable interval had elapsed following the erection of the poros façade in the second Roman Period, an extensive alteration of the area in front of Peirene either was occasioned by the construction of the poros Propylaea or was part of the same large building plan which materially altered the appearance of this section of the city. The Propylaea was built with its southern line about 3.00 m. north of the end of the early Roman wall that runs westward from the façade of Peirene, and its foundations rose approximately 5.00 m. above the level of the court in front of the fountain, effectively cutting off the hitherto most practicable approach from the Agora. At present the eastern side of the foundations of the Propylaea is completely hidden behind later ancient construction, and it is impossible to state whether this high foundation was ever intended to be visible. It is certain, however, that it did not long remain so, but was hidden by the west wall of the new court which was built in front of Peirene and occupied the entire area between the poros façade of Peirene and the south wall of the Peribolos of Apollo<sup>1</sup> (Pls. II, VI, 2, IX, 2). The difference of orientation between Peirene on the one hand, and the Peribolos and the poros Propylaea on the other, rendered the planning of the court a difficult matter, and the architect was also faced with the even more considerable difficulties due to varying levels.

The walls of the court were equal in height to the main façade, and, like it, were decorated with Doric half columns in the lower story and Ionic in the upper. The angles made with the façade are neither of them right angles, the western being  $86\frac{1}{2}^\circ$  and the eastern  $95\frac{1}{2}^\circ$ . The east wall followed the direction of the old Greek terrace wall, diverging, however, sufficiently to avoid placing the northeast corner over the angle of the late Greek drain that crosses the north apse from west to east. As has been described above (p. 47), the Greek court of Peirene was limited at the north by a low terrace wall that rested on the cover slabs of the drain. The high and heavy north wall of the Roman court sought a better foundation just beyond the line, and followed the general direction of the terrace, with a slight difference to avoid bringing the west end over the drain which led down from the region of the Agora. The direction chosen for the west wall of the court was such as to make the northwest corner a right angle.

The foundations of the court walls consist of uncoursed ashlar carried down to the clay, but on the west side, where the hard packed fill goes deeper, the ashlar rests on a footing of mortar and rubble. In the center of the north side, the foundation was left exposed toward the south, and this face is accordingly finished smooth. The stylobate, of which all but one block is preserved in the north apse, was 0.41 m. high and carried the level of the parapet-podium evenly around the court. Several blocks now visible show triangular lifting bosses<sup>2</sup> (Fig. 37, A). Unlike the podium of the façade, the new stylobate is plain without any moulded coping. The diameter of the columns is slightly greater in both stories, and the columns are spaced slightly farther apart,<sup>3</sup> and are integral with the wall blocks (Fig. 41). The lowest course of the wall

<sup>1</sup> This court measures: north side, 15.85 m.; south side, 14.66 m.; east side, 17.25 m.; west side, 17.90 m.

<sup>2</sup> For a close parallel see *Corinth*, I, p. 142, fig. 98.

<sup>3</sup> The columns in the lower row measure 0.42 m. in the lower and 0.388 m. in the upper diameter. The lower diameter of those in the upper row is 0.375 m. The interaxial spacing varies from 2.49 m. on the west to 2.53 m. on the east.

has at the bottom a drafting 0.08 m. high. Another variation to be noted as differing from the façade is the fact that the cornice is cut on the same block as the plinth which comes above it, and the bases of the upper order are a part of the orthostate. As in the case of the façade, the height of the upper order cannot be recovered, and no fragments of the Ionic entablature have been found.



FIGURE 41. BASE OF DORIC HALF-COLUMN ON WEST SIDE OF COURT

Column is second from South. Note beginning of curve of niche and also Ionic Base and Column, upside down, belonging to upper order

The west wall of the new court springs from the face of the wall belonging to the Roman Period I, and makes close contact with the west side or back of the forward-springing wing of the façade of Period II. An opening was left in the new wall 0.12 m. wider than that which existed between the end pilaster of the façade and the free standing pier in front of it (Fig. 42). A simple moulding, consisting of a fascia with a bevel underneath, made the transition between the jambs and the lintel of the opening, whose soffit was level with that of the architrave in front of it. The moulding which originally crowned the east face of the lintel was probably the same as that which is still preserved on the west face (Fig. 42). The thickness of the new wall at this point was *ca.* 0.74 m. The free standing pier of the earlier construction, together with its attached half column, was left undisturbed, and the first half column of the new system was placed with its center 0.44 m. north and 0.46 m. west of that of its elder neighbor. This left an awkward angle, and when we look at the upper part of the shaft of the addition, we see that the architect's original plan was not adhered to, but that the space between the two adjacent half columns was filled up, as shown in the restored plan (Pl. VI, 2).



FIGURE 42. BACK (WEST SIDE) OF WALL SURROUNDING COURT OF ROMAN PERIOD III, SEEN FROM ROOM WEST OF SOUTHWEST CORNER OF COURT

The first column of the new series is preserved at top and bottom and there remain also the blocks of the entablature from which the face was cut away when the court was revetted in marble, as well as 1.84 m. of the Ionic column of the second story with its moulded base (Fig. 37). The second and fourth of the engaged columns are preserved only below the floor level of the later apse, being stumps about 0.40 m. high (Fig. 41). The fifth column with the adjacent part of the wall stands to a height of 0.62 m., and the sixth column, near the northwest corner of the later court, is preserved to a height of 2.50 m.; from there northward to the original northwest corner the wall stands to the level of the upper stylobate, *ca.* 3.85 m. A small part (0.30 m. by 0.10 m.) of the corner capital of the seventh column remains *in situ*. This column was only a quarter shaft in the angle of the west and north walls.

In the first intercolumniation there was a semicircular niche, about 1.62 m. in diameter, preserved to a height of from 0.40 m. to 2.00 m. The back or west side of the wall is evenly finished from the third course, where it has a thickness of 0.42 m. (Fig. 43).

The east side of the court was arranged to balance the west side, but on account of its shorter length the intercolumniations were slightly diminished and the southernmost column, behind the revetment of the east apse, was jammed so near to the half column on the forward-jutting pier of the earlier façade that it was impossible even to contemplate a reëntrant angle as was planned on the west.<sup>1</sup> The bases of the two half columns were almost tangent to each other, and the effect was that of two intersecting quarter circles. It was, very probably, this impasse that led the architect to abandon his original scheme for the corner treatment at the west and adopt the one he did (see p. 80). A niche in the first intercolumniation at the south balanced the one in the west wall. Unlike the west wall, however, the east wall of the court starts at a point as far out from the original façade of Peirene as the end of the forward-springing member, and is built against the Greek wall supporting the rock which juts forward behind this flanking screen.

The north side of the court is unlike the others in plan. From each corner the wall extended for two intercolumniations of about 2.40 m. as far as a central apse about 6.00 m. in diameter and 2.80 m. deep. The column next to either angle may still be seen, one in the eastern entrance to the later court, the other underneath the pier separating the later north exedra from the western entrance at a point where this pier was cut through for the construction of a Christian tomb. The western part of the north wall ends about 0.44 m. from the second column from the corner. About one meter farther on, there is a setting line for the wall, 0.25 m. back from the face of the stylobate, and 2.60 m. from the second column is a mark that defines the position of the third column. Beginning 0.215 m. short of this mark, a curved setting line, traceable on a platform coursing with the stylobate, defines the location and size of the apse (Fig. 44). A wall block which has a three-quarter column worked on its corner (Fig. 45) and may be seen built into the western pier of the exedra came from the angle formed by the wall and the apse. The

<sup>1</sup> This column is preserved to a height of 0.10 m.; the second, third and fourth to a height of 0.40 m.; the fifth, badly mutilated, rises to 1.10 m., and the sixth to 1.70 m. At the northeast angle the original wall stands to a height of 2.85 m.



FIGURE 43. NORTHWEST ANGLE OF COURT FROM OUTSIDE (WEST)

diameter of the column indicates that it came from the upper story. The position of the eastern angle of the apse is clearly defined both by the curved line for the wall and by the setting mark for the corner column, which was set in a shallow depression worked in the stylobate. Four

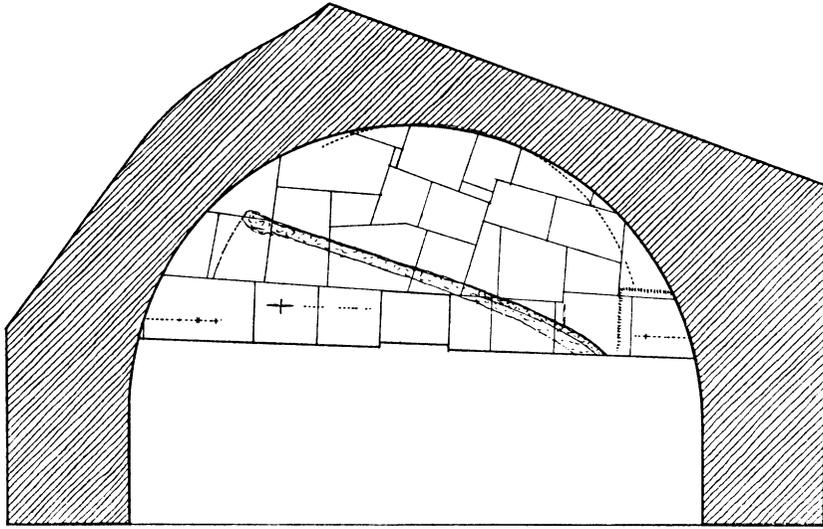


FIGURE 44. PLAN OF NORTH APSE  
Setting Line of Roman Period III indicated by Dotted Line

curved orthostates 0.65 m. high, with a combined length of about 5.00 m. and having a curve corresponding with the setting line for the apse, may be seen built into the wall of the later exedra. All have the characteristic drafting noted above (pp. 79–80) for the base of the wall, and one, which can be measured, is 0.43 m. thick, corresponding with the thickness found elsewhere for the finished wall. A number of other blocks obviously from the upper courses of the apse appear in the wall of the exedra.

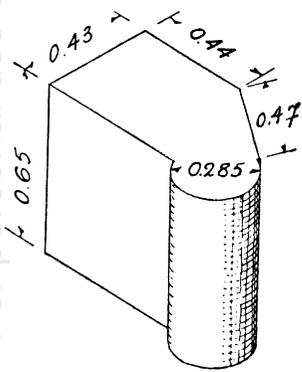


FIGURE 45. WALL BLOCK WITH  
ATTACHED THREE-QUARTER COL-  
UMN FROM NORTH APSE, ROMAN  
PERIOD III

There is nothing to show whether the curved wall of the apse was plain or decorated with half columns. In the latter case there would have been, in addition to the three-quarter corner columns, two half columns, with the orthostate blocks already mentioned occupying a part of the intercolumniations, which would, however, have been slightly greater than the others on the north side.

Before considering the question of the entrance to the new court, it is desirable to describe the contemporary structures outside it.

At the west, four walls bonding with the wall of the court extend to the Propylaea and the platform north of it (Pls. I, II, VI, 2).

The southernmost wall, parallel to the early Roman wall (Period I) that carries the line of the façade westward, starts from the back of the niche between the first and second columns and extends to the southeast corner of the Propylaea. It is pierced near its east end by a door, the threshold of which is about 1.00 m. above the level of the court stylobate (Fig. 46, A). Beginning



FIGURE 46. ROOM WEST OF SOUTHWEST CORNER OF COURT  
North Wall showing Doorway, to right of A, and Traces of Stair, B

a little above the sill of the door and running upward to the west the traces of a stair (B) show clearly on the south face of the wall. Below these the lower courses of the wall project unevenly. On the opposite wall also are traces of this stair (Fig. 32), which, beginning near the southeast corner of the Propylaea, led down to the doorway just mentioned and to the opening in the southwest corner of the court.

The three remaining walls referred to are oblique to the wall of the court and perpendicular to the edge of the platform of the Propylaea. Two of these walls underneath the west exedra of Peirene exist only as foundations. The third (northernmost) is preserved to a height of 2.00 m. (Fig. 43). It is clear that the rooms separated by these partitions were planned in connection with the Propylaea and the wall running north from its northeast corner; that is, their plan is determined by that of the second story where the rooms would be entered from the platform in front of the Propylaea, since on the ground floor they bear no relation to the arrangement of columns on the wall of the court, and any doors that might give access to them from that side would be very awkwardly placed.

The room next to the stairway apparently had no other entrance than the door in its south wall, and it is impossible to say whether it communicated with the room next north of it or not. If the only access to the three oblique rooms was through their common partition walls, it is possible that they were lighted by windows in the west wall of the court. The floor level of the northernmost chamber was about 1.50 m. higher than the pavement of the court, and the middle chamber may be presumed to have had the same level.

The contemporary construction on the east of the court agrees, like the earlier Roman walls, with the orientation of the façade. When the court was constructed a heavy wall was built parallel with the early Roman wall south of the Hexastyle Stoa, at 4.20 m. north of it. The wall extended 14.50 m. east from Peirene, turned at right angles southward, and in 6.50 m. reached the higher Greek terrace wall which had limited this area when the Romans came. Its foundations are preserved in the east exedra, beyond which the wall itself stands to a height of over 4.00 m. (Fig. 47, A). The space enclosed by the new wall was divided into three nearly square chambers, from the eastern and central of which there were doorways 1.50 m. wide leading out to the north into an area bounded on the north by the south wall of the Peribolos of Apollo and on the west by the court of Peirene (Pl. VI, 2). The western of the three chambers is not sufficiently preserved to show whether it also had an entrance from the north. Above these chambers were doubtless others reached from the level of the Agora. Two walls and part of a third are preserved belonging to the room, nearly square, next south of the western chamber but at a higher level. A part of it seems to have been constructed in the early Roman period, for its south wall is that referred to above (p. 68) which aligns exactly with the wall seen behind and above the west end of the façade of Peirene. There is nothing to show whether there were doors or windows through the east wall of the court of Peirene, but it may be assumed that this side was made to agree in that respect with the western.

Mention has already been made of the fact that the south wall of the Peribolos of Apollo determined the extent of the court of Peirene toward the north. This wall was, however, not

the existing wall but an earlier one set a little farther south, for the blocks at the northeast corner of the court are cut away irregularly on the outer (northern) face, though the corner might have been completed without touching the existing wall of the Peribolos; that is, it is cut back to avoid the earlier wall. The position of both the earlier and later south walls of the Peribolos is the same at their west ends, but at the east, where the earlier one terminates against the rear wall of the Hexastyle Stoa, it lies about 0.50 m. south of the later wall. It is preserved only in foundations reaching up to about 1.00 m. below the euthynteria of the existing wall. The upper courses of the foundation and the whole superstructure were removed before the building of the present wall, which has a rubble foundation up to the euthynteria. When this was built, it was connected by a wall with the northeast corner of the building with three chambers. There would seem to be no doubt that this connecting wall is later than the building east of Peirene and contemporary with the later south wall of the Peribolos, because it is bonded into the latter and not into the former, which, however, determines its orientation. At this time, also, a short wall was inserted perpendicular to that of the Peribolos to mask the east side of the irregular corner of the Peirene court. It appears that between the area formed by these walls and the Peribolos proper was a row of four columns on a poros stylobate which coursed with the euthynteria. Nothing remains of this short colonnade except the antae at its ends.

In this period, as in the later, marble, period, there was an entrance from the Peribolos into the court of Peirene, near its northeast corner, for under the top of the eastern marble stairway a block of the euthynteria of the south wall of the Peribolos may be seen worn on its south edge. It can have been exposed only in the period under discussion and served undoubtedly as one of the steps down to the eastern entrance to the court. About 1.00 m. to the west the wall of the Peribolos, preserved to a height of 1.40 m., ends in a vertical line which we may take to be the western jamb of the doorway for the stairs. The wall is not preserved to show the eastern jamb. The stairway might be expected to lead to a doorway between the second and third columns from the corner, but the wall there is completely buried in later masonry.

The corresponding part of the wall west of the apse can, however, be examined. It will be recalled that the original wall of the poros court ends about 0.46 m. east of the second column from the northwest corner. There is a joint just beyond the column, and then a short block, the end of which, though badly worn, is quite vertical. This is clearly one side of an opening which, if placed midway between the second and third columns, must have been 1.30 m. wide. It is reasonable to assume that the openings in the north wall of the court were placed symmetrically with reference to its axis. The height to which the walls are preserved in the intercolumniations adjacent to the corners excludes the possibility of entrances at these points.

It seems clear, then, that originally there were two entrances only from the north, one on either side of the apse. In the eastern of these an approach by a flight of six steps would easily be arranged in the irregular triangular space bounded by the south line of the Peribolos of Apollo, the north wall of the court of Peirene, and its north apse. (The level of the earlier Roman rooms and colonnade in the south part of the Peribolos seems to have been about 0.65 m. lower than that of the late Peribolos. The former probably antedates the court of Peirene, the latter

is certainly later than the court and probably about contemporary with the first marble period of Peirene.) The western entrance leads from an area considerably more spacious between the south end of the early shop system along the Lechaion Road and the northwest corner of the court of Peirene. The level here, as indicated by the euthynteria of the end wall of the shops just mentioned, is about 1.20 m. higher than that of the court and there was probably a flight of six steps leading down to the entrance. This, though architecturally of equal importance with that east of the apse, is likely to have been rather more used, since it could be reached directly from the head of the Lechaion Road and by way of the Propylaea from the Agora.

In the area immediately west of the façade may be seen a water channel constructed of poros blocks. It is rectangular in section, 0.17 m. to 0.20 m. wide and 0.24 m. deep, with cover slabs *ca.* 0.16 m. thick, irregular but well-fitted (Fig. 5). It issues from the western supply tunnel, passes under the doorway that gave access to this part, and, after following closely along the back of the west wall, turns through the foundation of the stylobate. It passes through this foundation as a circular pipe, made of tile, which for protection was continued eastward in a masonry channel and presumably supplied a basin in the court.

During this period or at the beginning of the next the parapets of the outer chambers (I, II, V, and VI) were built up about 0.25 m. with poros blocks aligned with the faces of the wall between the columns (Fig. 35, B). The original parapets had been very much worn before this addition, and the new blocks show in their turn considerable signs of use.

## FOURTH ROMAN PERIOD

At some time after the court had been built as described above, an important extension of the water system was effected by building a stone water channel around three sides of a large rectangular area in the center of the court (Fig. 1). The water was supplied from Chambers II and V and discharged through spouts into a sunken area (see below), falling into a gutter placed at a somewhat lower level than the one now existing, but in all probability like it, of hard limestone. Most of the blocks of the existing gutter may well be original ones placed higher than their former position. Several of the conglomerate slabs of the earlier floor are to be seen in the northern part of the area where the later pavement is missing. Access was provided to this sunken area, or Hypaithros Krene, by steps, probably at the northeast and northwest corners, and this arrangement partially supplanted the previous one in which water was drawn over the parapets of the six original chambers.

The sunken area measured 12.70 m. by 6.30 m. and was limited at its south end by the parapet of the main façade. The remaining sides, provided with a total of at least 15 spouts, were formed by a heavy wall two courses high and 0.46 m. thick. The channel measures 1.04 m. in width and 0.70 m. to 0.90 m. in height and is lined with hard waterproof cement<sup>1</sup> (Pls. I, II, IV, V, 1). In section it is rectangular on the side away from the sunken area, but at the foot of the dividing wall a sloping reinforcement of tiles and small stones is built up to cover the horizontal joint. The holes for the spouts occur at the level of the top of this bevel. The cover is made of poros slabs 0.35 m. thick, and at the corners, instead of using blocks twice the usual size, as was the Greek fashion, the builders constructed arches and rested the corner blocks on them, thus allowing blocks of uniform size. The arch is just south of the corner in the east and west channels. On the north side the cover slabs continue uniformly to the corners. The floor of the water channel consists of a very irregular mosaic of small pieces of hard limestone, set in cement. Both walls are well stuccoed with hard waterproof cement, and it is interesting to observe that all the stuccoing was done before the cover slabs were placed. This is shown by the way in which the stucco thins out toward the top, and may even be observed in places smeared up over the top of the wall blocks. The two arches, without spandrels, are stuccoed on their tops as well as below. It is perfectly certain, however, that a cover was always intended, for anyone who has had experience with the heating power of the Greek sun will realize that to leave as large a body of water as would be contained in the water channel standing open in the sun would be the readiest way to warm it and render it undrinkable, without considering the certainty of dust and other impurities falling into the open channel, and to say nothing of the loss from evaporation.

There does not seem to have been any sort of balustrade around the Hypaithros Krene in this period, but, on the other hand, it is certain that there must have been a stair, or, more probably, stairs which led down to it. It is not possible to restore a central flight of steps analogous to the existing stairway, on account of a hole for a spout which may be seen in the very center of

<sup>1</sup> The channel is 2.88 m. from the east limit of the court, and *ca.* 3.10 m. from the west and north sides.

the northern arm of the water channel (Pl. IV, 2). Two other spouts also appear on this side (seen from within), and the only possible arrangement is to have narrow stairs between the spouts, or, most probably, narrow stairs (1.50 m.) between the two end spouts and the corners. These corners are completely buried by the rectangular platforms that now flank the marble stair, but the position of the gutter drain, which seems not to have any reason with regard to the present arrangement, may furnish a clue. There is just room between it and the east side of the Hypaithros Krene for a small flight of steps. A block exists which may have come from a sloping string course flanking the stair. Whether there were other stairs than those suggested at the north does not appear. An investigation at the south end of the Krene seems to show that the carefully stuccoed outer face of the wall dividing the sunken area from the water channel continues practically up to the parapet of the main façade.

The construction of the Hypaithros Krene raised the level of the court on three sides, and the new floor, made by filling in between the water channel and the walls of the court, concealed the stylobate of the preceding period. The new level, some 0.25 m. higher than the stylobate, involved a slight alteration in the size of the openings of Chambers I, II, V, and VI, the sills of which were raised by a course of poros stone 0.25 m. high and equal in thickness to the wall of the façade (Fig. 35, B). This course was stuccoed only on the inside, and it may be inferred from this that its introduction was contemporary with the establishing of the new level. Since, however, the top of the course shows wearing, it may be argued that it precedes the construction of the Hypaithros Krene, since it forms such a very low curb at the edge of the new floor. It is for this reason that it has been suggested (p. 88) that this course belongs to the latter part of Period III.

A further walling up of the openings occurred subsequently, when the level of the sill of all six chambers was raised to about 0.65 m. above the earliest parapet (Pls. IV, XI; Fig. 35, C). Although the new blocks for this addition are even with the outer face of the openings, they sometimes project unevenly on the side toward the chambers. A heavy coat of waterproof stucco filled the openings and was carried down over the outer face, in the case of Chambers I, II, V, and VI, to the level of the floor about the Hypaithros Krene, and in the case of Chambers III and IV down over the moulding of the early parapet, which here remained exposed. The new parapets of the end chambers show a second coat of stucco on the outside, probably due to the greater exposure of these to wear during this period, which, it must be inferred, was of considerable length; and the tops of the end parapets show also considerable wearing from the drawing of water jars across them. After they had been thus used for some time, metal grilles seem to have been placed across all six arches of the façade. This is shown by the presence on both sides of all the arches of a series of three holes for cross bars about 0.20 m. back from the face of the wall, spaced alike in all arches. In each opening one or two of the vertical bars, which, to act as an effective grille, would have been more closely spaced, may have been set into the parapet, and in the parapets which are preserved highest there are actually holes some of which would be suitable for this purpose. These bars would have been finished at the top with spear-heads or other caps, for there is no trace of any of them having entered the soffit of the arch,

which, in all chambers but one (VI), is well preserved and would certainly show if the grille had been fastened in it.

It is certain that these grilles date from the period before the narrowing of the arches, for not only are they cut deeply into the earlier stone jambs, but on the east side of Chamber VI, where alone the filling by which the arch was narrowed is preserved, it is not pierced for the horizontal bars of the grille, but the old jamb behind it is thus pierced. When the grilles were introduced it is not impossible that the water was brought to a high level in the chambers and delivered through a spout under each arch. The grilles, then, are to be assigned at earliest to Roman Period IV, but there is nothing to show that they may not belong to Roman Period V. In either case it is altogether probable that the placing of the grilles is to be associated with the elaborate painting of the walls of the chambers, which it would undoubtedly have been well to protect. The first period of these paintings seems to be as late as the reinforcement of the front and rear walls of the chambers with brick, a reconstruction which is more probably to be associated with the first marble period, Roman V (Pls. XII, XIII, 2; below, pp. 113, 115).

After the making of the Hypaithros Krene the court, or at any rate the southern part of it, was paved with a mosaic of black and white marble, remains of which appear in front of Chambers I, II, V, and against the first column of the east wall of the court. This pavement was carried into the vestibule of the chamber east of VI (above, p. 37). It ended in a definite line about 0.40 m. from the east wall where there must have been a bench, or a basis, or possibly a water basin, though in the last case there is nothing to show how such a basin would have been supplied. The painted plaster, fragments of which survive—white with a border of red—in the southwest corner of this vestibule, is most probably contemporary with the mosaic pavement. When the fountain was made over in marble, the walls of this little chamber were also revetted, and portions of the marble sheathing are still in place.

With the change in the level of the court, the door at the southwest corner opening on the stairway that led up to the level of the Agora came into general use. The two steps of fine conglomerate which appear on top of the old parapet were inserted at this time (Fig. 37, C). The same change in level simplified the approach through the northern entrances by eliminating the lowest steps. Toward the end of this period, however, or possibly at the beginning of the one following, the rebuilding of the Peribolos of Apollo, whereby the shops or chambers on its south side gave way to a simple colonnade, seems to have occasioned a change in the northern entrances of the court. The two original openings were walled up, apparently at this time, to judge by the western, for we find the lower part of it closed with a block of poros and fragments of tile set in the line of the face of the wall in a way that would be most unlikely if it were part of the preparation for a marble revetment set out 0.15 m. from the line of the wall. These openings were replaced by a new entrance in the center of the north apse. In the south wall of the Peribolos in its new form there is an opening 1.20 m. wide on the axis of the apse (Fig. 48), and on the floor of the latter are many traces of mortar which suggest the foundations of a flight of nine or ten steps leading down from the higher level of the new Peribolos. This arrangement presumably lasted until in the VIth Period there was a return to the plan with two entrances from the north.

## FIFTH ROMAN PERIOD

## FIRST MARBLE PERIOD

After the poros walls and façade had stood for some time and after the façade had been made, by an earthquake or other cause, to lean forward heavily, the whole fountain was redecorated in marble. The poros half columns and entablatures were cut back and the space between them filled with mortar, tiles and small stones to make a backing for the marble revetment. The form of the court and its dimensions remained unchanged, but since nothing whatever is preserved from this period except the backing of the new marble face, it is not possible to make more than a wholly conjectural restoration.

It is possible that the marble facing simply repeated the old arrangement of a Doric colonnade surmounted by an Ionic one. If this was the case, however, it is not likely that there were full half columns, for, had the marble revetment been so substantial as this would require, something of it might have been expected to survive, at least in discarded blocks built into later Roman constructions. The only bits actually found in the later form of the walls are from simple revetment slabs of the ordinary thickness; there are no parts of half columns or of pilasters of strong projection. The slight unmistakable remains of this period are to be seen in the eastern and western entrances of the court under the stairways and incorporated in the great piers at the northeast and northwest corners of the court. They consist simply of the thick backing of a marble revetment between half columns which have been cut back for somewhat less than half their projection. This backing is mostly of terracotta and mortar and is, so far has been observed, without fragments of marble.

While it is certain that the court was essentially unchanged in this period there is no evidence to show just how the façade was treated. But since the plan was in general unchanged it is fair to conjecture that the hitherto existing scheme was followed in its essentials, that is, that the arched openings into the six chambers continued to be about 1.20 m. in width with intervals of 0.95 m. between them. The north part of the Hypaithros Krene was kept unchanged, but a platform built across its south end (Fig. 53), of an extraordinarily hard mass of concrete, 1.50 m. wide and about 0.30 m. lower than the general level of the court, may very probably belong to this period. It contains no fragments of marble but it does contain some pieces of poros stone with a coating of harder plaster which may probably have come from the ruins of the last Roman poros period.

In the north part of the east wall there are remains of numerous dowels at about 0.60 m. and 1.20 m. above the later level of the court, obviously for holding revetment of a time other than that of the second marble period. Holes are similarly found in exposed parts of the original north wall and there are dowels likewise at about 1.20 m. and 2.00 m. above the floor in the curved wall of the niche on the southernmost intercolumniation of the west side of the court. All this would seem to show conclusively that the plan of the court was in the main unchanged when its walls were first revetted. That the grilles across the front of the Chambers and the first paintings in the chambers belong to this period has been suggested above (p. 91).

## SIXTH ROMAN PERIOD

## SECOND MARBLE PERIOD

There was a second much more radical remodelling of the fountain in marble at the time when the court assumed its present form. It was made more nearly square than it had previously been by drawing in the north wall *ca.* 2.70 m. at the northwest and *ca.* 2.00 m. at the northeast corner.<sup>1</sup> In three sides of the court exedrae 7.50 m. wide and 5.10 m. deep were also constructed



FIGURE 47. EAST EXEDRA OF PEIRENE AND CENTRAL NICHE WITH A, WALL OF ROMAN PERIOD III

(Pls. I, II, IV, V, VII, 1, XI; Figs. 47–79). These are semicircular in plan, the center from which the arc is inscribed being set back 1.35 m. from the line of the face of the wall. The walls of the exedrae and the piers which form the corners of the court and received the thrust of the half domes over the exedrae are of massive construction, partly of coursed masonry and partly of concrete. The north exedra replaces the apse of Periods III–V, much of the material of which is incorporated in the later structure. It is fitted to the south wall of the Peribolos, and blocks the doorway that led into the earlier apse. Instead of the single entrance, two vaulted passages

<sup>1</sup> The dimensions of the court are: north side, 15.63 m.; south side, 14.55 m.; west side, 14.90 m.; east side, 14.80 m.



FIGURE 48. SOUTH WALL OF PERIBOLOS OF APOLLO SHOWING ENTRANCE TO PEIRENE BLOCKED BY CONSTRUCTION OF ROMAN PERIOD VI



FIGURE 49. NORTHWEST CORNER OF COURT AND NORTH EXEDRA, ROMAN PERIOD VI

1.40 m. wide were constructed one on either side of the exedra, thus returning essentially to the plan of Roman Period III. In each passage a flight of ten marble steps led down to the court. The western stair was continuous, the eastern, on account of the greater length of the passage, was broken by a square landing (Pls. I, II, VII; Fig. 50). In the western entrance the ends of the



FIGURE 50. NORTHEAST ENTRANCE WITH STEPS OF ROMAN PERIOD VI,  
LOOKING NORTH

lintel blocks are still in place, as are also the blocks of the course above. These are cut to form a flat relieving arch (Pl. V, 1; Figs. 49, 51), the under surface of which is cut away over the opening for a height of 0.05 m. so as not to bear directly on the lintel. The slope of the vault over the stair is shown by a cutting in the wall, and a similar cutting, with a more gentle slope adapted to the stairway, appears in the eastern passage.

Two of the rooms that lay to the west of the court were replaced by the exedra on that side, and the next room to the north was curtailed both by the wall of the exedra and by the pier north of it. A door was cut in the north wall of the room to give access to it. The east exedra cut into the large apse that had been constructed east of Peirene facing the Peribolos of Apollo, and also eliminated the first, and a part of the second, square room that lay south of the Peribolos apse.



FIGURE 51. NORTHWEST ENTRANCE WITH STEPS OF ROMAN PERIOD VI,  
LOOKING NORTH

In the curving wall of each exedra there were three niches, rectangular in plan, about 1.40 m. above the floor (Pls. II, IV, 2, V, VII, 1, XI). Their tops were arched, as appears in the central niches of the eastern and western exedrae. They were made undoubtedly for the reception of statues of life size or slightly larger.<sup>1</sup> The floors of the exedrae are one step (0.28 m.) higher

<sup>1</sup> The dimensions of the niches are: height, 2.93 m.; width, 1.22 m.; depth, 0.60 m.

than the court. Some of the marble flooring remains in the eastern apse and a very little of it in the western, and in both these exedrae there may be seen small portions of the revetment of the wall, white marble slabs *ca.* 0.035 m. thick (Fig. 47). The massive construction of the walls shows that the exedrae were covered by half domes, but no fragments of marble ceiling or indeed of the revetment generally above the base of the walls have been identified. Although columns

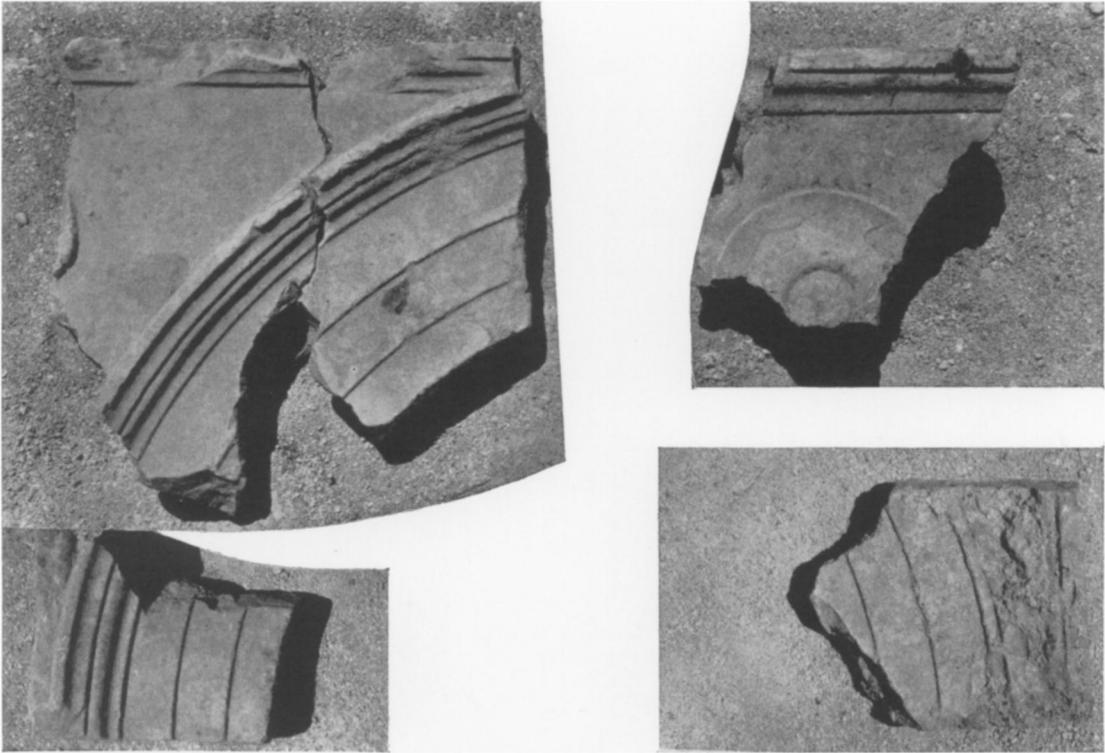


FIGURE 52. FRAGMENTS OF MARBLE REVETMENTS FROM FAÇADE OF ROMAN PERIOD VI

might have been expected rising from the step at the front of the exedrae, the thin marble flooring preserved at the front of the north and east exedrae shows that these are unlikely to have had columns across the opening, and in the north apse the front part has entirely new foundations in this period, which are very light, resting on rubble upon an earth fill. This foundation is sufficient for a floor or steps but wholly inadequate for marble columns.

There are sufficient remains of the revetment of the second marble period to justify the restoration which Mr. Stevens has made (Pl. XI). The arched openings into the chambers were in this period narrowed to about 0.95 m. (Fig. 35, D). The lower parts of the bluish marble pilasters, about 0.25 m. wide and 0.09 m. thick, on either side of the four central chambers, are still in place (Figs. 33, 34). They project 0.02 m. from the face of the earlier revetted wall between the openings and 0.09 m. from that of the parapet below the openings. The capitals of the pilasters have not been identified, but a number of fragments of the arches that rested on them were found built into later walls within the court (Fig. 52). They are of bluish marble like the



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FIGURE 53. FAÇADE OF CHAMBERS III AND IV AND SOUTH END OF HYPATHROS KRENE

A. Marble Floor of Platform, Roman Periods V, VI. B. Curb of Roman Period VI. C. Cutting for Lead Pipe, Roman Period VI

pilasters; their inner curve has a diameter equal to the square between the pilasters and they correspond with them in breadth and thickness. The arch was semicircular, with three plain fasciae surmounted by a moulding. Each spandrel was decorated with a rosette in relief. One fragment of a similar arch revetment, with, however, a slightly greater radius, has been assigned by Mr. Stevens to one of the lateral doorways that flanked the façade. The spaces between the

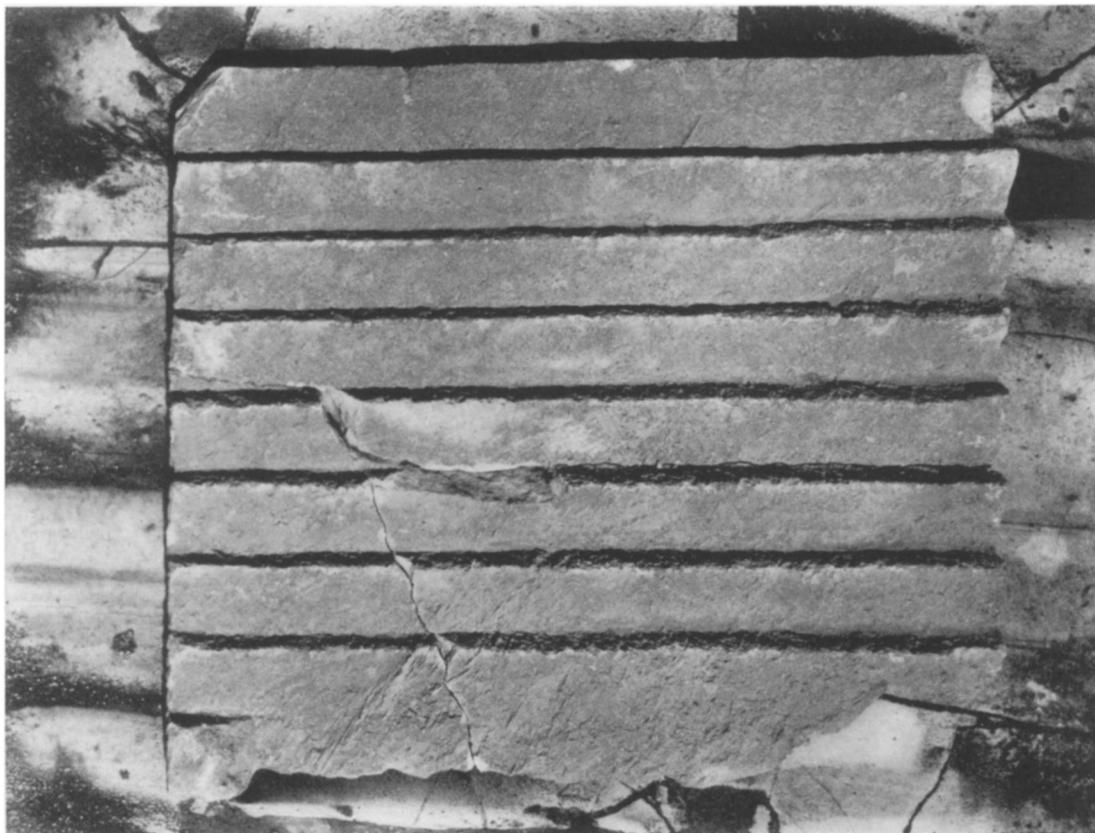


FIGURE 54. MARBLE SLAB OVER WHICH WATER CASCADED IN ROMAN PERIOD VI

arches were filled by panels of colored marble, some fragments of which still remain in place. The second period of painting in the Chambers (Pls. XII–XV; below, pp. 113, 115) probably belongs to this period.

It will be recalled that at the south end of the Hypaithros Krene a heavy concrete platform was erected probably in the fifth Roman Period (above, p. 92, Fig. 53). Its level is some 0.30 m. lower than that of the court, and in the period now under consideration it is not improbable that here stood a statue of the nymph Peirene, flanked by two cascades of water which, flowing out of Chambers III and IV, ran down over a pair of marble slabs with angular corrugations (Fig. 54). There seems to have been no curb at the edge of the platform, and the water presumably flowed over its face into the gutter. A rusticated base, shown in Figure 55, may have served to carry the statue.

The Hypaithros Krene within the court was made 1.25 m. shorter than before, its north wall being set forward and a flight of four steps *ca.* 3.75 m. long added in the center (Pl. VII, 1; Fig. 56). The ten spouts through which the water flowed along the sides of the open fountain were at an average of 0.64 m. above its floor and emptied into a gutter 0.30 m. wide and *ca.* 0.10 m. deep, which is continuous around the four sides of the *krene* and discharges near its northeast



FIGURE 55. POROS BASE IMITATING ROCK, POSSIBLY FOR STATUE OF NYMPH PEIRENE

corner a little east of the steps. The water passed by means of a small conduit underneath the north part of the supply channel of the *krene* into a large drain which ran across the north end of the earlier court, i. e. underneath the north apse belonging to the period under discussion. The blocks of the gutter are of very hard Acrocorinthian limestone and, as has been suggested above (p. 89), may have been first used in an earlier period of the fountain. The pavement of the Hypaithros Krene is not of the same material but consists of thin slabs of marble. The fact that gutter and pavement differ in materials would suggest that they belonged to different periods.<sup>1</sup>

At this time a balustrade of square, panelled posts,<sup>2</sup> and slabs pierced alternately with a diamond and scale pattern was placed around the sunken area (Pl. XI). Numerous fragments of the

<sup>1</sup> In the Lechaion Road, for example, the paving slabs and the gutter, which are contemporary, are both of the same Acrocorinthian limestone.

<sup>2</sup> One post 1.10 m. high has been identified. The panels measured 0.90 m. high and, presumably, 1.06 m. long.



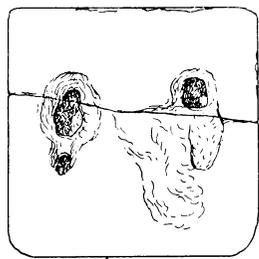
FIGURE 56. NORTH APSE AND STEPS TO HYPATHROS KRENE, ROMAN PERIOD VI



FIGURE 57. FRAGMENT OF MARBLE BASIN

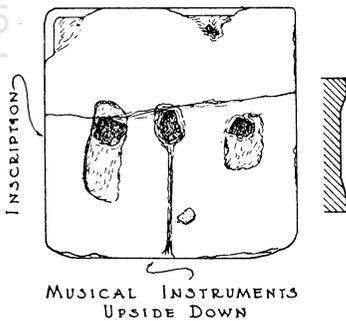


FIGURE 58. BASE FOR STATUE OF REGILLA



MUSICAL INSTRUMENTS

0m 0.50

MUSICAL INSTRUMENTS  
UPSIDE DOWNFIGURE 59. BASE FOR STATUE  
OF REGILLA

panels were found built into Byzantine walls in the court of Peirene, and on four fragments are parts of an inscription in which the name Περὴν[ης] can be read.<sup>1</sup>

An elaborate water basin of which a part (Fig. 57) has been found may have stood in the center of the Hypaithros Krene, as suggested in the restoration. A fragment of lead pipe which brought water to this point is preserved under the pavement of the platform at the south, and the cutting for the pipe is seen in its face (Fig. 53, C).

Among the blocks found in Peirene but not *in situ* there was a marble base (Fig. 58) for a statue of Regilla, the wife of Herodes Atticus, bearing the following inscription:<sup>2</sup>

[ν]εύματι Σισυφίης βουλῆς παρὰ γέυματι πηγῶν  
 Ῥηγίλλαν μ' ἔσορᾶς εἰκόνα σωφροσύνης.  
 ψ β

<sup>1</sup> *Corinth*, VIII, i, p. 83, no. 122. See also nos. 121, 123, 124.

<sup>2</sup> *Corinth*, VIII, i, p. 64, no. 86.

The phrase *παρὰ χεύματι πηγῶν* shows that the statue was set up by a fountain, which in view of the place of finding can hardly be other than Peirene, but there is no evidence to indicate exactly where the statue stood. The size of the base, together with the indicated scale of the figure that stood on it, is appropriate to the niches in the exedrae.<sup>1</sup>

There is, however, a tenth niche, similar to the others in size and form, midway between the east exedra and the façade (Pls. VII, 1, XI). Its floor is only 0.55 m. above the level of the marble pavement of the court, and it evidently was introduced after the building of the court in its present form. If this niche was prepared to receive the statue, the occasion would seem to have been the death of Regilla in 161 A.D. and the construction of the court with the exedrae is then to be attributed to a time somewhat earlier. Whatever may have been the precise position occupied by the statue, it is reasonable to infer from its presence that Corinth owed the reconstruction of the fountain and the court to the munificence of Herodes Atticus. The attribution is confirmed by a comparison with the elaborate exedra which he erected at Olympia.<sup>2</sup>

No conclusive argument can be advanced, on the basis of Pausanias' failure to mention Herodes, his contemporary, in connection with the fountain, as to whether he saw Peirene in essentially its present form or in that which it had in Period V. His description applies equally to both periods, and we have the curious fact that at Olympia he neglects entirely to mention Herodes' work. Hence he may have visited Corinth after the construction of the Herodian Peirene and merely failed to mention the builder, or the building of the fountain in its present form may date late in Herodes' period, and thus have been unknown to the periegete. There is also the possibility that Pausanias' visit may have been before the period of Herodes' activity at Corinth.

<sup>1</sup> The base was used twice before being employed for the statue of Regilla, as is shown by the cuttings (Fig. 59) for the feet of a male statue which occur in the bottom of the block when the inscription is placed right side up, and by other cuttings that appear in the top and which served for a second male statue facing at right angles to the inscription. A rectangular dowel with four channels seems to have fastened the plinth on which the figure of Regilla stood to the inscribed base.

<sup>2</sup> *Olympia*, I, pls. LXXXIII-LXXXVI.

## SEVENTH ROMAN PERIOD

The changes in the fountain in the next century or two are few. By the end of the third century the spouts about the Hypaithros Krene had ceased to be supplied through the large masonry channels. The four northernmost spouts in the meantime had ceased to be supplied at all, and water was brought to the six that remained through a lead pipe from a reservoir made by damming the west tunnel at a point *ca.* 13.00 m. back from the façade. The dam, which is made of small stones and bricks with an extraordinarily hard cement mortar, is 1.35 m. thick and is now preserved to a height of about 1.00 m. The lead pipe issues from the bottom of the dam and has been found also where it passes through a mass of concrete with which the upper part of Basin D at the west end of the original Greek fountain was filled. In the court along the edge of the Hypaithros Krene the cuttings for the lead pipe may be seen (Fig. 1), but all save a small portion of the pipe itself has disappeared.

Further changes consisted in the making of four small rectangular basins of marble in front of the first, second, fifth and sixth chambers, and of a large basin across the south end of the Hypaithros Krene, made by building a low curb around the edge of the platform in front of Chambers III and IV (Fig. 53, B). These basins were shallow, the deepest (central) one being about 0.30 m. in depth. They received water from spouts set in the parapet of the several chambers, and the central basin fed two spouts arranged at the south end of the Hypaithros Krene.

The most radical change was the transformation, long afterward, of the rectangular Hypaithros Krene, down into which people stepped to get water from the spouts, into a circular basin from which water was drawn by dipping. This basin was found in the excavation of the fountain in 1899 and its walls removed the following year to reveal the Hypaithros Krene (Pl. VII, 2; Fig. 3). Its floor was identical with that of the Krene and the circular line of its wall may still be seen on this floor in a slight discoloration of the surface within the circle, due to its exposure to the action of lime in the water. The water flowed off from the top of the circular basin northeastward in a gutter of rectangular section which passes out under the northeast pier of the court. A considerable part, it may be nearly all, of the existing paving of the court was laid at the time of the circular basin, for slabs of pavement were found fitted to the gutter that carried off the water from it.

## BYZANTINE AND MODERN TIMES

In a period of recovery after some great catastrophe to the buildings of the city the front of Peirene was redecorated with a row of five Corinthian marble columns set out 1.30 m. from the façade (Pl.VII, 2; Figs. 53, 60).<sup>1</sup> The materials were drawn from various buildings, presumably



FIGURE 60. RE-USED COLUMNS ERECTED IN EARLY BYZANTINE PERIOD TO DECORATE FAÇADE

in the vicinity. The one column whose source can be identified is from the colonnade of the Peribolos of Apollo. Its capital, which did not originally belong to it, is like those attributed to the colonnade along the west side of the Lechaion Road (the lower story of the Basilica).<sup>2</sup> The bases are of unequal sizes and do not correspond to the shafts resting on them. All five bases are preserved, four being still *in situ*. Two shafts and a single capital remain. Upon the capitals rested marble architraves reaching back to the main façade, forming what are technically called “outlookers.” These were made from marble architrave-frieze blocks from some Roman building,

<sup>1</sup> *Corinth*, XVI, pp. 22–23.

<sup>2</sup> *Corinth*, I, p. 150, figs. 103, 104.

laid upside down and decorated at the outer ends, which incline forward at an angle of *ca.* 60 degrees, with a palm branch cut in relief. Regular architraves reaching from column to column were laid upon the “outlookers.” One of the “outlookers”<sup>1</sup> remains *in situ*, two others were found in the excavation of the court, and two of the architraves have been discovered. These had been originally inscribed with a Latin inscription which was chiselled away and in its stead



FIGURE 61. ARCHITRAVE WITH PAINTED INSCRIPTION NAMING PEIRENE

there was painted on the frieze in red paint of great durability a Greek inscription (Fig. 61) reading as follows:<sup>2</sup>

τὸν δρώμενον πάντα κόσμον τῇ Πειρήνῃ πα ...

Authorities in Byzantine letter forms have judged this inscription to date probably from the fifth century A.D., and certainly not to be later than the sixth century. It is not unnaturally of importance in that it shows that the fountain at the beginning of the Middle Ages was still known as Peirene.

At a later time, but while the court was still in use, a channel was constructed in the east part of it to carry the surplus water from the main fountain away to the north (Figs. 1, 62). It turns a right angle to the east under the east wall of the court just north of the east exedra. As much as survives of this channel is made wholly of marble: cornices, architraves and columns have been laid in a line and then a channel 0.25–0.38 m. wide and 0.13–0.22 m. deep cut irregularly in the top (Fig. 26). The fact that such materials were available for such a purpose would point

<sup>1</sup> *Corinth*, XVI, p. 117, no. 138, pl. 31.

<sup>2</sup> *Corinth*, VIII, ii, p. 119, no. 198.

to a previous general destruction of the Roman buildings in Corinth. This and the fact that the channel was laid while the court of Peirene was still in use at its old level are the only indications of the date to which the channel is to be assigned. At a later time this channel was superseded or supplemented by another, parallel to it on the east, just in front (west) of the east apse, very well built of bricks and lined with hard cement, quite like the modern variety (called “korasan”)



FIGURE 62. NORTH APSE AND HYPAITHROS KRENE, LOOKING NORTHEAST

used until the introduction of Portland cement in the lining of cisterns. When this aqueduct was constructed the ground level seems to have risen somewhat within the court. A third channel was built when the court was already deep underground. The channel itself, being *ca.* 0.50 m. higher than its predecessor, was still carrying water to the principal village fountain in 1898 when Peirene was discovered and excavated. It was of inferior construction, and with it belonged a tunnel with walls of small stones laid without mortar and a cover of stone slabs. This tunnel or passage was *ca.* 0.50–0.60 m. in width and 1.00–1.70 m. in height. At intervals square manholes of similar construction reaching up to or near the surface of the ground gave access to the tunnel. Some of these manholes rose only *ca.* 1.50 m. from the top of the tunnel, i. e. about 3.00 m. from the water channel, and show the approximate level of the ground when the manholes were in use; others were from time to time extended upward and reached ultimately to 1.50 m. or less from the modern surface. All this would go to show that the third conduit carried away the water of Peirene through a very long period of time, during which the surface of the ground rose from

2.50 m. or 3.00 m. above the Roman level to 7.00–10.00 m. above it. One of these manholes over the southeast part of the court of Peirene extended to the modern surface level and was used as a well by the owner of the garden in which it was situated. It was through this well and the tunnel at the bottom of it that Peirene was discovered on April 10, 1898, as stated on p. 11.



FIGURE 63. SITE OF BYZANTINE CHAPEL IN FRONT OF CHAMBERS I–III

To return to the court of Peirene: the Byzantine façade having in part been destroyed, there was constructed in the southwest corner of the court a little chapel extending across the front of Chambers I and II, and having its apse in front of the west part of Chamber III (Fig. 2).<sup>1</sup> In Chamber IV a portion of marble column was laid as a coping to the parapet over which water continued to be drawn for a very long period, to judge by the depth to which the marble is worn by the friction of water jars. Later a second marble column was laid across the front of this chamber, and that in turn shows the wearing of very long use (Figs. 53, 63). The fountain as last seen before its burial was simply this basin with two Byzantine columns before it, the chapel to the west, and the little Christian churchyard<sup>2</sup> bounded by the three apses of the court, the ground level of which was then approximately 1.50 m. above the old marble floor. While a single chamber for drawing water was still accessible, short walls were built between the façade and the two

<sup>1</sup> *Corinth*, XVI, p. 38.

<sup>2</sup> *Ibid.*, p. 39.

remaining columns in order to support the façade which was then leaning forward dangerously. When the façade had tipped forward so that there were cracks at the back of the stones of it, some boy or other person slipped a bronze coin of Alexius I into one of these cracks at the northwest corner of Chamber V. At about the same time walls were laid in broken stone and mortar for a building too little of which has been seen to give any idea of the plan; they may in fact have been simple supporting walls. These were above, nearly parallel with the façade and about 1.20 m. south from it. A number of coins of the end of the eleventh century were found in this wall. It was probably not long after this time that Peirene became completely buried, though the highest portion of the apses was never far below the surface.

As has been described above, the well through which the fountain was discovered and the modern aqueduct and tunnel crossing the court were destroyed in the excavations of 1898 and replaced for practical purposes—the aqueduct by an iron pipe following approximately the old course, and the well by a pump tapping a reservoir near the north end of the west supply tunnel. This remained the reservoir for two village fountains until 1910, when a dam was constructed across the west supply tunnel at *ca.* 40.00 m. from the front, diverting the water from that tunnel into the east supply tunnel, in which, some 5.00 m. from the façade, a second dam was built, whence the water was piped to the village aqueduct. These changes were made so that it might be possible to remove the iron pipe, which for thirteen years had disfigured the court, and to allow the draining of the whole ancient fountain. The final (existing) arrangement of the water system was made in 1919, when the dam in the east supply tunnel was set 30.00 m. back from the façade and the water piped all the way to the village square (see p. 14).

Since neolithic and Early Helladic remains are being found in the vicinity of Peirene wherever excavations reach the necessary depth,<sup>1</sup> and nearly all subsequent periods are abundantly represented by finds, it is clear that Peirene, however named in the beginning, has served as a fountain—first of course only as a natural spring—from the beginning of human occupation until the present day.

<sup>1</sup> *Hesperia*, XXIX, 1960, pp. 241–246.

## THE PAINTED DECORATION

BY PRENTICE DUELL

The whole of the interior of Peirene as seen through the arches of the forecourt was, in Roman times, if the evidence of the existing remains is accepted, plastered and painted. This statement applies not only to the six chambers themselves but also to the low wall projecting from the rear of Chamber VI, which serves as a barrier at the east end of Basin C (Fig. 36), and to the rock wall beyond the chambers, in which are cut the openings of the four great reservoirs (Figs. 14, right, 16, left, 18, 20). At the time of discovery, the plaster had almost entirely fallen away from the upper half of the walls and from the ceiling of each chamber, but below this point the walls retained their plaster coating. The plaster, however, was covered with several layers of shale and hard limestone deposit to a depth of almost a centimeter, owing probably to water or mud having stood for long and intermittent periods at this height. Fortunately, this deposit served to protect not only the plaster but its painted surface as well.<sup>1</sup>

The decoration, except for certain details, has remained consistent throughout the chambers, and the evidence is sufficient to give an almost complete idea of their original appearance and to indicate that they were all essentially alike. In each chamber, the lower portions of the side walls, along with the front and rear parapets, are dark green, forming wainscots at the sides to the height of the front parapet wall; the rear parapet, which supports the column and antae, is much lower. The lower portion of the front wall, above the parapet and at either side of the arch, is yellow ochre with red borders at the sides and bottom (Pl. XII, 1), as may be seen from the remains in Chambers I, II, V, and VI; in Chamber V, these borders are edged with white lines, while in Chamber II are the remains of the red border at the west side of the arch itself.<sup>2</sup> The scant remains on the front walls of Chambers III and IV indicate the same decoration.

The best evidence for the decoration of the rear wall (Pl. XII, 2) may be seen in Chambers I, II, and V, where the lower portion of the shaft of each column and anta bears portions of horizontal bands of purple madder with borders of yellow ochre both above and below, which alternate with wide bands of white;<sup>3</sup> judging from the west side of the column in Chamber II, it would seem that the bands of purple madder bore lines of yellow ochre in imitation of marble veins.

<sup>1</sup> The fact that the walls were plastered and bore painted decoration was not noted until some time after the chambers were excavated; at this time, the side walls, along with the front and rear parapets, were partially cleaned. It was not until the autumn of the year 1925, however, that a complete examination of Peirene was made. The portions of decoration already discovered were thoroughly cleaned and the incrustation was removed from the front and rear walls above the parapets. In some cases, especially in connection with the columns and antae, it was possible to remove only a part of the incrustation, owing both to the looseness of the plaster and to the fact that the decoration tended to adhere to the incrustation itself. These portions, however, were cleaned sufficiently to make possible a comparison with similar parts that were uncovered successfully in other chambers. An examination of the low wall and of the rock wall was made at this time. The former was covered with an extremely hard incrustation, the removal of which endangered its painted surface; again only enough incrustation was removed to reveal the sort of decoration.

<sup>2</sup> The inner edge of the arch in Chamber II is bevelled; consequently, in this particular instance, the red border would have been visible, more or less, from the forecourt.

<sup>3</sup> Not indicated on Plate XII, 2 since not sufficient information on details is available.

The columns and antae of the Chambers III, IV, and VI have been cleaned only to the extent of disclosing that they bear a similar decoration. In each chamber, it would seem that the capitals of the column and antae, along with their entablature, were not painted; the portion of the wall above the entablature appears to have been white. At the sides of each wall, red borders extend down to the top of the low parapet, while in Chamber III there is also a portion of a red border at the top of the wall.

On the side walls of each chamber, above the dark green wainscots, remain portions of paintings which depict fish and other objects of marine life on a dark blue ground. Those of Chamber III and Chamber IV are the largest in area and also the best preserved (Pls. XIII, 1, XIV, XV). On both walls of the other chambers the paintings remain at varying stages of ruin, those of Chambers I and V being almost totally lost. Each painting is framed at the sides and along its lower edge with red borders, the side border adjacent to the rear wall extending down to the low parapet. At the top of each wall of Chamber III, a portion of a red border remains, along with a portion of a red border on the ceiling. The borders are all edged with white lines similar to those on the front walls. In the side borders of the paintings these edges are comparatively narrow, and at a short distance from each there is a still narrower white line on the blue ground itself, forming an inner border to the painting.

There appear to be no definite traces of color on the ceilings of any the chambers except the portion of red side border mentioned in connection with Chamber III; however, what would appear in certain instances to be natural discolorations may be traces of darkened pigment, in which case one might be led to suspect that the ceilings were blue.

The removal of a part of the incrustation on the low wall behind Chamber VI has revealed that its west side is painted dark green and that it is decorated with what seem to be two similar and conventional floral designs; owing to the position of the wall, only this side is visible from the court (Fig. 36). Each design seems to consist of a white flower supported on a reddish yellow stalk with red and yellow tendrils placed symmetrically at either side (Pl. XII, 2); the plants rise vertically from the base and extend almost to the top of the wall. A few fragments of plaster remain on the face of the clay wall beyond the chambers, some of which have a dark green painted surface; the decoration here must have stopped at the top of the basins, since any point below this line is invisible from the court (Pl. XII, 2).

In restoring the chambers, one should imagine the decoration which remains today as extending to the ceiling. In each chamber there must have been a red border at the top of the walls and a similar border at the four sides of the ceiling, according to the remains in Chamber III; also, each of the arches in the front walls probably had a red border, judging from the remains on the west side of the arch in Chamber II; these borders, to be consistent with those which remain on the lower portions of the walls, would have been edged with white lines. One may only conjecture that the ceilings were blue, while the insufficient evidence regarding the decoration of the columns and antae of the rear walls, especially as to the width of the bands and their distance apart, would make anything like an accurate restoration quite impossible at present. It may be suggested that the clay wall beyond the chambers was decorated for its entire length, between

the openings of the reservoirs, with floral designs not unlike those which remain on the neighboring low wall; as seen, then, through the arches of the forecourt, these plants would have appeared to be growing out of the basins beyond the painted chambers (Pl. XII, 2).

Today both the east and west walls of Chamber I bear two paintings, an earlier one being in each case underneath and partially visible through the remains of the marine painting which now decorates these walls. The early decoration on the east wall is by far the better preserved, though at the sides it is considerably faded. Its design, in part, seems to have consisted of a yellow ochre ground divided into three panels by vertical bands of yellow-orange color bordered with narrow white lines. At the bottom of the middle panel and of the one at the left are traces of what appear to be two inverted garlands, those of the central panel retaining something of their original green color (Pl. XIII, 2).

It seems almost certain that each of the side walls of the other five chambers (II–VI) once bore a similar and contemporary decoration which was in each instance effaced before the marine paintings were begun. Examination of the paintings in these chambers discloses that beneath each one there is a thin coat of black pigment applied directly to the plaster, and that the blue pigment itself was applied over this black surface. The evidence is best seen probably in Chambers II and III, though in all five chambers the blue pigment has fallen away to some extent, thus exposing the black undercoat. It would seem that the artist, after completing the marine paintings in Chamber I, decided that it was necessary to take precautions against the earlier decoration appearing through his own; consequently, in the other chambers, he scraped the garland paintings to a smooth surface and covered them with black pigment, which destroyed all traces of the early decoration. The omission of this precaution in Chamber I has in fact resulted in the early paintings on both walls having defaced in a measure the later ones, since the yellow ochre ground of the former has come through the semi-transparent blue of the marine paintings; these walls, therefore, appear greenish or ochre-blue as compared with the blue-black tone of the side walls of Chambers II–VI.

Upon examination of the dark green wainscots in each of the chambers, one finds that black pigment again plays a conspicuous part. Two coats of paint are represented, a black undercoat and an uppercoat of *terre verte*. The original color of the wainscots was, then, a much lighter green than it is today, its present dark appearance being accounted for by the fact that much of the black undercoat is visible where the green coat has either partially or wholly disappeared; the best evidence for this is again in Chambers II and III. It is obvious that black pigment was employed here also, probably to destroy other wainscots which were a part of the early decoration.<sup>1</sup>

<sup>1</sup> There may be some question as to whether the black surface beneath the marine paintings and wainscots is not, after all, merely a matter of the blue and green pigments having turned black during the lapse of time. The blue pigment has probably darkened to some extent and in certain instances throughout the chambers approaches blue-black; this can be seen especially well on the walls of Chamber I, where the darkened pigment is conspicuous on account of the ochre ground of the early decoration; however, even in these cases the black undercoat is generally apparent. The green pigment on the other hand has not darkened but, instead, has tended to disappear entirely, thus exposing to some degree the smooth black surface beneath.

The evidence, then, points to two periods of decoration. In the *first period* the side walls of all six chambers probably bore garland motifs on a ground of yellow ochre, similar to the early painting in Chamber I (Pl. XIII, 2). The front and rear walls (Pl. XII) also belong apparently to this period. In the first place, they bear no relation to the marine paintings either as to color or design, whereas the yellow ochre ground of the front wall is the same as that of the garland decoration, and the rear wall, with its column and antae ornamented with simple bands of purple madder and yellow ochre on a white ground, is more in harmony with the garland decoration than with the marine paintings. In the second place, there is no black undercoat on either the front or the rear wall of any of the chambers which would, as in the case of the side walls, point to earlier decoration. On these walls the pigments were applied directly to the plaster, the front walls receiving one coat of yellow ochre, while to the columns and antae of the rear walls two coats of white pigment were applied, the first, thin and dull, having served, probably, as the priming coat for the second, which is thick and has a hard, enamel-like surface; upon this second or upper coat the purple madder and yellow ochre bands were painted. The red borders on the front and rear walls are contemporary with those of the marine paintings and belong, therefore, to the second period; similar borders, nevertheless, must have framed these walls, as well as the garland decorations on the side walls, during the first period. Wainscots not unlike the present ones must also have been a part of the decoration of the first period, since the chambers served as water basins at that time as well as during the second period; moreover, the garland decoration in Chamber I seems to have been designed with reference to such a wainscot.

The *second period* represents the redecoration of the chambers, at which time, as has already been observed, the early garland decoration on the side walls of each chamber (with certain exceptions in Chamber I) was scraped smooth and covered with a thin coat of black pigment; all the wainscots, along with the front and rear parapets, were likewise scraped and painted, while in the case of the latter the decoration which remained above them was left untouched. The upper portion of each of the side walls was then covered with a coat of blue pigment extending down to a line practically horizontal with the top of the front parapet wall; this was done without regard for the borders or for the marine subjects which were to appear on its surface. Some two or three centimeters below the lower edge of this blue ground, the green wainscot was begun and carried on down to the floor; a similar green coat was applied likewise to the front and to the rear parapets. The fishes and other objects of marine life were then painted; finally, the red borders with their white edges were added, not only to the side walls but also to the front and rear walls and to the ceiling. On the side walls, the horizontal border covered the lower edge of the marine painting and the upper edge of the wainscot as well as the black space between them, as can be seen today in places where this border has disappeared. In several instances it would appear that the artist inadvertently placed certain of the fishes too low in the paintings to permit a border on a line with the top of the front parapet, and, consequently, these borders vary from the horizontal. The second period of decoration would include the marine paintings, the wainscots and parapets, all the borders, and possibly the ceilings; the decoration of the low wall projecting to the rear of Chamber VI and that of the rock wall beyond the chambers would also belong to this period.

The marine paintings (Pls. XIII, 1, XIV, XV) are among the most important remains in Peirene. No two are composed exactly alike nor is any one object copied from another, though it does happen that certain types of marine life are twice represented. The fishes which remain today are of many varieties, and along with two lobsters, one eel, one cuttle-fish, and oyster shells, may be considered fairly representative of the fish market of Roman Corinth (see below, p. 115). The paintings also afford an excellent opportunity for studying both the technique of ancient painting and the palette of colors at the disposal of the artist. Apparently the subjects were drawn in pigment on the blue ground, with a certain regard for composition, but without preliminary incisions or guide lines of any kind. The various colors were then freely applied, the artist succeeding in indicating body texture and contour to a remarkable degree, particularly with regard to the fishes; finally, the fins, gills, and mouths were carefully added, while the eyes received special attention, even to white glints of light. Curiously, under many of the fish and other objects are what appear to be shadows. These can best be examined on the west walls of Chambers III and IV; there is also a well-preserved shadow under one fish on the east wall of Chamber VI. These shadows consist of strokes of black pigment varying from about two to three centimeters in width, painted on the blue ground after the subjects themselves were completed, thus defining their lower edges. Since the light is represented as coming from above, it would seem that the artist had some idea of simulating the effect of fish in an aquarium.

The palette of colors used in the marine paintings appears to have been the following: white, yellow ochre, red (Pompeian), purple madder, blue (Egyptian), green (*terre verte*), and black. These not only embrace all the colors used in the second period of decoration but also include those of the first period which remain today. There is evidence that some of the colors were mixed, which in the case of the fishes could scarcely have been avoided; for instance, a yellow-orange color, represented also in the early garland decoration, appears to be a mixture of the yellow ochre and the red. The decoration of the first as well as of the second period was applied to the walls *a tempera*, that is, on a dry plaster ground. Since the remains today are unaffected by the action of water, one would judge that the decoration, upon completion, was waxed; in fact, the chambers being water basins, this was undoubtedly the case.

The chambers were plastered at some time after the Roman wall with arches had been erected across the front of Peirene, since the plaster coating incorporates this wall with the Greek side walls and with the ceiling of each chamber. In the plastering, practically all the Greek details were lost; the capitals of the antae of the side walls were cut away and the offset of the antae lost beneath the plaster, while the shaft of the Ionic column was in each case so thickly plastered that it assumed the form of a pier of ovular section, with width and depth practically that of the capital itself. The capitals of the column and antae, along with the entablature, appear not to have been plastered at all. Owing to the rough quality of the masonry of the front wall, the plaster thickness varies considerably; furthermore, it has not adhered closely to the surface, partly because the wall has tended to lean out and away from the side walls, to which it was joined only by the plaster itself. On the smooth surface of the side walls, however, the plaster appears to be of consistent thickness throughout the chambers; as measured on the east wall of Chamber VI, it consists of two coats,

averaging about 6 millimeters for the first coat and 3½ for the second. The first, or under coat, is rather coarse and seems to represent an ordinary sand mortar, while the second, or upper coat, being of a very fine quality, with a hard, compact surface, probably represents a mortar composed in part of marble dust.

Since the plastering of the chambers was done not only after the Roman poros façade (Period II) was erected but still later after the parapet in the arcades had been heightened with poros blocks and strengthened with brick and mortar behind (above, p. 91), the first period of decoration cannot be earlier than Roman Period V, to which this parapet change is best assigned. The second period represents a redecoration dating probably from the second century A.D., at the time when the whole forecourt was remodelled under the auspices of Herodes Atticus.

#### THE MARINE ANIMALS IN THE PAINTINGS

The identification of the fishes represented in the paintings was undertaken by Harold North Fowler for whom two authorities examined the paintings and offered possible identifications, both emphasizing that since the most distinguishing features of fishes, the fins, are frequently missing, it is impossible to be positive about scientific identifications. The names suggested below list the sea creatures from left to right in each painting and represent the opinions offered by Dr. Nicholai Borodin, curator of fishes at the Museum of Comparative Zoology, Harvard University; Mr. Elmer Higgins, Bureau of Fisheries of the Department of Commerce and Bert Hodge Hill reporting the identifications made by local Corinthian fishermen:

##### Chamber III, West Side Wall (Pl. XIII, 1)

King or horseshoe crab  
 Mullus (red mullet)  
 Pagellus erythrinus (bream or sea bream) (2)  
 King crab  
 Thynnus (tuna)  
 Pagellus erythrinus  
 Thynnus  
 Thynnus

##### Chamber III, East Side Wall (Pl. XIV)

Pagellus erythrinus  
 Corvina (croaker family) or thynnus  
 Cancer (crab)  
 Labrax (sea bass)  
 Pagellus erythrinus  
 Labrax  
 Pagrus

##### Chamber IV, West Side Wall (Pl. XV)

King crab  
 Clupeoid or sardina  
 Palinurus vulgaris (langouste)  
 above, a medusa  
 below, pagellus, king crab, pagellus  
 Corvina (spotted)  
 Pagellus  
 Pagrus  
 above, a muraena  
 Spathi

## II

# THE SACRED SPRING

### A SANCTUARY IN THE AGORA

#### INTRODUCTION

... ἐπὶ τῆς ἀγορᾶς ἐνταῦθα γὰρ πλεῖστά ἐστι τῶν ἱερῶν...

Pausanias, II, 2, 6

The area of ancient Corinth taken as the subject of consideration here lies to the south and southeast of the well known old Doric temple, now identified as that of Apollo,<sup>1</sup> at the foot of the hill on which the Temple stands (Fig. 64). Its general level is 6.50 to 8.50 m. below the stylobate of the Temple, with certain sections 2 m. to 4 m. lower. It extends westward from the Propylaea through which, according to Pausanias (II, 3, 2), one passed in leaving the Agora by the road to Lechaion, 'Ἐκ δὲ τῆς ἀγορᾶς ἐξιόντων τὴν ἐπὶ Λεχαίου προπύλαιά ἐστι καὶ ἐπ' αὐτῶν ἄρματα ἐπίχρυσα, τὸ μὲν Φαέθοντα Ἥλιου παῖδα, τὸ δὲ Ἥλιον αὐτὸν φέρον. The foundations of the Propylaea were discovered in 1899,<sup>2</sup> and readily identified from their relation to the straight road toward Lechaion and to Peirene, which had been discovered the previous year.<sup>3</sup> The shape, also, of the massive foundations is entirely consistent with the form of gateway, a triumphal arch, inferred from Pausanias' summary description and from the testimony of certain Imperial coins of Corinth.<sup>4</sup>

The natural conclusion from the words of Pausanias, that the Roman market place lay just to the south of the Propylaea, has been abundantly confirmed by the excavations.<sup>5</sup> The open area to the southeast, south, southwest, and west is, beyond question, the Agora known to Pausanias. Its northern boundary west from the Propylaea is a great concrete foundation now 22 m. in length (Pl. XVII, 1, no. XIV; Figs. 67, left, 68, right), which once supported the Façade with Colossal Figures,<sup>6</sup> and beyond that a colonnade backed by a series of shops, the Northwest Shops,<sup>7</sup> of which the central member with its high vaulted ceiling is the most conspicuous of the ruins

<sup>1</sup> *Corinth*, I, p. 132.

<sup>2</sup> *Ibid.*, pp. 159–192.

<sup>3</sup> Lechaion Road, *ibid.*, pp. 135–141; Peirene, above, p. 11.

<sup>4</sup> *Ibid.*, p. 185; Imhoof-Blumer and Gardner, *Numismatic Commentary on Pausanias*, p. 22, pl. F, xcvi–c.

<sup>5</sup> *Corinth*, I, I, ii, I, iii, I, iv, I, v.

<sup>6</sup> *Corinth*, I, ii, pp. 55–88.

<sup>7</sup> *Ibid.*, pp. 120–126.

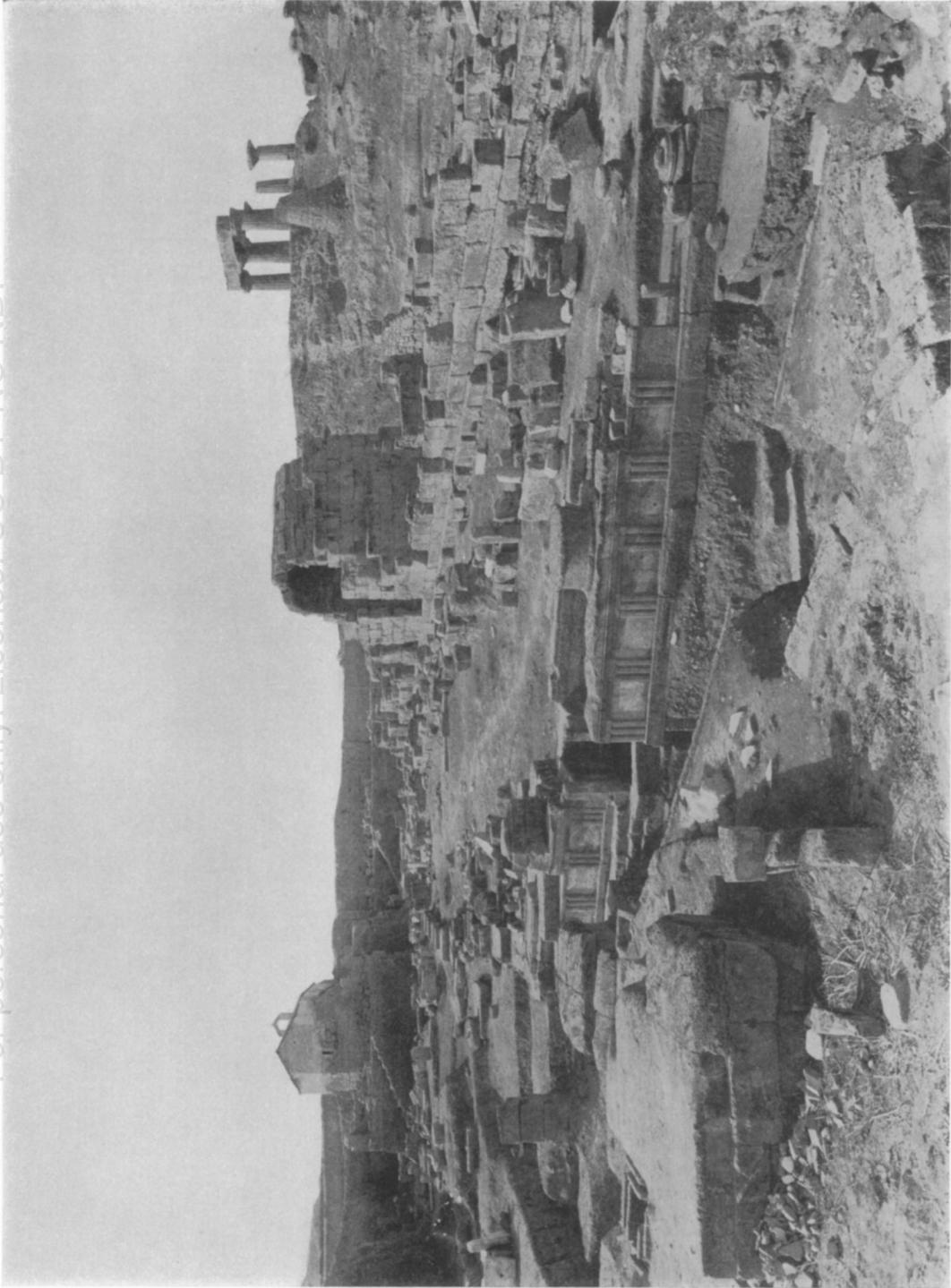


FIGURE 64. NORTHEASTERN PART OF AGORA, LOOKING WEST. CENTER, ENTRANCE TO SACRED SPRING

in this section of the excavations (Figs. 64, 66).<sup>1</sup> The shops and their colonnade certainly, and the Façade with Colossal Figures probably, were standing at the time of Pausanias' visit. For the former a date early in the second century after Christ is probable;<sup>2</sup> the other dates perhaps half a century later.<sup>3</sup> Before the construction of the Northwest Shops the northern boundary of the western part of the agora was the long Northwest Stoa,<sup>4</sup> a Hellenistic building restored by the Romans. This being true, the stoa would seem, *a priori*, to have had a similar relation to the Greek market place before the destruction of the city in 146 B.C.; and in fact the character of the Greek remains underneath the Roman Agora, broad open paved areas and few buildings,<sup>5</sup> is entirely consistent with the view that they belong to the Greek Agora. Further indication that the site of the market place was the same in both the old city and the new appears in the history of the South Stoa which must be taken as the southern boundary of the Agora. It was built by the Greeks in the third quarter of the 4th century B.C.; in several periods of Roman times new rooms and arrangements were rebuilt in its shops.<sup>6</sup>

The site of the Agora having, then, remained unchanged through the changing fortunes of the city, we may fairly borrow Pausanias' phrase ἐπὶ τῆς ἀγορᾶς, even in describing things buried deep beneath the market place of his day.

This much in justification for half the title of this chapter; as to the rest, it is one purpose of the following pages to present the evidence for the sanctity of the area under consideration.

The Northwest Shops being left out of the account, the eastern half of the long stoa behind them, the Northwest Stoa, is the northern boundary of an open area roughly trapezoidal in shape (Pl. XVII, 1) some 55 m. in extreme length (along the front of the stoa) and 20 m. to 25 m. wide. It is bounded on the south (Figs. 64, 66, 94) by a series of sixteen statue bases (their whole extent 38 m.) and on the east by terrace walls in a line at an obtuse angle with that of the bases (Fig. 64); the western boundary is not distinct.

In 1901 and the succeeding year this area was cleared thoroughly down to bed rock, which over most of the surface is a light reddish sandstone, extremely soft, so little consolidated, in fact, as hardly to be classed as rock at all.<sup>7</sup> It gives place toward the east to a rather fine very hard conglomerate, which, broken in an irregular line, formed the natural original edge of the

<sup>1</sup> Before its excavation this chamber was accessible from above and was locally known, like Glauke's Fountain (below, pp. 200–228) as a Turkish prison, "boudroumi." Since the name Glauke became current, the vaulted chamber has been both for the natives and the informal speech of the excavators the Boudroumi, *par excellence*.

<sup>2</sup> *Ibid.*, p. 129.

<sup>3</sup> *Ibid.*, p. 87.

<sup>4</sup> *Ibid.*, pp. 89–107, 129.

<sup>5</sup> *Corinth*, I, iii, pp. 133–134.

<sup>6</sup> *Corinth*, I, iv, pp. 96–98, 156–160.

<sup>7</sup> The excavators, borrowing a general term from the Greek workmen and making it specific, refer habitually to this soft rock as "red stereo." In this volume "hardpan," without qualification, is to be understood to mean specifically this soft reddish sandstone.

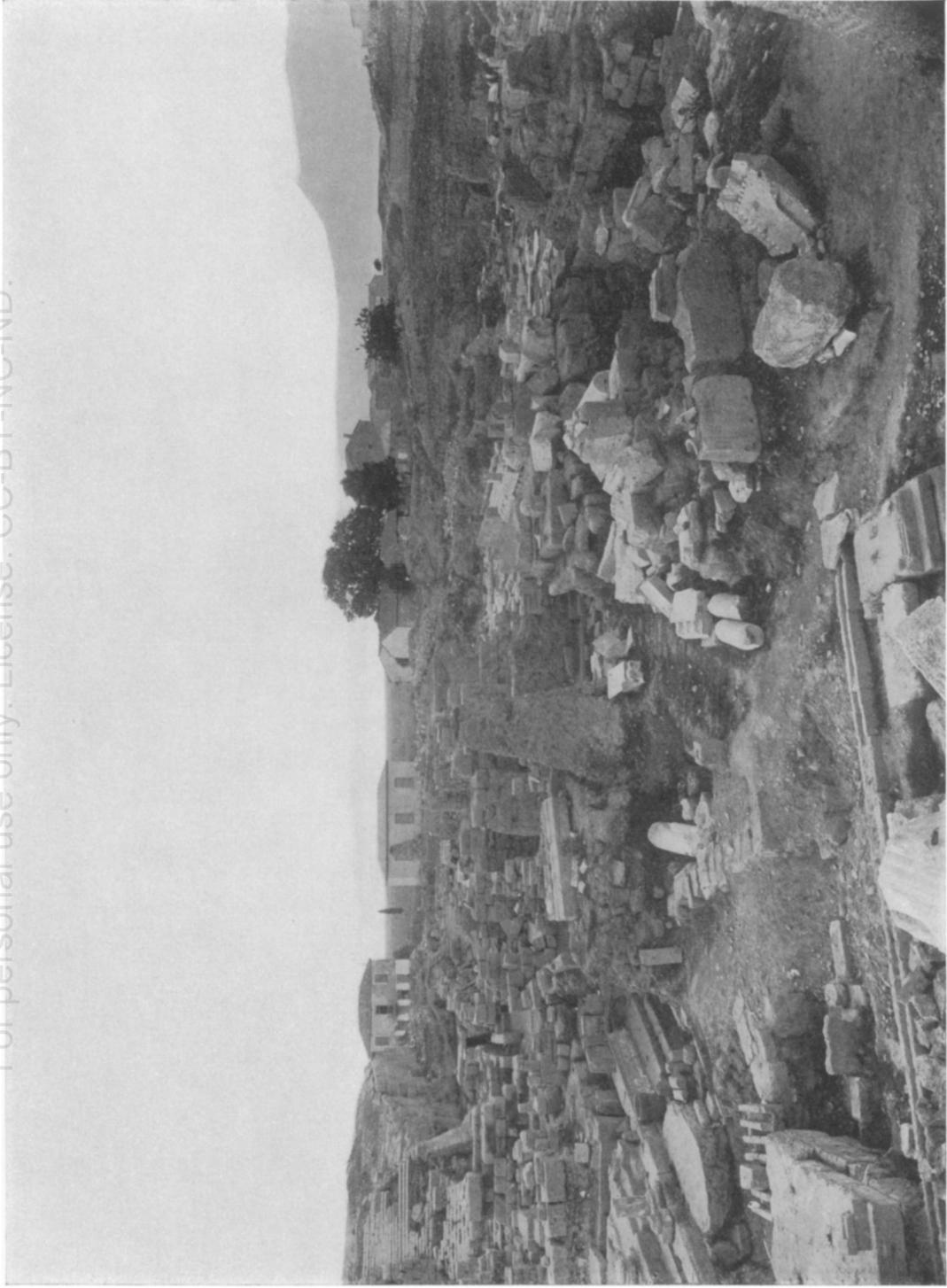


FIGURE 65. AREA EAST OF THE NORTHWEST SHOPS, LOOKING NORTH

terrace.<sup>1</sup> This edge, masked in time by the terrace walls (Fig. 64) referred to above as the east boundary of the area, was once 2 m. to 3.50 m. above the level immediately to the east; successive fillings, however, ultimately made this difference disappear. The terrace itself slopes gradually up toward the west, from level  $-8.75^2$  (at the northeast) and  $-8.00$  (at the southeast) to about  $-6.75$ .



FIGURE 66. NORTHWEST SHOPS, LOOKING NORTHWEST. ROW OF BASES IN FOREGROUND

### ROADWAY

Prior to the construction of the walls XII and XIII (Pl. XVII, 1; Fig. 68), which as will appear later<sup>3</sup> belong to Roman Corinth, the terrace under consideration was reached at its north-east corner by a roadway leading up from the east. Along the north side of the road there was, at an early period, a stone barrier (Pl. XVII, 1, immediately south of later wall XVI)<sup>4</sup> set in

<sup>1</sup> The same stratum forms the ceiling of Peirene (above, pp. 16–17) and here it withdraws southward into a deep bay. From here its edge has a northerly direction; it is scarped to make the rear wall of the Greek North Building (*Corinth*, I, pp. 212–228) beyond which it retires toward the northwest.

<sup>2</sup> Levels are given in meters, with the stylobate of the Old Temple as the datum, + meaning, as usual, above, and – below.

<sup>3</sup> Pp. 127, 129, 148–149.

<sup>4</sup> The stone exclusively used in the building operations of Greek and early Roman Corinth was poros from local quarries.



FIGURE 67. EASTERN PART OF PRECINCT, LOOKING NORTHEAST. EARLY STEPS TO SPRING HOUSE IN CENTER FOREGROUND



FIGURE 68. ROADWAY, WITH BARRIER AND STATUE BASES ON NORTH SIDE AND ROMAN WALLS OVERLYING IT

a continuous bed 0.25 m. wide and 0.06 m. deep, cut in blocks of varying length 0.45 m. wide and 0.20 m. high. The separate sections of the bedding are supported, at the ends only, by small blocks embedded in the earth, as may well be seen in Fig. 68, at the right, where also appears the end of the structure against which the barrier terminated at the east. It has the form of two steps, the upper of which continues the front line of the barrier. What further significance it may have had is concealed by the concrete foundations XVI and XV.

In the western part of the line (Figs. 68, left of center, 69) 3.30 m. of the length of the barrier itself is preserved. It is of well matched blocks with drafted lower edge, 0.25 m. to 0.27 m. thick and a maximum of 0.60 m. high. The bedding in one low course is here replaced by

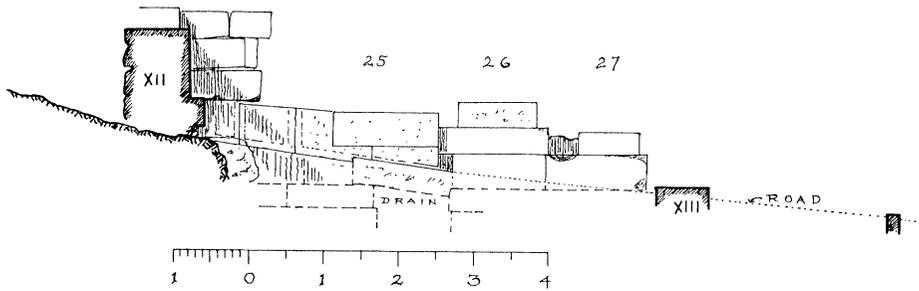


FIGURE 69. WEST-EAST SECTION THROUGH ROADWAY WITH ELEVATION OF STATUE BASES ON NORTH SIDE

a foundation wall of good depth. Whether or not this difference dates from the original construction does not now appear. It is, however, certainly not especially late. What is preserved of the foundation wall and barrier was, from a late Roman period, part of the drain G (Fig. 68, upper part, left side) which discharged into F from beneath base No. 25.<sup>1</sup> Considerable portions of the rest of the barrier had disappeared in Greek times, successive sections giving way to the bases numbered 25 to 28 in the plan (Pl. XVII, 1; Figs. 68, 69), which, however, carefully keep the old line.

Base No. 25, probably the first to be placed, is fitted with great nicety into the section of the barrier that still remains. It was, apparently, originally square, made of two blocks of poros joined by iron clamps of Z form. The cuttings of a shallow bed to receive the second course (a block 0.88 m.  $\times$  0.92 m.) removed one of the clamps and mutilated the other.<sup>2</sup> The western face of the basis has been cut<sup>3</sup> in an oblique line parallel with the terrace wall X (Pl. XVII, 1), 0.46 m. distant. Between the basis and the wall is a fragment of a cement-lined water channel;<sup>4</sup>

<sup>1</sup> Drain G may be traced in *Corinth*, I, pls. I, II, squares G 4-5.

<sup>2</sup> The iron was found in its place, but projecting above the surface of the stones, most of the projection for the northern block being due to that having settled.

<sup>3</sup> This work was carefully done, so that nothing has been observed in the finish itself to prove the western face of the basis not original.

<sup>4</sup> This is of poros. Along the front of the stoa, one wall and the floor of the channel are cut in the bed rock, while the other wall is made of small poros blocks bonded with cement like that with which the channel is lined throughout. It is light brown in color, and very hard. The interior dimensions of the channel are in general 0.10 m. by 0.10 m.

the lowest part of a drain of the time of the construction of the long Northwest Stoa, which ran close in front of the foundation of the eastern part of the stylobate, swerved slightly southward, passed around the end of the terrace wall X, which reached 0.22 m. farther south than at present,<sup>1</sup> and then north between the wall and the basis No. 25. On the top of wall X there are at intervals, back about 0.10 m. from its front edge, narrow white lines clearly due to successive renewals of the stucco on the metopes of a Doric frieze.<sup>2</sup> Their positions, with those of certain pry holes, indicate that the length of the unit of the system (triglyph + metope) was between 1 m. and 1.05 m. The length of wall, 7.65 m.,<sup>3</sup> would admit eight triglyphs about 0.42 m. wide and seven metopes 0.60 m. wide.<sup>4</sup>

About 1.50 m. farther west than X and parallel with it, at a level 0.30 m. lower, is a shelf (Xa) 0.34 m. wide cut in the native rock (conglomerate), the face of which is scarped vertically above it. This shelf also shows traces of having supported a Doric frieze and it is altogether likely that a triglyphon first rested here and was later transferred to the wall in front (X) when it was built in order to broaden and raise the terrace. The change was most probably occasioned by the building of the Northwest Stoa which would have reached the very edge of the old terrace.

Because, then, of its relation to the drain and the wall X we may safely conclude that the base No. 25 is, in its present form and position, contemporary with the Northwest Stoa. That, as is generally agreed, dates from the late third century B.C.<sup>5</sup> However, the carefully constructed base with the Z clamps is itself surely not later than the 5th century. Its original position must for the present remain uncertain.

The large base, No. 26,<sup>6</sup> next to the east (Pl. XVII, 1; Figs. 68, 69) was clearly placed later. It was of a three-stepped form, the uppermost block having disappeared and with it whatever clue it might have given to the character of the monument it supported.

The next pedestal, No. 27 (Pl. XVII, 1; Figs. 68, 69), was curved, the concave side toward the road. The western block of the first course and of the podium, which is rectilinear, are preserved. The eastern end of the foundation of the podium makes the podium about 3.55 m. long, which would make the second course above (now lacking) 2.50 m. in length, assuming the two ends to have been alike.<sup>7</sup> Its width was 0.90 m. (width of the present, first, course 1.20 m. at west, 1.08 at east). In each of these directions a third course, if one existed, would be about 0.20 m. shorter. Judged by its shape and dimensions, the pedestal may well have sup-

<sup>1</sup> The missing block, wrong side up, forms now part of the ceiling of the drain G. It is to be seen (Fig. 68) in the course next higher than base No. 25. The cement of the small water channel appears on the (present) lower part of it.

<sup>2</sup> There is similar evidence for the original position of the triglyphon wall II at IIa (Pl. XVII, 1; below, p. 178).

<sup>3</sup> The original length, the block referred to in note 23 being included.

<sup>4</sup> A block of the desired size was found behind shop VIII of the Lechaion Road system (*Corinth*, I, pl. II, H 3).

<sup>5</sup> *Corinth*, I, ii, pp. 128-129.

<sup>6</sup> The upper of the two blocks measures 1.10 m. by 1.46 m.

<sup>7</sup> The block preserved of the first course reaches 0.37 m. from the end of the podium. The position of the second course is marked clearly on the top of the first, 0.12 m. from each edge.

ported three life-sized standing figures. It is of good construction, the blocks bound together by hook clamps. A probable date is the third century B.C.

Base No. 28 exists only in rough foundations. Their character and level admit little doubt that the base was the latest of the series. In fact it seems certain that these four bases, Nos. 25, 26, 27, and 28, stand in chronological order from west to east.

The relation of the northern border of the roadway, the continuous barrier and the later series of bases, to the successive levels of the road itself was observed during the excavation of this area in April and May 1902.<sup>1</sup> Figure 69 is a section lengthwise of the road, with the northern boundary in elevation.<sup>2</sup>

The roadway (Figs. 70, 71), which was 6 m. broad, had for its earlier (one would hardly venture to say "original" of anything at Corinth in this region), southern boundary the line of stones deep in the macadam which are parallel with the north line of the road. This line is determined by the North Building,<sup>3</sup> a public building on the east end of the temple hill 18 m. to the north, or at any rate belongs to the same system with it. It may be observed that while here the lines have relation to that building, the direction of the earliest walls of Roman Corinth, for example the terrace walls in this area, is determined by the long Northwest Stoa which fixed the lines of this region for a century and a half, after which they change once more, and depend upon the orientation of the Lechaion Road Shops. The roadway was paved in successive periods with the usual hard-packed crushed poros, and consequently, as is natural in a sloping street, the level was raised more rapidly towards the lower part than near the top. The stratification here was closely observed in the course of excavation (see the martyra in Fig. 68) with results that are conclusive in determining questions of relative date of structures both here and in other sections of the excavations. Numbering the strata from the bottom, there are first (stratum 1) the above mentioned dressings of the surface with packed poros. There are at least three distinct divisions within this early period. Actually there are doubtless many more. It was in the top layer of this stratum that the archaic inscription (Figs. 83, 84; below, pp. 143-144) was found projecting 0.43 m. from it. With it clearly belong the similar pavements in the lower area to the south, all the curbs along the lower south side of the road (below, p. 145) and the two water channels A and B. The top edge of this stratum may be observed in Figures 68 and 70 in the "martyra," showing on the left side at the foot what in the photograph appears to be a sharp incline. The roadway was not actually so steep as there appears. This stratum 1 can be followed up to the terrace underneath the upper early Roman wall (XII). Clearly it is dated approximately by the archaic inscription.

<sup>1</sup> Two causes made it inevitable that the record should be defective: first, in the line of the drain F a great trench was dug at a relatively late Roman period, later at least than the building of the wall XV, and of course completely destroyed the preexisting stratification for the width of the trench; secondly, nearly half the area (the quadrangle between walls XVI, XIV and XV) had been excavated in 1900 and 1901 down to about level — 9.25 and the southwest quarter of it to — 10.50.

<sup>2</sup> Only one course of wall XIII is actually preserved across the road (Fig. 69); upper courses are preserved in the part of the wall further south (Fig. 83).

<sup>3</sup> *Corinth*, I, pp. 212-228, pl. III.

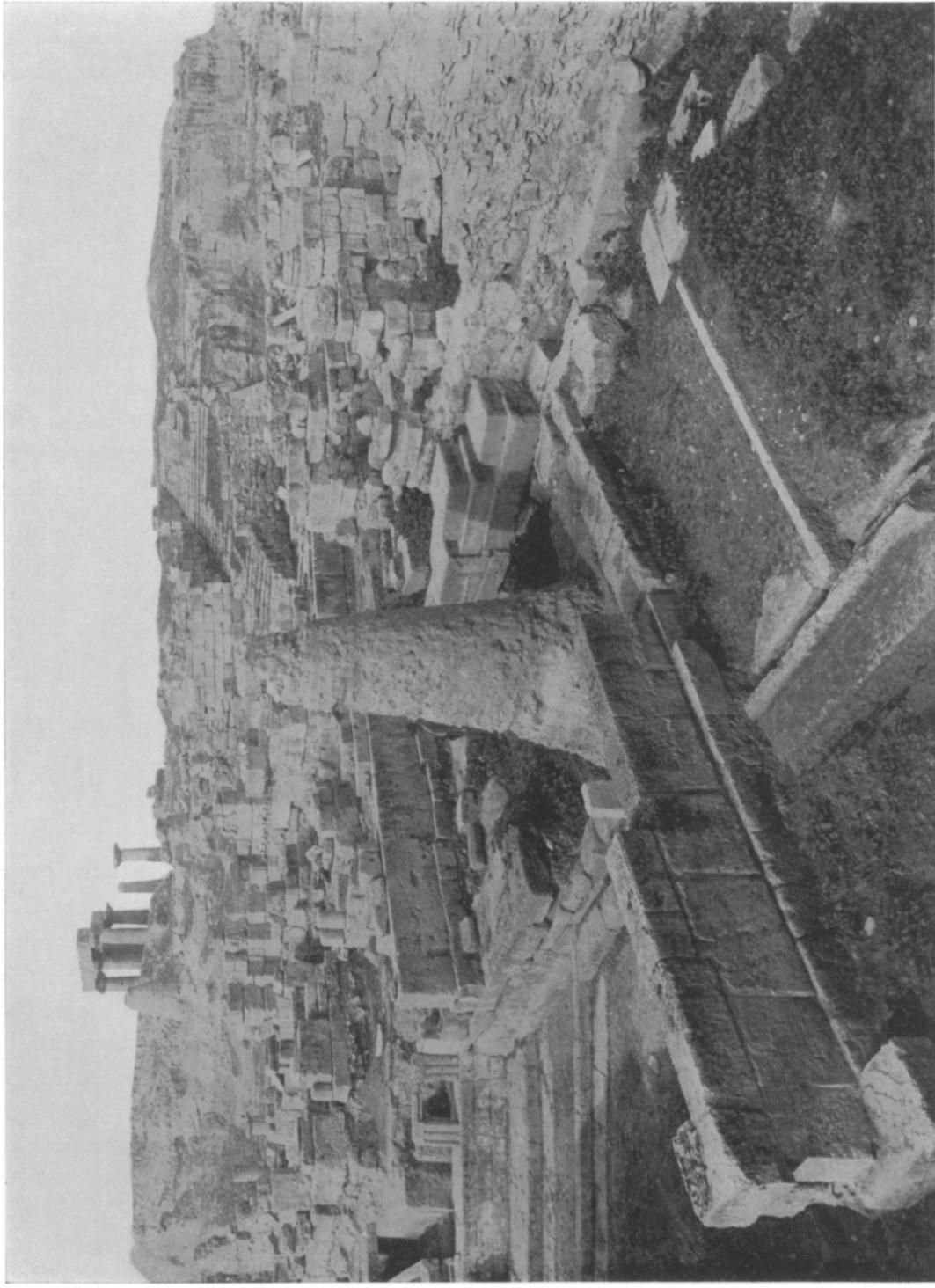


FIGURE 70. COURT AND ROADWAY, LOOKING NORTHWEST

Above the pavement in which the inscription was set is a filling (stratum 2) of pale red earth varying in thickness from all but nothing to about 0.30 m. On the face of the inscription (Fig. 84) it is clearly to be seen that the condition of the surface from 0.15 m. to 0.43 m. below the top is much better than at the top, indicating that there was a considerable interval during which the upper three lines projected and were exposed to the weather after the lower part had been buried.

Next above this red filling is a rather well packed stratum (3A) of sand and gravel topped by a pavement of pebbles bonded with brown cement now much broken up. A second pavement of similar character (3B) is undoubtedly a renewal above the first. These two have not been clearly distinguished except in the sloping part of the road, where redressing was necessary because of much wear.<sup>1</sup> The next stratum (4) is a slight accumulation (or filling) of earth, upon the top of which is a pavement of the old sort, of crushed and tamped poros. With this stratum

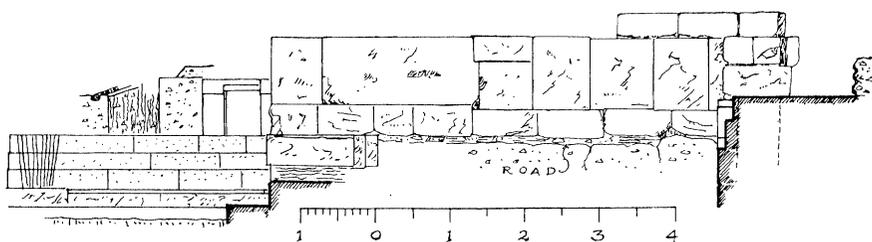


FIGURE 71. SOUTH-NORTH SECTION THROUGH COURT AND ROADWAY WITH ELEVATION OF THREE-STEPPED BASE OF TRIGLYPHON FRIEZE III AND WALL XII

the level reaches the top of the three-stepped base under the triglyphon (Figs. 71, left; 72, right, see below, p. 138), the same level to which the foundation in one line and the platform extending eastward from the north end of that three-stepped basis belong (see below, p. 142). Above it, stratum 5 is first an accumulation of clay, soil, sand, ashes, carbonized wood, vase and tile fragments, and in particular over in the center of the road a great number of small fragments of hard dark blue limestone, on many of which are Greek inscriptions as early as the 4th century and as late as the 2nd. In the upper part of stratum 5, which is not separated from the lower by a sufficiently clear and uniform line to justify giving it a separate number, the filling is still of varying character, being made up of clay, sand, gravel, and ordinary earth with a few potsherds, but numerous fragments of good Greek tiles. This stratum is the filling behind the terrace wall (XII) which we have been provisionally calling early Roman. With the known history of Corinth, a city flourishing to 146 B.C. when it was utterly destroyed and left desolate for a century and then rebuilt in 44 B.C., the interpretation of the story of these strata is clear. Stratum 5 with its broken Greek inscriptions, its tiles and vases, and its miscellaneous character, belongs clearly to the time of the destruction of the city, the period of desolation and the first building of the new

<sup>1</sup> The strata 3A and 3B are elsewhere designated as stratum 3.

city, when just such earth as we see in the upper three-fourths of stratum 5 would be available for filling, when there was at hand an abundance of the material such as is used in the terrace walls with which this filling belongs. It is equally clear that the regular strata below stratum 5, where there is clear filling with no evidence of catastrophe, that stratum to which the rather inferior foundation to the west reaching the corner of the north end of the three-stepped base belongs, and in which the stuccoed and painted podium of the triglyphon was buried as far as its top edge, is the



FIGURE 72. COURT, THREE-STEPPED BASE OF TRIGLYPHON FRIEZE III, END OF CHANNEL AND BASIN

latest level of Greek Corinth. Across the area to the south of the road stratum 1, as already indicated, is lower than the same stratum in the road. Well to the south over the water channels there is immediately above stratum 1 another (stratum 2) some 0.25 m. thick formed of sand and very fine gravel, above which the filling of red earth is some 0.60 m. deep. In this area stratum 3 does not show the two layers of cement pavement (stratum 3B) which exist in the road near by. The level was, however, raised about 0.35 m., apparently at the time when these pavements were put in, and the final pavement of crushed stone (stratum 4) is here at the level — 9.87 m. This pavement slopes down at the north to a level of — 10.27 m., making a slope of about 1 in 5. Stratum 4 passes over the water channel C which therefore probably belongs either with this stratum or, at the earliest, with the last period of stratum 3. The level of the early Roman terrace

wall XII is only 0.50 m. higher than this last Greek stratum, above which stratum 5, here as elsewhere, has the character appropriate to the period of destruction and desolation. The lowest part (0.10 m. thick) of stratum 5, which is made up of ashes and clayey earth and various broken fragments, is clearly distinguished from the upper part of the stratum which has all the characteristics of an intentional filling, and leads us to believe that the lower section is the relatively slight accumulation on the surface of the old Greek pavement during the period after the abandonment of the city, and that the portion above was dumped here in filling behind the Roman terrace wall. At the extreme eastern end of this section the relation of the strata is the same as elsewhere except that stratum 4 is very considerably higher at the south than in the roadway, and that stratum 2 is much thicker than stratum 4. On the north side of this cut it has been impossible to make observations connecting the series of bases directly with the various strata, for the reason that in late Roman times the great drain which passes down underneath the road was dug open and all of the Greek and early Roman stratification in front of the bases completely broken. The relations can therefore be judged only by the levels and by the character of the bases. As already remarked, the fourth (28, the one farthest east), is in character clearly the latest, and the one at the west (25) is certainly the earliest, though possibly not put in its present position until the setting forward of the terrace near it, that is at the time of the building of the Northwest Stoa, probably during the second half of the third century B.C. The drain F mentioned above was in the deepest part of this area comparatively little below the surface of the road. Under the point where the road reaches the terrace, the drain, which is approximately 0.60 m. wide and about 1.80 m. high, is cut in the clayey stratum which here, as generally in Corinth, is underneath the conglomerate or red hardpan forming the mass of the terrace. This drain is clearly later than the Northwest Stoa, for the reason that its course takes cognizance of the front line of the stoa, and because the small drain in front of the eastern part of the foundation of the stoa, which might easily have emptied into the large deep drain if it had existed, empties instead to the north behind base 25. The drain is, however, Greek in all probability rather than early Roman.

### TEMPLE

Underneath the eastern part of the Northwest Shops some 15 m. from the central chamber, partly covered by the front wall of the shops and by two partitions, are remains of a building 8.50 m. long from east to west and 5.60 m. wide, the western end of which is semicircular (Pl. XVII, 1; Figs. 73-78). It is 10 m. south of the long Greek Northwest Stoa behind the shops and in orientation is 10° north of east. The foundations (Fig. 74) are a single course of accurately fitted blocks about 0.30 m. thick and 1 m. in breadth (varying from 0.96 m. to 1.10 m.), bedded in the soft red rock or hardpan which, along with a rather fine conglomerate, is the virgin rock of this region. The semicircle and the northern half of the rectilinear portion of this foundation are undisturbed. Of the second course a section at the southwest comprising about one-fifth of the semicircle has been preserved *in situ* by being incorporated in a Roman wall of the 1st cen-

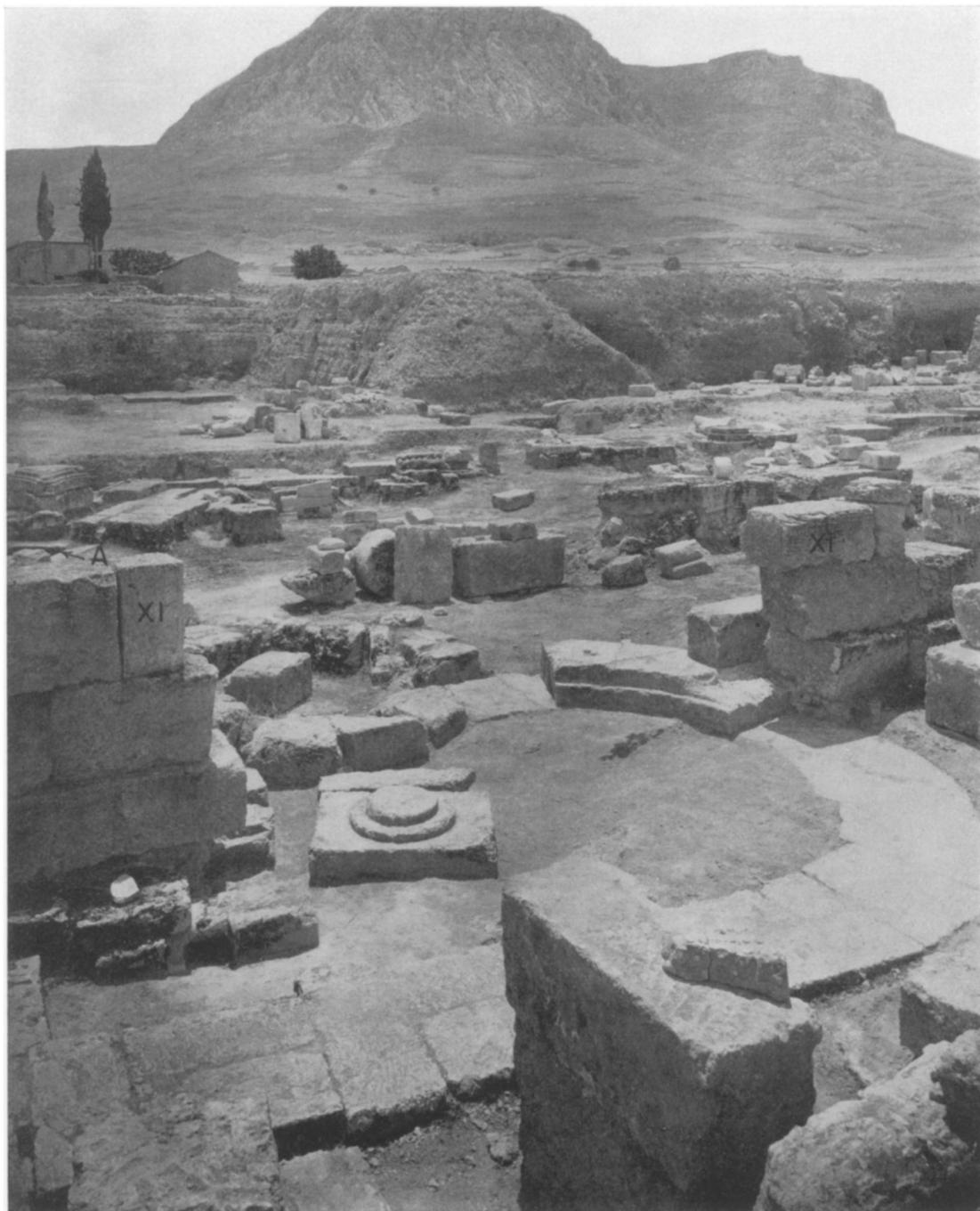


FIGURE 73. TEMPLE FOUNDATION LOOKING SOUTH



FIGURE 74. TEMPLE FOUNDATION AND STYLOBATE, SOUTH SIDE OF APSE

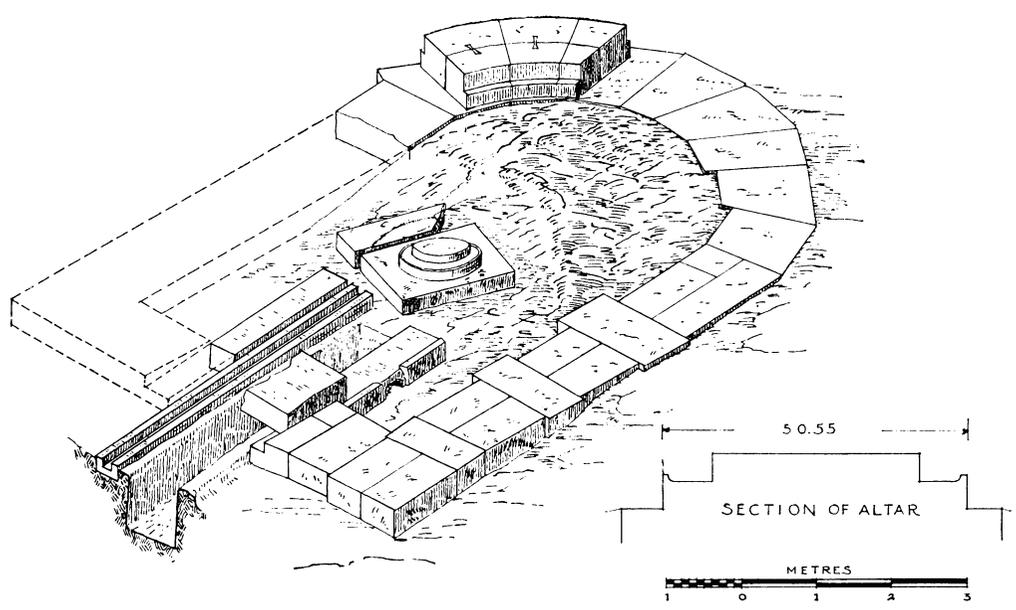


FIGURE 75. TEMPLE, PERSPECTIVE DRAWING AND SECTION OF ALTAR

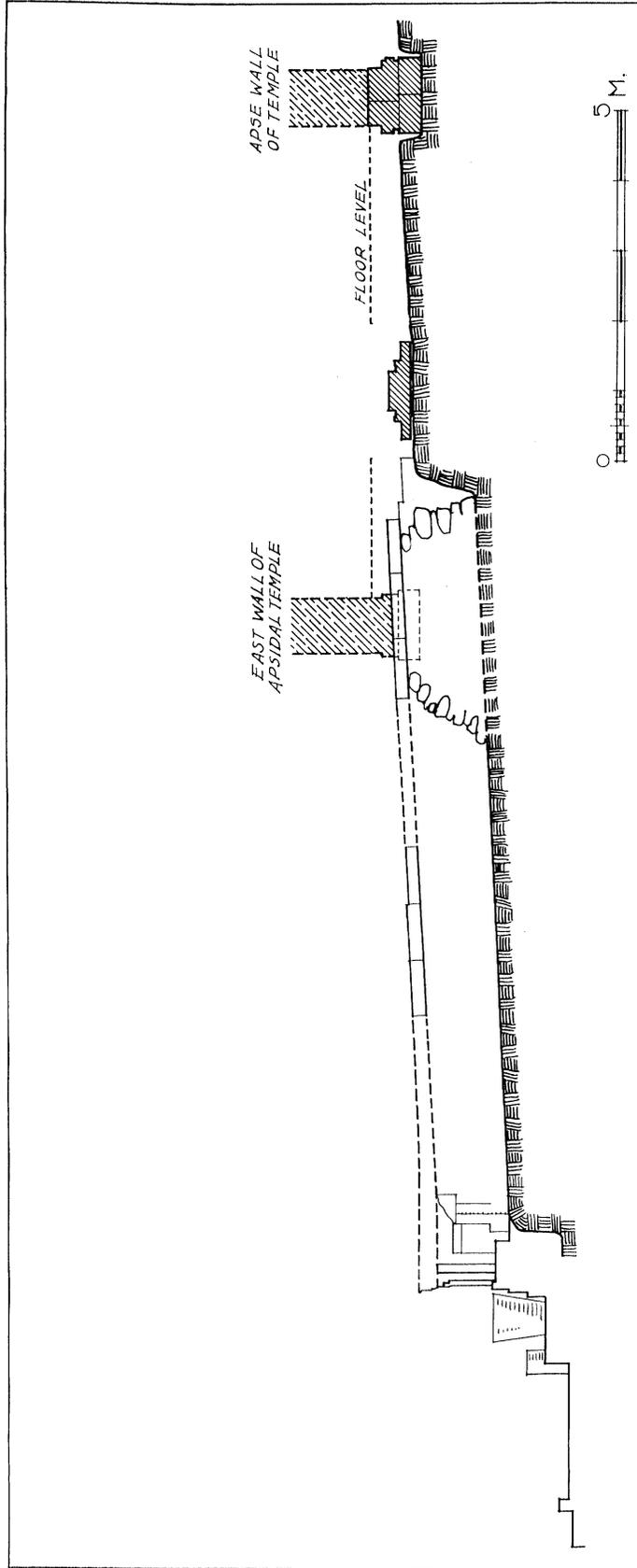


FIGURE 75 BIS. SECTION THROUGH TRIGLYPHON FRIEZE III AND TEMPLE

ture B.C. (Figs. 73–76). This course is 0.42 m. high, 0.95 m. wide at the bottom, and is cut back on both the inner and outer faces so that it is 0.80 m. broad on top. Each sector of the course is formed of two stones held together by a dovetail clamp. These were as usual of wood and have, of course, entirely disappeared. The radial joints between the sections so formed have no clamps. The inner and outer edges of the course are accurately drafted concentric arcs.



FIGURE 76. TEMPLE, LOOKING WEST



FIGURE 77. TEMPLE, LOOKING EAST

The blocks of this course are worked smooth except on the face of the lower half of the exterior, which projects 0.07 m. from the upper face (the height of which is 0.20 m.) and is in effect the euthyteria of the building. Not a stone of the walls has been found, nor does the upper surface of the step-course show the position of the next above. That was presumably narrower than this, and was set in more from the outer than from the inner edge of the second course. This is indicated further by the fact that the joint with the dovetail clamps is 0.10 m. nearer the inner than the outer edge of the second course (Fig. 75). Whether on the exterior there was one step or two or none at all in addition to the one we have above the euthyteria must remain

uncertain. A three-stepped podium is, judging from general Greek practice, rather likely. Exactly in the axis of the building but 1 m. nearer the eastern than the western end of the foundation, a rectangular block is set horizontally in a bed cut in the hardpan (Figs. 73, 75–78). In the middle of this block is a circular projection 0.84 m. in diameter and 0.07 m. high, and above that a second projection 0.57 m. in diameter and 0.07 m. in height, concentric with the first. The smaller circle has a flat top, but the upper surface of the larger is slightly concave so that at the circumference there is a rim 0.02 m. high and 0.02–0.025 wide (Fig. 75). The top of the plinth, which is 1.40 m. in length and 1.04 m. in width, is at the level of the foundation course of the building.<sup>1</sup>

South of this block, at the same level and roughly parallel with the plinth, is a block 0.42 m. by 1.30 m., marked with an arc concentric with the circular projections of and 0.42 m. distant from the larger block discussed above (i. e. with its radius exactly double), indicating doubtless that a sort of curb 0.42 m. thick fitted around the larger cylinder, but whether this curb rose higher than the level of the floor is, of course, impossible to say. There would thus be a circular opening in the floor 0.84 m. in diameter with its bottom 0.34 m. below the floor having in the center a cylindrical projection 0.07 m. high and 0.57 m. in diameter. There had doubtless been a second course resting on this, making a small round altar, and there seems no doubt that this small building is a temple or at least a heroon.

#### WATER CHANNEL

Beginning 0.90 m. from the center of the altar, 0.25 m. from the eastern edge of its plinth, a small water channel (Figs. 75, 78, 79) leads almost due east to the edge of the terrace upon which the temple stands. It has a fall of some 0.80 m. in the 11 m. of its length. For the upper 3.60 m. the channel is cut in poros blocks 0.27 m. to 0.30 m. wide; the rest, except for a length of 1.38 m. where again a block of poros is inserted, is cut in the native rock. The channel itself, 0.13 m. wide and 0.08 m. deep, is lined throughout with a fine brown waterproof cement universally employed in the water systems of Greek Corinth.

This channel, wide in proportion to its depth, may be classed with the early rather than the late channels at Corinth. An example of the former is the small channel which passes close in front of the old spring cut in the front wall of its reservoir (see below p. 156). It is 0.125 m. wide and 0.075 m. deep. It cannot be dated later than the 5th century B.C. and may well be early therein. The channel delivering and carrying away water from the square basin directly above the old spring's reservoir, and certainly not to be dated earlier than the 3rd century, is 0.12 m. wide and 0.12 m. deep. The channel close in front of the foundation of the stylobate of the Northwest Stoa, likewise probably of the 3rd century, is also about square in section.

<sup>1</sup> The plinth does not follow the general orientation of the building, and the circles are placed upon it somewhat at random, being 0.03 m. nearer one of the long sides than the other and 0.02 m. nearer one end than the other.

Channel blocks now supporting the covering slabs of the channel under discussion, and therefore earlier, have a wider and shallower channel. It seems not impossible that depth of channel may serve as a criterion of date for water systems at Corinth, later channels being much deeper relatively to their width than the earlier.



FIGURE 78. TEMPLE WITH ALTAR, CHANNEL AND PASSAGE, LOOKING EAST

#### PASSAGE

Close along the north side of the water channel a passage (Figs. 75, 78, 79) 0.70 m. wide and 0.95 m. deep is cut in the bed rock, in the upper part red hardpan and for the greater part of the length conglomerate.<sup>1</sup> The side walls are nearly vertical; the north one in the lower half of its extent is about 0.20 m. higher than the whole length of the south wall and the upper half of the north (Figs. 72, 79). Both this passage and the water channel were covered with a ceiling of large poros slabs (Fig. 75 bis) supported on a ledge of the rock and on a course of blocks of sufficient thickness to bring the general interior height of the passage up to 1 m. and to make the free space above the water channel some 0.20 m. Toward the east, the north wall of the passage of native rock was itself high enough to give the required height without the beam course. The ceiling blocks preserved are from 1.60 m. to 1.85 m. long and 0.74 m. to 0.93 m. wide, and their thickness varies from 0.16 m. (inside the temple) to 0.30 m. (under the east wall of the temple). The

<sup>1</sup> This extends from the edge of the terrace up to 0.25 m. from the upper end of the small water channel.

span of the ceiling is in general 1.05 m. Three of the ceiling blocks are preserved practically entire. Of a fourth both ends are *in situ* and parts of others remain. The three best preserved blocks (Figs. 72, 79), which are half way from the front of the temple to the edge of the terrace, serve also as paving blocks of this area. On the easternmost of them there remains a bit of the concrete pavement used here to make the surface of the block level with the somewhat thicker



FIGURE 79. SACRED AREA COURT AND ROADWAY, TRIGLYPHON FRIEZE III AND CHANNEL AND PASSAGE TO TEMPLE

block next it. This pavement is of a characteristic Corinthian Greek sort, very fine gravel and sand bonded with cement, hard, smooth, waterproof, brown in color. A piece of identical paving is to be seen on the virgin rock a little north of the end of the water passage at the southeast corner of the Northwest Shops. The passage ends within the apsidal building, 0.25 m. short of the upper end of the water channel as preserved, and 0.48–0.50 m. from the nearest corner of the plinth of the altar. The block which caps the north wall of the passage here at the western end (on a level with the outside foundation course) has at the bottom a hole 0.13 m. wide and 0.12 m. high which leads outward (to the north) and slightly upward, increasing somewhat in dimensions as it goes (Figs. 73, 75, 76). Its purpose was presumably to admit light or air to the passage through the floor of the temple (the floor slabs rest on this block and its course) or to allow sound to pass from the head of the passage up into the building.

On the north side of the passage the foundation course of the east wall of the building is cut down 0.13 m. to receive ceiling blocks which are here especially heavy. Although the foundations at the south side have disappeared, the arrangement was presumably the same. This intimate structural connection leaves no doubt that the building and passage and water channel are contemporary; that they were planned together is further indicated by the fact that the passage and channel are exactly at the center of the east wall of the building, that is, underneath the door, where the least weight will have to be borne by the lintel-like ceiling blocks. That this small water channel so structurally one with the building carried off water from the altar at the center of it will hardly be doubted. The wall or curb already referred to as having encircled the lower section of the altar is most probably to be restored with an opening downward towards the upper end of the water channel so as to connect the channel with the well-like space around the altar. The outer line of the curb would pass only 0.06 m. from the end of the channel as at present preserved. Just how the connection was managed can only be conjectured, since there no longer exists any evidence upon the point, and it is not even known whether the rim of the lower cylinder is continuous on the side towards the water channel (though it is there in part of that side).<sup>1</sup> The orientation of the central block in the temple may be of no significance, but if it was set at the same time with the rest of the building it does seem strange that it did not follow its lines approximately, a procedure which would be equally strange if the block were later than the building. It is therefore not improbable that this altar was already here before the building and the water channel and underground passage were constructed. If that is true, two sections of a water channel now serving as supports to the ceiling blocks on the south side of the present channel (west of the three best preserved blocks) were probably a part of the drain that previously led from the altar. Its proportions, 0.135 wide and 0.055 deep (a rectangular channel in contrast to the semi-circular channel of the passage), as well as its use here suggest that it is earlier than the channel *in situ*. On the supposition that the altar is older than the building, the cutting in the hardpan northwest of the altar may have been made in connection with the building of an original protecting structure about it.

The orientation of the building and the altar in the center indicate its sanctity. Every part of its construction points to a good Greek period, and one would hardly conjecture a date later than the 5th century. Directly across the southern half passes a wall characteristic of Corinth in the early Roman period, thus preserving the slight remains of what was in earlier times above the ground level. There seems to be no doubt that the use of this small temple ceased only in consequence of the destruction of the city by the Romans under Mummius; certainly nothing indicates that the Greeks themselves tore the building down. Furthermore there is nothing to show that it was ever used by the Romans of 44 B.C., or later, though there is no positive indication to the contrary. The water channel at least was by that time entirely disused.

<sup>1</sup> The accompanying drawing in isometric perspective (Fig. 75) will show the structure of the building and the connection of the water channel clearly. It is without restoration, but two fragmentary ceiling blocks of the channel have been omitted in order that it and the passage beside it might be better shown.

## TRIGLYPHON FRIEZE III

This water channel we have followed only to the natural edge of the terrace, where the rock in which channel and passage are cut breaks off. At a distance of 0.50 m. before reaching this edge of the rock, the smaller channel broadens and takes a southeasterly direction in order to discharge into a granite bowl which stands 0.50 m. away in front of a terrace wall running south-

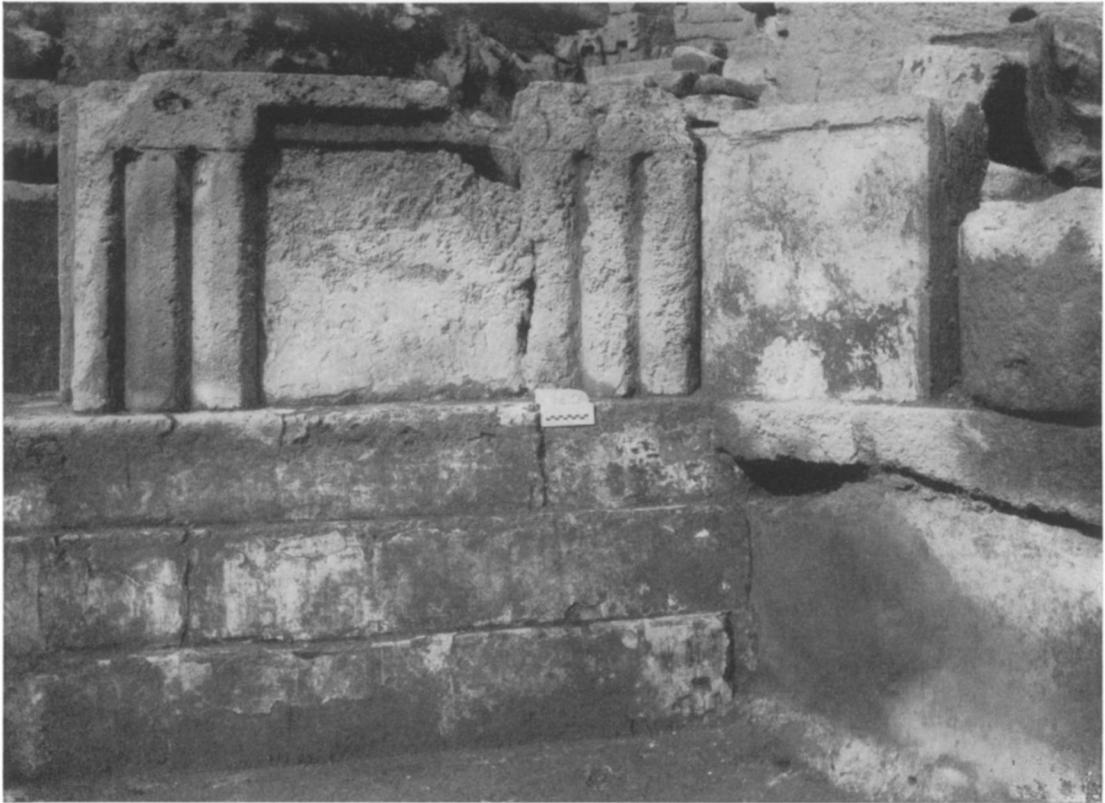


FIGURE 80. TRIGLYPHON FRIEZE III ON THREE-STEPPED BASE, NORTH END

west to northeast (Figs. 72, 79, 80). This wall is 4.70 m. long, 0.77 m. high, the top being about 0.40 m. lower than the present mouth of the water channel, is of the finest construction, and is built in three courses of equal height, each set 0.045 m. back from that below. The whole was dressed with an extremely thin stucco and was painted a rather bright red. When the wall was uncovered in the spring of 1900 the paint was found admirably preserved. Two years' exposure sufficed to remove practically all the color, and the stucco, now pure white, is gradually scaling off (Fig. 80). This long three-stepped base (see above, p. 127), being 0.90 m. lower than the nearest existing section of the terrace pavement, forms only the lower part of the front of the terrace. Upon the base was a Doric frieze of which two triglyphs and the metope between them are preserved at the north end (Fig. 80).

The triglyph was 0.425 m. and the metope 0.63 m. wide. The height of the frieze proper is 0.68 m. There is, however, cut in the same blocks a plain band 0.075 m. high, projecting slightly from the abacus of the triglyph and 0.045 m. from the taenia of the metope, which makes the total height of the blocks 0.755 m. (Fig. 80). This band, of course, belongs normally to the lower part of the next member above the frieze.<sup>1</sup> The northernmost block of this frieze is a triglyph only, with a groove on the south side to receive the next section, which is a metope and triglyph combined, the metope itself being, however, a separate plaque 0.095 m. thick. The insertion of a metope is not uncommon.<sup>2</sup> The combination in one block of a metope and a triglyph is, of course, so common as to be usual when the dimensions are not large. What is (so far as I know) unique is that here the taenia belonging to the metope is not on the same slab with it, but is cut from one block with the triglyph, the metope backing, and the top band which belongs properly in the upper course. The metope itself is thus an absolutely plain slab. It had, of course, to be set in place before the block with its backing and taenia and triglyph and portion of coping. The metope now here (and there is nothing to suggest that it is not original) is of poros like the rest of the system.<sup>3</sup>

The explanation of this strange construction is probably to be found in the peculiar conditions where the second metope south of this one comes. The passage beside the water channel leading from the temple with the apse ended here (Figs. 72, 79). The top of the three-stepped base is cut down fairly uniformly to a depth of three and one-half centimeters to form the floor of the end of the passage. This cutting is 0.62 m. wide at a point 0.20 m. from the front of the base. Its northern edge would be just reached by the third triglyph counting from the north of the system here. At the front on either side of this shallow cutting is a rectangular hole 0.03 m. deep, measuring 0.08 m. by 0.12 m. One of these holes, which extends north and south, is at the north end of the position belonging to the third metope. The other, running east to west, is under the north part of that belonging to the fourth triglyph. These cuttings were doubtless in some manner connected with the adjustment of the metope so that it could serve as the door into the passage leading up to the apsidal temple. The shape of the cutting for the floor of the passage makes it clear that if this door swung on a pivot, the pivot was at the north end of the metope and only thus could the door be opened without obstructing the passage. There remains no further indication as to the adjustment of the door. Pivot and socket and perhaps a track, if one were needed for so small a door, would have been of metal set in the cuttings, and have entirely disappeared. The lintel, so to call it, of the small doorway thus arranged would be formed, as we know from the preserved metope and triglyph block at the north, by the taenia of the metope and a band from the course above, giving a lintel 0.153 m. thick. Without the

<sup>1</sup> Compare the coping of the triglyph systems south of here (Pl. XVI; Figs. 110, 111).

<sup>2</sup> Cf. the poros buildings on the Acropolis of Athens, T. Wiegand, *Die archaische Porosarchitektur der Akropolis zu Athen*, Ka sel and Leipzig, 1904, figs. 149, 163, 169; and the Metroon at Olympia, *Olympia*, I, pl. XXVI.

<sup>3</sup> Of course, this adjustment might have been made for a marble metope. That, however, would have had its taenia with it according to all analogies.

taenia of the metope the thickness would have been only 0.075 m. Of course the backing of the metope would be omitted in this block. The doorway into the passage was then 0.603 m. in height and the same in width.

The pains taken to separate the northern metope from its taenia, a procedure which was structurally quite unnecessary, suggests that a uniform appearance of the metopes was intended,



FIGURE 81. SLAB WITH WATER SPOUT

to prevent it being known of all men that one of them was a door. The possibility has already been suggested that a small opening at the head of the passage under the floor of the temple may have existed to allow sound to go from the passage into the building, perhaps in connection with oracular responses. The person whose voice was heard would have entered the passage through the secret door in the Doric frieze. In the passage, just above where it begins to be cut in the conglomerate, that is about 1 m. from its metope door, there is on each side a vertical cutting 0.15–0.19 m. in width on the south side and 0.20 m. on the north and 0.03 m. to 0.05 m. in depth, probably for the fitting of a barrier or gate across the passage. Since the metope door could not be provided with a lock without betraying the fact that it was a door, it may not be too fanciful to think that this inner hidden door was kept locked, so that if any interloper by accident discovered that the metope would yield and admit him to a dark passage, he might still be prevented by the second door from actually crawling up under the temple.

Immediately south of the position of the fourth triglyph of this frieze the face of the three-stepped base is cut back in a curved line for a width of 0.62 m. and a maximum depth of 0.095 m. to receive the side of a bowl into which the water channel from the apsidal temple emptied (Fig. 72). The cutting in the face of the base, made with precision, shows that the bowl which originally stood there was larger than the present one, which is 0.72 m. in outside diameter, 0.57 m. in inside diameter and 0.75 m. high, and differed from it in being oval in vertical section instead of having straight sides (Fig. 72). One would judge its diameter to have been approximately 0.90 m. The water was discharged into this bowl through a spout from the fourth metope of our triglyphon system. It is not impossible that the thin block with a water spout (Fig. 81) discovered in 1902 by Dr. Heermance, who also suggested this use of the block, is the very one that stood here. Of the original edges only a part of the bottom is surely preserved; that brings the spout to a height of 0.40 m., which is precisely the height required above the three-stepped base for the discharge of water from our water channel. The only objection to placing this block here as the fourth metope is that its height, or rather the position of its taenia (for we do not know exactly the original full height of the block which at present measures 0.49 m.), does not correspond to that of the metopes proper. If the block is rightly placed here, this discrepancy probably means that a space of 0.12 m. was purposely left above the top of the block to allow a man's hand to reach into the end of the water channel to clean it or remove obstacles from it. The water channel in general was reached for cleaning, of course, by means of the passage beside it, though its lowest part is 0.50 m. to 0.80 m. from the passage, a distance that would make it rather inconvenient for a person in the passage to reach the water channel.<sup>1</sup>

#### SACRED AREA EAST OF TEMPLE

Adjusted as proposed, the triglyphon frieze, four metopes and five triglyphs, reaches a point 0.12 m. from where the south end of the base abuts against the native rock. That is just in line with the north face of a wall that supported the eastward extension of the terrace, the backbone of which was the great mass of conglomerate now covered by a level cement pavement (Figs. 72, 82).<sup>2</sup>

Of the northward-facing terrace wall there remain at this point only two well cut blocks of the foundation. The front line of the wall is indicated by a cutting on the top of the more easterly block, and by the roughened face of the south end of the middle course of the three-stepped wall (Fig. 72).<sup>3</sup>

<sup>1</sup> It should be remembered that the triglyphon frieze, being of blocks only 0.26 m. thick and not fastened at all to the base on which they stood, except possibly on either side of the fourth metope, cannot have served actually as a supporting mass. Behind it there was doubtless a heavier wall that actually supported the terrace, though pressure would come only from the filling in the narrow space between the edge of the rock and the wall.

<sup>2</sup> The rock cut steps appearing here are in their present form later than the period under construction, though this extension of the terrace may well have been approached by steps in approximately this position.

<sup>3</sup> The presence of stucco on the upper fascia of this wall, south of the limit set by the evidence here recited, indicates that the wall was stuccoed before the east to west wall covered this end of it. I do not imagine that the three-stepped base long antedates the other, or at any rate its foundation—a very low ground level in front of it, as low as the foundation course—else it would not be cut away in the manner hereinafter noted.

The height of this projecting terrace was probably not much greater than that of the paved rock platform at present, and indeed it may have been paved at this level even in early days. Its eastward line appears to have been parallel with the three-stepped base and somewhat less than 4 m. farther forward. Every stone of its facing has been removed. The only evidence for its line, and indeed for its existence, is the preserved western edge of the pavement (or rather



FIGURE 82. SACRED AREA LOOKING NORTH

of many successive pavements) 1.50 m. east of the rock platform and at a level about 1.90 m. lower. These pavements once abutted at the west against a curb, a flight of steps or an ordinary terrace wall. The terrace of the (cement) paved rock platform will be further considered later. It is enough for the present purpose to have shown that the area directly below the terrace wall of the three-stepped base and triglyphon frieze was limited at the south by this relatively low eastward projection from the main terrace. At the other end of the three-stepped wall the northern boundary of the area is preserved in part, being the native conglomerate vertically scarped and faced with thick waterproof cement of most enduring quality (Figs. 80, 82, 83). This differs from the cement used in lining water channels and reservoirs in being made with rather coarser and less uniform sand. Paving cement on the other hand is coarser still. This northern boundary wall of our terrace, descending gradually, extends 6.80 m. to the east. After 3.75 m. it is built partly (and farther down wholly) of low poros blocks (Figs. 67, 83). The single course with

good horizontal upper surface and irregular lower line, now resting upon the terrace wall in question and reaching 5.22 m. east from the corner (Fig. 83), belongs obviously to a time when the wall underneath it was no longer visible.

Against the lower end of that earlier wall, that is, 6.80 m. from the corner, *in situ* on the pavement of hard packed crushed stone, and with its top 0.24 m. above that of the low wall against which it backed, was found April 15, 1902, an inscribed block of poros 0.715 m. high, 0.48–0.39 m. wide, 0.174 m. thick (Figs. 83, 84).<sup>1</sup> The inscription is in a variety of the old Corinthian alphabet hitherto ill-represented and belonging to the period next earlier than that of the Hieron helmet<sup>2</sup>

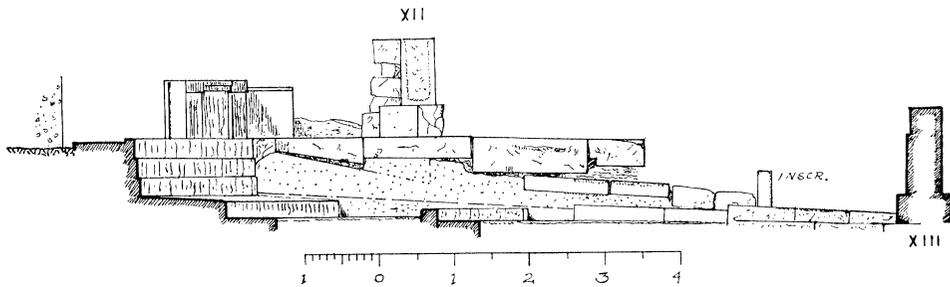


FIGURE 83. WEST-EAST SECTION THROUGH COURT EAST OF TEMPLE AND CHANNEL

and the Tanagra epigram.<sup>3</sup> Here the straight iota and the four-barred sigma appear together with the old Corinthian  $\Gamma\Omega = B$  and  $\text{B} = E$ . It probably dates early in the fifth century. The letters are deeply cut and were painted red, the stone having of course been stuccoed. In a few letters the stucco and some traces of the color remain. Although the top of the stone is much worn, it shows now no evidence of having been broken off, a fact suggesting that the present half-preserved top line was originally the first line. If internal considerations compel the restoration of more lines above, it must then be supposed that the top of the stone was cut away prior to the wearing now evident. Four of the six letters of the top line are certain. Of the first there is a possible slight trace of a left-hand oblique hasta. Half of the fourth letter is preserved, a vertical hasta, but that unfortunately is not determinative. The reading, however, that may be accepted as all but certain is  $\alpha\sigma\upsilon\lambda\omicron\varsigma$ . With that the inscription is to be read,

$\alpha\sigma\upsilon\lambda\omicron\varsigma$  μη καταβιβασσέτω ζαμία | | | | | | | |

The verb, which is a hapax legomenon, seems best taken as intransitive for the prohibition universal "Let no one go down." The amount of fine indicated by the eight strokes in the last line is presumably eight drachmae. Whether the prohibition is absolutely universal and whether one may not himself go down or may only not cause something or somebody else to go down, it is

<sup>1</sup> *Corinth*, VIII, i, pp. 30–31, no. 22. [Cf. L. H. Jeffery, *The Local Scripts of Archaic Greece*, Oxford, 1961, pp. 129, 132, no. 37.—Ed.]

<sup>2</sup> E. S. Roberts, *Introduction to Greek Epigraphy*, I, Cambridge, 1887, p. 134, no. 111.

<sup>3</sup> *Ibid.*, p. 129, no. 93.

in any case clear that this is a boundary stone giving due notice of the sanctity of an area which might not be entered from here. There is no doubt that the reference is to the area lying a little lower than the inscription and to the south, or to one's left as he read the inscription. At his right, as was described above (pp. 125–129), is a road leading up westward to the terrace of the

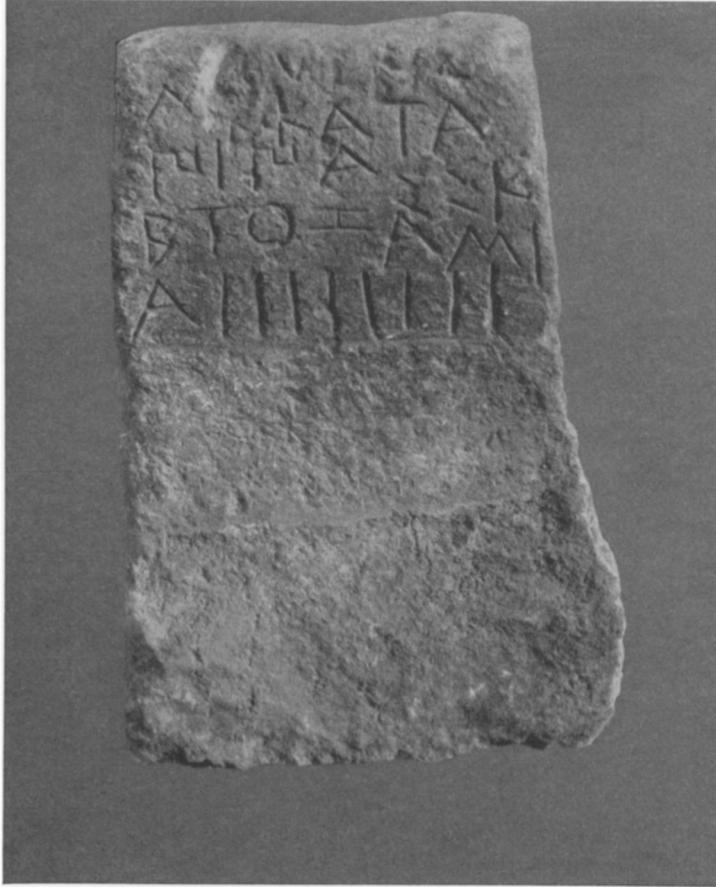


FIGURE 84. SACRED AREA, BOUNDARY INSCRIPTION

apsidal temple and the stoa. The particular area that must be inviolate is doubtless that immediately to the south and southwest of the inscription, in front of the foot of the three-stepped base with the triglyphon frieze.

We have thus in the sanctity of this lower area, for which the evidence is direct and convincing, further testimony of the sacredness of the building with the apse. It certainly was a temple, though perhaps the temple of a hero rather than of one of the great gods.<sup>1</sup>

<sup>1</sup> Cf. Campbell Bonner, "A Dionysiac Miracle at Corinth," *A.J.A.*, XXXIII, 1929, pp. 338–375.

The granite bowl (Fig. 72) into which the channel from the temple discharged is, as already stated, not the one originally in this place. Neither form nor size suits the careful cutting of the face of the three-stepped wall or the rough one in the top of the block on which the bowl now rests. That block itself seems not to have been placed here contemporaneously with the platform, 0.85 m. wide, which reaches from it to the north limit of the area immediately along the foot of the three-stepped wall (Figs. 72, 82). The blocks framing this platform are independent of the wall, being set against its euthynteria, which projects 0.07–0.08 m. from the lowest of the three courses and is about 0.02 m. higher than the platform. The width of the block under the bowl, 0.69 m., seems to be determined by a well cut block beneath it, which is 0.68 m. wide. From this block and from underneath the edge of the platform projects a sort of step, the front edge parallel with the three-stepped wall at a distance of 1.36 m. from its euthynteria. There may be a course of uniform blocks west of this making a platform 1.36 m. wide and 5.45 m. long at its front line, with the single block at the southwest corner 1.15 m. long rising 0.07 m. from the main level and serving as support for the bowl. When the lower platform was built the ground level here was probably somewhat below it, and with repeated dressings with crushed stone packed hard—the whole area was thus paved one dares not estimate how many times—the level rose gradually. This probably necessitated building the higher platform. Contemporary with one of the dressings that covered the lower step, a curb, 0.16–0.23 m. wide (Pl. XVII, 1, no. XX; Fig. 83), nearly parallel with the platform step was put in its present position about 1.60 m. east of these (Figs. 67, 82).<sup>1</sup>

What is said above is based on obvious considerations of height. The upper irregular side of the curb must have been hidden, and a pavement high enough to hide it would cover the step under the platform. When the curb<sup>2</sup> was put in, the area below it was, of course, as low as the step. It doubtless reached all the way across the front of the trapezoidal recess about 3 m. deep with terrace walls on three sides, and containing the bowl and the entrance to the passage from the apsidal temple. Beginning 2.40 m. from the north end of this curb a similar one (XVIII) runs 6.10 m. in an easterly direction. It is, however, 0.08 m. to 0.10 m. higher and at the top only 0.10–0.12 m. broad. Most of the blocks of which it is made are thicker and had to be cut away at the back to give a uniform appearance at the top. This latter east-to-west curb is probably about contemporary with the other. At any rate both are earlier than the step running along the north wall (XIX a) between them. With this step belongs the topmost pavement level now preserved in the area to the south. The east-to-west curb and step do not follow the earliest north line of this area. That is given by the south edge of a row of flat stones which are very irregular except on the edge carrying the line of the terrace wall. The south edge of these stones may have been the only curb here or they may have been faced with a regular thin curb. In all this area the earliest trace of a structure that rose above ground is the terrace wall that crosses the curb last described.

<sup>1</sup> It is 1.60 m. at the south and 1.70 m. at the north with a step 0.46 m. broad along its east front and 0.10 m. below the top of the curb. Even the edge of the platform may not have been visible. I cannot speak positively since all the space between curb and wall had been completely excavated to too great a depth to leave any evidence on this point before 1902.

<sup>2</sup> It is now 6.20 m. long with its step.

In the southeast section of that area as at present bounded by deep concrete foundations and heavy Roman structures, there are three water channels running in general in a northeasterly direction. These will be designated as A, the lowest, smallest and best; B, the second; C, the latest. The northernmost of the three, A, we should judge from the level is the oldest (Pl. XVII, 1; Figs. 85, 86).<sup>1</sup> It is very carefully constructed of accurately matched blocks of diverse lengths,

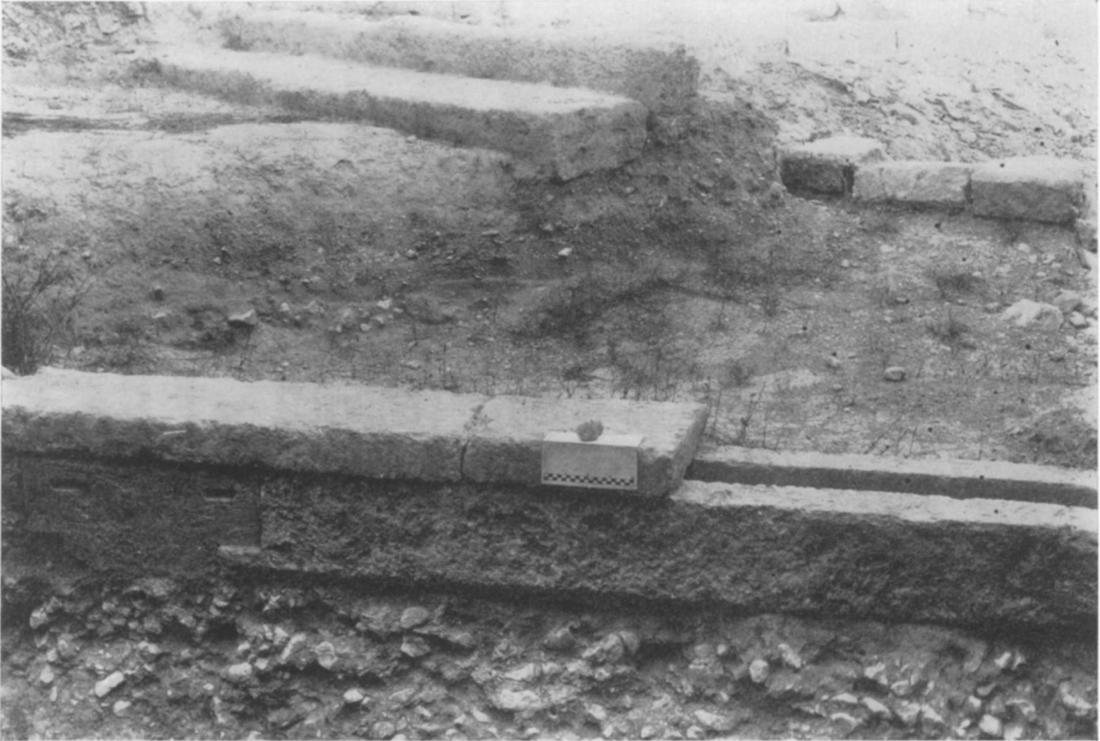


FIGURE 85. WATER CHANNEL A

about 0.40 m. wide by 0.70 m. high. The conduit itself is rectangular in section, 0.09 m. deep and 0.14 m. wide, lined with the finest hard smooth cement. The covering slabs are about 0.10 m. thick, 1.50 m. to 2 m. long and 0.40 to 0.50 m. wide. Since such a water channel can be cleaned only by lifting the covering slabs, its position is generally little under the ground level of the time of its construction, though the channel does not necessarily show the ground level at any given point, since its grade must be fairly uniform whereas that of the ground above may not be so. The trenches for the Roman concrete foundations now bounding the area on the south and east cut through this conduit. Its length within the area is 12 m., and its level is 11.64 m. to 11.69 m. below the stylobate of the temple of Apollo. The second water channel, B (Pl. XVII, 1; Fig. 86), lying 1.50 m. southeast of A, is of an entirely different character. Its inside dimensions

<sup>1</sup> Beyond it may be seen also in Figure 85 the east end of the west-to-east curb and step and a part of the line of stones marking the older north limit of the precinct.

are: width 0.52 m., height 0.57 m. Its walls are made of poros blocks of a great variety of sizes and forms set so that the interior is of regular and good construction. In the poros floor is cut a shallow channel 0.24 m. wide which is in section an arc of about 75°. The channel was entered from above through a manhole, the walls and cover of which may be seen at the right in Figure 86. All the covering slabs were found in place, and the channel contained nothing but fine earth that



FIGURE 86. WATER CHANNELS A, B, C (FROM BOTTOM TO TOP)

had silted in. The channel is blocked at both ends of this section, 8 m. long, by the great Roman foundations, but it continues for some 6 m. farther east beyond the Roman foundations, where it was found perfectly preserved, half filled with earth containing no ancient objects. The top of the manhole, which of course was near the surface at the time of its construction, is at about the level of the highest of the successive pavements of hard-packed poros chips in the area north-west of it. It is about 0.50 m. higher than the top of the first water channel (A). The third conduit, C (Pl. XVII, 1; Fig. 86) is one of the type usually laid close below the surface. It is constructed of short blocks about 0.30 m. square in section, with a channel 0.10 m. wide and 0.10 m. deep. Its direction is nearly east and it lies directly north of and against the Roman concrete foundation XIV (Pl. XVII, 1). The section preserved here is 6.50 m. long, its level — 10.10 to — 10.30 (see below, p. 194).

Beginning 2 m. north of the great foundation (XIV) which is the southern limit of this area, and 8 m. west of its eastern boundary, the terrace wall (XIII) already mentioned extends 9.80 m. in a direction about 15° west from north (Pl. XVII, 1; Fig. 68, lower right edge). For 3 m. three courses are preserved; for 2.90 m. farther the euthynteria and orthostates are preserved; for the rest the euthynteria only. The east side is the face of a wall, the west side is irregular. It is constructed of well cut blocks of poros which have seen earlier service. For example there are in the euthynteria cornice blocks and parts of statue bases, one of which bears an inscription, of the latter part of the 4th century B.C.,<sup>1</sup> reading

Καλλισθένης Ἄ[.....]  
 Εὐσθένης[ς ἐπόησε]

The wall is solidly built with accurate joints which, with a peculiarity characteristic of a small group of walls at Corinth, have the front edge of the stone bevelled at the joint. The height of the wall, as preserved above the euthynteria course, is 1.15 m. The ground level at the west of it must have been at least as high as the top, since the western line of the upper course is irregular. That brings the level at least 1.75 m. higher than the successive hard-packed pavements described above, those with which water channels A and B, the archaic inscription, and the three-stepped base and curbs belong. In the course of excavation, during April 14–19, 1902, there was observed at a short distance west of this wall a filling of diverse character (a regular dump) about 0.75 m. deep which reached the present top of the wall. This must of course be the filling contemporary with the construction of the wall. Above it were found horizontal strata which are probably the trodden levels of the period immediately after the building of the wall. They reach a height of 0.25 m. above the top as now preserved. The latest vase fragments noted in this filling were of the badly glazed black pressed ware, called Megarian bowls. In the “martyras” just west of this wall, in which the stratification of the area may still be studied, is a nearly level hard-packed pavement at the height of — 9.12 m. Below it the filling of clay and earth with some vase and tile fragments, etc. intermixed, is 0.95 m. deep. Consequently the wall whose top is at the level — 9.42 m., must have reached at the time of this filling and pavement at least 0.30 m. higher than now. The strata in the martyras may be seen clearly in Figure 68 half way down from the rather conspicuous rectangular hole. The foundation course of this wall in its northern part appears to have been set in place separately and is much lighter than the section on which the orthostates remain. Nevertheless, there can be no doubt that this part of the wall was contemporary with the southern part, for the stratification here absolutely excludes the possibility that the filling and tamping and walking on the ground are later back of the northern section than west of the south section. The difference in construction is probably due to the fact that in the northern part of the line of the wall there are very solid pavements of crushed stone which are not found in the southern part, so that the foundation is actually as solid in one part as in the other.

<sup>1</sup> *Corinth*, VIII, i, pp. 37–38, no. 32.

On the east side of wall XIII (the front), the ground level at the time of its building or shortly thereafter was about half way up the face of the orthostates, the face of the upper part of this course having been cut away smoothly and regularly. This terrace wall, now interrupted at the north by heavy foundations all of which are from their level clearly later than this, appears again for a distance of 1.80 m. and reaches a point 18.20 m. from the south end. The part there preserved consists of two stones of an upper course identical in construction with the longer section of the wall. At the south in the best preserved part of the wall there is obviously a beginning of the turn towards the east (XIIIa), but the eastward extension of the wall has been removed *in toto*. Successive observations on April 15 and May 19, 1902 discovered that every block of the wall had been removed at some time after the ground level on the lower north side of it had reached at least the present height of the wall. The trench about 1.35 m. deep and 0.60 m. to 0.80 m. wide at the bottom and 1.75 m. to 2 m. wide at the highest point, reaches from the southwest corner to the great foundation at the east side of this area. Beyond that foundation at the foot of the northeast corner of the original western pier of the Propylaea there is one low course 2.25 m. long belonging to a wall facing north. It is exactly in line with this removed section of our terrace wall and doubtless a continuation of it, making in all 13 m. of the eastward section of the wall. The exact level at the time the wall was destroyed cannot be stated positively, since excavations of years prior to 1902 when these observations were taken had already gone so deep as to remove whatever evidence there may have been. It is certain that the destruction of the wall took place before the laying of the high wall at the east side of the area (XV), and probable that it occurred at the time of the building of the terrace wall extending north from the western pier of the Propylaea in line with the front wall of the Lechaion Road Shops, since the shops and the terrace wall connected with them are built for a ground level in this area that would completely bury our terrace wall. In as much as this wall (XIII) is constructed exclusively of second-hand Greek material it is *a priori* probable that it belongs to the period after the destruction of Greek Corinth rather than before; but since it is earlier than the Propylaea and the Lechaion Road system of shops, which is with the highest probability assigned to early in the second half century of Roman Corinth,<sup>1</sup> it must be dated in a period rather early in the history of the rebuilt city.<sup>2</sup> The fact, as will appear, that everything which antedates it here is Greek further justifies us in accepting this wall as of the first Roman period. The other walls at Corinth standing in exactly the same relation to Greek remains *in situ*, and constructed like this of Greek material with similar bevelling of the front edges of matched blocks, may be assigned to the same early Roman period.

One such wall (XII), 6.50 m. long, is that which runs parallel to XIII and 6.80 m. to the west of it (Pl. XVII, 1; Figs. 68, 69, 71). The north end reaches 1 m. short of the southeast corner of the Northwest Stoa, one of the Greek structures known to have been rebuilt in the new city. The extension close to the south was removed by the excavators of 1900 in laying bare the Greek area underneath. Still farther south it must have been cut through by the builders of the great

<sup>1</sup> *Corinth*, I, p. 190.

<sup>2</sup> *Ibid.*, p. 189.

foundation (XIV) referred to as the southern boundary of this area. Beyond that in line with our wall a similar foundation course (XIIa) of irregular appearance, though the top surface is fairly level, and which is also made almost exclusively of secondhand blocks, formed the foundation of the southern part of the same wall. It reaches 8.50 m. south of the great foundation, making the total length 25 m. from the corner of the Northwest Stoa. There it turns to the east, and its course has been followed for 3 m., but at a distance of 8 m. farther east the line is resumed (XIIb) for 5.50 m. by a portion of wall made largely of blocks from Greek statue bases. This is a terrace wall facing north, at a level indicating that it is earlier than the Propylaea, and therefore, like the other sections of terrace walls of the same construction, clearly very early Roman. These walls give the line of a terrace extending 25 m. southward from the southeast corner of the Northwest Stoa at right angles to its front and then turning eastward in a line parallel with the front of the stoa.

About a meter below this was a second terrace with lines (walls XIII, XIIIa) parallel to those of the first, measuring about 7 m. in breadth in the western part and 12 m. in the southern. How far east the terrace extended is uncertain, since the evidence is concealed by the constructions connected with the Propylaea. The best preserved portion of the upper terrace wall (XII) is in construction precisely like the lower (XIII): a foundation of heavy poros blocks (many, if not all, of which were parts of statue bases) with accurately matched orthostates about 0.80 m. high. It differs from the lower in that the orthostates are backed by a rubble wall about 0.50 m. thick, the top of which is a single course of small thin blocks level with the top of the orthostates (Fig. 68). Of the next course above there is preserved one block, a square slab 0.24 m. thick, set back 0.10 m. from the front line of the wall, and above it a second step set back 0.15 m. from the first. This last seems to be at approximately the ground level of the upper side of the wall. The ground level supported by the lower terrace wall (XIII) was at about the top of the euthynteria of the upper one (XII). Immediately north of the area in front of the three-stepped base there is an open space 6 m. broad sloping up to the west, which is earlier in date than these two terrace walls. Its southern boundary is the curb and the terrace wall (XIX) which forms the northern limit of the precinct before the three-stepped base. It has already been remarked that the last Greek level in this area is such that not only the triglyphon frieze resting upon the three-stepped base east of the apsidal temple but also the upper edge of the base and the bowl in front of it were entirely above ground, the latter to the extent of 0.25 m. or thereabouts. This indicates, therefore, that to the end of the last Greek period the water channel leading from the apsidal temple was in working order.

#### AREA WEST OF TEMPLE

The wall XI (Pl. XVII, 1; Figs. 73, 74) already mentioned as having been built over what remains of the apsidal temple and having consequently caused the preservation of so much that still remains, is parallel with the Northwest Stoa distant 5.80 m., and is built almost if not quite exclusively of ancient Greek blocks, including statue bases, though none of them is inscribed, and it has that bevelling of the edge which characterizes the early Roman terrace walls (XII and

XIII) of the area to the east. This wall, being exactly like those in construction and material and in its relation to the Greek remains, belongs to the same period, namely, that of the rebuilding of the city in the first century B.C. As has already been assumed on general considerations of probability, the small apsidal temple was destroyed at the time of the general destruction of the city. With the rebuilding of Corinth the precinct, which had formerly been bordered on the north

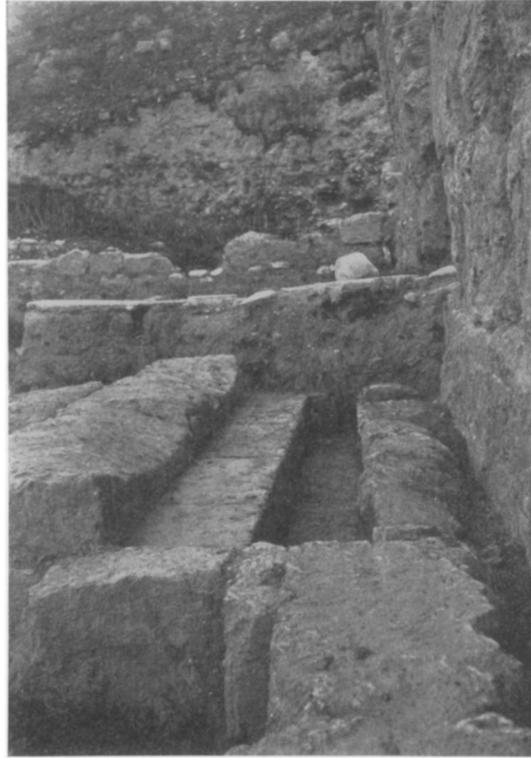


FIGURE 87. STEPS SOUTH OF ROMAN TERRACE WALL TO WEST OF SACRED PRECINCT

by the Northwest Stoa, received as its northern boundary the wall 5.80 m. south (XI) that passes over the apsidal temple. This early Roman wall is clearly a terrace wall facing the north, and was probably not very high. At a point 22 m. west of the ruined apse a flight of two steps (Fig. 87) 4.10 m. in length and with a tread of 0.30 m. leads up southward into the area bounded by this terrace wall. The wall extends westward the whole length of the Northwest Stoa; the eastern end has disappeared.

#### LATER ROUND BUILDING

Close to the south of the wall and directly south of the apsidal temple as well as partly on its site are the exceedingly irregular foundations of a round building with an extreme diameter of 4.75 m. (Pl. XVII, 1; Fig. 73). From their position it is clear that these foundations are earlier than the Northwest Shops and, moreover, they lie under the colonnade belonging with those

shops. The material of which they are made is miscellaneous old Greek blocks, a portion of a column drum, and a few small anta capitals. These foundations consist of blocks simply laid side by side so as to give a reasonably level top and are very much like the early Roman terrace wall (XII) reaching southward from the corner of the Northwest Stoa. Here again position, material and construction indicate that the foundations belong to the same early Roman period as the terrace wall immediately north of them. That they seem so much inferior to that wall in construction is due wholly to the fact that they are simply the lowest course of foundations deep in a trench, while what we have of the terrace wall was intended to be visible from one side only. It is not unreasonable to suppose that this round building belonged to an early period in the restored city as the successor of the apsidal temple which had stood through the Greek centuries. In the care taken to replace this ancient building when rebuilding the city, we have additional evidence of its sanctity. We may infer that the round building, of whose superstructure we know nothing, stood until the Northwest Shops and the colonnade were built early in the second century after Christ.<sup>1</sup> Corinth was then still a pagan city and it is rather unlikely that as early as 100 A.D. a sanctuary revered for several centuries during the time of the Greek city, replaced by another at the founding of the Roman city, and used for a century and a half, would be simply swept away. If we can point to no successor of the round building, as we have pointed to it as the successor of the apsidal temple, certainly the argument for the sanctity of the latter will be greatly weakened. There was, however, found in 1900, and destroyed by the excavators on the 17th of May of that year, a circular foundation of poros stones 4.35 m. in outside diameter. The wall which was about 0.75 m. thick showed rough surfaces both inside and outside. This circular foundation was about 5 m. southeast of the circular foundations preserved. Clearly it was simply the lower course of the foundation of a building of the same size as the earlier, the slight difference in outside diameter being compensated for by the fact that the later foundation has a thicker wall and so a somewhat greater interior diameter than the early Roman foundations. Those later foundations were at the level — 7.25 m., or at exactly the general ground level of the time of the Northwest Shops. The foundations which have been removed were during the later Roman period the successors of the circular foundations which belong to the early Roman days, which had themselves been the successors of the apsidal temple of Greek Corinth. It should be observed that in placing the first round building the builders took pains to set it as nearly as possible on the site of the apsidal temple without encroaching upon the passage newly allowed in front of the Northwest Stoa rebuilt by the colonists, and when the removal of the apsidal building was necessitated by the construction of the portico of the Northwest Shops, only the portico and not the shops themselves came inside the sacred precinct. The shops were built in the passage between the precinct and the Northwest Stoa long after it had been forgotten that the passage was once within the precinct. The fact, however, of this triple removal of the apsidal building indicates that although it was too sacred to be entirely destroyed, it was nevertheless not of supreme sanctity. One fact of moment in connection with the apsidal Greek temple in this area (concerning

<sup>1</sup> *Corinth*, I, ii, p. 129.

its Roman successors nothing can be said in this regard) may be further considered. The elaborate provision for the carrying away of water indicates that water was regularly used in the ritual, and the small size of the bowl into which it was discharged shows that the quantity of water regularly used in the temple was small. We have thus far not considered whence the water came or was brought.

#### TERRACE BETWEEN TEMPLE AND RESERVOIR

Some 6 m. southeast of the front of the apsidal building a narrow flight of four steps (Figs. 67, 88–90, 101), three cut in the rock and the lowest formed of a block of poros, leads down southward to a small terrace paved with hard cement, the level of which is  $-10.20$ . These steps and



FIGURE 88. STEPS FROM TEMPLE PRECINCT TO RESERVOIR TERRACE, LOOKING NORTH

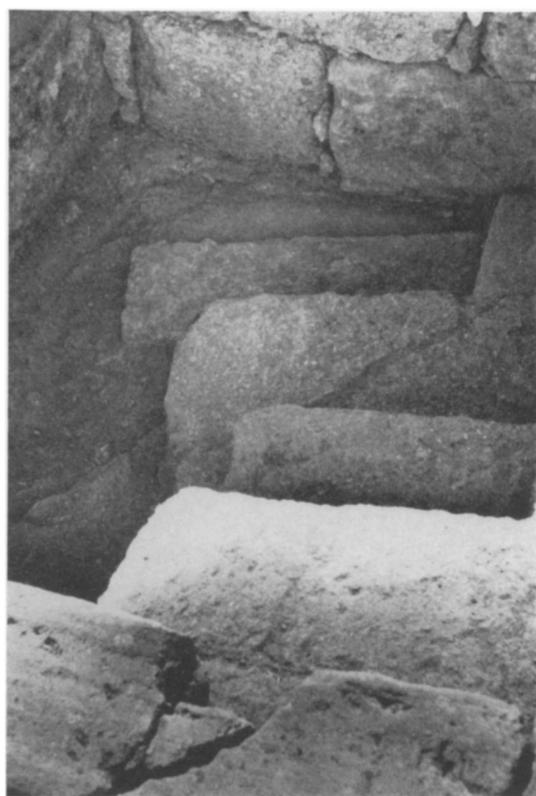


FIGURE 89. STEPS FROM TEMPLE PRECINCT TO RESERVOIR TERRACE, LOOKING SOUTH

the small terrace lie at a lower level behind a triglyphon frieze (II) which follows in general the lines of the three-stepped terrace wall (III) east of the apsidal building, but is 1.10 m. farther to the east. The frieze and a heavy circular basis upon it must clearly be later than the steps and terrace. The same is true also of probably all the blocks to be seen along the western end of the small rock-cut steps. These steps, the longest of which is 1.10 m., are irregular in tread, varying from 0.30 m. to 0.50 m. in breadth. The rise averages some 0.15 m. The paved terrace, which

extends 4.40 m. southward from the foot of the steps and is preserved to a width of 3.60 m., is broken off at its eastern edge in a fairly straight line running north and south. Its southern limit is a wall of good construction running east to west, the top of which was 0.27 m. above

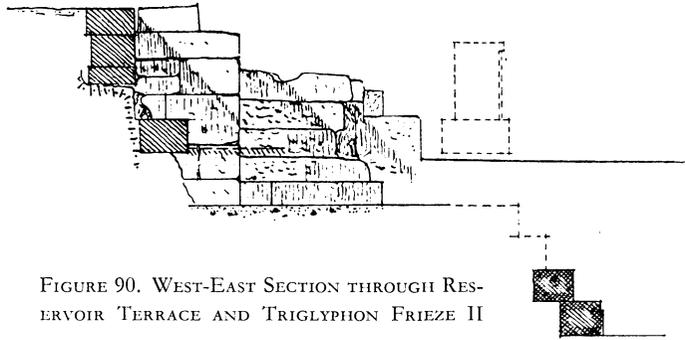


FIGURE 90. WEST-EAST SECTION THROUGH RESERVOIR TERRACE AND TRIGLYPHON FRIEZE II



FIGURE 91. FRONT OF SPRING HOUSE WITH EAST STEPS OF TERRACE IN FOREGROUND

the general level of the terrace, not counting two courses of slightly different orientation which are obviously later and rest upon the first. The western limit of the small terrace (IV) is the native rock (conglomerate) scarped vertically in a line running southwest to northeast. The form of the whole terrace is roughly trapezoidal with a right angle at the southeast and a rectangular jog at the northwest. Underneath this terrace there is a filling of coarse gravel and earth

practically free of fragments of pottery, exactly similar to the filling at and below the level of the water channel A in the area south of the Roadway (above, p. 125). About 0.65 m. below this small terrace and some 2 m. east of it, now hidden from it by the triglyphon frieze (II), are remains of the terrace wall (V) of step-form that was once presumably its eastern boundary (Figs. 90,

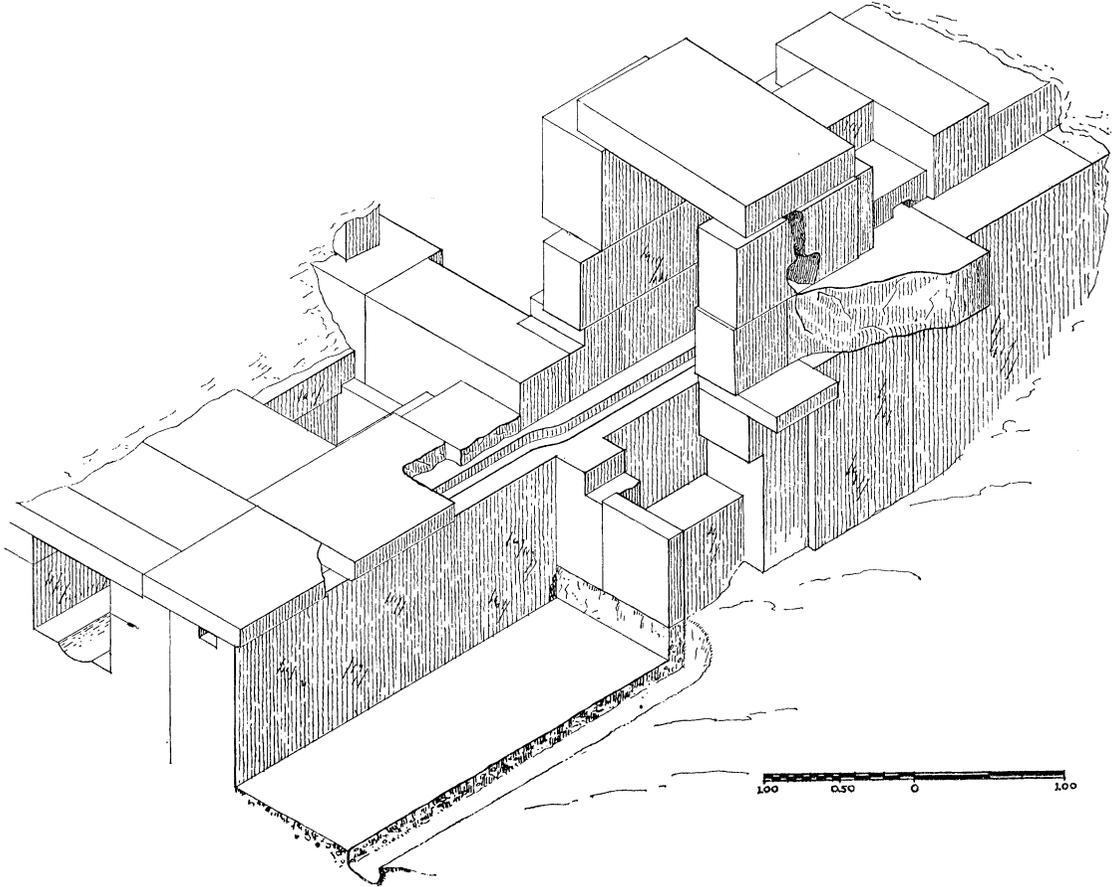


FIGURE 92. ISOMETRIC PERSPECTIVE OF RESERVOIR, LOOKING SOUTHEAST, WITH WATER CHANNELS A AND B TO EAST OF IT

right, 91, lower right, 94, foreground). The whole of the lower course of this wall is preserved for a length of 3.60 m., and the northernmost blocks of the second course having a combined length of 1.52 m. extend 0.58 m. north of the lower course. If two similar courses are restored above the two which are partly preserved, the four steps thus formed bring us exactly to the level of the terrace and approximately to the eastern line of its pavement as preserved. It will not be doubted, then, that the two and one-half courses of the terrace wall were torn out at some time subsequent to their regular use as the wall supporting the small terrace. The northern part of the two still existing slabs is deeply enough worn, especially on the second course, to indicate very considerable use of the wall as steps. The southeasterly direction of the wearing makes it certain that a person wishing to pass up and down here came or went by way of the small rockcut steps referred to above.

## RESERVOIR

Going southward along the foot of our four-step terrace wall we reach, at a distance of 0.40 m. beyond its end, the remains of a reservoir (Figs. 92, 93, 98, 99) 5.45 m. long, 0.90 m. wide, and 1 m. deep, extending north and south, having its eastern line parallel with that of the

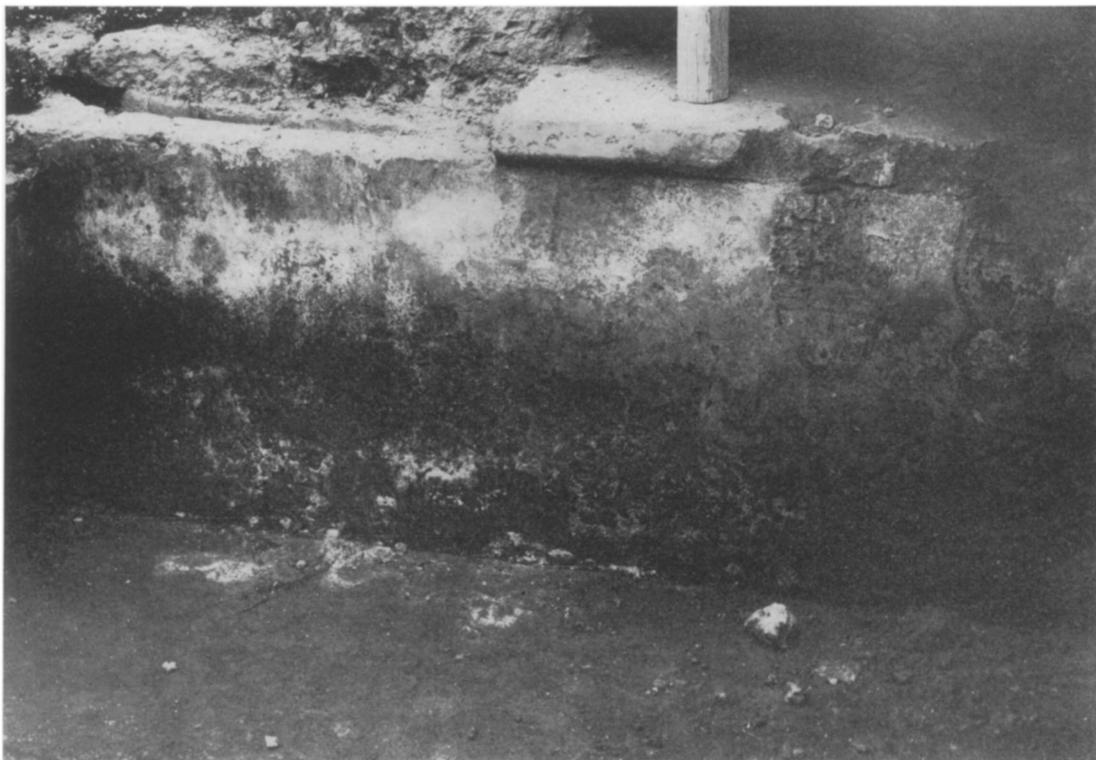


FIGURE 93. RESERVOIR WITH WATER CHANNEL IN WALL

four-step wall and 0.46 m. west of the bottom step. The western wall of the reservoir has been removed, but there is clearly to be seen for the whole length a cutting 0.24 m. wide in which the blocks forming this western wall were to be set as orthostates. The eastern wall is made of much heavier blocks which measure 0.45 m. in thickness, and upon which are laid slabs 0.10 m. thick. For a distance of 1.08 m. at the north end of the reservoir and 0.80 m. at the south these slabs have disappeared. A small water channel, 0.125 m. wide and 0.075 m. deep, cut in the top of this east wall of the reservoir has been traced for a distance of 5.20 m. from the southeast corner of the reservoir (Fig. 93). This channel is identical with the water channel A described in connection with the deep cutting northwest of the Propylaea (above, p. 146). The section there described begins at 15 m. and extends to 27 m. from the corner of the reservoir. This water channel passing along the front of the reservoir has no connection whatsoever with it.

In spite of the very considerable length of this reservoir, traces of the wear resulting from the drawing of water show at only two points on its front line: 1.80 m. and 2.20 m. from the north

end (Fig. 93, right). There the covering slab, which projects over the edge of the reservoir 0.025 m. and a small part of the wall of the reservoir itself have been cut back smoothly to give room for the drawing of water, and on the top of the paving slab is a round cutting a little back from the edge in which to set a jar. We may, therefore, reasonably suppose that water was carried from this reservoir northward up the four steps of the terrace wall to the northwest corner of the terrace, then up the other four steps to the main terrace on which is the apsidal temple, and then to that building itself. The reservoir evidently held the supply of water used in the ritual of the little apsidal temple, while the terrace wall and the rock-cut steps furnished direct connection between the reservoir and the temple. The distance is 16 m. by this route. At a distance of 2.20 m. west of the northern part of the reservoir and at a level slightly higher than its top are remains of a gutter that supplied or helped to supply the reservoir with water. It is intersected now by a heavy wall of blocks which, judging from their somewhat miscellaneous character and open joints, are not now in the position originally intended for them.

#### FOUNTAIN HOUSE

Upon the top of this wall (I) is another piece of a triglyphon frieze,<sup>1</sup> the base of which is 1.50 m. above the top of the reservoir (Fig. 91). At the north end of this is a doorway (Fig. 94) through which at the time when this heavy wall stood here, there was access to a flight of seven steps leading down to a chamber (Figs. 95–106), in the western wall of which are still to be seen in their ancient places two bronze water spouts in the form of lion's heads (Figs. 96–99, 102–106). From these water flowed into a narrow gutter (Figs. 95–101) that ran along the base of the western wall of the room and turned at the northwest and southwest corners to broader gutters running east, the northern one of which has been referred to above as appearing in front of the diagonal wall of the room.

The form of the room is very nearly trapezoidal (Fig. 97), being 5.62 m. long from north to south, and 1.64 m. broad at the south side and about 4.54 m. at the north. The contrast between these three walls, western, northern and southern, and the diagonal eastern wall, though it is made of blocks which in themselves are as well cut as the others, confirms the conclusion derived from observation of the wall from without (above) and from its relation to the gutter above mentioned, namely, that this diagonal wall is later than the others, which are contemporary in construction with the reservoir, that received the water from the lion's head spouts.<sup>2</sup>

<sup>1</sup> *A.J.A.*, VI, 1902, pp. 306–320, figs. 1–5, pls. VIII–X.

<sup>2</sup> From the nature of the eastern face of the diagonal wall and from the presence of the steps which lead down from the top of it, as well as from the destruction or partial destruction of that part of the fountain house which once extended east of the diagonal wall, it is clear that all this eastern part was buried at the time of the construction of the diagonal wall and that the ground level thereafter was approximately that of the head of the steps, leaving the eastern part of the gutter, the floor of the fountain house, and the reservoir buried 1.50 m. deep. This diagonal wall with the ceiling it supports, a Doric frieze resting upon that, the flight of seven steps, and the wall at the surface on either side of it (the northern one of which rested upon the original north wall of the fountain house) are to be disregarded in the discussion of the original state of the fountain house.

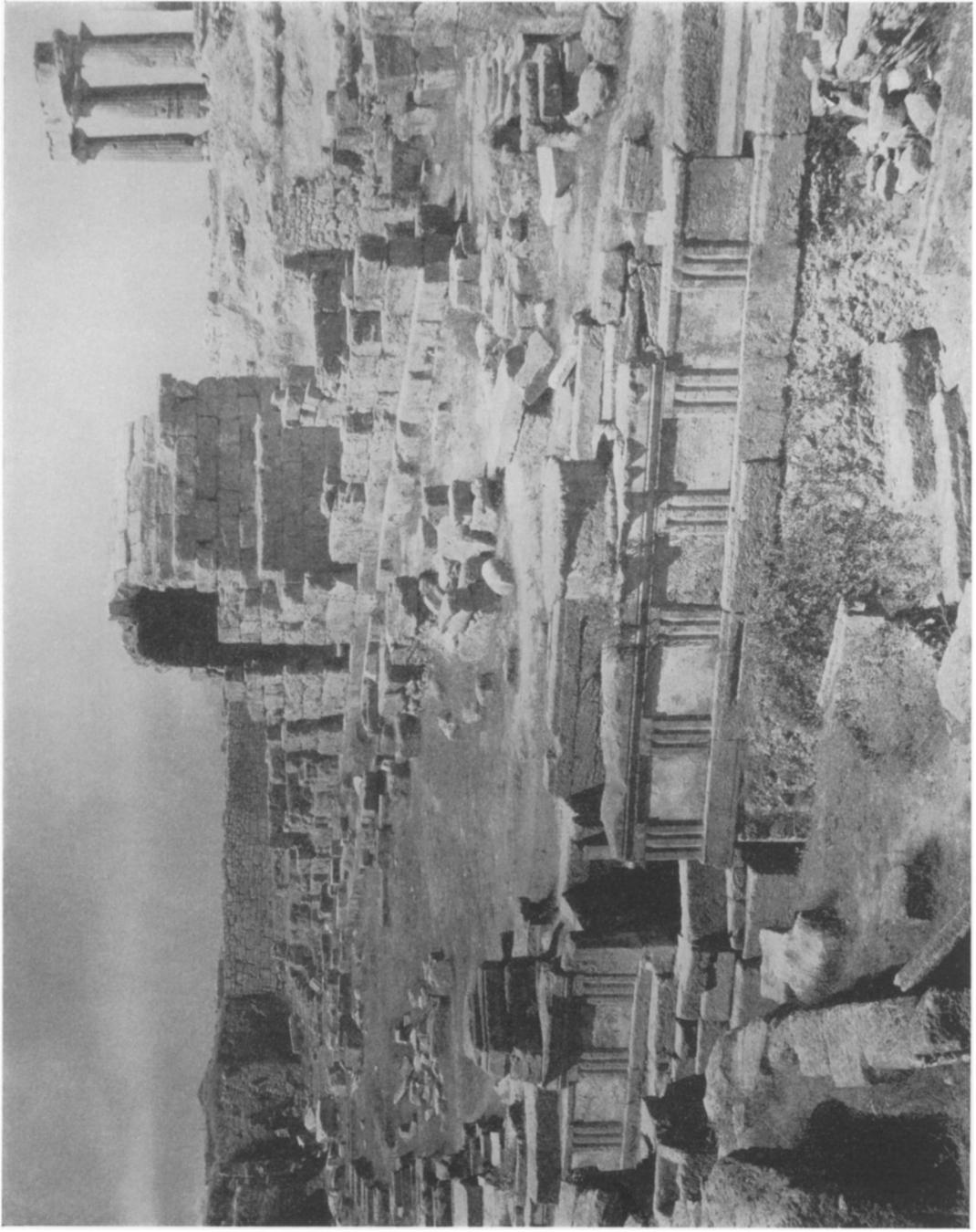


FIGURE 94. TRIGLYPHON FRIEZE I AND II AND ENTRANCE TO SPRING, WITH STATUE BASES AT LEFT AND TEMPLE AT RIGHT



FIGURE 95. FOUNTAIN HOUSE INTERIOR, LOOKING NORTHWEST, NORTHERN LION HEAD SPOUT

## PERIOD I

The breadth of the fountain house at the west, as already stated, is 5.62 m., its length from the northwest interior angle to the northeast corner of the reservoir is 8.22 m., the length on the southern line is practically the same, or perhaps 0.02 m. greater, absolutely accurate measurement



FIGURE 96. FOUNTAIN HOUSE INTERIOR, SOUTHERN LION HEAD SPOUT

being next to impossible on account of intervening walls and bases and masses of earth. The fountain house is not, however, absolutely rectangular, for the length of the east end, that is the reservoir, is as stated above (p. 156) 5.45 m. while that of the western end is 5.62 m., and the southwest angle is slightly less than a right angle. The bottom course of the north wall (Fig. 98) is preserved to a point 0.70 m. distant from the reservoir; the second course lacks 2.65 m. of its original length, its eastern limit being indicated by a slight jog in the southern end of the above mentioned four-stepped terrace wall (above, p. 155). The third and highest original course extends 1.07 m. short of the second. Of the southern wall (Fig. 99) much less is preserved; beginning from the southwest corner, 2.70 m. of the first course, 2.23 m. of the second, and

1.87 m. of the uppermost remain. What is preserved of the original ceiling of the fountain house is a mass of the native rock (conglomerate) extending about 1.70 m. eastward from the northwest corner (Fig. 95), and passing thence in an irregular line toward the southwest corner.<sup>1</sup> This

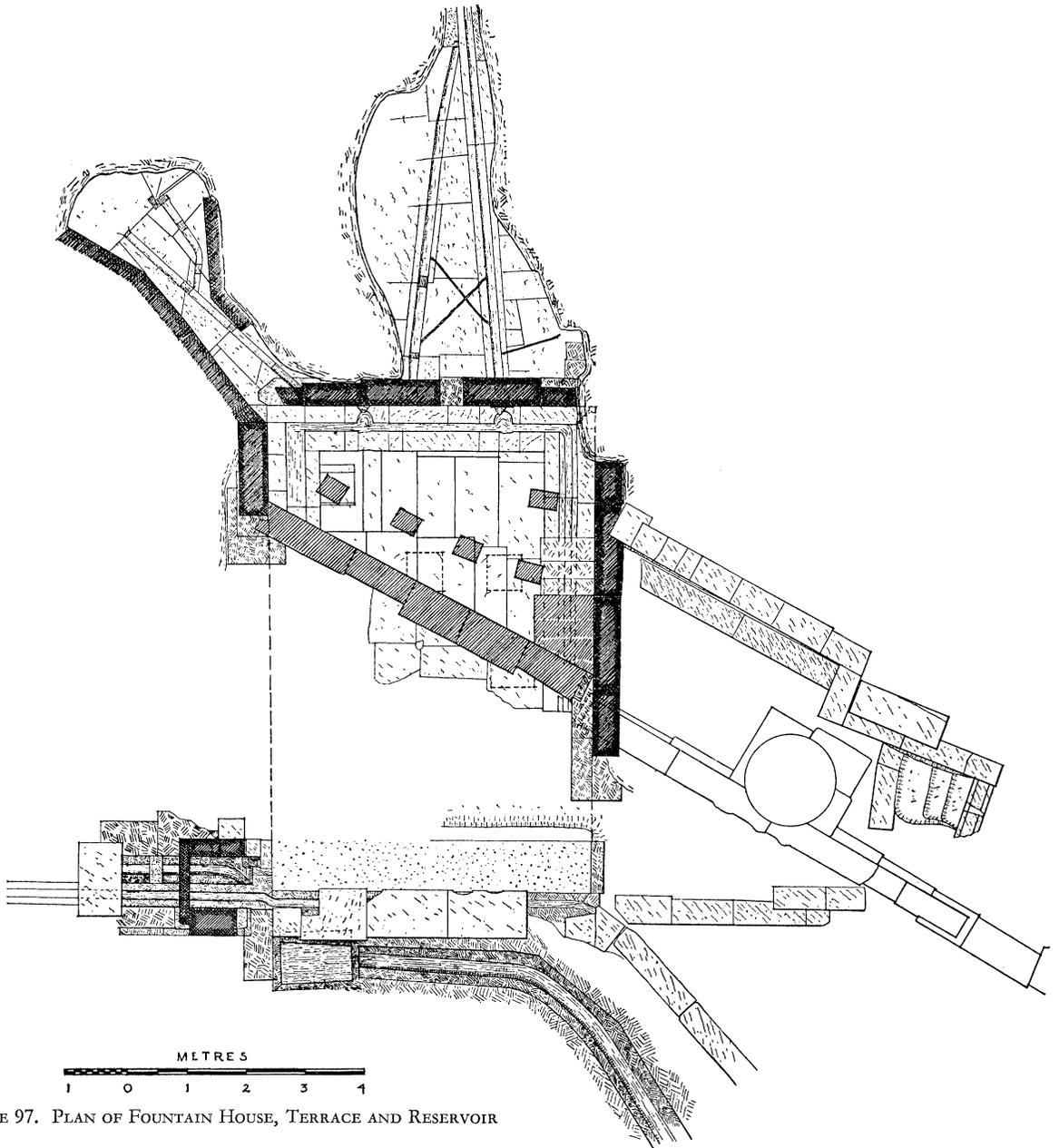


FIGURE 97. PLAN OF FOUNTAIN HOUSE, TERRACE AND RESERVOIR

rock ceiling (Figs. 95, 98, 99, 101) is only 1.45 m. above the floor. The lowest course of the side walls is made of broad blocks, the accessible northern one being 0.85 m. wide and the southern (uncovered in the excavations of 1903 and subsequently covered again) is 0.97 m. in

<sup>1</sup> As shown in *A.J.A.*, VI, 1902, pl. X.

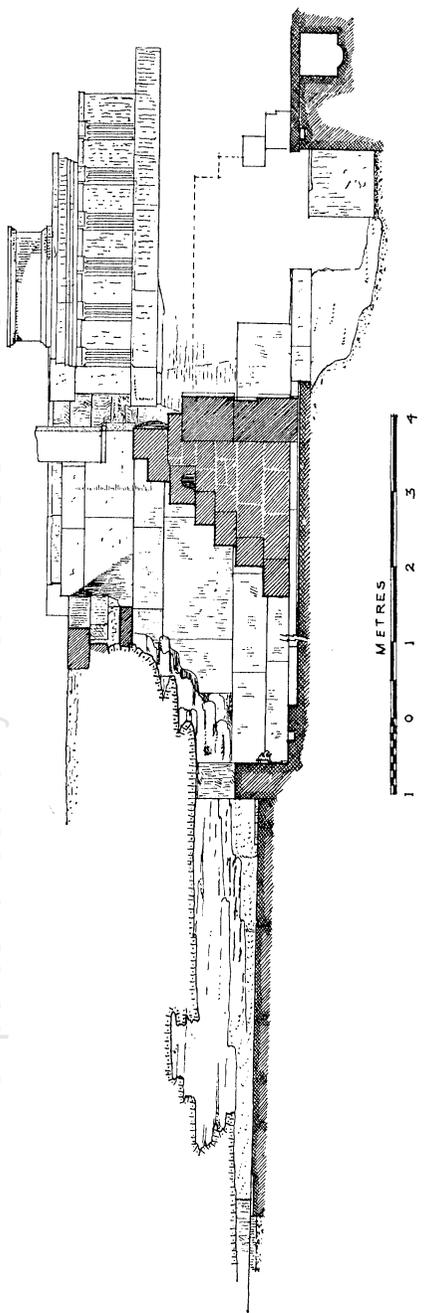


FIGURE 98. FOUNTAIN HOUSE AND RESERVOIR, WEST TO EAST SECTION LOOKING NORTH

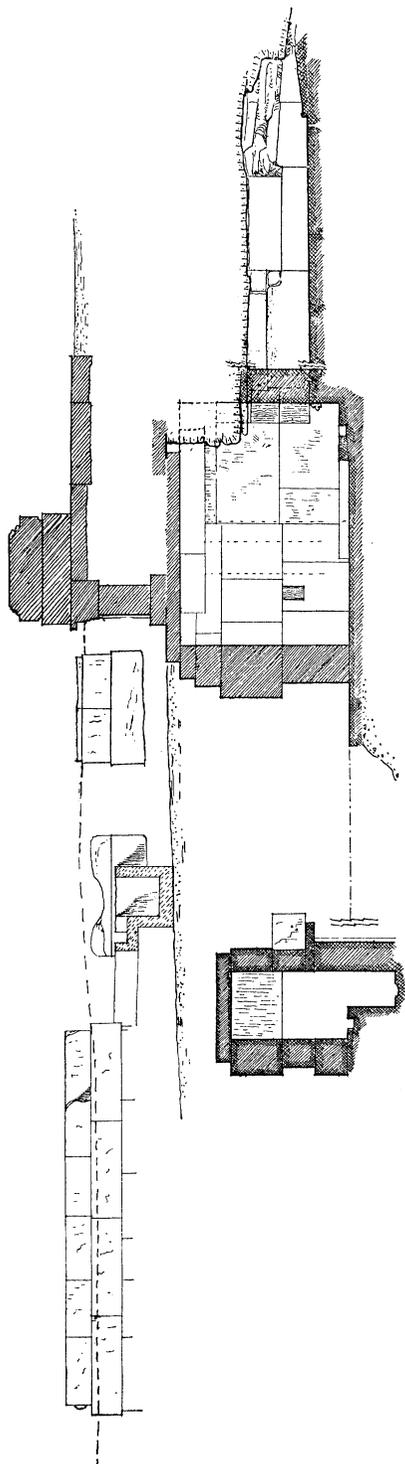


FIGURE 99. FOUNTAIN HOUSE AND RESERVOIR, EAST TO WEST SECTION LOOKING SOUTH

breadth. The northern base course projects inward some 0.30 m. to 0.315 m. from the face of the wall (Fig. 97) and forms the northern side of the channel, 0.30 m. broad, in which at floor level is cut a shallow open conduit for the water. Blocks 0.24 m. wide and 0.15 m. high form the southern curb of the channel. The wall rises in two courses at the east (Fig. 108) and in three



FIGURE 100. FOUNTAIN HOUSE, EXTERIOR (SOUTH SIDE)  
OF SOUTH WALL UNDER CORNER OF TRIGLYPHON FRIEZE

at the west (Fig. 95) to a distance of 1.65 m. above this course, which is itself 0.10 m. above the general floor level. The blocks of the several courses are of unequal thickness, but the inner face is absolutely true with joints everywhere of the nicest. The lower courses, projecting on the outside because of their thickness, were hidden there by the terrace which abuts against the wall in a line 0.20 m. below the top.

The southern wall (Figs. 97, 99) is constructed precisely like the northern and is preserved to almost the same height, the lower course being 0.79 m. high and the upper 0.84 m. The upper course is 0.50 m. thick and the one below 0.55 m. at the places where it could be measured (Figs. 100, 101). The four southernmost blocks of the present diagonal front wall of the fountain house are of the same height as the lower course of the southern wall and have a combined length of 5.045 m. They vary in thickness from 0.447 m. to 0.635 m. The outer top surface of the northern one shows considerable signs of wear which was certainly received before it came

into its present position (Figs. 91, 108), else the block next south of it would also be worn. These four blocks would reach exactly the distance from the east end of the lower course of the existing south wall to the western edge of the reservoir. Their inner surfaces are uniform and clearly have always been protected, though the outer surfaces, as already remarked, are somewhat irregular. Evidently in their earlier use, as well as here, they were left somewhat rough on one side while closely matching on the other. This is consistent with their use in the southern wall, the northern surface of which would be the inner face of the wall and well-matched, while the

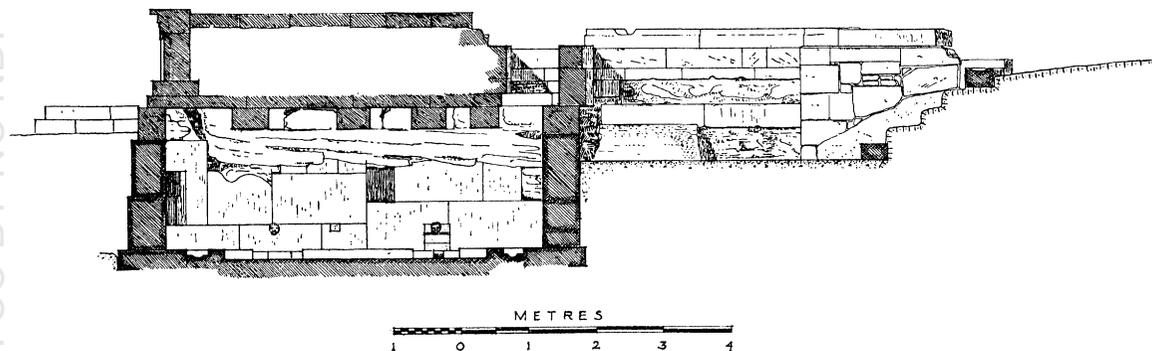


FIGURE 101. FOUNTAIN HOUSE AND TERRACE, SOUTH TO NORTH SECTION, LOOKING WEST

irregularities would be on the southern side. It was while in position there that the heavy block mentioned above became worn on its top surface. Here, as at the northern side, the lowest course, a sort of euthyteria which is 0.325 m. thick, projects into the room 0.28 m. The paving blocks abut against it so that it rises only some 0.10 m. from the floor level. The shallow conduit lies in a channel or gutter, 0.30 m. wide and 0.10 m. high, at floor level immediately north of this and is bounded on the north by a curb about 0.23 m. broad and 0.14 m. high (on the floor side) as was the case along the northern channel. In both the north and south sides the shallow open conduit referred to is 0.13 m. wide and some 0.03 m. deep, being in section nearly semicircular. A very thin bronze lining has been observed in the northern conduit. Whether the north and south walls rose originally to a greater height than at present cannot be stated positively, but the condition of the upper edge of the interior and of the greater portion of the upper surface indicates that they were probably for the most part covered, either by another course making the wall higher or by the ceiling.

The western wall (Figs. 95–97) also has a perfectly smooth inner face. It is constructed in two courses, with a third thin course where the irregularity in the ceiling of native rock made that necessary. At a distance of 2.23 m. from the northwest corner there is in the second course of this western wall an opening 0.40 m. in width and somewhat greater in height, through which a man may crawl into a rear chamber (Figs. 95, 97, 101). In the southwest corner of the room a similar opening, cut diagonally out of the adjacent ends of the west and south walls, leads into an irregular passage 1 m. to 0.60 m. broad, beyond which is a roughly triangular room about

3 m. long and 2.40 m. wide (Figs. 97, 101). The room into which the northern opening leads is about 6 m. long with an average width of about 2.50 m. It is a grotto with a low ceiling and side walls of native rock, and a floor made of blocks of poros now thickly covered with a hard



FIGURE 102. NORTHERN LION HEAD SPOUT

coating of lime deposit. The floor slopes gently up to the west and the ceiling slopes downward in the same direction until at the farthest accessible point they are only 0.15 m. apart. The space there is also very narrow, measuring only 0.75 m. in width.

Nevertheless, even beyond the last point now accessible, there extends at least one block of the carefully made floor of poros with a shallow conduit cut in its upper surface. The conduit has been traced 6.35 m. from the eastern line of the room. At its upper, or western, end the conduit is 0.12 m. in width, and at its eastern end, where it reaches the western wall of the foun-

tain house, it is 0.16 m. The long blocks in which this conduit is cut are from 0.38 m. to 0.40 m. in breadth. The easternmost passes through the wall of the fountain house and projects 0.05 m. beyond its face. Here is attached one of the lion's head spouts of bronze (Figs. 95, 97). The wall



FIGURE 103. NORTHERN LION HEAD SPOUT, PROFILE

block next south in the wall through which passes the block bearing the spout must clearly have been put in place after the conduit since a piece has been cut out of its lower northern corner to fit around the block bearing the spout. The room behind also indicates clearly that construc-



FIGURE 104. SOUTHERN LION HEAD SPOUT

tion must have proceeded from the west eastward and from the north southward, so far, that is, as the lower course of the wall and the floor of the room behind are concerned. The conduit above referred to is simply cut in the floor without protecting curb and the floor to the south was after-



FIGURE 105. SOUTHERN LION HEAD SPOUT, PROFILE

wards put in. This floor is made of perfectly matching blocks of varying sizes and in it is cut a second conduit the length of which within the room is 5.65 m. It reaches the wall of the fountain house at a point 1.45m. south of the first conduit. At its head it is 0.14m. distant from the other. There is, however, no communication between the two conduits nor did any ever exist. The second simply begins beside the first. The arrangement makes it clear that these channels bring water from a single source and that the second and shorter takes only the overflow. As both channels lead from practically the same point, it is clear also that the source was a very small natural spring from which the water was distributed.

This southern conduit is peculiar in that the joints of the flooring in which it is cut are covered by a thin sheathing of bronze to prevent leakage. At one of the two points at which it is possible to measure this sheathing, it is 0.17 m. in length and at the other it is 0.085 m. It projects only slightly beyond the lines of the conduit, which is an open one 0.16 m. broad. At the point to which the conduit leads there is no spout, though the lower course of the wall appears to have been cut for it and the aperture has been closed with a small perfectly fitted block (Fig. 97). The conduit turns within the wall southward and re-enforces the second lion's head spout (Figs. 96, 97) of the fountain house, which received its principal supply of water from a channel leading from the southwest, through the narrow room and passage accessible by means of the narrow manhole in the southwest corner of the wall (Figs. 97, 101). The main line of the conduit bringing water to the southern spout extends in a southwesterly direction in a straight line from the wall for a distance of 4 m. It is cut in the floor of the passage and room, and has bronze sheathing over the joints. Unlike the conduits in the other rear room it does not seem to distribute water from a spring, but rather to collect the drippings that come from the ceiling above. A branch emptying into the main conduit draws its supply from a large stone, the surface of which is cut with two gentle slopes meeting in a "valley." The main channel draws its water chiefly from a very slightly sloping section of the floor completely sheathed with exceedingly thin bronze.

The walls of this room and of the passage leading to it are for the most part not cut in the rock, but built of blocks of poros, and the room being considerably higher than the northern one is much more convenient of access. After reaching the wall of the fountain house the main conduit turns to the north and is cut in the upper surface of the lowest course of the wall. At a distance of 1.55 m. north of the corner it pierces the wall and empties into the second bronze spout which, as already stated, drew part of its supply from the southern conduit of the north grotto.

Although their main proportions are approximately the same, the two bronze lion's head spouts differ sufficiently to make it practically certain that they were not made at the same time to adorn the same façade. The principal difference lies in the prominence of the ears, those in the southern spout (Figs. 96, 104, 105, 106a) appearing rather conspicuously in front of the mane which is spread out back of the head in a flattish circle. The hair about the head of the other lion (Figs. 95, 102, 103, 106b) is in a sort of roll and the ears lie back against it so as hardly to show. One would consider the northern spout the older, but they need not differ seriously in date and were made probably about the end of the 6th century.<sup>1</sup>

The southernmost block in the second course of the western wall, which adjoins the southern lion's head spout, has a surface which differs from that of all other original portions of the fountain walls, so that one may fairly judge that this block was set in at some time later than the others. It is not difficult to imagine an occasion. In the top of the course below is cut the conduit by which water was brought from the south grotto to the spout, and in case of any repairs to the

<sup>1</sup> This view is expressed by Professor Richardson, who cites also the opinion of Professor Furtwängler in its support, *A.J.A.*, VI, 1902, pp. 318-319.

conduit it would be necessary to remove a block of the course above. It is probable that on some such occasion the original block was broken and was replaced by the one now there, which projects slightly in front of the other blocks of the wall (Fig. 96).<sup>1</sup>

The step, approximately 0.10 m. high and 0.30 m. broad, that runs along the base of the north and south walls, continues along the west wall (Figs. 95, 98, 99). The gutter which it borders is, however, only about 0.12 m. wide, while at the north and south it is nearly 0.30 m. (Fig. 101). As the lion's head spouts project from the wall a maximum distance of only 0.15 m., the step bordering the gutter was cut back under each spout in a curve (Figs. 95, 97) so that the water discharged from the spout might fall into the water channel instead of falling upon the step. Opposite the northern spout there is also a smaller cutting in the curb separating the gutter

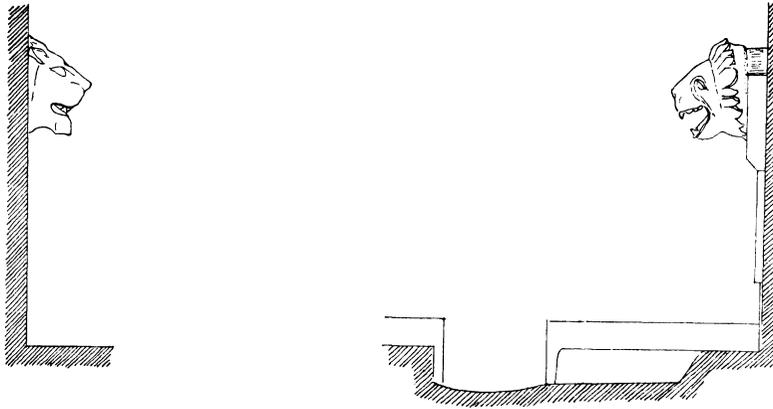


FIGURE 106. SECTION OF LION HEAD SPOUTS

from the main floor area, and the two form an approximately circular space which may have been intended as a place for a jar set to catch the water. This provision for jars is likely to have been made after the walling up of the fountain house and the cutting off of connection between the spouts and the reservoir, that is, after the conduits along the wall had ceased to serve their original purpose.

<sup>1</sup> The difference between this stone and the rest of the walls lies in the method of dressing the surface. The other stones are brought to a fairly smooth surface, which, however, has slight parallel ridges about 0.10 m. apart running lengthwise of the stone, and these are intersected by lines of lesser ridges half a centimeter apart. The small ridges are those left between grooves made by a chisel with a rounded blade. The distance between the long lines is that which the chisel is driven each time, the short lines being the marks left by the sides of the blade. The stone was thus brought down to its proper surface by parallel sections. All these marks are so slight as ordinarily not to attract attention at all. Blocks treated in this manner are found not only here in the walls of the old fountain but also in the water channel passing close in front of the reservoir of the fountain, which is clearly contemporary with the fountain house, and in the triglyphon frieze which forms the border of the terrace directly north of the fountain, where they are joined with Z clamps. Work of this sort is to be observed also in stones of the old temple of Apollo. It seems a safe conclusion that at Corinth the stones cut in this manner and with this degree of fineness are early in date. The block which, as above stated, is inserted in the west wall of the fountain house was dressed in a similar manner but with much less care. The grooves are fairly broad and deep so that the surface is not nearly so smooth as was the case with the other blocks.

The floor of the fountain house is composed of large rectangular blocks of poros which at present reach a distance of 5 m. from the west wall (Fig. 97). Very shallow cuttings unequal in size but more or less symmetrical in position indicate that at some time pillars stood here to support a ceiling. Their positions differ entirely from those of the pillars supporting the present ceiling, and indicate that there were nine pillars arranged in three rows of three. If they were contemporary with the building of the fountain house, which seems to me somewhat doubtful, they may have supported a ceiling of native rock. It is quite as likely, however, that they sustained a platform projecting eastward from the edge of the conglomerate which formed, and still forms, the ceiling of the western part of the fountain. There is no doubt that the north and south walls, both of which, as remarked above, were terrace walls, reached as far east as the reservoir, and presumably the step and the gutter along the foot of these also reached that point. Whether the rest of the pavement between the part preserved and the western side of the reservoir was made of slabs of poros seems doubtful, for the eastern edge of the existing part is fitted into the rock in a way which suggests that no similar paving blocks reached this slab.<sup>1</sup>

<sup>1</sup> Some of the blocks now forming the ceiling of the fountain house seem clearly to have come from the western wall of the reservoir. Their thickness, 0.24 m., is exactly right to fit into the cutting 0.25 m. wide and 0.08 m. to 0.11 m. deep in the clay along the western edge of the floor of the reservoir. The width of the two that have been measured (0.96 and 0.945 m. respectively) would give for the west wall of the reservoir a height equal to that of the north as it stands at present. The ceiling block immediately south of the doorway leading down into the fountain house is 0.96 m. wide, 1.045 m. long, and is covered on the top with hard cement of a character identical with that lining the reservoir. The cement ends in a straight line 0.135 m. from the end of the stone. The stone came, that is, from next a corner. Since the cement extends clear to the east edge of the slab, it cannot have been the lower edge as there would not be cement along the lower part of the surface where the slab extended below the bottom of the reservoir. Assuming then that in this block the edge which the stucco reaches was the top, the slab should be fitted into the northwest corner of the reservoir with the north end of it overlapping the corner by 0.135 m. If set 0.08 m. into the cutting in the clay, the top of the stone in its new position will be 0.88 m. above the floor of the reservoir, that is, at the same height as the top of the adjacent north end. The second ceiling slab south of the one just discussed is covered on its top surface with a similar cement which, however, reaches the ends of the block. The block accordingly did not come from one of the corners. Other ceiling slabs, perhaps enough of them for the whole west line of the reservoir, could doubtless be identified. It has, however, not been possible to examine them to discover whether they have the waterproofing which of course all slabs from the wall of the reservoir once bore. A smaller block, with cement of this sort on three sides, may nevertheless with great probability be assigned a place. It is now under the northeast corner of the first of the ceiling slabs mentioned and measures 0.21 m. high, and 0.21 m. broad; its present length, which is not original, since it probably has been broken at both ends, is some 0.45 m. The surface, from the longest side of which the cement projects enough to show that this surface was continued, is a part of the western wall of the reservoir. The cement covers the top of the block which in this position would be part of a curb along the west wall of the reservoir, rising about 0.12 m. above the floor of the fountain, while the other surface, which is stuccoed for a distance of 0.12 m. and then turns out 0.05 m., would be the edge of the water channel that supplies the reservoir. If this block is placed in the position suggested, and the ceiling block discussed above is set in the place proposed for it, they correspond exactly to the height of the reservoir, bringing the distance from the floor to the mouth of the gutter 0.97 m. and to the top of the curb 1.09 m. It is difficult to find any other place for this block which is cemented on three faces, except a similar position at the mouth of the southern water course, an arrangement which is excluded by the fact that the left part of the top of the block would then project into the wall and would consequently not be stuccoed all the way to the edge, and moreover the vertical surface ought to show in a line 0.07 m. short of the left end, the southwest corner of the reservoir.

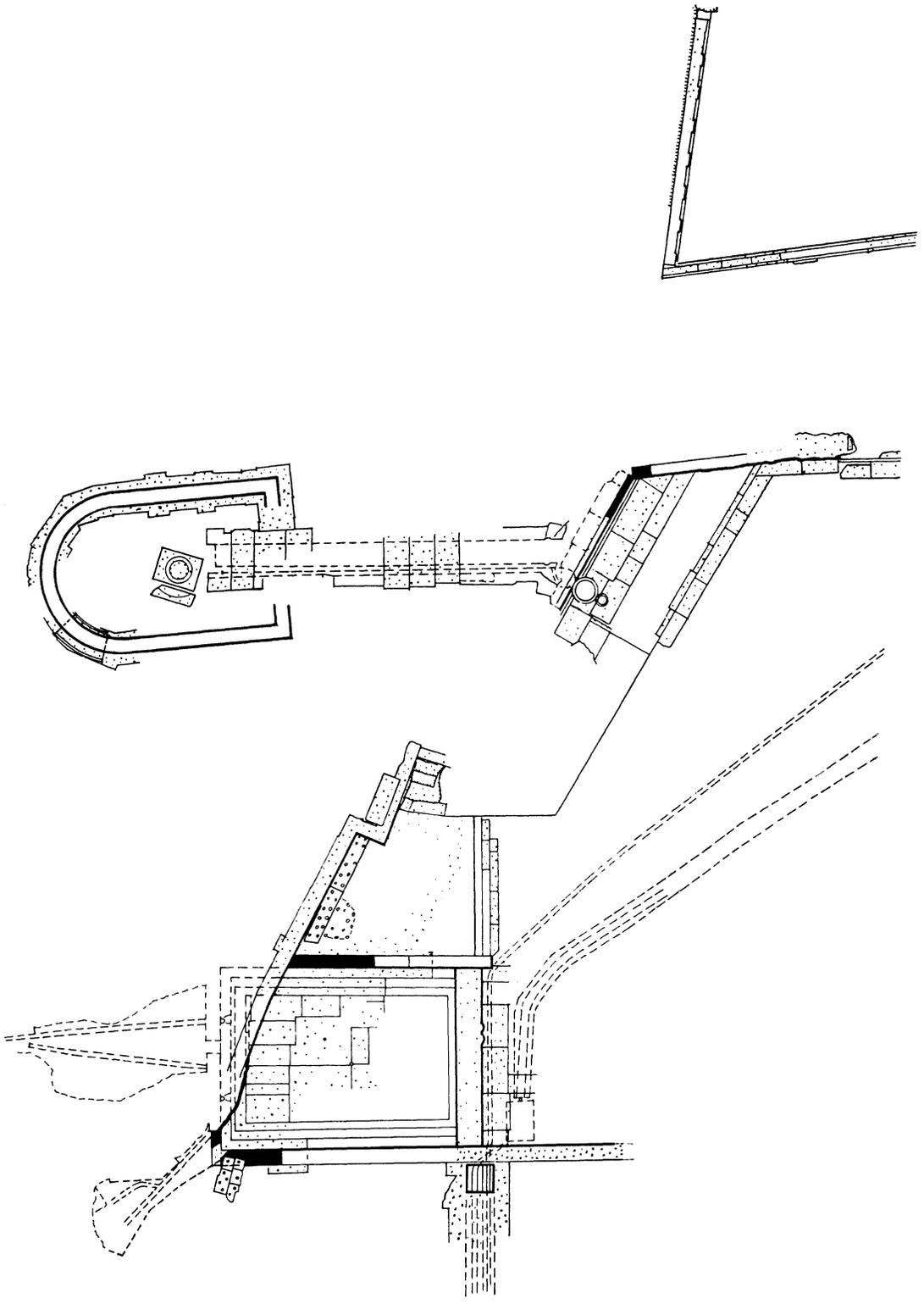


FIGURE 107. SACRED PRECINCT, PERIOD I, SIXTH AND FIFTH CENTURIES

The original plan of the old fountain (Fig. 107) was, so far as the existing evidence indicates, an oblong room 8.20 by 5.60 m., with a reservoir extending across the whole east end, and a gutter running around the other three sides and passing along the west wall under two bronze spouts from which it received water and conveyed it to the reservoir, the gutter and the reservoir being separated from the floor of the room by a curb varying in height from 0.10 m. to 0.14 m., and in breadth from 0.21 m. at the east to 0.23 m. along the sides and 0.34 m. at the west. Although the western part of the room had a ceiling of native rock, it is probable that at first the rest was unroofed and merely bounded by terrace walls on the north and south. The southern wall continued eastward beyond the front line of the fountain; the northern ended 0.25 m. east of the corner of the reservoir. Directly in front was a platform of poros slabs at the same height as the curb and the euthynteria of the walls of the fountain house. There is no evidence of any mode of access to the room except by stepping over the reservoir which would be a step of 0.86 m. The fountain house, therefore, was probably not entered except as was necessary for cleaning, or repairing. Water was drawn instead from the reservoir and, so far as now appears from the wearings which are 2 m. and 1.75 m. from the north end, at two points only.

The connection of this elaborate and little-used fountain house with the apsidal building has already been pointed out. As stated above, the undoubtedly original parts of the north and south walls reach a height which is only 1.70 m. above the floor of the room. The small terrace at the north (that supported by a four-stepped wall) lies at a level 0.27 m. below the top of the wall (Fig. 101), but at a time clearly earlier than that when the fountain was transformed by putting in the diagonal front wall and the steps, the level of this terrace at the north had been raised some 0.55 m., that is, about 0.30 m. higher than the wall. As will be seen from Figure 101, the ground level south of the fountain house was also 0.50 m. higher than the wall. In other words, at that time the wall must have been higher than it now is, as these terraces were of course supported. The two steps at levels about  $-9.20$  and  $-9.40$  m. at the south end of the fountain (Fig. 107) belong to this period and indicate the direction in which people moved from directly south of the fountain up to the terrace back of it, a direction slightly more north of west than is now the case. How the north and south walls of the fountain were built up to reach the height necessitated by the ground level behind them can only be conjectured. It may be assumed that the top course or courses followed the original lines of the wall, unlike that now resting on the wall of the fountain beside the stairway (Fig. 108).

Two blocks of the present front wall of the fountain house have on the inner face of the top two deep rectangular cuttings, one 0.47 m. wide and 0.31 m. high, the other 0.39 m. by 0.26 m. They are 0.27 m. and 0.25 m. deep, reaching considerably more than half way through the blocks in which they are cut. Now if the block B is placed upon the western end of the second course of the south wall of the fountain house so that the west end projects 0.14 m. beyond the corner, a position suggested by the little cutting in the surface of the end of the stone (a cutting 0.14 m. broad and 0.58 m. high), 0.58 m. is just the height of the block of the west wall nearest the corner. With the long block B in this position the cutting in it is in line with the marks in the floor which indicate the position of posts and if block C is set next B on this

wall its cutting would come opposite the second row of posts. It is not, then, unreasonable to conjecture that the cuttings in these blocks were made to receive the ends of stone beams which extended from the wall across to the posts whose positions are indicated by the marks in the floor. It has already been stated (pp. 171 note 1, 173) that these marks are probably not original and the fountain did not in the first place have an artificial ceiling at all. If, for the period of higher levels north and south of the spring, the walls are given the height that would result from placing the stones B and C upon the south wall as indicated, the height from floor to ceiling of the room would be 2.30 m. and the flat roof of the fountain about level with the terrace at the west. The positions suggested for these blocks are not inconsistent with their present places in the diagonal wall, and the northernmost stone of the lower course in that wall comes, in all probability, from the upper course of the original north wall of the fountain. Next it in the lower course of the front wall is the stone B, then C, and then a block of the same height as B and C which in all probability originally came next in line eastward. In the building of the diagonal wall the eastern block of the top course of the south wall would naturally be taken first and placed at the south end of the new wall, then the next block would be placed directly north of the first, and finally the westernmost of these blocks in the top course of the south wall would have the position the farthest north of the three. The upper course of the front wall (Fig. 108) is probably made from the lower course of the side walls, as is naturally to be expected.

#### PERIOD II

With the general rise of level north and south of the fountain there was some encroaching of terraces from the east also, so that in the course of time the old spring and the small paved square in front (east) of it were deep in a sort of pocket 2 m. or so below the general level. It was then that the project of putting in a wall across the front of the room and approaching the water spouts by means of a stairway was conceived (Figs. 108, 109). Blocks taken from the old north and south walls of the fountain formed the body of this new wall, blocks for the ceiling of the closed room were taken from the reservoir, and then the space in front of the wall was filled. Fortunately the filling is of a definite character, comparatively easily distinguishable from other strata found in the earth of Greek Corinth. It is a red earth with a considerable mixture of sand, containing few fragments of pottery, but no other recognizable objects save now and then a coin. This is the stratum which buried the archaic inscription and raised the level of the whole area between the road and old fountain, bringing it to a reasonably uniform slope, the grade being from south down toward the north. Where the level at the time of this filling was low, the filling is of course deeper than elsewhere. In front of the old spring it reaches its maximum thickness, about 3 m., but in the roadway just north of the archaic inscription it is only about 15 m. thick. The wall was built in front of the old spring in an oblique line determined by the line of the northern triglyphon (Fig. 109).

At the north this cross wall is not fitted to the wall of the spring, but at the south the end of the lower course is bevelled to match the south wall (Fig. 97), with which it makes an angle of about  $145^\circ$ , and the upper course is notched at the end to fit around the corner of the block

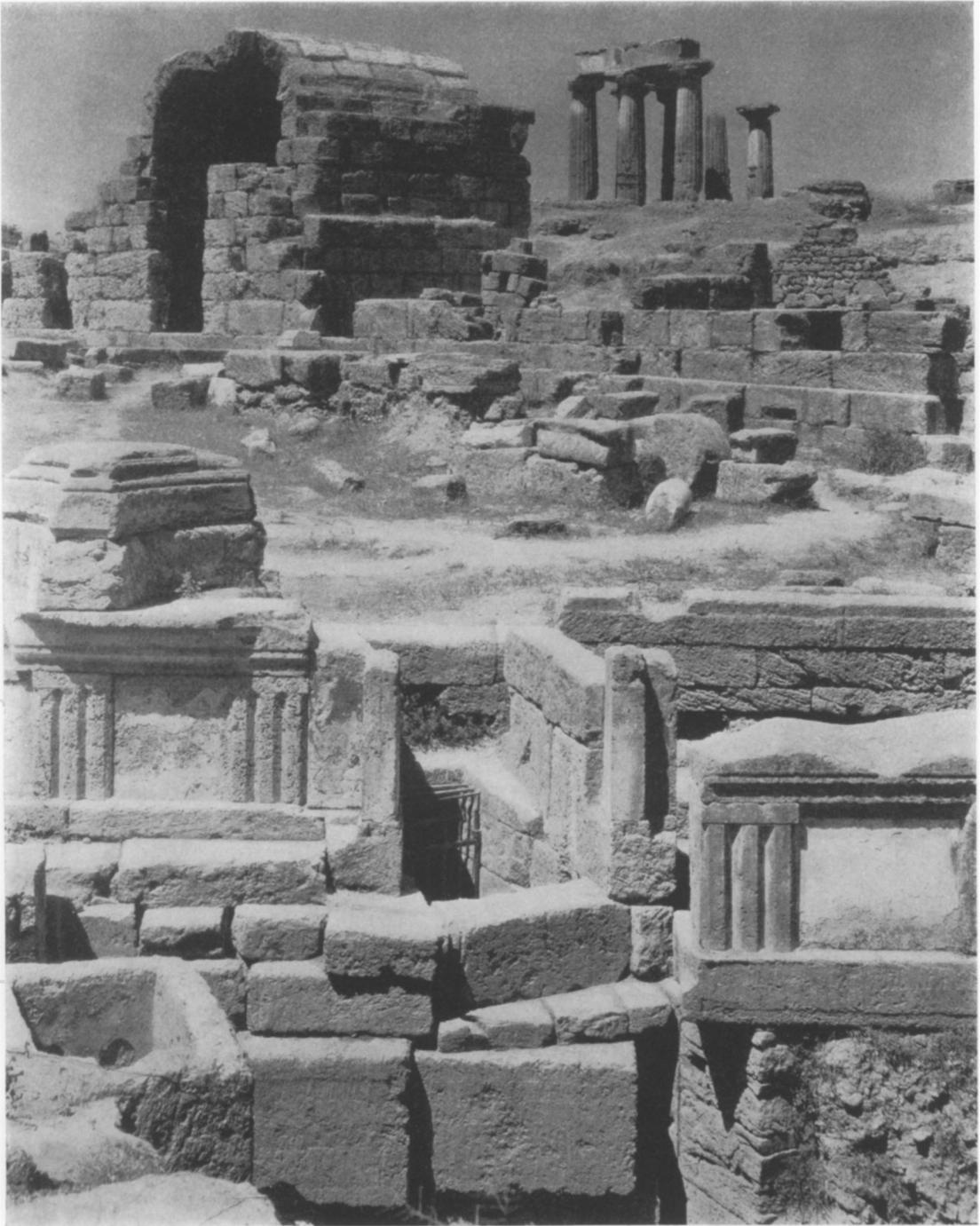


FIGURE 108. STEPPED ENTRANCE TO FOUNTAIN HOUSE

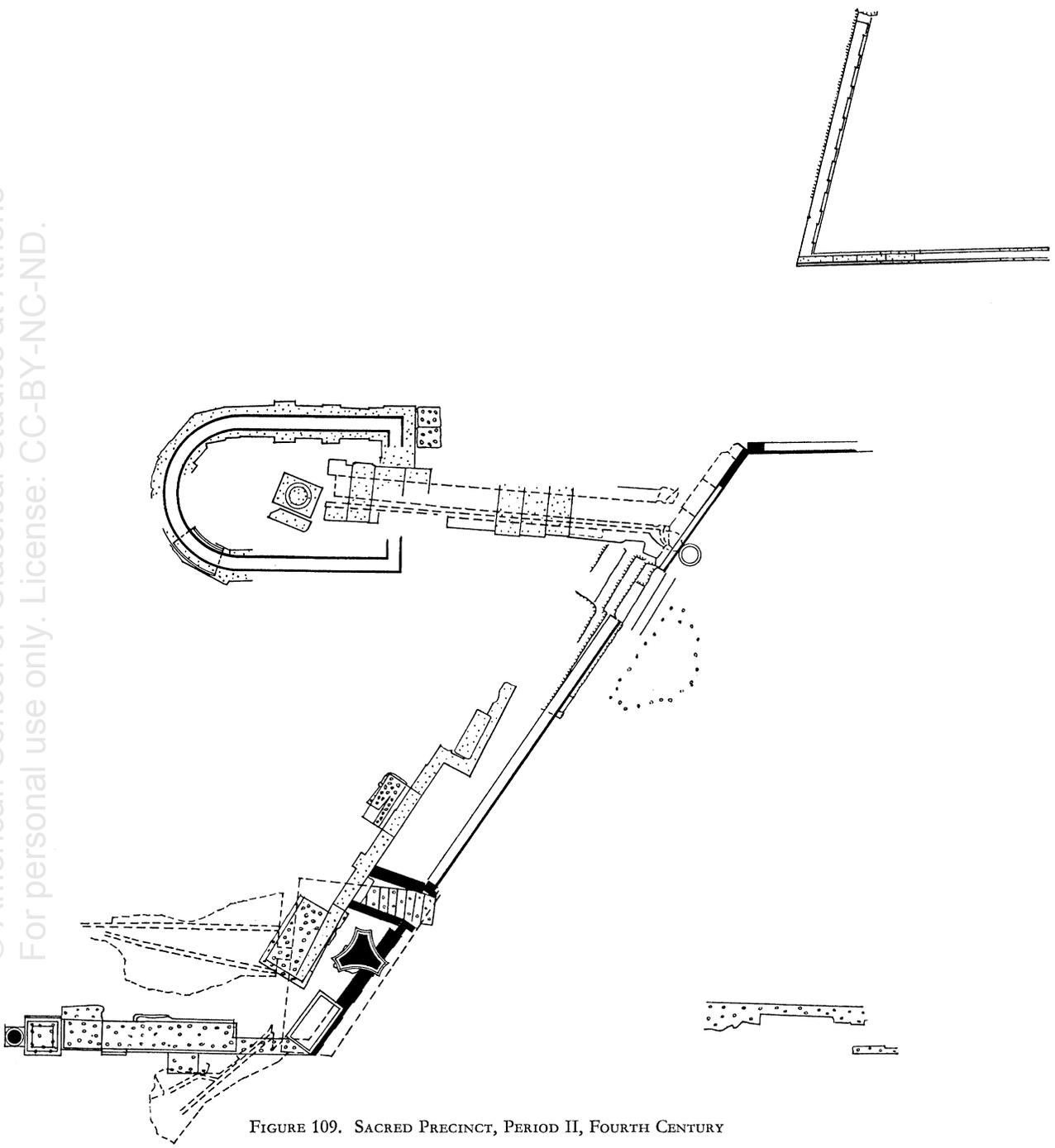


FIGURE 109. SACRED PRECINCT, PERIOD II, FOURTH CENTURY

of the south wall. The stones at the south end of both courses have apparently kept their full length on the interior. This corner is the only point in which pains have been taken to fit the blocks together. In the front wall the blocks have been set sometimes 0.003 m. or 0.004 m. apart, and the upper course at the north lacks 0.12 m. of reaching the corner on the interior, where the lower course is jammed slightly into the north wall. The curb belonging with the gutter at the south and north is cut away for this cross wall, while the cross wall itself is cut out to fit the lowest course of the north wall where it forms the northern curb of the gutter. The third course, which is made of smaller blocks, brings the wall to a height of about 1.90 m. where it supports the ends of stone beams that reach westward to the top of posts set rather irregularly inside the room. There are five of these pillars all differing in size and standing upon plinths which themselves also are dissimilar. Apparently the southernmost of these plinths is not in the place it occupied while supporting a post when the beams ran in a north and south direction, that is, across the room. None of the others has any relation to the original lines of the fountain. In the front wall between the beam ends are small blocks which are rather ill-fitted, including one from the west wall of the reservoir (above, pp. 156, 172 note 1).

No provision is now made for the automatic disposal of the water; both the channels by which in the first days of the fountain water had flowed out to the reservoir are now cut through by the front wall (Fig. 107). The amount of water flowing from the lion's head spouts must at the best have been very small but it was now probably very greatly reduced. It is likely that jars were set under the two spouts and allowed to fill in the interval between the times at which the water was needed for use in the temple. As in the long first period we find indications that two jars of water at a time were taken to the temple, so now we may suppose the old custom continued, one jar being filled from each lion's head.

From above the northeast corner of the room a flight of seven steps, no two of precisely the same length and all of varying rise and tread, leads down along the north wall (Fig. 109). The top step (Fig. 108) is at level — 9.45 m., which is 2.20 m. above the floor of the room. The steps are supported by a wall built up solidly from the floor (Fig. 98), and concealing the rather careless joint of the front wall with the north. The top step of this flight is at the level of the top of the beams. There stands at either end of this top step a post which in section is of elbow form (Fig. 108) the narrow side being toward the front, and away from the opening which constitutes the doorway through which the room below was entered. Though the evidence indicates that the fountain was used in this second form for a long period, perhaps even a century, it is nevertheless a fact that the steps down into it were more worn in the first ten years after its discovery than in the whole period of its ancient use. This of course only confirms the inference we had already drawn that the fountain was comparatively rarely entered. That is, it was a sacred fountain serving only special purposes.

### TRIGLYPHON FRIEZE II

In the second period of the fountain house the upper terrace was carried forward to a line determined by the face of Triglyphon III at the north, where the water from the altar in the temple poured out into the stone bowl. The whole line of the terrace was now adorned with a triglyphon

frieze moved here from other positions. The middle section (II; Pl. XVII, 2; Figs. 91, 94, 121) consisted of nine triglyphs and eight metopes of sufficiently early date so that we find them held together by Z clamps, as is also the coping that had been brought with them. This triglyphon is now in line 1.10 m. forward of the position we have indicated for it (Pl. XVII, 1, IIa), but the fact that it was earlier in the line indicated does not admit a doubt, for in the northern part of that line a bed has been cut in the rock upon which are to be seen pry-holes at just the right intervals from one another and from the northern door posts of the entrance to the fountain to admit of placing just this frieze there; and there may be seen, though not now so clearly as in the second year after they had been excavated and thoroughly washed by the rain without having been much washed away, white lines spaced as the metopes would be here and in the line they would occupy. As in the other case discussed above (p. 124) these lines can be due only to the restuccoing of metopes of a frieze which stood upon this rock bed. Furthermore there are to be observed on the north face of the door post against which it is proposed to place the triglyphon and on the south end of the triglyphon itself marks of chiselling precisely alike, the two places indicated for just the same distance, explicable only as made in fitting the triglyphon against the post. There is also, if further proof is needed, the fact that on the face of the southernmost triglyph (Fig. 108) at the south end of it (the triglyph which was itself, as is usual, painted blue) there is a vertical line of red painted stucco of precisely the character and color of the stucco and paint on the northern part of the doorpost. That the triglyph stood against the post at the time when this stucco and paint were applied to the post and that thus some of the stucco and paint went over onto the triglyph is not to be doubted.

This middle triglyphon exactly reaches the distance from the northern doorpost of the entrance to the fountain house to the north end of the rock cut bed (Pl. XVII, 1, 2). In this position it was about 0.08 m. higher than it is at present and, as already stated, precisely in line with the two other triglyphon systems which with it constitute the adornment of the whole terrace. Between the north end of this middle system and the northernmost section (III) there are the remains of a flight of steps two meters broad, partly rock cut and partly made of poros blocks (Pl. XVII, 1, 2; Fig. 72). These last have all disappeared, but their positions are clearly indicated by the beds cut for them in the conglomerate. The whole flight when completed had six steps and brings one down from the level at the front of the round-ended temple to that of the pavement on the rock before the northern part of the central triglyphon. This pavement is in character precisely similar to the broken-up pavement put into the road north of the precinct at the time of or immediately after the filling which buried the inscription (above, p. 127). This filling is identical in character and in fact continuous, except as it has been interrupted by deep-going Roman foundations, with that 2 m. deep at the front of the old spring and contemporary with the front wall and stairway of the fountain house, that is, a filling of reddish earth with some stone and very few potsherds or tile fragments (above, p. 174). Among these the latest are of the developed "fine" red-figured period in Attic ware with superposed white paint used in the rendering of female flesh. It is similar to the fragments found by Professor Rhoussopoulos about the grave of Dexeleos in Athens and the style is by general consent to be dated not far from the end of

the 5th century. A small amphora handle with the letters E K should be dated probably not far from the same period. It seems at any rate distinctly earlier than the Rhodian and Lesbian amphorae, a good number of which have been found about Corinth.

Above this red filling is one of fine gravel topped, as aforesaid, in the road and on the rock at the foot of the steps with a pavement of similar gravel in cement. This pavement probably continued along the front of the middle triglyphon to the entrance to the fountain and numerous fragments of the pavement were found in the filling immediately behind the triglyphon as it now stands and are certainly to be referred to the time of the setting forward of the triglyphon. That is, we may suppose this pavement, as would be necessary in the position we have assigned it, to have been cut through when the present bed for the triglyphon was set in place, and then the fragments to be used with other material in the filling behind. Some fragments of similar pavement were found also at the proper level to have been laid at the same time with the rest southeast of the old spring. Whether the fine gravel elsewhere constituting the same stratum was ever itself held together with cement so as to make the whole surface one continuous pavement does not appear. If however it was bonded together, the amount of cement used must have been very slight except in the three places named. However that may be, it would be natural that the real pavement should be provided in just these three places: in the road, of course; and along the front of the triglyphon connecting the steps to the spring with the steps to the upper terrace; while south of the old spring was clearly one of the important thoroughfares between east and west along the north side of the market.

The connection between the old spring and the temple is as clear for this second period (Fig. 109) as for the earlier one (Fig. 107). The flight of steps between the northern (III) and central (II) triglyphs led directly from the front of the temple to the paved terrace below, which as we have seen, extended southward along the middle triglyphon to the steps leading down into the fountain.

#### TRIGLYPHON FRIEZE I

Extending southward from the southern doorpost and in a line determined, apparently, with exactness by that of the northern triglyph, is a frieze of five triglyphs and four metopes 0.705 m. high (Pl. XVII, 1, 2; Figs. 108–113). This frieze rests upon a low basis or euthynteria which in turn is supported by the ceiling blocks of the fountain house. The base of the triglyph is at level — 9.02 m. A low wall extends back westward from each doorpost until it reaches the line of an earlier terrace (Fig. 108). These walls form the sides of a kind of hatchway. They are not aligned to correspond to the pre-existing wall beside the stairway or to the line of the triglyphon frieze with which they have connection, but are in a position that is a sort of compromise between the two. At the bottom the doorposts themselves are keyed into projecting blocks of the walls of the hatchway. The doorposts are stuccoed, the narrow projecting eastern part and the inside faces white, the east face of the north and south projections red of a peculiarly permanent quality (Pl. XVI; Figs. 108, 110, 111), unlike all other colors found in these excavations and fading extremely slowly. The color appears to be in the stucco rather than applied upon it.

The frieze south of the doorway (Figs. 108, 110, 111) is of the regular classic proportions and is made of blocks about 0.46 m. thick and 0.70 m. high, each consisting of a triglyph at the north and the metope adjoining. They are fastened together by means of dovetail clamps of lead, or rather clamp cuttings of the dovetail form have been filled with lead to join the blocks together. The southernmost block of the row is specially cut to fit the angle (Figs. 112, 113) of approx-



FIGURE 110. TRIGLYPHON FRIEZE I, SOUTH OF ENTRANCE TO FOUNTAIN HOUSE

imately  $145^{\circ}$  at the time of the adjustment of the fountain to the line of the terrace, and the frieze continues westward from the corner some 6 m. Above the frieze is a coping 0.405 m. in height and projecting 0.17 m. beyond the abacus of the triglyphon. This coping<sup>1</sup> or geison (Pl. XVI; Figs. 110–113) consists of a plain vertical band, 0.06 m. high, a simple concave moulding and a flat band tilted back somewhat from the vertical, together 0.082 m. high. They are surmounted by a vertical band 0.128 m. high, above which is the cornice proper 0.075 m. high and projecting 0.105 m. This coping turns at the southeast corner with the frieze (Figs. 112, 113). It is made of blocks held together by lead clamps of the double-T form, as may be seen on the south side where one of them is preserved with the cutting for a second at the corner.

The greater part of the eastern section of this coping was removed in preparation for the placing of a great basis over the southeast corner of the fountain (Fig. 114). The southern section

<sup>1</sup> *P.G.M.*, p. 102, pl. L, 19.



FIGURE 111. TRIGLYPHON FRIEZE I, DETAIL OF SECTION ADJOINING STAIRWAY JAMB



FIGURE 112. CORNER OF TRIGLYPHON FRIEZE I

of coping still bore its color when found in 1900 (cf. Pl. XVI), the lowest band being red, the second decorated with the Doric leaf pattern familiar on the hawk'sbeak moulding of the Doric order, the colors being red, yellow and blue. The broad band above has a carefully painted yellow



FIGURE 113. CORNER OF TRIGLYPHON FRIEZE I, SHOWING PAINTED PATTERNS ON COPING

maeander upon a blue ground with enclosing red squares within which is a blue and yellow checkerboard pattern. It is a double maeander and at the intersections the yellow is replaced by a red square.<sup>1</sup>

<sup>1</sup> See *A.J.A.*, VI, 1902, pp. 310-311, fig. 2, pl. 9. It should be observed, however, in connection with plate 9 that the colors as found were brighter than they appear in the reproduction except the blue which was very much darker. In this system the triglyphs were, according to the usual rule, blue, the abacus of the metope also blue, and the metope itself white. On the basis of insufficient evidence the metopes shown in plate 9 are colored red. It is certain that these metopes were not generally colored and there are clearly to be seen on the southern metopes many coats of white stucco with nowhere a trace of color. The slight traces of color found by the excavators in 1900 on some of these metopes had doubtless come from the red on the lowest band of the coping above. It is certain that wherever color is applied over stucco, renewals of the stucco are very infrequent. No renewal at all can be distinguished in the blue of the triglyphs, and in the pattern of the coping above there seems to be evidence of perhaps two renewals of the yellow paint. The narrow band of red that forms the lowest part of the running course of the coping and the abacus of the metope show no renewal of stucco. On the other hand, on the metope itself there have been counted as many as seven to ten renewals of the stucco. It should, moreover, be remarked that if the metopes had been red it would be a departure from the regular rule of Doric polychromy in which metopes are colored when they form the background for sculpture and not otherwise.

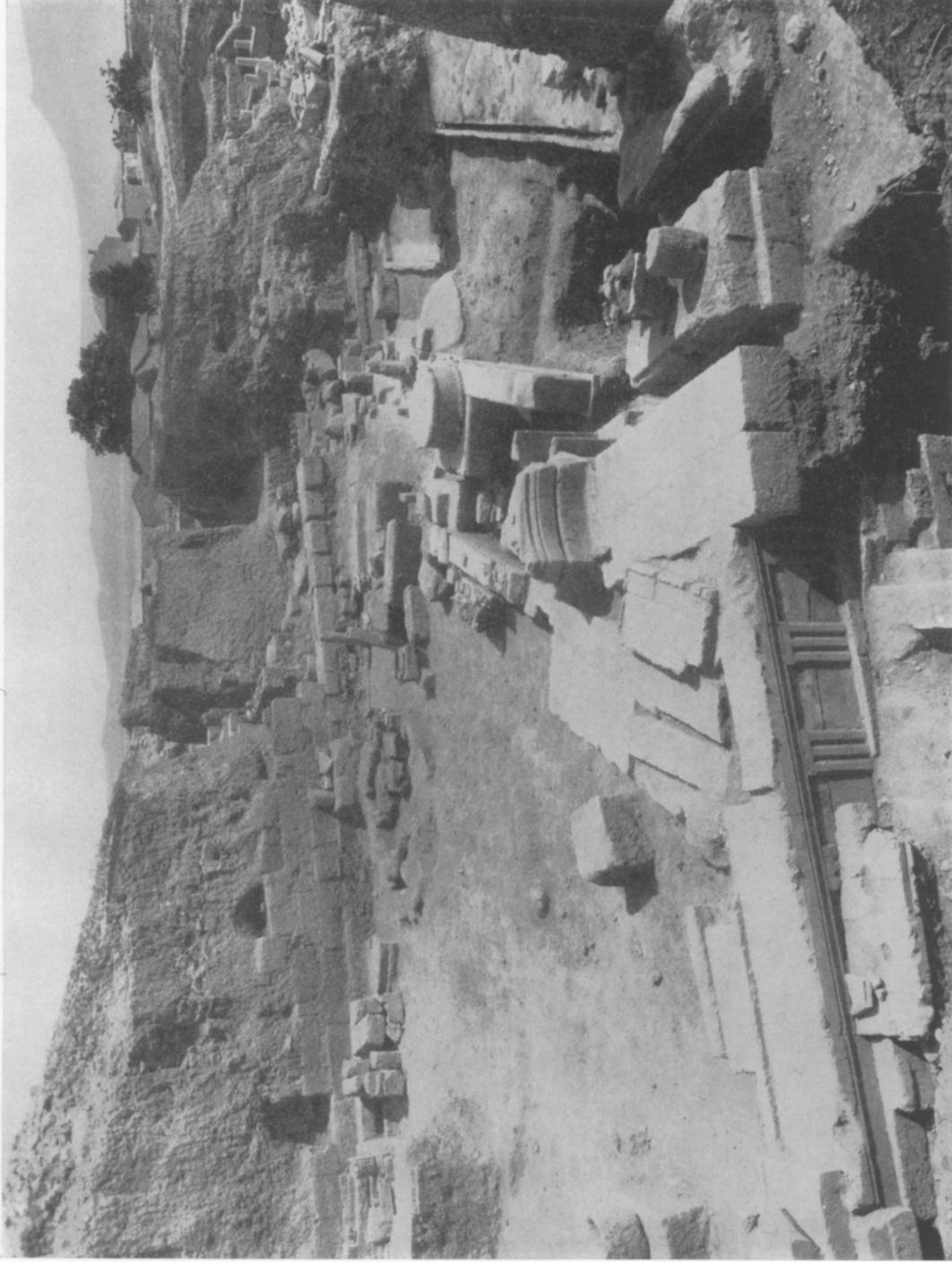


FIGURE 114. TRIGLYPHON FRIEZE ON SOUTH SIDE OF PRECINCT AS FOUND IN 1901 WITH LARGE BASE OVER SOUTHEAST CORNER

The cornice over the frieze is of a form that absolutely excludes its coming from any part of a Doric building, and Corinth furnishes so many instances of Doric friezes used in the decoration of terrace walls, even where they constitute practically the whole wall as they do here, that we may have no doubt that this frieze was made for a place such as this if not actually for



FIGURE 115. BASES IN LINE WITH SOUTH TRIGLYPHON FRIEZE, JOINING IT AT THE WEST END  
(Lysippos Base on base where found)

this very place. The corner block of the frieze with its two triglyphs at an angle of  $145^\circ$  with one another was clearly cut for its present position (Figs. 112, 113). South of this westward extension of the terrace the ground rises so close to it that at a distance of 4.75 m. from the corner only the coping with its mouldings continues (Figs. 114, 115), and those are without the pattern. It may be doubted whether the frieze continued of full height as far as this, though a little of the top of a fifth triglyph of the system is visible. Only the abacus and the top of the grooves of the fifth triglyph are now visible, since a paving slab set against the terrace conceals the whole lower part of the westernmost triglyph (Fig. 115). It is probable that originally the ground level ran along the base of the frieze to the fifth triglyph and at that point rose by means of three steps nearly to the top of the frieze. To the west the system ends against a single block 0.80 m. broad, the south edge of which is cut in a manner exactly to continue the outermost face of the coping.

This southern line of the terrace was not determined exactly by the earlier lines of the spring, which would have given it a direction rather more north of west.<sup>1</sup>

In addition to the evidence indicated above in the character of the filling in front of the fountain house concerning the date of its transformation there are two further facts to be noted. First, there was found close south of the old spring and near the triglyph frieze in such a position as to show that it came there after the frieze was in its present position a silver coin of Corinth dating from about 400 B.C. Further among the bases west of the fountain clearly set in their present positions after the transformation is one bearing the signature of Lysippos (below, pp. 186–187). All the facts taken into consideration, it seems most probable that the transformation of the fountain occurred during the first half of the 4th century B.C. It continued still to be used until the pavement in the road at the north had been more or less broken up and renewed and until there had been a removal of the surface in the area southeast and two changes in the sloping pavement immediately south, the first of them preceded by the last two renewals of the stucco on the metopes of the frieze and the last change succeeded by a half dozen at least of such renewals. It was probably toward the end of this period, perhaps at the very end, that the middle section of the triglyphon frieze (II) was moved forward 1.10 m. in order apparently to give a prominent place to the tripod which rested on the round basis 5 m. north of the spring (Fig. 94).

#### BASES WEST OF SOUTH TRIGLYPHON FRIEZE

Directly west of the block which formed the end of the south line of the old fountain terrace are three bases fitted close together (Fig. 115). Of these the westernmost (Pl. XVII, 1) is earliest. It is an unfluted column 0.47 m. in diameter with a cyma reversa moulding, 0.0575 m. high and showing traces of a painted leaf pattern, at the base resting upon a cylinder 0.625 m. in diameter and 0.185 m. high. This cylinder rests upon a plinth 0.64 m. square which is only roughly finished. The circular part of the base, however, is very smoothly finished and covered with a fine white stucco. The total height above the plinth of the base is 0.79 m., the top having been broken away and the present top worn from exposure. It is not unsafe to conjecture that this small base supported a tripod. The stucco on its side cannot have been applied after the bases next to it on the east were put in place. Furthermore the level required by this small round base is some 0.15 m. lower than that belonging to the base next east of it. That one is in its general character very similar to the block ending the old fountain triglyphon system, and, like that, clearly earlier than the base crowded between the two (Pl. XVII, 1; Fig. 115). This last continues a long base set into a bedding cut 0.06–0.08 m. deep in the coping of the triglyphon and beginning 2.58 m. west of the corner. One block of the course set in this bed is in its place at the west end, adjoining the last mentioned block. It shows that the base crowded in next west of it was not an original

<sup>1</sup> The line may have been determined by a large base or perhaps altar, the foundation course of which remains in its place 36.5 m. to the west. It consists of five blocks fitted with the greatest nicety and held together by dovetail clamps which were of wood and have now disappeared. The second course upon this foundation was 2.10 m. in length and 1 m. broad, the longer side being the eastern. It is certain that the foundation, whether of a base or altar, is older than any of the bases in the line between it and the corner of the fountain (Fig. 122).

part of the long base above the coping, for it may be observed that the original western end of this long base No. 6 has had its rim cut in order to give a place for the second course of base No. 7 which was also some 0.17 m. wider than No. 6, and that its bottom course appears to have been cut on its western face to allow the placing of base No. 7. It is further to be observed that No. 8, the general level and character of which show that it belongs with the block at the west end of No. 6, has been cut away evenly on both western and eastern faces. It is possible that this base No. 8 stood originally midway between the western end of No. 6 and No. 9 and that subsequently, but still of course within the same general period, it was transferred to its present position. The ground level is practically unchanged. The large base No. 7 was inserted between Nos. 6 and 8, the latter having been (no doubt to make room) set as far west as possible against No. 9 and having been made narrower by cutting off two faces, and the west end of No. 6 having been cut away also to give more room. There was found, top side down upon base No. 7, a block of black limestone 0.72 m. wide, 0.71 m. deep and 0.295 m. high, which bears in well cut characters of the fourth century the inscription  $\Lambda\upsilon\sigma\iota\pi\pi\omicron\varsigma \acute{\epsilon}\pi\iota[\acute{\omicron}\eta\sigma\epsilon]$  (Fig. 116).<sup>1</sup>

The excavators in setting the stone upright simply tipped it over to the east where for many years it rested in the bed of base No. 6. That bed, being 0.76 m. wide, is made for a third course not less than 0.75 m. in breadth, and it seems practically sure that this slab, which is only 0.71 m. in breadth, cannot originally have stood in this place. The Lysippos block bears on its western and eastern ends bosses which show that it stood free. There is no doubt that base No. 6 in the third course was a long continuous line with the blocks matched against each other. Base No. 8 has a bedding 0.98 m. from north to south, 0.99 m. from east to west, and 0.315 m. deep. About the edge of the bed are remains of brown cement which is about 0.005 m. thick where best preserved. Along the lower edge of the Lysippos block there are traces of precisely similar cement in a band about 0.02 m. to 0.03 m. wide. The Lysippos block, as already stated, measures 0.71 m. from front to rear and 0.72 m. in breadth. Its length is therefore 0.27 m. less than the north to south length of the bed of base No. 8. If we suppose, then, that a block 0.98 m. was fitted into the bed of base No. 8 and had cut in its top, at a distance of 0.125 m. within the edge, a bed for the next course above, namely, the top course, the bed would be 0.73 m. by 0.72 m., which is, allowing for cement, the size required for the Lysippos block. The disappearance of the middle block of the base while the top one was preserved is not difficult to explain. The builders of Roman Corinth did not anywhere, so far as we have discovered, use for building purposes heavy limestone such as that of which the Lysippos block is made. We may suppose that workmen coming here for blocks simply tipped the black stone block off to the east where it was found wrong side up on base No. 7 and then removed the middle course of base No. 8 which was suitable material for their purpose. The lower course, like the lower blocks of other bases here, escaped because it was deeply bedded in the earth and not easily removed. On this theory we must suppose that the upper blocks of bases No. 6 and No. 7 had been removed before the searchers for building material reached base No. 8. [The limestone block with the inscription has now (1961) been set

<sup>1</sup> *Corinth*, VIII, i, pp. 38–39, no. 34.

again on base No. 8 where it undoubtedly originally stood—Ed.] That base No. 8 bore a bronze statue by Lysippos may be accepted as certain. As has already been suggested, the probability is that this base was set here after No. 9, and after or in connection with the change in the old spring and the putting in of the triglyphon frieze.



FIGURE 116. BASE INSCRIBED WITH SIGNATURE OF LYSIPPOS IN ORIGINAL LOCATION  
(ORIGINAL MIDDLE COURSE OF BASE MISSING)

Next to the west beyond No. 9 (Fig. 122) comes the lowest course of the base which, judging from its level, is clearly much later than Nos. 6 to 9. The pavement of crushed stone that belongs with bases Nos. 6 to 9 is preserved 0.25 m. below base No. 10. The base itself is smooth on the top only and rough at all edges, that is, it was at ground level, the level being  $-7.45$  m. No. 11 is preserved in two courses, the top being of three well-matched blocks joined with hook clamps. Its level is  $-7.55$  m., 0.10 m. higher than the contemporary pavement, a bit of which is preserved immediately to the west. This base shows clearly the lines of the course above, which was 1.59 m. in length east to west by 1.48 m. in breadth. Its orientation slightly out of line, the use of the hook clamps, and also its level suggest for it a date somewhat later than that of the base immediately west of the fountain. No. 12, on the other hand, which is 2 m. further west, is set exactly in line with the south triglyphon and the bases immediately west of it. It was a three-stepped base of which two courses cut in a single block are preserved, the upper 0.75 m. square, the lower 0.87 m. The upper course has a drafted lower edge with small vertical cyma reversa mouldings at the corners. The top block of the base was held by two dowels, indicated by the cuttings in the top of the second course. The foundation of two blocks was un-

necessarily large for this stone and of course at ground level or lower. The base next west, No. 13, which is similar to the foundation of No. 12 but 0.25 m. higher, is, judged by its level and by the fact that the foundation of No. 12 was cut in placing it, later than No. 12 and belongs presumably to the same period as No. 10. Three meters farther west, at a distance of 22 m. west of the corner of the triglyphon of the old spring and somewhat south of its south line, begins a series of seven bases which extends in a straight row toward foundation No. 21. Since these bases are preserved only in their foundations, and since there was almost no difference in level at the various periods in this region, there is very little indication of their relative dates. It is, however, unlikely that they are earlier than the transformation of the old fountain, since the orientation of the southern triglyphon of that time seems to be determined by base No. 21 and not at all by the series Nos. 14–20. Moreover one of the bases, No. 18, has in its own character some indication of date. It is of two blocks bound together with hook clamps. Since the clamps used in the transformation of the old fountain are either of the double-T form or of the smaller dovetail form, this base with the hook clamps is doubtless later. The bases Nos. 14–20 are set close together at distances varying from only 0.13 m. to 0.74 m. As the westernmost, No. 20, is 2.50 m. distant from the foundation No. 21, it is evident that a passage has been left between them. The position of No. 13, crowded close against No. 12 and 3 m. away from No. 14, shows that an open space must have been left here also.

The row of bases extending from the corner of the triglyphon over the old fountain to the base No. 21, which is 36.5 m. away (Figs. 66, 94, 122), may be accepted as the southern boundary of the precinct of the apsidal temple and the fountain, with a passage along the south side and entrance to the precinct between the bases Nos. 13 and 14. All these bases belong, judging by their level and their character, to the Greek period. Beyond No. 21 is an entirely open space.

The northern boundary of the sacred precinct was in Greek times, or in later Greek times at any rate, the Northwest Stoa, before the construction of which the boundary was probably only the rather sharp slope of the Temple Hill, supported perhaps at the base by a terrace wall. Within the precinct there remain from Greek times (*Corinth*, I, pl. I; I, ii, pl. VIII), besides the apsidal temple, only a well and a circular pit cut in virgin soil some 6.50 m. west of the apsidal building. This pit was 1.50 m. in diameter at the top, and 2 m. at the bottom, and about 1 m. deep, the bottom being level. It contained, apart from earth and stones, a quantity of vase fragments not in the usual Corinthian style, of which the best parallels are to be found in the Museum at Syracuse.

The well already mentioned is 4 m. southwest of the pit. At a distance of 1.50 m. north and slightly east, is a plain cylinder of stone 0.75 m. in diameter, the top of which is cut into the form of a shallow bowl. Set in a cutting in the hardpan directly west of this and distant 3.50 m. is a single foundation stone 1.25 m. in length, 0.32 m. in width, which we may imagine supported either a statue base or a small altar. There is a trench 7.50 m. long, 0.80 m. wide, and about 0.90 m. deep, running in a direction slightly west of north at a distance of 6 m. west of the block. Since it clearly had been filled before the construction of a very early Roman wall which passes over it, this trench may also be counted as one of the Greek remains in this area.

## BASE AT CORNER OF TRIGLYPHON FRIEZE I

The ground level at the southeast corner of the old fountain rose after a time to about halfway up the frieze, and a sloping pavement was put in, the lines of which appear plainly on the metope on the south side (Figs. 112, 114). The only indication of the length of time during which the ground level remained at the foot of the triglyphon is the fact that the easternmost of the southern metopes was several times stuccoed all the way to the bottom. Above this sloping line of pavement



FIGURE 117. EAST SIDE OF CORNER OF TRIGLYPHON FRIEZE CUT AWAY TO RECEIVE BASE

the stucco was renewed many more times and was sometimes of thicker variety than that employed earlier. These observations were made next the corner, since the corner block was obviously made for this place as is shown by the angle at which its two faces meet. The next metope of the south line shows many more renewals of stucco in its lower part, but it is to be inferred that several of these occurred prior to the placing of the frieze in its present position. Beyond the western end of the triglyphon it has not been possible to distinguish levels corresponding to the two periods that we have just described. In other words, toward the west was no considerable change of level. Probably with the putting in of the upper pavement there was simply a redressing of the surface farther west. Still later the whole region was filled in with red earth which brought the ground level up nearly to the top of the coping over the triglyphon. In this period the coping was greatly worn away, apparently by the passing of feet. A little east of the corner (Figs. 64, 114) two bases, of which the foundation and euthynteria are preserved, belong

to the time when the ground level was near the top of the coping. In that period, though probably rather later than the two bases just mentioned, a large base some 3 m. long and 2 m. wide (Figs. 114, 119) was built upon the corner of the fountain, a part of the coping being removed to make place for it, and the upper 0.025 m. of the frieze cut away in a line running approximately north and south. In spite of the rather rough treatment of the triglyphon frieze and its coping, this new base was fitted with considerable regard to the frieze; its southwestern block (see Figs. 114, 117) was cut away on the lower side so that it might fit down upon the top of the frieze after the coping had been removed, and the northeastern block was treated in like fashion. When these blocks of the base were cut in this manner it was doubtless intended that they should be set upon the triglyphon without making it necessary to cut it at all. The line, however, was not quite correct and since the triglyphon was quite underground and its mutilation was therefore of no particular importance, it was cut in order to avoid more work upon the adjustment of the heavy blocks that were to be placed above. In May 1902 three blocks of this great base were removed to a point slightly to the southeast, where they were arranged in their original relation to one another (Fig. 118).

Their removal revealed the fact (Fig. 112) that a block of the cornice which had been displaced to make room for this great base had simply been set back half a meter, and although it is preserved at both ends, a little more than half of its face had been cut off obliquely, and at the same time the northwest block of the great base had itself been cut so as to leave place for a base that rests upon the cornice as set back (Pl. XVII, 1, No. 5). The base on the cornice, which is made of three blocks bonded with hook clamps, is 0.98 m. broad and 1.80 m. long, its height being only 0.20 m. This is not the complete base, but merely its lowest course, into the top of which a bed is cut to receive the second course. Underneath this base the cornice block, which as already said was once used on the eastern line of the terrace, shows a well cut bedding, extending for 0.405 m. from its south end, and thence to the north end a roughly cut bed. The latter undoubtedly belongs to the time of the setting back of the cornice; the former, the good cutting, to a time long previous, when this block of the cornice was in its original place. The base that now rests on this cornice is obviously, to judge from the character of its clamps and its general style of cutting, considerably earlier than the great foundation set into the corner. It belongs doubtless with the original cutting in the top of the cornice block. In other words, the cornice and the base were set back together to make way for this new large base. The original position of the base on the cornice may be determined very closely. After the cornice block is set as far north as the available space will allow (that is, abutting on the south end of the cornice stone preserved under the tripod base No. 3, so conspicuous in this area), and after the base that was upon it is set in the place indicated by the good cutting (that is with the north end of the base 0.405 m. north of the south end of the cornice block), the south end of the base will reach to about 0.20 m. from the corner of the terrace. Now the southern part of the corner is preserved and shows little wearing as compared with the section farther west, indicating that it was protected while the other part was exposed, and the probability is that this base extended from far enough south, to overlap the present southern part of the corner by some 0.15 m. That would bring the north

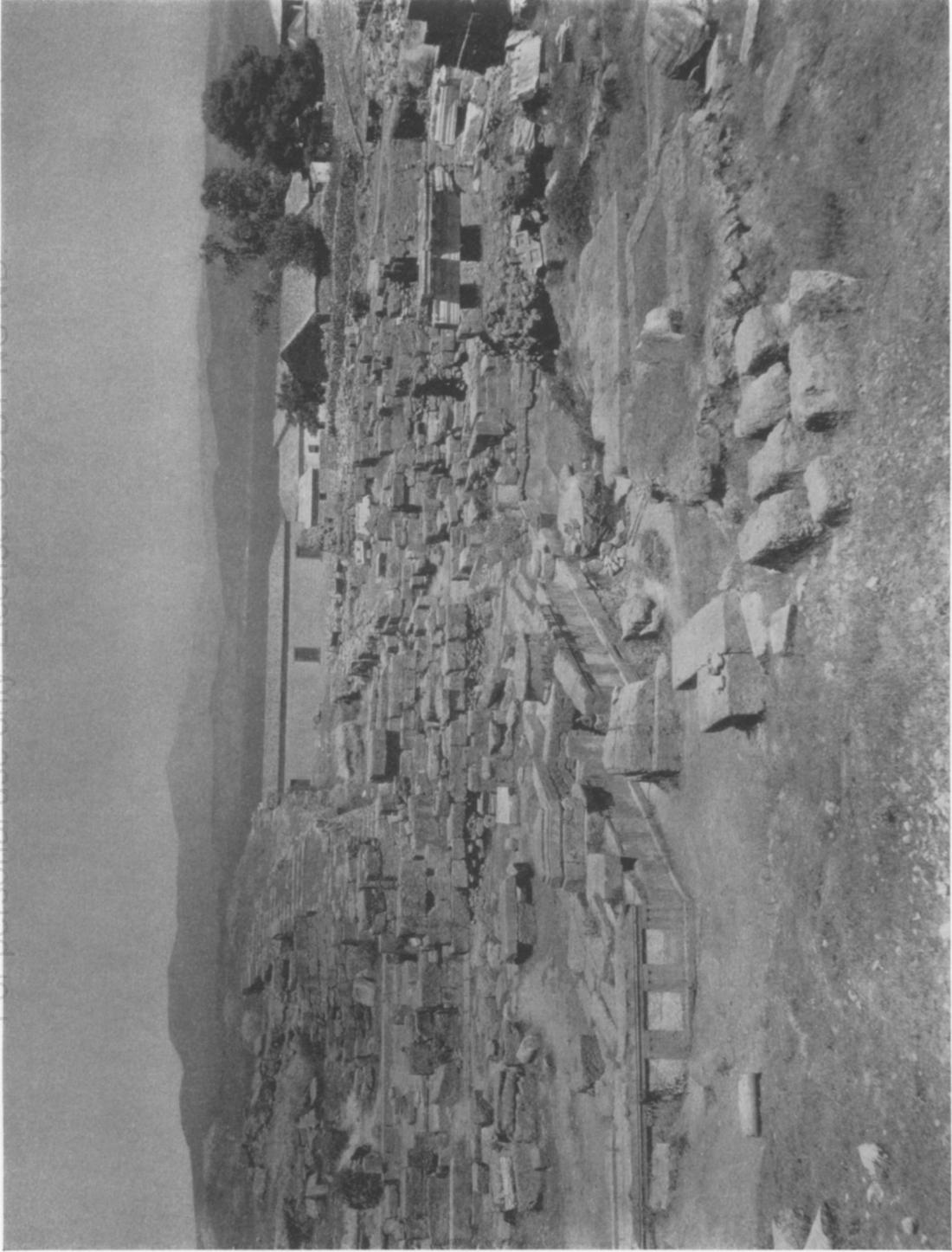


FIGURE 118. SACRED PRECINCT FROM THE SOUTH

end of our cornice block of the east line about 0.18 m. short of the existing south end of the cornice block under the tripod base. There is actually in the top of the triglyphon course a scratched line which may indicate the joints between the blocks of the cornice, but it should be observed that the cornice block under the tripod base has not its original southern end, that end having been cut away in making place for the great base on the corner of the fountain. The large base (No. 4) for which the foundation exists directly west of the tripod base was clearly in position at the time that the smaller base was set back from the corner. From the southeast corner of this foundation an angle has been cut to give room for the smaller base, but the foundation of the larger base is cut back only to the line of the course next above, which line is clearly marked on three sides of the top of this foundation, showing that the base was 1.38 m. in width and 2.55 m. in length.

The careful adjustment at the time of the setting of the great base on the corner of the fountain (Fig. 119) and the respect for the two bases already existing (one being moved back and the foundation of the other cut slightly to receive it), make it certain that the great base cannot have been set here later than Greek times, since the small base that was set back is unmistakably Greek and there would have been no occasion for Roman builders to show painstaking regard for old Greek bases from which their statues had been carried off. Now by the time when this great base was placed on the corner of the fountain the ground level by the door leading down into the fountain was obviously too high to allow ingress. In fact the hatchway had been carefully closed, and the excavators in 1900 found a line of poros slabs laid across the opening even with the top step. That is to say, at the time of the filling that brought the level approximately to the top of the triglyphon the old fountain was carefully buried. That such care would be taken only by its friends goes without saying, and the burial must have occurred in Greek, not in Roman times.

#### WATER SUPPLY OF LATE GREEK PERIOD

We have inferred, from the connection of the old spring in its early period (Fig. 107) by means of stairways and an intermediate terrace, that there was communication between the fountain and the apsidal temple and that the fountain supplied the water used in that building in the early period while the water was still drawn from the reservoir in front of the fountain. After the putting in of the oblique wall across the front of the fountain and of the hatchway leading down into it (Fig. 109), the terrace that comes up level with the top of the hatchway was still approached by means of broad steps at the north end of the triglyphon II, east of the apsidal temple. The same old fountain during this second principal period (Fig. 109) had connection with the apsidal temple, but finally, as we have seen, the old fountain was buried, and the little water that ran from the mouths of the bronze lions trickled down the wall and formed a very thick deposit of lime which is still to be seen there. A filling of red earth which upon exposure to rain and sun assumes a cork-like appearance was laid through the whole area from the road south beyond the spring. The new surface had an approximately uniform grade upward from the road, the level of which at the curb by the inscription was changed very little up to the top of the triglyphon over the spring (I). The entrance to the fountain house was covered over with stone slabs and

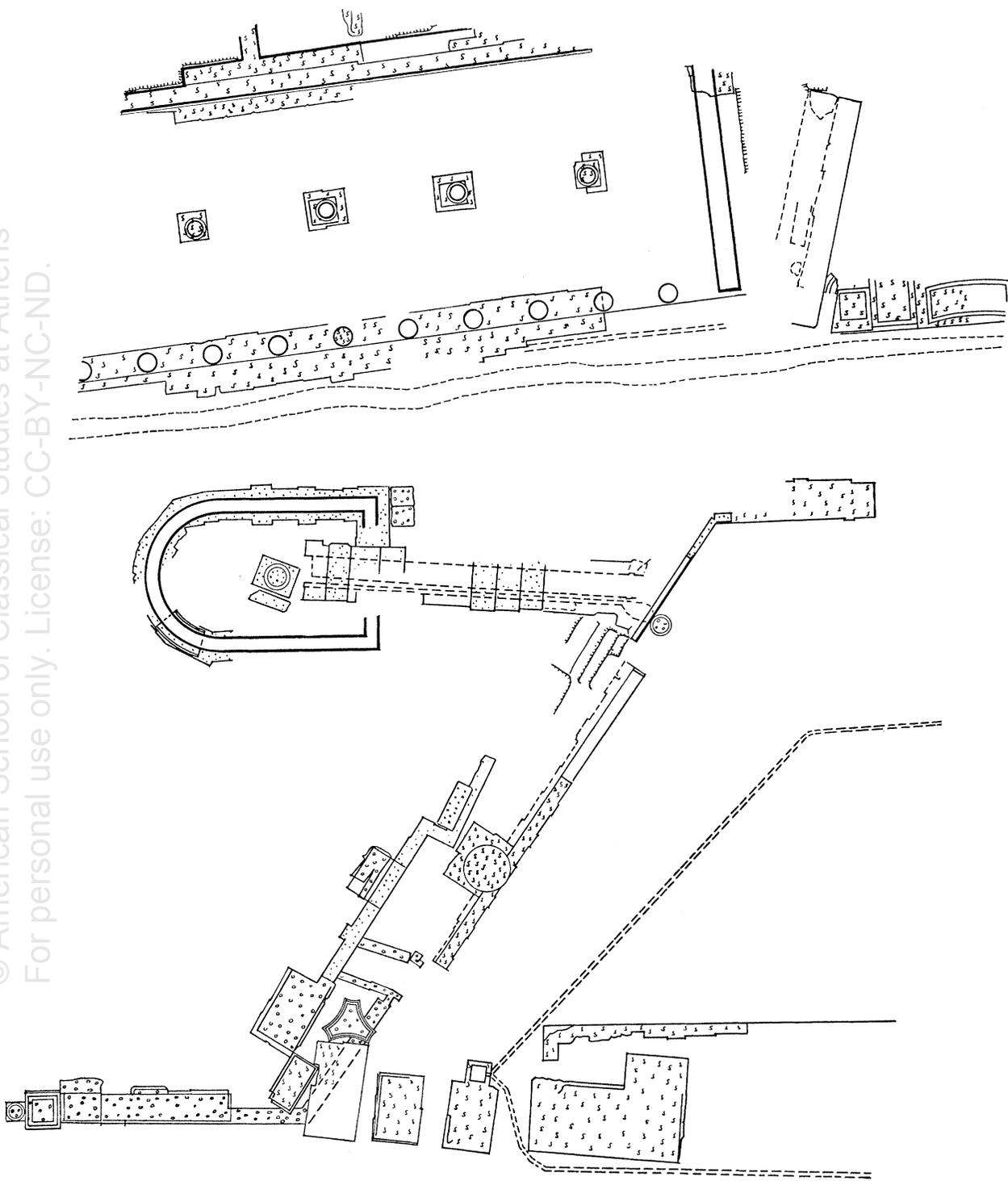


FIGURE 119. SACRED PRECINCT, PERIOD III, LATE GREEK

the house never again entered until May 21, 1900. This burial, as stated above, occurred in Greek times when it is to be presumed that the apsidal temple was still making use of water.

The water was now supplied in a square basin 2.50 m. from the entrance to the fountain house and directly above the old reservoir, though quite possibly the builders of the new basin did not know of its precise relation to the one that had been buried a century or so. The second of the large bases (No. 32) just east of the corner of the triglyphon (Figs. 114, 119) has at its north side a basin (Figs. 91 and 94, left, 99, 108, 119, 120) 0.50 m. square and at present about 0.54 m. deep. Water was brought to the basin in a stone conduit (Figs. 119, 120) about 0.15 m. square in section on the inside, the separate sections cut in blocks of various lengths some 0.35 m. wide and about 0.30 m. high. The channel is lined with waterproof cement which is also freely used in the joints. It has a grade of about 1%. It has been traced some 25 m. toward the east.<sup>1</sup> The overflow from the square basin is carried off by a water channel (Figs. 119, 120) similar to that which brought the water down to the basin. It is the same channel (C) of which we have seen a small part in the region northeast of the basin and south of the roadway (Pl. XVII, 1; Figs. 67, 86; above, p. 147) where it turns east and is lost against the foundations extending northward from the west end of the Propylaea. It was cut through by the builders of the Façade of Colossal Figures (Pl. XVII, 1, no. XIV; Fig. 67). This section of the channel differs markedly in one particular from those above the basin; instead of having a grade of about 1% the descent is of about 10%. It does not, therefore, like the upper part, follow the ordinary rule for supply channels of any considerable extent, namely that they should have a very low grade that the water may come as clear as possible. This means that the channel running down to the northeast simply takes the overflow as rapidly as may be either to a drain or to some less important use than the square basin serves.

The south end of section II of the triglyphon frieze (Pl. XVII, 1; Figs. 119, 121) just north of the old door into the fountain, is worn deeply by passing feet (Figs. 67, 94, 108). This wearing is in the direct line between the apsidal temple and the square basin.

It will be observed that all this constitutes a very elaborate system whereby a small quantity of water is delivered close to the supply used for a number of centuries, and this comes contemporaneously with the cutting off of access to the old supply. Only one inference is possible; the square basin was built to take the place of the old spring now ceasing to be used. The careful burial of the fountain house quite intact is, though none is still needed, further evidence that the fountain was sacred and this elaborate arrangement for supplying water at practically the same point as it had hitherto been supplied by the fountain is again further evidence that the supply is essential just here. The connection in this period with the temple which makes use of water is as clear as heretofore. The temple servants could simply walk now in practically a straight line from the door of the temple to the square basin passing just behind the round tripod basis

<sup>1</sup> Hill's notes refer to a channel of similar construction and pitch and appropriate level which was noted in the excavations of 1905 and 1907. From these traces, which however do not positively join with the section nearest the basin, he suggests the possibility that the water source may in this later period have been somewhere near the western limits of the Agora.

(Fig. 121) and across the south end of the middle triglyphon system. The wearing there and on the tops of the door posts of the old spring is probably mainly due to the later periods, those of the century of desolation and the earliest Roman reoccupation of the city (below, p. 197), but the beginning of it may well be attributed to the time when the temple servants drew water from the square basin.



FIGURE 120. BASIN FOR WATER SUPPLY OF SACRED PRECINCT IN LATE GREEK PERIOD, WITH CHANNEL C

At the time of the placing of the basin some sort of statue or monument was erected close south of it on the large basis (No. 32) with which the basin is connected (Pl. XVII, 1; Figs. 114, 119). Very closely contemporary if not absolutely contemporary is a basis (No. 33) of like character and like dimensions between the one mentioned and the corner of the old spring's south triglyphon. From here down northward to the road is a fairly rapid descent as indicated by the grade of the water channel (C) leading from the square basin and as may be very clearly seen still in the face of the middle triglyphon system where the stucco on the metopes is more or less preserved where it was protected by the earth while on the upper part exposed during the period under consideration there are abundant signs of weathering. South of the basin the area, though it sloped up southward, was much more nearly level. The two sections, the level southern one, the sloping northern, were separated by a low terrace wall (VII, Pl. XVII, 1) about 3 m. north of and parallel with the northern section of the supply channel bringing water to the basin. Only a small section

of that terrace wall is preserved at the east end of the great basis (No. 31) east of the basin (Pl. XVII, 1). This basis (Fig. 119) is later than the basin and the aqueduct connected with it, though there is nothing to indicate that the interval of time between the construction of the two is great, and with this large basis belongs a terrace wall (VI, Pl. XVII, 1) about 1.50 m. north of it which may be traced eastward to the region of the Propylaea while it extends only as far west as the great base itself which it turns south to meet (Fig. 119).

This terrace wall, and so presumably its immediate predecessor, along with the basin by the fountain, serve to separate the area north of them, that in which the basin actually is, from the broad open level space to the south which in Roman times we know to have been the market place and which in all probability was the same in Greek times.

Concerning the date of this last change in the precinct of the old spring, we have little evidence of time from the filling, since it contains extremely little and that of an absolutely indecisive character in the way of vase and tile fragments (little more can be said of them than that all are Greek and none necessarily later than the 4th century). If, however, the most probable explanation of the source of the filling of the time be accepted, we should have a date late in the 3rd century for those changes. The filling is a red earth all but absolutely clear, which as already remarked assumes a cork-like texture and appearance after exposure to sun and rain. Now the great bank of reddish hardpan on the south side of the Temple Hill where it has been cut into by the builders of the Northwest Stoa is material of an absolutely identical character with the filling in question. It is clear that a great amount of this red earth was dug out by the builders of this stoa and must have been disposed of. It is, then, altogether natural to suppose that the filling we find here which is of precisely the right sort was dumped here at the time of the building of the Stoa.

To confirm this view of the contemporaneousness of this final change in the old spring and the building of the Northwest Stoa, a small drain constructed against the euthynteria of the Stoa at the time of its building is absolutely similar in proportions and in the cement used to the aqueduct connected with the square basin. The bases put in at the time of the change in the fountain or after the change, except those that seem long after, are much like the Stoa in workmanship and have their stones held together by the same type of clamp. All this considered, a reasonable date for this last change in the fountain is the end of the 3rd century. Of the three triglyphon systems connected with the fountain the southern is quite buried, the middle is half above half below ground, and the northern has the triglyphon itself entirely above the surface, but its base shows now for only 0.08 m. or 0.10 m. The bowl into which the water from the altar in the apsidal temple flowed would have stood in the ground with its rim some 0.25 m. above the surface. To this last period belongs the eastward return of the northern triglyphon or rather its pedestal in its present form which ended towards the east in a large base for a monument standing between the road and the precinct.

The precinct is now everywhere higher than the road. Whether it was separated from it by a curb as in the old days is not possible to say. The inscription was now quite out of sight. Whether a notice forbidding people to go up into this section of the precinct stood now beside the road must of course also be unknown. One inclines certainly to think that the old law published first

back at the end of the 6th century B.C. and still giving its warning as late as the middle of the 4th century was probably in force a century later and most likely until the city was destroyed. At any rate the private door through the northern triglyphon system into the tunnel under the temple and the whole of the apparatus for caring for the water from the temple and provision



FIGURE 121. TRIGLYPHON FRIEZE II

for water in the precinct southeast of the temple continued until 146 B.C. Some time in this period or at any rate after hook clamps came to be the style the stone bowl was repaired as the clamps at the two sides of a break in the rim testify.

The earth next above the pavement contemporary with channel C (the final Greek period in the area) accumulated during the period of desolation following the destruction of the Greek city. Over the old spring there are in fact only two pieces of evidence of the early Roman occupation. A sort of road passed obliquely across the square basin, cut through the pedestal south of it and cut off a corner of the large basis and of the terrace wall east of the basin. With this road goes presumably some of the wearing of the door posts and of the middle triglyphon. On the tripod base<sup>1</sup> (Fig. 108) directly over the spring someone in the first Roman century has cut the letters NER. It is not impossible of course that with the aid of paint this inscription

<sup>1</sup> [See Shoe, "The Roman Ionic Base in Corinth", *Essays in Memory of Karl Lehmann*, 1964, to which should be added mention of the three letters here recorded; this portion of Mr. Hill's text was not available when that article was written. — Ed.]

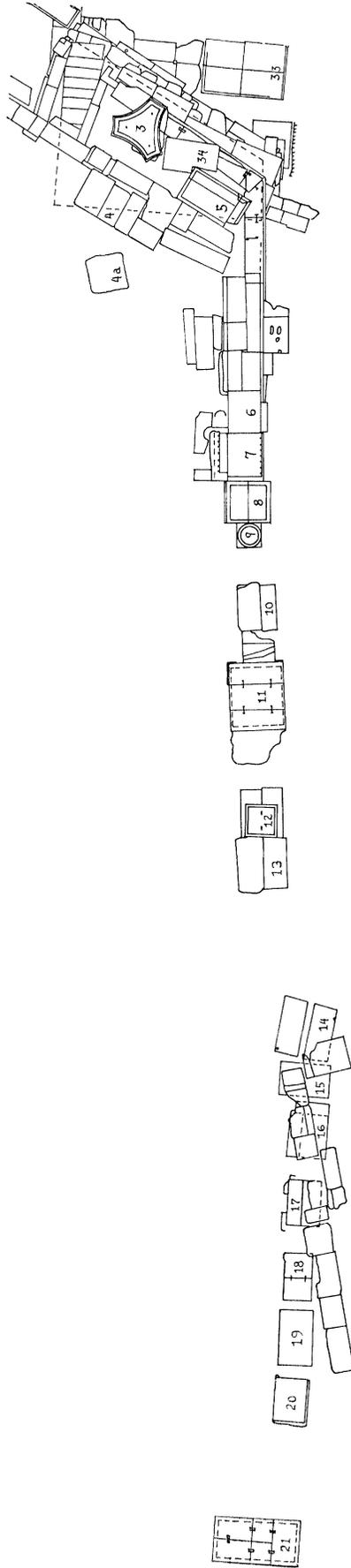


FIGURE 122. PLAN OF STATUE BASES RUNNING WEST FROM SOUTH TRIGLYPHON FRIEZE

was intended to do honor to Nero. After the general leveling up of the market place the old spring and all the Greek remains in the vicinity were buried entirely out of sight.

#### CONCLUSION

In these three main periods (Figs. 107, 109, 119) we have at this point 15 m. south of the apsidal temple elaborate provision for supplying a small amount of water, the supply being drawn from the old fountain as long as possible, which was apparently until the flow practically ceased. So important was it that the supply should be at this particular place that water was then brought to the little square basin from the region of Peirene 60 m. away. All this time the apsidal temple was, as we may judge by its construction, making regular use of small quantities of water. We have seen how in every period direct connection is practicable between the temple and the water supply south of it. There can be no doubt, at least so far as we can judge from the evidence at hand, that the connection between the building and the supply of water did actually exist. All this provision seems too elaborate and careful for any secular use of the fountain or building. Everything indicates that both are sacred, that the building is a temple and the fountain holy. The area within which is the temple and near the south edge of which is the fountain, the area bounded on the north by the Temple Hill with the Northwest Stoa underneath it, and on the south by a line of statue bases, is itself a sacred precinct. Its location, the fact that it may be described as ἐπὶ τῆς ἀγορᾶς (meaning here the Greek Agora), was discussed at the beginning. How far west the precinct extended does not appear. One suspects that in the last period, that to which the square basin belongs, it reached only the great base and terrace wall 2 m. west of the basin.

# III

## GLAUKE

### THE FOUNTAIN OF GLAUKE

Ἐτέραν δὲ ἐκ τῆς ἀγορᾶς τὴν ἐπὶ Σικυῶνα ἐρχομένοις ἔστιν ἰδεῖν ἐν δεξιᾷ τῆς ὁδοῦ ναὸν καὶ ἄγαλμα χαλκοῦν Ἀπόλλωνος· καὶ ὀλίγον ἀπωτέρω κρήνη καλουμένη Γλαύκης· ἐς γὰρ ταύτην ἔρριψεν αὐτὴν, ὡς λέγουσι, τῶν Μηδείας ἔσεσθαι φαρμάκων τὸ ὕδωρ νομίζουσα ἴαμα.

Pausanias II, 3, 6.

Clarke, Ed. 4, p. 550. "In going from the area of this building [the Venetian redout which C. thinks perhaps Sisyphion] towards the magnificent remains of A TEMPLE now standing above the *Bazar* whence perhaps the *Doric pillar* already mentioned may have been removed, we found the ruins of ancient buildings; particularly of one partly hewn in the rock opposite the said *Temple*. The outside of this exhibits the marks of cramps for sustaining slabs of marble once used in covering the walls; a manner of building, perhaps, not of earlier date than the time of the *Romans*. Pliny mentions the time when this kind of ornament began to be introduced at Rome. The *Greeks* sometimes decorated *marble* edifices after the same manner, but with plates of *metal*. In this building were several chambers, all hewn in the rock, and one of them has still an oblong window remaining."

Baedeker's *Greece*, 1889, p. 230. "A large block of rock with several niches and chambers . . . hardly worth a visit."

When excavations were begun in 1899 in and about the huge block of native rock 80 m. west of the temple of Apollo, the chief concern was the determination of another important point of Corinthian topography. As soon as it became evident that the fountain of Glauke mentioned by Pausanias had been discovered, excavation was discontinued. The details of the discovery were published<sup>1</sup> with the recommendation that at some future time work be resumed in the hope of finding the source of the water which supplied the fountain. Further exploration has, however, failed to locate the source. The identification of the fountain house has been confirmed by the finding of the Odeion<sup>2</sup> just beyond, ὑπὲρ ταύτην πεποιήται τὴν κρήνην καὶ τὸ καλούμενον Ὠδεῖον (Pausanias II, 3, 6).

The fountain of Glauke was cut in the rock of the ridge on which the Temple of Apollo stands (Fig. 123). In form it is roughly a great cube, 15 m. long from north to south and 14 m.

<sup>1</sup> *A.J.A.*, IV, 1900, pp. 459-471.

<sup>2</sup> *Corinth*, X.



FIGURE 123. GLAUKE LOOKING SOUTHEAST, FROM TOP OF PAVLIDES RUIN (1909)

wide from east to west, with a peculiar extension at the back toward the southwest. It consisted of four large reservoirs, I-IV (Fig. 124), of a draw basin (V) which lies in front (north) of II and III, and another reservoir (VI) at the northwest corner of the cube and at the western end of the platform which reached across the front and afforded access to the water. This platform

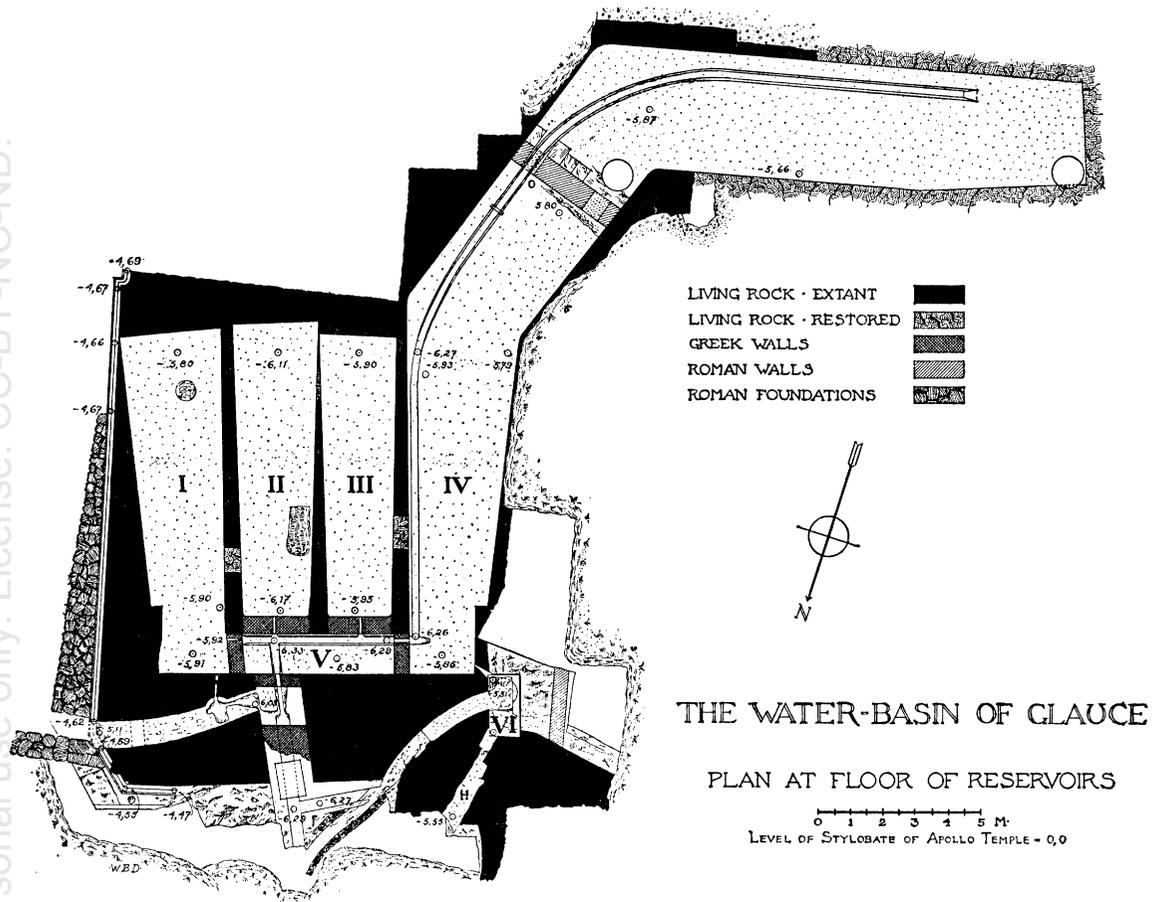
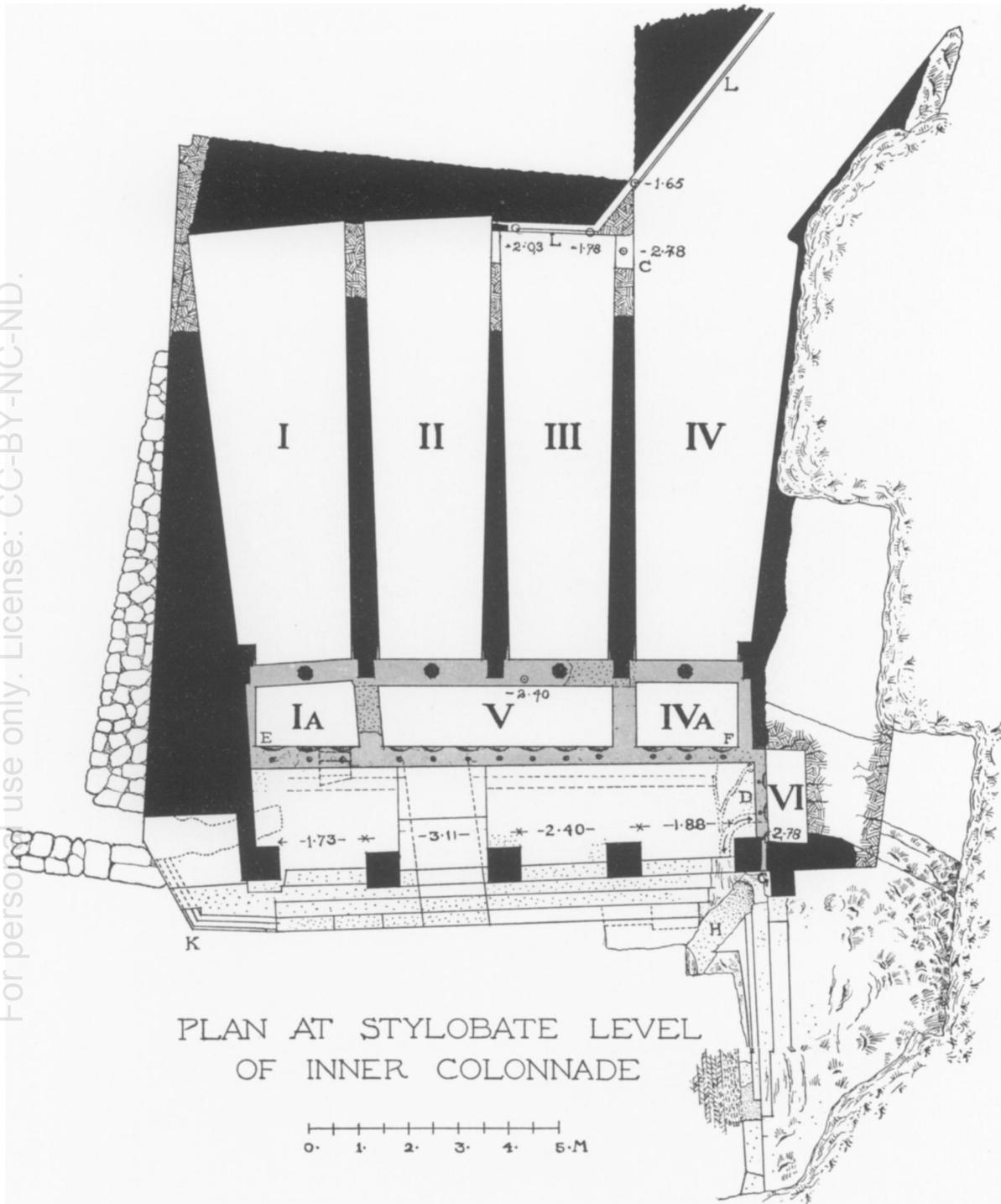


FIGURE 124. GLAUKE, GROUND PLAN

is now badly worn, but seems originally to have been about 2 m. higher than the floor of the reservoirs. As usual, the water was drawn over a parapet, formed in this case of living rock but now broken away except in front of VI. The platform was approached from the north by a flight of four steps (Figs. 123, 125, 126) and was covered throughout its length by a vaulted roof of living rock (Figs. 123, 125). This rested along the outer edge on three square pillars between antae, and the five stumps of these supports still remain (Figs. 125, 126). The walls of the cube extended forward to the steps, the eastern wall with greatly reduced thickness (Fig. 126). The interior walls between reservoirs I to IV stopped at V, the back (south) wall of which lay in the line of a second stylobate directly under the inner edge of the vault (Figs. 125, 137). On



FIGURE 125. GLAUKE, FRONT, FROM NORTHWEST CORNER



PLAN AT STYLOBATE LEVEL  
OF INNER COLONNADE

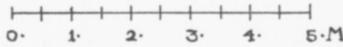


FIGURE 126. PLAN AT STYLOBATE LEVEL

this stylobate midway between the side walls of each reservoir probably stood piers or columns (Figs. 126, 138, 139) which would have been visible between the outer pillars since these latter stood in line with the chamber walls. These inner supports have disappeared, as well as most of the stylobate on which they stood. The inner walls terminated at this line in antae, which have been broken away except for a single stump.



FIGURE 127. GLAUKE, EAST SIDE

Whether the fountain house stood completely isolated is a matter of conjecture. It is certain that the Greeks quarried away the rock on the east side, for the even surface of that face is broken by a Greek water channel of careful workmanship (Figs. 127, 132).

To facilitate the removal of the stone which was quarried within the chambers, a passageway 1.22 m. wide was cut through the platform to the depth of the chambers (Figs. 123–125). This passage is 4.33 m. long, but its continuation to the face of the rock was destroyed by later quarrying in front of the fountain. The fact that the inner walls of living rock do not reach forward to the platform, and that walls of squared blocks (Figs. 124, 125, 128) are found here and at the north ends of II and III, is explained in the same way. When several hundred cubic meters of stone had been thus conveniently taken out, the five openings were closed with walls to the



FIGURE 128. GLAUKE, FRONT

height of the parapet (Fig. 128), the passage through the platform covered with slabs, and the needed steps supplied. The passage was cut obliquely, but the cuttings for its cover were made straight with reference to the partition walls, a correction consciously sought (Figs. 126, 128).

We turn now to a more detailed account of the fountain of Glauke, beginning with chamber IV, which received the water first. It differs from the others in length and form (Fig. 124), extending back of the cube, at first southwest for 8.50 m. and then west 13.50 m., so that the total length is 33.05 m. The width varies from 2 m. to 3.50 m. The upper part is gone; a piece of the roof supported by the partition wall III–IV existed in modern times (Figs. 123, 129) until it fell in the earthquake of April, 1928. This showed that the portion included within the cube had the same height as its neighbors I–III. The extension must also have been completely covered, probably with a roof of living rock. Its walls have a marked inclination (Figs. 129–130). Had these been vertical, the span of the roof would regularly have been 3.50 m., and 4 m. at the second bend. The east wall just back of the cube still stands to a height of 3.53 m. and has a forward inclination of 0.44 m.<sup>1</sup>

The water pouring first into IV, presumably at its extreme upper end (the upper half of the chamber has been quarried to the floor, Fig. 133, so that the inlet cannot be determined), filled this chamber, the small one (VI), and V, a chamber which served an important purpose in the system. The position of the narrow V in front of II and III made possible the drawing of water along three-fourths of the front, in case those chambers were empty. The fact that II and III were inaccessible from the platform makes it likely that they were the last to be filled. When I, fed through II, had filled, water could be drawn all along the parapet. Connection between the chambers was effected by small openings at floor level.

The connection between IV and V lay in the drain (Fig. 124). The original height of the walls of V is preserved only at the front of chamber III (Figs. 123, 125), and the top block of the east wall has been identified.

Water flowed from IV into III by means of an opening through their partition wall near the back wall of the cube (Figs. 123, 126, C, 129, 130). This opening is 2.86 m. above the sloping floor of IV and is proved to be ancient Greek by the cement, a smooth hard composition containing little pebbles. This was applied to all interior surfaces in the fountain and presents by its excellence a striking contrast to the Roman stucco. Chamber II was filled by the overflow from III through an opening at the back of the partition wall. The thickness of this partition wall between the two chambers (II and III) is noticeably less (0.05 m. at the back near the floor) than that of the other partition walls (0.32–0.40 m.). Water in II and III passed into V through holes at floor level.

Not the least interesting is the small chamber VI at the west end of the platform (Figs. 123, 124). It is 0.44 m. shallower than the adjoining IV, whence its supply came through an opening

<sup>1</sup> Another example of a reservoir cut with sloping walls in the solid rock is found on the Aspis at Argos. The better preserved of two long cisterns there has at the bottom a width of 3 m., which gradually diminishes to 0.80–0.25 m. at the present top. Vollgraff believes that the narrow opening was covered with slabs (*B.C.H.*, XXXI, 1907, p. 153).



FIGURE 129. CHAMBER IV FROM SOUTHWEST WITH ROMAN PARTITION WALL

0.10 m. wide on the IV side of the dividing wall and  $0.25 \times 0.25$  m. on the side in VI. Though the chamber was small, it increased the number of places by two or three at which water could be drawn, a clever expedient in the economy of the system. The heavy west and south walls have been quarried in later times to within 0.75 m. of the floor, but the parapet on the east remains

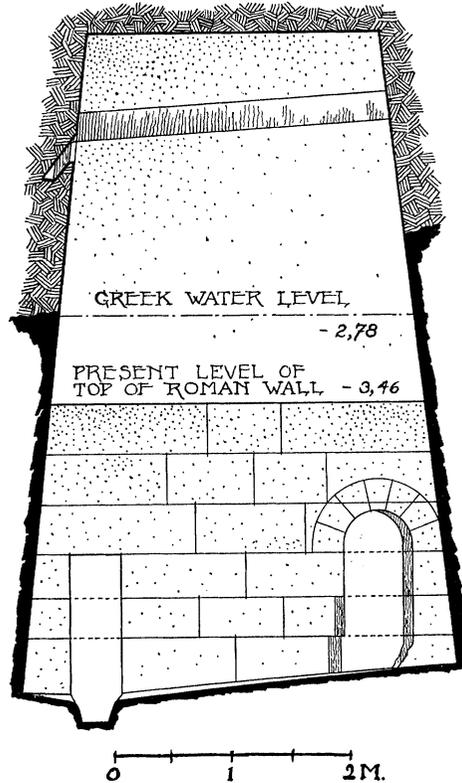


FIGURE 130. CROSS-SECTION OF CHAMBER IV  
WITH ROMAN PARTITION WALL

0.65 m. high and 0.25 m. thick (Figs. 123, 128, 131). On the inner face at the top, the surface has been worn concave in three places by the heavy jars of water drawn up over it, and on the top are two round tapering holes in which the women rested the pointed jars while they turned to take them upon their backs. Of a similar parapet in front of the other chambers (IA, V and IV A, Fig. 126) the broken ends at the east and west are still to be seen (Figs. 123, 125, 128, 136). The stub at the east end is 0.75 m. high and 0.40 m. thick. The inner surface shows the characteristic wearing from the jars. The parapets have been restored (Figs. 137, 139) as equal in height with the walls of V.

Provision was made for the escape of the excess water in the following manner. At the northeast corner of VI (Figs. 123, 126, 128, 131), 2.54 m. above the floor of that chamber was an opening into a small channel 0.10 m. high and 0.13 m. wide. The immediate connection with the chamber is broken away to the extent of 0.06 m., but it may readily be restored. From the

corner it bent around to the north and in line with the parapet pierced the westernmost of the piers of the façade (Fig. 126, G), with at first a slight and then a marked drop. It emerges near the corner formed by this pilaster and another facing north (Fig. 128). The rock has been broken



FIGURE 131. CHAMBER VI FROM SOUTH SHOWING CHANNEL G FOR EXCESS WATER

off close to the channel so that its top is nowhere completely intact, but its character is unmistakable. Smoothly cut, it rivals in carefulness of workmanship the other Greek channels of the fountain. Thus, when the capacity of all six chambers was overtaxed, the excess water escaped by this means, finding its way probably to a channel which crossed the north and east sides of the fountain and terminated perhaps in some cistern in the vicinity. The part of the channel cut in the east face of the fountain house (Figs. 127, 132) breaks off at the present southeast corner of the cube where later quarrying has disturbed Greek conditions, thus making it impossible

to determine the destination of the water. Likewise in front of the porch later quarrying which cut into the steps destroyed the channel there, save for a short piece at the northeast corner (Fig. 144). Here the normal depth of the channel, 0.17 m., is not maintained; the channel in front thus appears to have been shallower than its continuation on the east face. The foundations

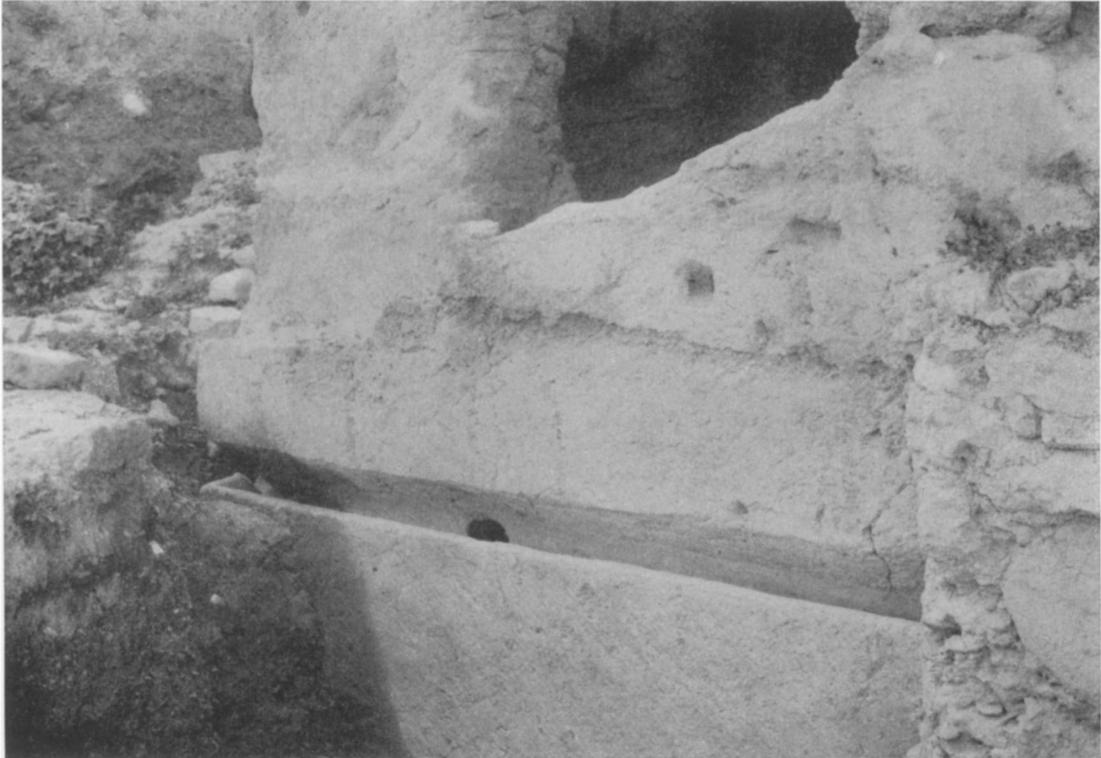


FIGURE 132. CHANNEL CUT IN EAST SIDE AT SOUTHEAST CORNER

for the west wall of the West Stoa of the Precinct of Temple C were placed snug up to Glauke, so close that at the southeast corner of the cube the rock was cut back to make a bed for the foundation (Figs. 126, 127, 132) and the channel was filled with rubble.<sup>1</sup> The stoa dates from the 1st century after Christ.<sup>2</sup> The method of provision for excess water makes possible, by giving a water level, a calculation of the capacity of the fountain. When all chambers were brimful the total amount of water was 527 cubic meters, allowance being made by average for sloping floors and inclining and converging walls.

The question of drainage may now be considered. A narrow gutter runs nearly the full length of IV and across V to the drain which lay in the wide passage cut through the platform (Figs. 124, 128, 129, 133, 134, 137). In V the drain is 0.04 m. lower at the bend than at a point

<sup>1</sup> *Corinth*, I, ii, pp. 143.

<sup>2</sup> *Ibid.*, pp. 147-149.

below the steps. This may be a device for collecting sediment and thereby preventing accumulation in the long course of the drain. The Romans must have regarded this feature as a defect, for they sought to give the drain an uninterrupted downward grade by a filling of brick and mortar.

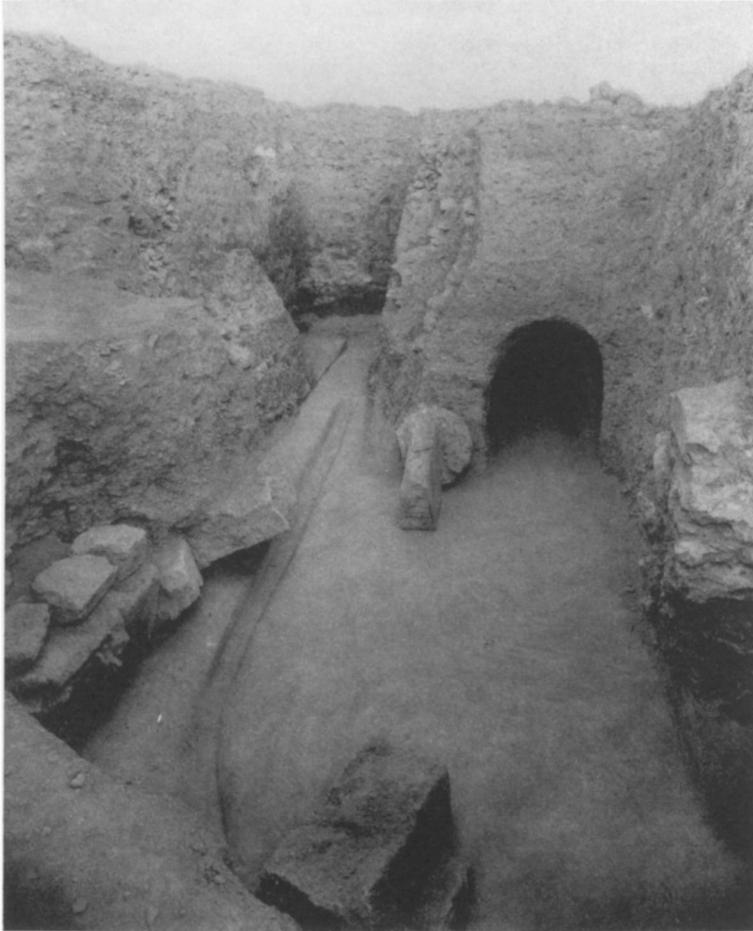


FIGURE 133. WESTERN END OF CHAMBER IV, LOOKING WEST

Toward this gutter all floors slope. The drain holes of II and III opened directly into it at floor level (Figs. 124, 137). Chamber I was drained and cleaned by an opening into V, which is 0.025 m. lower than either of the chamber's other connections. The purpose of the opening into the drain (Figs. 124, 137) seems to have been to empty I without necessitating the disuse of V. The important fact, which seems not to have been noticed in discussions of fountain construction, is that all the chambers were not drained and cleaned at once. While I, II, III, and V were undergoing the process, IV and VI furnished water, and *vice versa*, when IV, V, and VI were empty, I, II, and III contained the supply.

In the latter case the stream of water which poured regularly into IV at the upper end had to be diverted. It flowed in a high channel along the south and east walls of IV to the cube

(Figs. 126, 129, 130). The elbow of the channel found embedded in the Roman cross wall (below, p. 224) fits the angle made by those two walls. At the cube the channel still preserved (Fig. 129) passes 4.15 m. above the floor to III, where it bends and crosses the back wall of that chamber with a marked grade of 1 in 8. It ends in the line of the partition wall III-II, in a small hole opening into II (Fig. 126). Some question may arise as to the date of this hole, for it is not



FIGURE 134. SOUTHEAST CORNER OF CHAMBER IV, LOOKING EAST, SHOWING ROMAN WALL AT LEFT

well cut. But that the original design was to have the channel end in II, so that water might be carried past III, is a safe inference, first from the fact that otherwise the channel had no need to cross III and secondly because chamber II reaches 0.30 m. back of III (Fig. 124), as if to give the water a free fall into II. Then again a plug hole like the existing one could be more easily controlled from the large opening in the roof, which is probably originally Greek, though enlarged later. There was also a large opening in the partition wall of II-III at its south end, near the end of this channel (Fig. 126). This is shown by the presence of ancient Greek cement on the back wall where the partition wall would have joined it, but how large an opening there was cannot now be determined, for it became a door in the house period and has since been made larger (Fig. 127). The dimensions and character of the channel are those of the one on the east face of the cube (both appear in Fig. 127). Though it has been exposed to the wearing influences of the atmosphere and has lost every trace of cement, the careful cutting is still in evidence.

A peculiar feature of II, namely, that its floor is 0.22–0.25 m. lower than that of I and III, allowed the sediment to settle on this lower level and to remain undisturbed when the water flowed into I. Such accumulation could be removed and the chamber flushed by means of the hole opening into the drain in V (Fig. 124). The carefully cut and cement-lined opening from II into V is 0.095 m. in diameter at the end in II and 0.08 m. at the other. This tapering, which is true also of the opening from III into V, follows the normal direction of the flow between

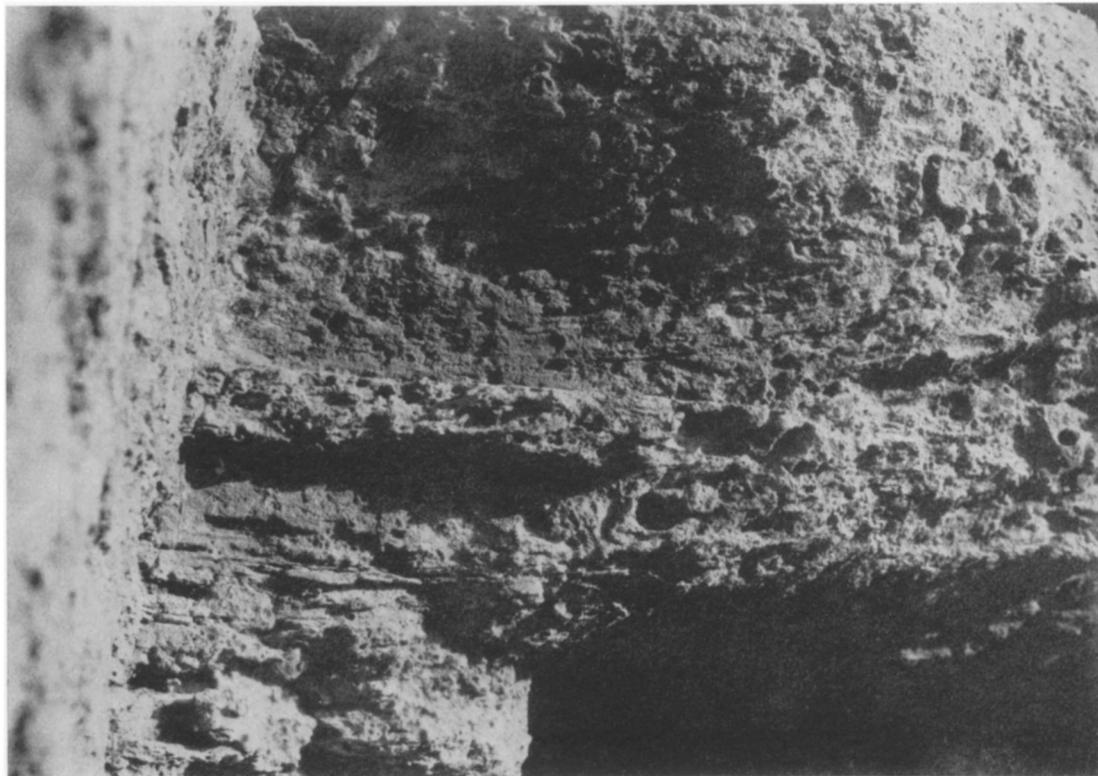


FIGURE 135. ARCHITRAVE OVER ENTRANCE TO CHAMBERS, EAST END

those chambers. The excess from I–II–III apparently flowed from the latter into IV by means of the opening (Fig. 126, C) at the back of the partition wall between III and IV. In fact, IV may thus have been refilled.

The high channel in IV which on cleaning days made it possible for the system to supply water is of importance in another respect. The almost complete destruction of the walls of IV back of the cube (Figs. 129, 133) has left in uncertainty the height of the roof of that part. In one place the sloping walls have a height of 3.53 m., but in the western half they have been quarried to the very floor (Fig. 133). Now the bottom of the channel in question was 4.15 m. above the floor at the back (southwest corner) of the cube and it sloped up somewhat to the point of inlet, keeping within IV. The roof had to be still higher. As the height of the roof preserved until 1928 was 5.57 m., it becomes probable that this height was continued back over the extension of IV.

It remains to consider the means of draining VI. There is a rock-cut tunnel (Figs. 124, 128), starting from the east side of the chamber; this curves around under the platform and seems, before the Roman quarrying, to have joined the drain of the system. The chisel marks show



FIGURE 136. CHAMBERS IA AND V, LOOKING EAST ACROSS FRONT OF CHAMBERS I-III

that the tunnel was cut from the chamber toward the stair. At the inner end it is 1.05 m. high and 0.50 m. wide (Fig. 131). The south wall of the tunnel has not a gradual curve, but breaks forward 0.04 m. several times. The bottom is approximately 0.60 m. below the floor of the chamber, which, except around the edges, has been cut into and badly damaged. The tunnel, which is Greek, was sealed at the inner end by a wall with a drain hole at the bottom of it. Towards the tunnel entrance the floor of the basin slopes from every side. The removal of the wall must be referred to the time when the tunnel was used in connection with two later channels. A glance

at the plan will show that the tunnel was made for neither of these, but had a conduit of its own before the rock pavement in front of Glauke was quarried away by the Romans. The tunnel in Greek times may have been used in drawing off a portion of the contents of IV.

Up to this point the details of construction which played an immediate part in the operation of the system have been considered. A question now arises as to the ornamental features of the fountain, if any there were. Its character would admit only of the simplest ornamentation, and

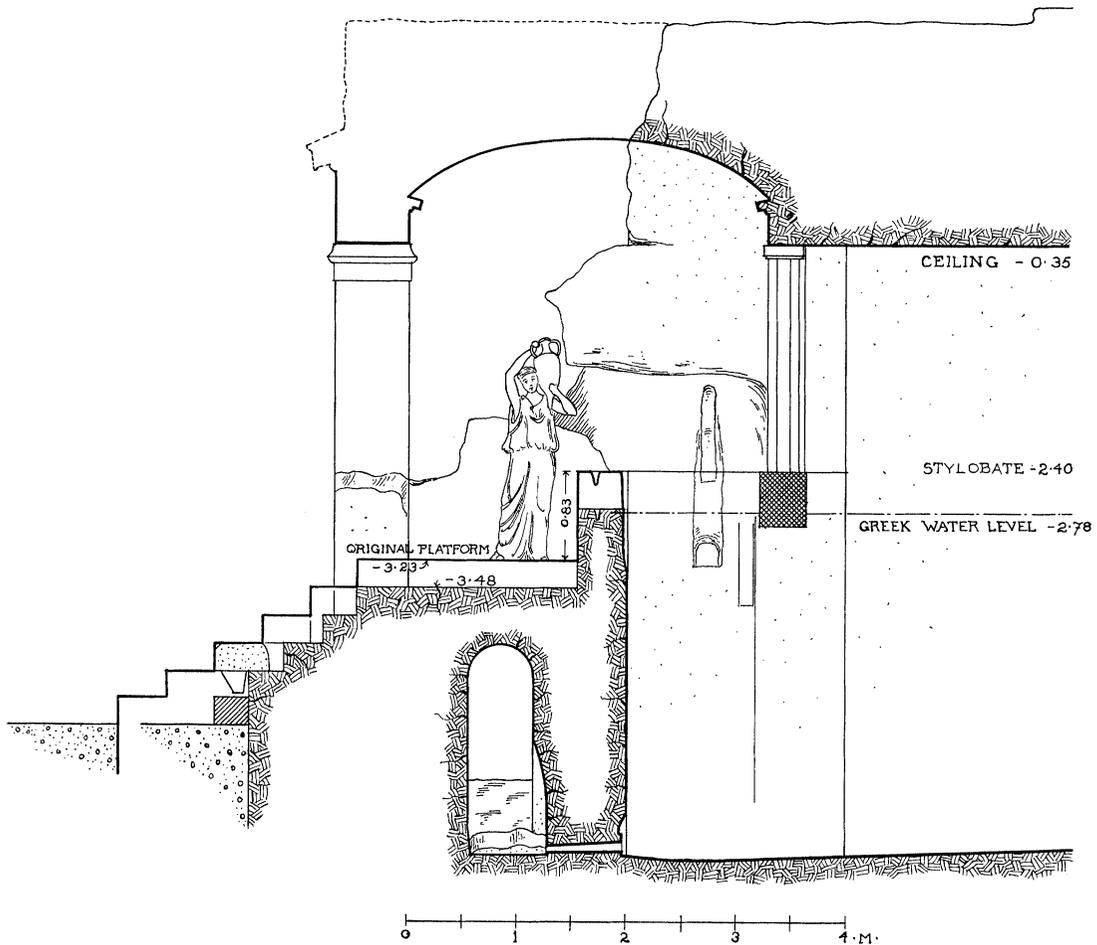


FIGURE 137. CROSS-SECTION THROUGH PORTICO

of such a fragment has been preserved. In the upper northeast part of the cube, scantily protected by the heavy roof and east wall, is the weather-beaten bit of a rock-cut architrave (Figs. 123, 125, 128, 135, 136, 141). The plane of the bottom coincides with the ceiling of I (Figs. 125, 137). The vertical face reaches up 0.29 m. and is crowned by a simple cornice. Above, the rock is cut back 0.12 m., and from there upward and forward the roof curves distinctly, but it breaks off 1.50 m. in front of the architrave, and the further course of the curve is a matter of probability. It seems that its highest point stood approximately over the middle of the space between the

architrave and the rock-hewn pillars on the outer edge of the platform. In the angle formed by the east wall and the vault there is a bit of that excellent cement used in the chambers, to testify that the vault is Greek. As the roof is preserved in front of the architrave only at the north-east corner (Figs. 123, 125; the break retreats more and more as it is followed toward the west),

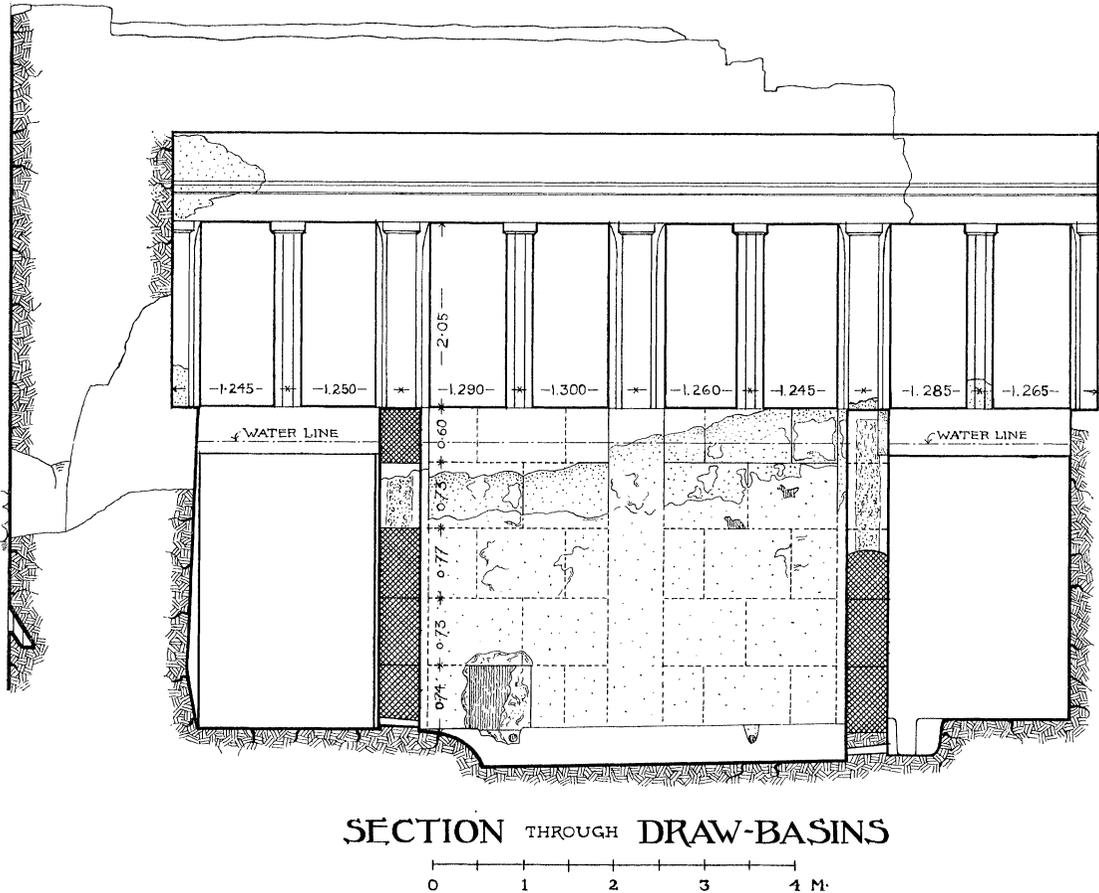


FIGURE 138. EAST-WEST SECTION THROUGH BASINS IA, V, IVA

the evidence for a vaulted ceiling is confined to that place, but it may safely be assumed to have extended across the whole porch and may be thought of as an expedient for reducing the weight of the rock, since the span from architrave to pillars was 3.30 m. (Fig. 137). The fact that a vault existed over the platform makes it possible to determine the height of the rock-hewn pillars, the broken stumps of which remain. If one makes the fair assumption that the vault terminated above the pillars in an architrave corresponding to that of which a piece is preserved, a height of 2.88 m. is obtained for the pillars including capitals (Fig. 137).

Again, the fragment of the architrave makes intelligible certain cuttings that prove most important in the restoration of the interior of the porch. Beneath it the Greeks cut in the walls of I two holes, 0.10 m. deep, 0.45 m. wide, and 0.55 m. high, opposite each other, and 3 m. above

the floor (Figs. 123, 136). The same thing may be observed in IV also (Figs. 123, 136). The portion of the west wall of I in which the cutting was made has been broken away, but both cuttings can be seen in IV, the east one of which contains abundant remains of Greek cement. A bit of the right angle which the cement forms shows that the beam was lowered into these cuttings before the Greeks cemented the chamber. As these beams were not set deep in the walls (less than 0.10 m.) and had no other support, it is obvious that whatever rested upon them ful-

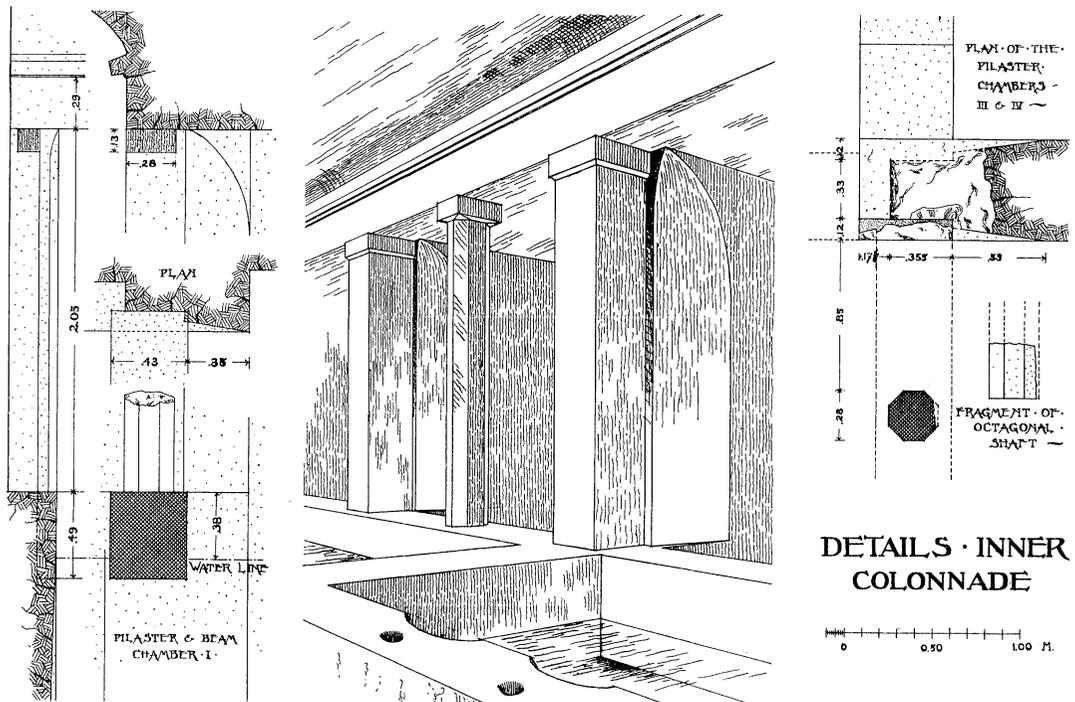


FIGURE 139. DETAILS OF PORTICO

filled no necessary structural function. The idea therefore suggests itself that they, together with the back wall of V lying in the same line (Fig. 126), had at their middle points shafts which reached up to the architrave (Figs. 138, 139). A fragment of an octagonal shaft of poros has been found in the neighborhood of Glauke, with the required diameter of 0.28 m., and has been assigned to this stylobate. One thinks immediately of the octagonal shafts in the fountain of Theagenes.<sup>1</sup> At the end of the partition wall between III and IV the stub of an anta is preserved (Fig. 125), and with the help of this others have been restored at the ends of the other partition walls (Figs. 126, 138, 139). For these antae the walls were narrowed to the proper width. This is best seen in the case of the partition wall between I and II, where the narrowing reaches down only to the level of the stylobate. Yet another important feature is explained by the presence of the shafts.

<sup>1</sup> *Ath. Mitt.*, XXV, 1900, pp. 23-33, pl. VIII; *B.C.H.*, LXXXII, 1958, p. 688, fig. 35. Cf. also the Propylon at Aigina, A. Furtwangler, *Aigina*, p. 84 for octagonal columns.

In I and IV the outside walls advance at a point just back of the stylobate (Fig. 126). The simple reason is that each of the four long chambers thus acquires at the stylobate an approximate width of 2 m., and a uniform intercolumniation results. The two marble lion heads (Fig. 140) found in chamber V presumably belonged among the decorative features of the fountain at some period, but they cannot be definitely placed.<sup>1</sup>

The interior surfaces of the porch were covered with cement, as were those of the chambers. The pilasters of the outer row of pillars show traces of it on the front face, a survival suggesting that the façade was also so covered. Ross<sup>2</sup> describes a rock-hewn system in Keos, and here the

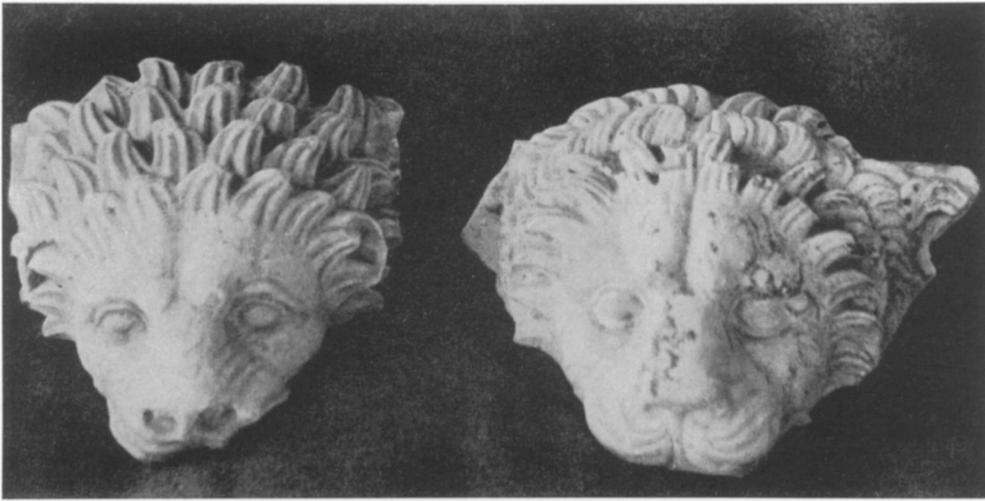


FIGURE 140. LION HEADS

reservoir and early Doric column of living rock were similarly treated. But apart from any example of such practice, the soft and porous character of the rock in Glauke, which suffered from exposure to the elements, would require a protecting coat of stucco.

The façade of the fountain was broken away (Figs. 123, 125, 128, 144) and not a fragment of it has been identified. The line of breakage is from 2.50 to 4.50 m. back of the pillars, so that the difficulty of restoration is greatly increased. The broken stumps along the outer edge of the platform show that three squared pillars between pilasters stood there. They were 2.88 m. high (above, p. 217) and must have had the simplest of capitals if they had any at all. How the rock above was treated is uncertain; perhaps a plain architrave, with Doric frieze and pediment, was used. The fact that the heavy east wall stopped 1.35 m. back of the line of pillars, save for a strip 0.25 m. thick which reached to the pilaster (Fig. 126), perhaps indicates an expedient for setting off the façade. The Doric frieze for early fountains is attested by the François vase,<sup>3</sup> but it is

<sup>1</sup> *A.J.A.*, VI, 1902, p. 423. Sculpture Inv. 70 and 71.

<sup>2</sup> Ludwig Ross, *Reisen auf den griechischen Inseln des ägäischen Meeres*, Stuttgart and Tübingen, I, 1840, p. 130.

<sup>3</sup> A. Furtwängler and K. Reichhold, *Griechische Vasenmalerei*, pl. 3. B. Dunkley, "Greek Fountain-Buildings before 300 B.C.," *B.S.A.*, XXXVI, 1935-1936, pp. 142-204 lists vases with fountain scenes.

uncertain what form of roof is there intended. The gable has the sanction of sixth-century vase painting and is not without a real, though later, example in Corinth itself. Peirene on Acrocorinth has a pillar between pilasters with a tiny pediment above.<sup>1</sup> At Cyrene the face of the cliff above the fountain of Apollo shows a gable cutting into which Smith and Porcher<sup>2</sup> believe the pediment of a portico to have been fitted.

The problem presented by the roof of Glauke (Figs. 141, 142; for plan see *Corinth*, I, ii, fig. 103) is a troublesome one.<sup>3</sup> There are two beds for walls, the interpretation of which is made difficult by the fact that large portions of the roof are gone. One of these wall beds, 0.55 m. wide, is carefully cut along the back edge of the cube, but so much has been broken away that one cannot say how far it extended (Fig. 142). This bed ends toward the east at a roughly cut block of living rock which rises 0.90 m. above it, and happily gives a clue to the height of the wall. The vertical surface of the block for a distance of 0.60 m. from the top has been smoothed in contrast to the portion below and behind the line of the wall. The wall was thus 0.60 m. high. A gutter, perhaps Roman and similar to the long one of the platform, ran along inside toward the west. The second wall bed, 0.50 m. wide, runs parallel to the first at 7.25 m. in front (north) of it and was made by cutting away the rock on either side to a depth of 0.13 m. (Fig. 142). In front of this raised bed as far as the broken edge and behind for a distance of 1.25 to 3 m., the roof is even enough, but farther back there are deep quarry cuttings. A large block of living rock 1.80 × 1.25 × 0.50 m. still remains. How far west the forward bed extended is uncertain. It breaks off over the partition wall between II and III, beyond which the roof, apparently at a later date, has been more deeply quarried. The base of the raised bed is 0.60 m. higher than the other. That a wall stood on the raised bed at some time is clear from the presence of cuttings for a door 0.50 m. from the east end. When Glauke became a house and a third story was added, these wall beds must have been in use. Whether the raised bed belongs in that period is a question, but the character of the other is too good to warrant this supposition. It is suggested that this wall belonged originally to the finished form of the roof. From the high ground 50 paces back (south) of Glauke (Fig. 142), where hardpan lies near the surface, the roughly quarried sloping roof is plainly visible. It may not have been so scarred in early Greek times, but if a wall 0.60 m. high were restored on the back bed, the roof as far as the raised bed would disappear from view. Evidence for this wall has been noted above and is strengthened by the fact that a piece of the wall itself has been identified, namely the poros block 1.50 m. long, 0.40 m. wide, and 0.60 m. high, which lies diagonally on the cross wall in IV (Fig. 129). The dimensions meet the requirements, and the bottom was prepared for a bed. The finish of the top shows that another course was not laid upon it. The outer face hacked in horizontal bands is characteristic of blocks in Glauke, and the inner face is very rough.

<sup>1</sup> *Corinth*, III, i, p. 45, figs. 45, 46.

<sup>2</sup> R. M. Smith and E. A. Porcher, *History of the Recent Discoveries at Cyrene made during an Expedition to the Cyrenaica in 1860-1861*, London, 1864, p. 26, pl. XI.

<sup>3</sup> [See *Corinth*, I, ii, pp. 153-157 for another, later, description and interpretation of the cuttings on the top of Glauke which Scranton connects with a possible archaic sanctuary of Hera Akraia, pp. 158-162.]



FIGURE 141. ROOF OF GLAUKE, LOOKING SOUTHEAST (1909)

The exact source of the water supply for Glauke is unknown.<sup>1</sup> The native rock a few paces back of the fountain has been examined for a distance of 73 m. by digging a trench to the level of the inlet into the fourth chamber. But the expected conduit cut in the rock in the direction of the acropolis has not been found. The supply was not surface water gathered in the vicinity, but was brought from a distance. The unique position of Glauke, which is best appreciated when it is compared with the Corinthian fountain of Peirene, warrants this conclusion. The latter lay low in a hollow under a projecting ledge of conglomerate, and it could tap an abundant watershed to which the acropolis contributed. The Greeks simply recognized a natural reservoir and by opening up conduits in the clayey soil under the conglomerate developed latent possibilities of water supply. Water in front of Peirene still covers the hardpan. With Glauke, however, it was quite different. Instead of being situated under a ledge it was cut in the top of one where no spring existed and it did not have a watershed like Peirene. The conduit which brought water to Glauke must have had an uninterrupted gradual slope toward its destination, as was characteristic of early Greek conduits. Only from the south and southwest could water have come, and what did come was below the floor. The well dug at a late date just behind the Roman wall (Fig. 129) has a depth of 4.35 m., and at this depth three tunnels reach out to gather the water. The depth of water level beneath Glauke is explained by the fact that the rock falls away toward the acropolis. The strata of the rock incline the same way. The site of Glauke was chosen without regard to a watershed. The supply came from some spring, perhaps, as has been suggested,<sup>2</sup> from that at the base of Acrocorinth, where today the water is abundant and good.

According to the ancients (Strabo, VIII, 6, 21; Pausanias, II, 5, 1), water flowed from the spring near the summit of the Acrocorinth to the spring at the base of the hill, which, as has been said, may have been one of the sources of Glauke. Their characterization of this water and that of Peirene is interesting. The spring on the summit, says Strabo, was full of transparent and potable water; on the other hand, Pausanias says that the water of Peirene, though pleasant to the taste, was used in the tempering of bronze, and he attributes the distinctive color of Corinthian bronze to the nature of the water. Periander, therefore, if he was the builder of Glauke, rendered the Corinthian public a service by bringing to the heart of the city water which offered no attraction to coppersmiths.

The fountain has been assigned to the time when the temple of Apollo was built, and the two have been regarded as parts of one building scheme. As no clamps were used in the fountain, we lack one important indication of date, but there is another detail which may throw some light on the matter. Concave narrow cuttings, 0.10–0.12 m. long, hacked in horizontal bands with a rough little ridge between them are found on blocks of Glauke, of the temple of Apollo, and of the triglyphon frieze in the area of the Sacred Spring (above, p. 178) where the Z clamps indicate a sixth century date.

Before the Glauke of Roman times is considered, a moment may be spent in conjecturing what the condition of the fountain was when the Romans destroyed the city. There is some

<sup>1</sup> See below, pp. 227–228.

<sup>2</sup> *A.J.A.*, IV, 1900, p. 461.

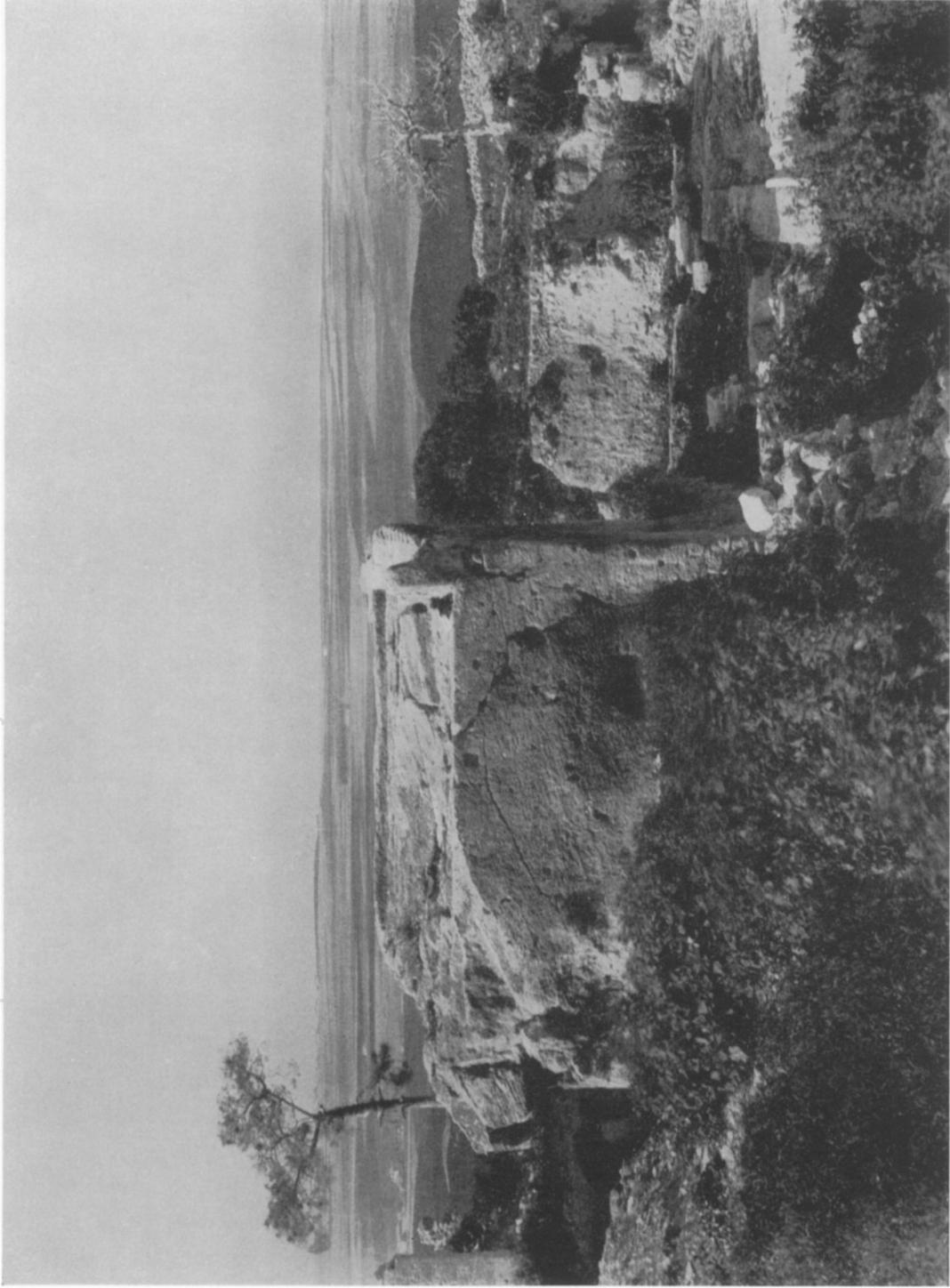


FIGURE 142. ROOF LOOKING NORTH

ground for the suspicion that before the coming of the Roman rebuilders of Corinth, Glauke was already partly ruined. The cross wall in IV (Fig. 129), which is referred to the early years of the Roman occupation, contains several pieces from the cemented walls. It would thus appear that at the time the cross wall was built reservoir IV had in part been destroyed. It is significant that among the pieces is one from the channel which carried water to III, when IV was for any



FIGURE 143. ROMAN WALL IN CHAMBER IV, SOUTH SIDE

reason empty, a fact which shows that a channel of prime importance in the Greek system of distributing the water had been destroyed before the Romans repaired IV. In fact, the position of the cross wall seems to have been determined by the ruined state of the Greek walls behind it (Figs. 129, 133, 134).

Coming to the part of IV lying in front of the Roman cross wall, one meets again with a hint that the roof and the upper part of the west wall may have gone before Roman times. A comparison of the east and west walls of Glauke shows a noticeable difference in width (Figs. 124, 126). The east wall, which has been preserved unchanged from Greek times, is 2 m. thick in the line of the inner stylobate; on the other hand the present west wall at the same line is only 0.60 m. and a little farther back it is only 0.45 m. thick. While the east wall could and did without danger grow thinner as it neared the thick back wall, the west one must have maintained a nearly uniform width, because the back wall did not cross IV to assist in bearing the weight of the roof. It is

certain that the Greeks did not support the roof along the west side with the present thin wall, a fact which is confirmed by a glance at the west face of it, which is rough, whereas the outer face of the east wall is smooth (Fig. 127). Was the quarrying into the west wall done by the Romans, when the wall no longer supported the roof of IV, or did the Romans by quarrying too closely cause immediately or ultimately the fall of the roof? It is tempting to make the collapse of this section contemporary with that of the portion back of the cross wall. Evidence that the façade was destroyed at this time is not at hand, and if it was destroyed then, we should have to suppose that the stumps of the pillars remained standing throughout the Roman period, an unsightly obstacle on the platform.

The façade was partly in ruin when the inner walls of VI were quarried to within 0.75 m. of the floor, since this left the vaulted roof with too little support at the northwest corner. But the time when those walls were quarried away is uncertain.

While it is conceivable that Glauke was found intact, and repaired only after a period of use by the Romans, it is also conceivable that the Roman destroyers of Corinth in 146 B.C. wrecked a structure so essential to the life of the city. The evidence from Peirene (above, p. 64), however, suggests that there was no deliberate destruction.

The source of water supply in Roman times calls for brief mention. As yet no traces of the Roman conduit that brought the water have been found, but it was only natural that those who repaired the fountain should make use of the Greek source. There is an argument of some weight in favor of the view that there was no change in the source of supply. Pausanias mentions no spring on the ascent to Acrocorinth. The argument from silence in the majority of cases is indeed of doubtful value, but in this instance it is significant, and the following remarks of Ernst Curtius<sup>1</sup> are worth quoting: "Begleiten wir Pausanias auf seinen Wanderungen durch Griechenland, so finden wir, daß er für den Bau des Landes kein Auge hat; er übersteigt die Hochgebirge, ohne sich um ihren Zusammenhang und um ihre Höhe zu kümmern; er nennt nicht einmal die Namen, während er bei der kleinsten Quelle verweilt und von ihrer Beschaffenheit und ihrer Verehrung Auskunft giebt." Perhaps the inference then is that water was not available as it is now close under the Acropolis near the modern ascent, but that it was conducted by conduit to Glauke. The passage in Strabo (VIII, 6, 21) does not militate against the inference. Though he says there was at the foot of the Acropolis a *κρήνη*, he also tells us that enough flowed to the city to afford a sufficient supply. The words *ὥσθ' ἰκανῶς ἀπ' αὐτῆς ὑδρεύεσθαι* point to a system of some size. The *κρήνη* Glauke not far away needed only a cross wall in one chamber to be ready to receive the sufficient supply somewhat vaguely defined by Strabo as *ἐκρέουσα εἰς τὴν πόλιν*. When Glauke fell into disuse, the old source furnished water at a point higher up, near the Turkish and modern spring. Such has been the usual fate of Greek conduits.

Some time later two openings were made through the Roman transverse wall in IV (Figs. 130, 143, see next paragraph), both seemingly testifying to a search for water. The one at the east suggests a quest in the lines of the Greek gutter. It was poorly cut from the north, in front.

<sup>1</sup> *Gesammelte Abhandlungen*, I, Berlin, 1894, p. 117.

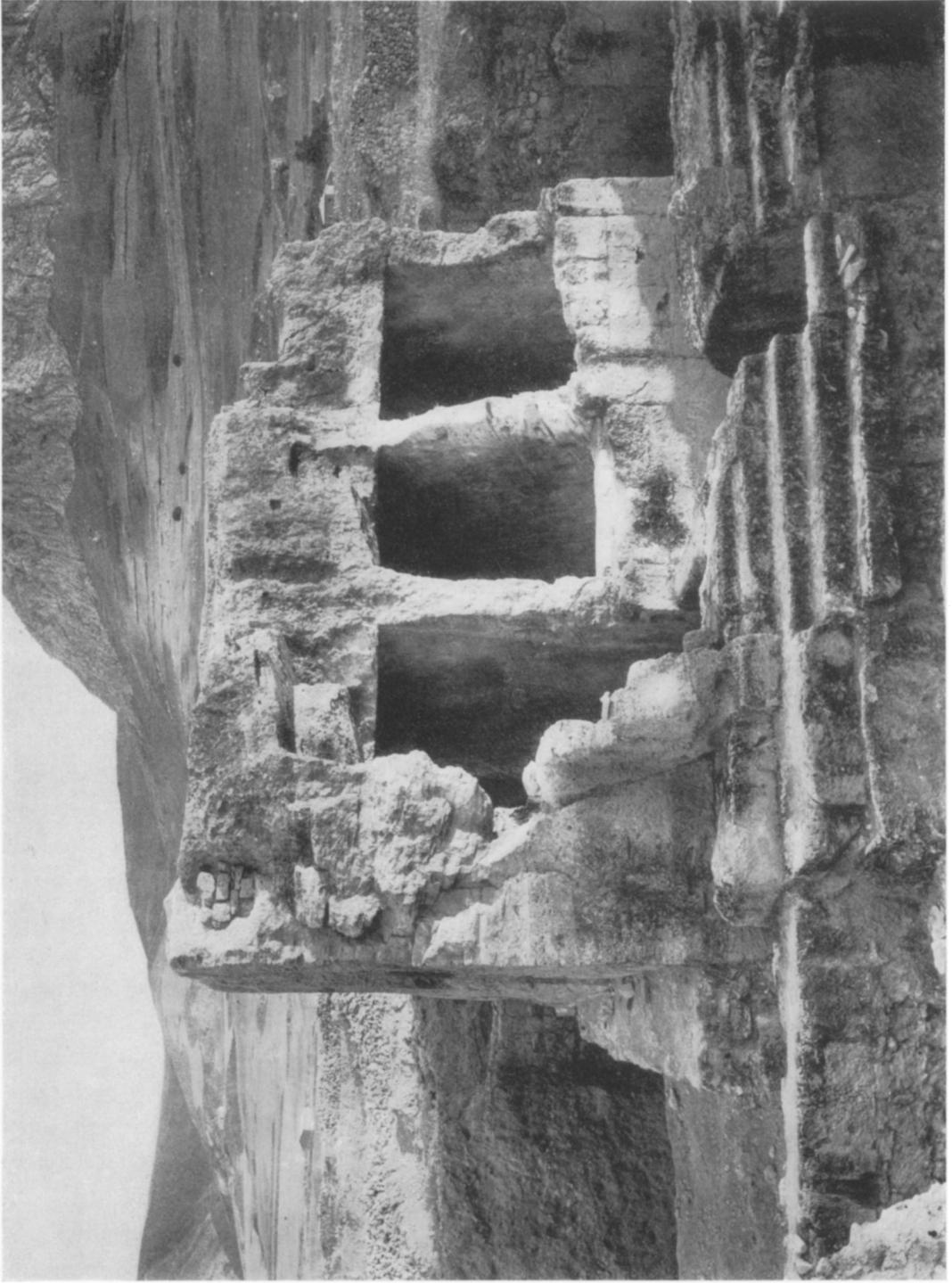


FIGURE 144. GLAUKE FROM FRONT, SHOWING EAST SIDE

The west opening with its false arch was made probably to give access to the well immediately behind. This too was roughly cut at floor level from in front, and the threshold is a thin piece of the lowest course of the wall which escaped removal, because it lay in the cutting in the floor. The back (south) part of the wall was torn out to facilitate the sinking of the well, which probably belongs to the period when Glauke was used as a house.

It is probable that soon after the Roman occupation of Corinth the fountain was repaired. The chief feature in the Roman repair was a cross wall in IV (Figs. 124, 129, 130, 143), which was placed at a point where the chamber walls survived to the necessary height. The bed for it was cut deeper at the west end to get rid of the slope of the floor. The part of IV behind (west of) the wall was filled in at once, for that side of the wall was not intended to be seen (Fig. 143). Two coats of stucco at different times were applied to the wall, and later a third was added which was extended to all surfaces, except the floors, that came in contact with the water. The hard Greek cement was picked that the inferior Roman might be more adhesive.

The parapets were lowered, the long one, across the width of the fountain house, 0.35 m., the short one, in front of VI, 0.48 m. The Greek excess escape (above, pp. 209–211) was thus made useless. The Roman level in front of Glauke, after the quarrying there, was that of Greek times, if the channel (Fig. 144) at the northeast corner determines the latter. The filling is uniform, without trodden layers, up to the level of the first Roman step. The present steps are probably not Greek. Those extending north from the sixth reservoir (Fig. 128) vary in height from 0.27 m. to 0.33 m., the others from 0.24 m. to 0.25 m. The only indication that a flight of steps existed here in Greek times is the presence of a pilaster facing north (Fig. 126). This may imply another colonnade, but no traces of pillars have been found. The present flight seems not to have been cut with reference to the pilaster.

When Glauke was converted into a house in Mediaeval times, doors were cut in the walls. The east wall was originally quite closed; the opening may have been cut first in the first century after Christ to provide access to the fountain from the West Stoa of the Precinct of Temple C.<sup>1</sup> Original openings in the inner walls at the back were in some cases enlarged (above, p. 213), so that it is now possible for one to look through the fountain from east to west (Fig. 127). The opening from the roof into Chamber II was also enlarged and provided with steps to serve as means of ascent to the roof, where walls were built to provide a third story; they probably made use of the earlier beddings (above, p. 220). That this degradation of the fountain to alien purposes occurred only after many centuries of service is another tribute to the excellent character of Greek construction.

[An excavation by W. B. Dinsmoor in 1953 revealed that the water supply of Glauke, previously regarded as not found (above, pp. 200, 222, 225), lies 133.35 m. from the northeast corner of the West Shops and so only about 17 meters beyond the point at which Elderkin stopped digging his 73 meters (43 to 116 meters) along the face of the quarry cliff in 1909, in his search for a channel leading southward through the cliff and connecting with chamber IV.

<sup>1</sup> *Corinth*, I, ii, pp. 143–145.

It lies, therefore, about 51 meters southwest of the inlet at the southwest corner of chamber IV. Three channels cut in the top of the rock, uniting into two before plunging over the north edge of the cliff, come in at least one case from the fountain of Hadji Mustapha 580 meters to the south. They contain terracotta pipes, aimed south to north, the bottom of the interior at the outlet being 1.08 m. above the datum of the Temple of Apollo. The rock ceiling of Glauke is 0.35 m. below the same point (Fig. 137), and the level of the inlet at the southwest corner, while not preserved, may be estimated in accordance with the preserved amount as 0.75 m. below datum at the rim of the channel and so as 0.83 m. below datum at the bottom of the channel. Within this difference of 1.91 m. in level and in the distance of about 51 meters, the water descended at a rate of 0.0375 m. in 1 (0.036 m. in 1 inside chamber IV). There can be no doubt that the water supply of Glauke has been identified.

W. B. D.]

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