

ORDNANCE SURVEY
OF
JERUSALEM.

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ORDNANCE SURVEY OF JERUSALEM.

Made with the Sanction of
THE RIGHT HON: EARL DE GREY AND RIPON, SECRETARY OF STATE FOR WAR.

BY
Captain Charles W. Wilson R.E.
UNDER THE DIRECTION OF
COLONEL SIR HENRY JAMES, R.E. F.R.S. &c.
Director of the Ordnance Survey.

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ANCIENT FOUNTAIN NEAR THE COURT HOUSE IN JERUSALEM.

Published by Authority of the Lords Commissioners of Her Majesty's Treasury.

1865.

THE ORDNANCE SURVEY

AND ITS CONTRIBUTION TO THE STUDY OF JERUSALEM

by Dan Bahat

The present volume was the very first scientific publication on Jerusalem and its sites. It represents the summary of the work carried out by a team of men of the British Royal Engineers Ordnance Survey, headed by Captain Charles Wilson.

The work done by this team is still thought of as a splendid scientific achievement, and a watershed in the exploration of Jerusalem and its past. That so much was done in the face of great hardships and with the scantiest means and equipment, makes it all the more impressive. The results of the survey proved the great advantage of teams of people trained in a variety of fields, over the individual scholars who had previously explored Jerusalem. The survey also helped bring about the establishment of the *Palestine Exploration Fund*. Charles Wilson, who had led the survey team with much talent, was appointed head of the society, which was founded shortly after the publication of the *Ordnance Survey of Jerusalem* (1865).

The text of the survey, which has been the basis for all future Jerusalem research, is business-like, clear and straightforward, and despite the formidable amount of information it contains, makes lively and engrossing reading for the layman as much as for the scholar. The plans, maps and illustrations are exceedingly precise and clear, and many of them still serve explorers today.

The photographs, which were published in a separate volume, were taken by the surveyor-photographer James McDonald of the Royal Engineers. They are exceptionally good and represent a turning-point in the history of photography in the Holy Land. Though the purpose of the survey was scientific, and many of the photographs are of architectural interest, some of them are of great value in reconstructing the landscape of Jerusalem as it was before its rapid growth that began towards the end of the 19th century. Some of the details, too, have either vanished or been changed beyond recognition.

The original purpose of the survey was "to improve the sanitary state of the city", chiefly its water supply. The cost of carrying it out, £ 500, was borne by a certain Miss Burdett Coutts, "a lady well known for her benevolence and judicious liberality in promoting good works". To achieve this noble goal it was necessary to prepare an accurate map of the city and its environs. This the British War Office undertook to do, by sending out the team of men of the Royal Engineers, led by the 28-year-old Captain Wilson. The team was armed with little more than some letters of introduction to the local authorities and leading citizens. Wilson ended by spending more than £ 300 of his own to cover the costs.

The six men left England on the 12th September 1864, and arrived in Jerusalem about three weeks later. The sight of the Holy City, which they had been longing to see, was not encouraging, and in particular they were irked by the massive pile of the newly-constructed Russian compound. On the other hand, they were pleasantly surprised by the warmth which they were received by the residents of Jerusalem.

During their stay in Jerusalem the team was greatly assisted by the foreign consulates, as well as by resident scholars such as Conrad Schick and Titus Tobler. The latter helped Wilson to find the subterranean pool north of the Wailing Wall, which Wilson later discovered to be covered by a huge arch, known as the "Wilson Arch" to this day. Some attempts were made at archaeological exploration of the site, but in the absence of suitable equipment little could be done. (The site was later explored by Charles Warren, who, on Wilson's advice, brought mining equipment with him.)

The work lasted eight months, and in May 1865 the team returned to England to prepare the

report on their survey. Its three volumes appeared together that year, comprising one of text, one of maps and one of photographs.

The map volume contains maps of Jerusalem drawn to a scale of 1:2,500; of the environs of the city, to a scale of 1:10,000; the Temple Mount, 1:5000; the Holy Sepulchre and the Dome of the Rock, 1:200. Several other important structures, such as the Citadel, David's Tomb, the Church of St Anne, the Armenian cathedral, the Dome of the Ascension on Mount Olives, the Church of Mary's Tomb and the Church of the Flagellation, are also mapped to a scale of 1:500.

The photographs volume holds 87 pictures of various views in the Holy City.

Wilson's survey shows unprecedented accuracy, based on a meticulous system of triangulation, and marking the level of the ground at intervals of 10 feet. In later years, when the intensive process of urbanization obliterated many features of the city's topography, the Ordnance Survey became an invaluable source of information about it. Wilson's careful measurement from Jaffa via Jerusalem elicited for the first time the exact level of the Dead Sea - 395 metres below sea-level.

In his book, *Early Maps of the Holy Land*, Y. Shatner has this to say about the quality and accuracy of Wilson's map: "This is probably the finest map of any limited area in the Holy Land. Its large scale and precision, and its geographic documentation of Jerusalem, make it invaluable to the study of the Old City and its environs".

The Introduction to the book was written by Colonel Henry James of the Royal Engineers, who was then chief of the Ordnance Survey Office. He describes the preparations for the survey and the instructions given to Wilson. James took a special interest in the geological formations of the region of Jerusalem, devoting several pages of his Introduction to it. He also takes pains to thank various personages who facilitated the survey, including Izzet Pasha, the Turkish governor of Jerusalem, Sir Moses Montefiore, who sent letters to the heads of the Jewish community, and the shipping line which carried the surveyors to and from Alexandria at a reduced rate.

James was particularly interested in the topography of the city and the surrounding country. His mistaken identification of the Tyropoeon Valley led to several other mistakes. Also, he was unfamiliar with certain names, such as that of Bizzetta, or the Brook of St Anne, and he did not question the mistaken ascription of Mount Zion to the City of David.

James gives a general description of the city, its bazaars, quarters and gates, and points out that it corresponds in size to a very small English town, or a central borough of London. He devotes considerable space to the discussion of the water supply in the city, whose improvement was the ostensible purpose of the survey, and emphasizes its poor quality in comparison with the glories of antiquity, such as the Pools of Solomon and Wadi Byar.

His description of the Holy Sepulchre, the Temple Mount and the Dome of the Rock are derived from Wilson's survey, and his resumé of the history of the city in recent centuries is superficial.

His description of the Temple Mount, however, is extensive, and compares the results of the Ordnance Survey with information culled from Josephus Flavius.

Following James' introduction, Wilson himself tells the story of the survey and the conditions under which it was conducted. He tells of contacts with the local population, which were largely friendly, and the measurement and calculation of the level of the Dead Sea in relation to the Mediterranean. He then proceeds to describe the city of Jerusalem, the Temple Mount and the city walls, in considerable detail. Some of his speculations about the age of the walls make strange reading nowadays. In certain places the uneven condition of the Herodian stones (where they were worn by the weather) leads him to conclude that this is their secondary use. But his description of the cisterns on the Temple Mount, supplemented later by Warren's investigations, is still the most reliable and detailed source of information on the subject.

Wilson's description of the Citadel deals also with the Turkish garrison and its arms. He comments

humourously that the old canons in the Citadel are a greater danger to the defenders who would have to use them than to the enemy. The Citadel is described as a "confused mass of buildings of all periods", but the tower itself is described in great detail. Wilson's description of the Church of the Holy Sepulchre includes a verbal picture of its open courtyard and the souvenir pedlars who do a brisk trade with the pilgrims. He describes a fracture in one of the columns at the doorway, in which pilgrims place teeth that they have had taken out, in the hope of growing new ones in their place. The Church of the Holy Sepulchre is described in great detail, but tells us nothing new. Similarly, the information about the other churches, the walls and the gates, is interesting in that it shows how they appeared to a 19th century visitor, but tells us little that was not known before. Nevertheless, even here there are occasional details not found elsewhere. For example, it is stated that a few years before the survey the southern portion of the Ecce Homo arch was destroyed when the building was extended in the direction of the Lions' Gate. Nearby the surveyors were shown "a niche which is said to have been made by the Virgin when pressed against the wall by the crowd following the cross".

Elsewhere it is noted that during the construction of the Latin Patriarchate, a water conduit was uncovered which began in Tancred's Tower and ended in the Russian compound. A further portion of this aqueduct was found in our time outside the western corner of the Old City wall, and was ascribed to the Crusader period.

The work of reconstructing the Church of St Anne, the report states, is very slow and expensive, "all the timber for the scaffolding etc., having to be brought to Jaffa, and thence over the bad roads to Jerusalem". The clay for repairing the floor had to be fetched from Gibeon and worked by potters near the Church of Mary Magdalene.

Among the sites outside the Old City walls, the escarpment of rock near the Protestant cemetery beside Mount Zion is given a good deal of attention, and ascribed by the surveyors to the first city wall of the Second Temple period. The ascription has not been disputed by later archaeologists, though the literature generally attributes the discovery to the engineer Maudsley, who investigated the place ten years later. The survey also deals extensively with the cemeteries of the different religious communities in Jerusalem, as well as the ancient tombs, such as those of the Hinnom Valley and the Sanhedrin tombs.

The surveyors did carry out a certain amount of archaeological excavation, despite considerable difficulties made by the Turkish authorities. The British Consul, Mr Moore, had to step in and smooth the way before any work could be done. The authorities finally permitted the excavations, but stipulated that they should always be informed of the place where an excavation was to be made, that a government policeman would be present, that compensation be paid to the owners of the land, and that "all treasure trove should belong to the Government". However, the Pasha agreed that "anything it might be desirable to keep out of the treasure trove was to be purchased by paying for it at a fair market value". No tombs were to be opened, by order of the Supreme Porte in Constantinople. The difficulties did not end with this agreement. There was always intense bargaining with the proprietors of the ground to be excavated, as for example with the Abu Saud family which owned the ground in front Robinson's Arch.

One of the more important excavations carried out by the surveyors was at Tancred's Tower, called by them Goliath's Castle, known in Arabic as *Qala'at Jalud*. This was obliterated a few years later by the new Collège des Frères. The report states that nothing earlier than the Arab or Crusading period was found there, and this is still the belief of modern scholars. A Roman copper coin, of one of the later Roman emperors, was found in an excavations in front of the north wall of the city, which supports the belief of modern scholars that the present location of the northern city walls was established in the Roman period.

Another important excavation which yielded important results was made in front of the Triple Gate. Here were uncovered channels for water, passageways and cisterns, which the surveyors, like other explorers of the time, thought might have been used for draining the water overflow from the underground cisterns. (This complex had been discovered earlier by the French explorer de Saulcy.)

Chapter IX of the report deals with the main object of the expedition, namely, the water supply at Jerusalem. In ancient times there was a system that included natural springs, pools and wells, and cisterns inside the city. The surveyors studied the remains of all these with meticulous care, and their findings are of great importance to this day. They discovered that Birket Sitti Maryam (The Pool of Mary), had been fed by an aqueduct from the north, whose opening they unearthed. They also reported the presence of a pool near the Tombs of the Kings, which has since vanished without a trace. This pool, into which drained the upper branches of the Kedron Valley stream, was large enough to have filled, by means of an aqueduct, the Pool of Bethesda (Birket Israil). The report describes the northern side of Jerusalem as rich in water sources. It included the Pool of Struthion, the Pool of Bethesda, Birket Maryam, etc.

The survey of the aqueducts of Solomon's Pools was carried out with the help of a certain Meshullam of Urtas, member of a converted Jewish family which had settled in the village in 1858.

As for the modern water supply to the city of Jerusalem, the report describes it as woefully inadequate and of poor quality. The Struthion Pool is used for bathing only, on account of its water being brackish. The Mamilla Pool and Birket Maryam are both surrounded by cemeteries, which render their water unfit for drinking. The water of the Pool of Hezekiah, which receives its water from Mamilla, is also of poor quality. The surveyors propose a series of measures to improve the water supply, such as regular cleaning of the pools. They state that the Temple Mount cisterns hold drinkable water, in sufficient quantity to supply the entire city, but even if the entire system were put in proper working order it would not save the city, because "the water would be exclusively for the use of the Moslem population, who at present would certainly not allow the Christian and Jewish population free access to the sacred area for the purpose of drawing water".

The result of this state of affairs is that the population of Jerusalem is very sickly, as the number of cases treated at the Jewish and Protestant hospitals show. The Jewish community numbered about 9000 at the time, and 5000 cases of sickness were reported treated at the community hospital during a single year. One of the remedies the explorers recommends is to construct a major modern reservoir to serve the entire city, at the Pool of Hezekiah.

The book ends with a list of the names of many sites in and around Jerusalem, as prepared and transcribed by the Rev. Dr Sandreczki, Protestant Minister at Jerusalem. It is published in facsimile, with the Arabic names in the margin. Wilson's aim having been the presentation of the most accurate and detailed report on Jerusalem, the correct names of places were of great importance. Dr Sandreczki had served in the German institutions in Jerusalem for over thirty years, and had a perfect command of Arabic. He concludes his part of the work with two maps, one of the whole city and one of the Temple Mount. Sandreczki's work remains of prime importance to all students of Jerusalem to this day. Many of the names he reports were later forgotten or distorted; their Arabic version is of great importance, too, since there is no other reliable source for them. (Vincent's map, which is generally used nowadays, is 50 years later.) In addition to listing the names of building and sites, Sandreczki often explained the source of the name, the use of the building, and offered other information.

The publication of this survey was a turning point in the study of the Holy City, and the appended plans, maps and photographs make it an historical gem. Its republication today makes it accessible to the large public which takes a keen interest in the exploration of Jerusalem.

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HARAM-ASH-SHARIF.

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29. { a. The so-called Tower of Antonia, in the street leading to St. Stephen's Gate.
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30. Pool of Hezekiah.

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b. Outside of Wall of City, close to the Damascus Gate on the east side.

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41. General View of the City from the Mount of Olives (Two Photographs).

42. General View of the City from the Hill of Evil Counsel (Two Photographs).

43. General View of the City, &c., from the north (Five Photographs).

ERRATA.

Page 1, line 11, *for* 3rd October, *read* 2nd October.
 „ 2, „ 1, *for* Hatram Banhi, *read* Hatram Bashi.
 „ 2, „ 16, *for* Herman Schmettan, *read* Herman Schmettau.
 „ 3, „ 20, *for* Evil Council, *read* Evil Counsel.
 „ 4, „ 24, *for* Wady Suliman, *read* Wady Suleiman.
 „ 6, „ 1, 10, *for* Gerizhen, *read* Mt. Gerizim.
 „ 6, „ 22, *for* Evil Council, *read* Evil Counsel.
 „ 6, „ 27, *for* Mosque el Aksa, *read* Mosque al Aksa.
 „ 7, „ 2, *for* Harem-es-Sherif, *read* Haram-ash-Sharif.
 „ 7, „ 33, page 8, line 29, page 9, line 27, page 12, line 17, *for*
 Haram-es-Sherif, *read* Haram-ash-Sharif.
 „ 9, „ 11 *for* west, *read* east.
 „ 13, „ 2, *for* Sakhrah, *read* Sakhra.
 „ 13, „ 3, *for* Ibu Menvan, *read* Ibu Mervan.
 „ 13, „ 5, *for* El Aksa, *read* Al Aksa.
 „ 13, „ 10, *for* Haram-es-Sherif, *read* Haram-ash-Sharif.
 „ 14, „ 33, *for* 4 or 5 inches, *read* $\frac{1}{2}$ to $\frac{3}{4}$ of an inch.
 „ 15, „ 3, *for* 39 feet 8 inches long, *read* upwards of 20 feet long.

Page 15, line 12, *for* El Burak, *read* Al Burak.
 „ 16, note, *for* Rev. Dr. Sandreezki, Protestant minister, *read*
 Dr. Sandreczki, Protestant missionary.
 „ 20, line 19, *for* being, *read* been.
 „ 23, „ 14, 15, *for* Haram-es-Sherif, *read* Haram-ash-Sharif.
 „ 23, „ 18, page 27, line 7, *for* Mesjed-el-Aksa *read* Masjed-al-
 Aksa.
 „ 27, „ 24, page 28, lines 9, 16, *for* El Burak *read* Al Burak.
 „ 28, note, *for* where, *read* when.
 „ 30, line 40, *for* Mejr-ed-din, *read* Mejr-ed-din.
 „ 32, „ 38, *for* Bab-an-Neby Daúd, *read* Bab-an-Naby Daúd.
 „ 43, „ 18, *for* of, *read* off.
 „ 56, „ 1, *for* isof, *read* is of.
 „ 57, „ 29, *for* fonnd, *read* found.
 „ 58, „ 4, *for* is, *read* in.
 „ 70, „ 30, 33, *for* Abn Saud, *read* Abu Seud.
 „ 77, „ 7 from bottom, *for* long, *read* long.

P R E F A C E.

THE Survey of Jerusalem was undertaken with the sanction of the Right Hon. Earl de Grey and Ripon, Secretary of State for War, in compliance with the request of the Very Rev. Dean Stanley ; who, on the part of a Committee interested in endeavouring to improve the sanitary state of the city, requested his Lordship to allow a survey of it to be made under my direction, with all the accuracy and detail of the Ordnance Survey of this country, the Committee undertaking at the same time to pay the entire cost of the proposed survey, which was estimated at about 500l.*

I consequently drew up minute instructions for making the survey ; and selected Capt. Charles W. Wilson, R.E., and the following party of Royal Engineers from the Ordnance Survey, to execute the work, viz., Serj. James McDonald, Lance-Corp. Francis Ferris, Lance-Corp. John McKeith, Sapper John Davison, Sapper Thomas Wishart ; and they left England on the 12th September 1864, and arrived in Jerusalem on the 3rd October, and immediately proceeded to the work of selecting and measuring base lines, and establishing the triangulation for the survey of the city and the neighbourhood, which is represented on Plate I.

In addition to the requirements of the Committee, I sent out a Photographic Apparatus to enable Serj. McDonald, who is both a very good surveyor and a very good photographer, to take photographs of the most interesting places in and about Jerusalem ; and I instructed Capt. Wilson to examine the geological structure of the country, and to bring home specimens of all the rocks, with their fossils.

I also made application through the Foreign Office for a letter to be sent to the Turkish Government, requesting that instructions might be sent to the Governor of Jerusalem to afford Capt. Wilson and the party every assistance and protection in the execution of their work ; and our thanks are due to his Excellency Izzet Pasha, for the cordial manner in which, under his orders, they were enabled to enter the Mosque of Omar, the Church of the Holy Sepulchre, the Citadel, and other public buildings, and to make minute surveys of them.

To Noel T. Moore, Esq., Her Majesty's Consul, to the Consuls of other nations, and to the principal residents, our thanks are also due, as well as to Sir Moses Montefiore, who was so obliging as to send

* I have since been informed that this sum was given for the above purpose by Miss Burdett Coutts, a lady well known for her benevolence, and judicious liberality in promoting good works.

out letters of introduction for Capt. Wilson to the Hatram Banhi and principal resident Jews in the city.

Our thanks are also due to the Directors of the Peninsular and Oriental Company for their liberality in allowing the party to go in their steamers to and from Alexandria at a reduced rate, and thus contributing towards the cost of the Survey.

LEVELLING FROM THE MEDITERRANEAN TO THE DEAD SEA.

Soon after the party had arrived at Jerusalem my late lamented friend Dr. Falconer brought under the consideration of the Royal Society, and of the Royal Geographical Society, the great importance of availing themselves of the opportunity of our having a party of Ordnance Surveyors in Palestine to get the difference of level between the Mediterranean and the Dead Sea accurately determined, and these Societies were pleased each to place 100% towards the cost of this work at my disposal. I consequently sent out instructions for this work being done, and subsequently for the levelling from Jerusalem to the Pools of Solomon, which, in consequence of the great discrepancy between the levels given by different civil engineers, the Syrian Improvement Committee were anxious to have determined, and observations made on the ancient and present water supply to the city. The sum of 50% was placed, through their Honorary Secretary, the Rev. Herman Schmettan, at my disposal for this purpose.

The party completed its labours, and embarked at Jaffa on the 16th June, and returned to England on the 10th July 1865, without any casualty and without having suffered much from sickness.

	£	s.	d.
The Estimate for the Survey of Jerusalem was	-	-	500 0 0
And the actual cost	-	-	519 10 1
The Estimate for the Levelling from the Mediterranean to the Dead Sea			
was	-	-	200 0 0
And the actual cost was	-	-	214 15 6
The Estimate for the Levelling to the Pools of Solomon and the Inquiry			
into the Water Supply was	-	-	50 0 0
And the actual cost	-	-	52 7 11

The slight excess of the cost over the estimate was principally produced by the detention of the party at Alexandria, in consequence of the breaking down of the mail steamer in the Red Sea.

The Lords Commissioners of Her Majesty's Treasury have on my recommendation sanctioned the engraving and publication of the results of the survey, and they are now given to the public.

Since the completion of this survey a Society has been formed under the patronage of Her Majesty the Queen, which is called the "Palestine Exploration Fund," the first meeting of which was held on the 22nd June 1865, his Grace the Archbishop of York in the chair, and I am much

gratified to state that, from the very satisfactory manner in which Capt. Wilson carried out my instructions for the survey of Jerusalem, the levelling to the Dead Sea, &c., he has been selected to go out as the chief director of the explorations to be made by the new society which has been formed; but although I am deeply interested in the success of this new expedition, in my official capacity I have nothing whatever to do with it.

THE GEOLOGICAL STRUCTURE OF THE COUNTRY,

WHEN viewed as a whole, may be said to consist of a single great fold of tertiary and cretaceous strata, the anticlinal axis of which does not correspond with the water-shed of the country, but is found at Ain Jifna, 25 miles from Jaffa. $2\frac{1}{2}$ miles before reaching Ain Jifna the following series of conformable strata are found in descending order :—

- I. The nummulitic limestone, dipping 17° to the N.N.W., and composed of soft white limestone with bands of flints and fossils, locally known as "Cakooli."
- II. Hard siliceous chalk with bands of flints containing fossils, called "Missæ."
- III. A white soft limestone (or chalk) called "Malaki."
- IV. Pink and white strata of indurated chalk, containing the pink "Santa Croce" marble.

The "Santa Croce" strata are at Ain Jifna horizontal, and form the crest of the anticlinal axis; and from thence forward towards the Dead Sea the strata dip to the East.

In the immediate neighbourhood of Jerusalem the strata have been greatly denuded, having large detached areas of the several rocks described above; they dip to the E.S.E. at about 10° . In the section from the Mount of Olives to the Mount of Evil Council, across the valley or ravine of the Kedron, at the Fountain of Joab, about half a mile south of Jerusalem, we find that the nummulitic limestone or cakooli forms the summits of the mountains, and has a thickness of 291 feet; that the Missæ has on each side of the ravine a thickness of 71 feet; and that the Malaki is 40 feet thick; and that the Santa Croce marble occupies the bottom of the ravine, but the thickness of which could not be ascertained.

In descending from the nummulitic limestone of Mount Scopus and the Mount of Olives towards the Dead Sea, the same series of rocks as have been described are passed over, but with the addition of strata in the cretaceous series of a highly bituminous limestone, containing numerous fossils, pectens, &c. Capt. Wilson conjectures that it is from the decomposition of these strata that the petroleum of the Dead Sea, from which it obtained its name of Lake Asphaltitis, is derived.

The plain which borders the Dead Sea is composed of a soft calcareous deposit, on which nodules of sulphur are found.

To Mr. Etheridge, of the Geological Survey, who, with the sanction of Sir Roderick Murchison, has examined and identified the fossils which were collected during the progress of the survey, we are

indebted for the following notes and lists of the fossils; and Professor Rupert Jones has been so obliging as to examine the foraminifera and other fossils of the tertiary bed, and to give a list of them.

“It would appear from the collection made during the survey, and more especially so from the neighbourhood of Jerusalem, viz., *the Mount of Olives, the Mount of Offence, &c.*, that two distinct geological epochs may be assigned to the structure of the immediate neighbourhood, or indeed the country traversed, one to the *cretaceous* (probably lower chalk), the other to the *nummulite group* of the *middle eocene epoch*, and perhaps also to a still later eocene period. These divisions are determined purely from an examination of the fossils contained in the rock specimens, and particulars of which I now send to you.

“CRETACEOUS GROUP.

“*Lower Chalk.*

“I infer the position and age of this formation by the fossils contained in the hand specimens examined, the rock itself having little resemblance to the chalk of England and Western Europe; but the facies of the few organic remains clearly determines that the bases of the hills closely surrounding the City of Jerusalem itself are composed of white and yellow or buff limestones of the age of our English chalk, and probably the *lower members* of that group. This is inferred from the three species of ammonites collected, and which I cannot distinguish from British and European species; indeed I believe them to be identical. The collection contains *Ammonites rhotomagensis* and *Am. Coupei*, both of which are referable to European species, and have a wide distribution; Conrad's species, *Am. Safedensis*, appears to be the same as a *rhotomagensis* of D'Orbigny. Another ammonite from the Mount of Olives is not distinguishable from species found in the chalk of Wilts, Dorset, and Kent.

“The genus *Hippurites* (of which only one tolerably perfect specimen occurs) is also represented in hard red chalky limestone, from a bed in the ‘Wady Suliman,’ and is closely allied to the ‘*Hippurites sulcatus*’ of Defranc.

“Another group of cephalopoda (baculites), equally well characterizing the lower chalk series, occurs somewhat abundantly, and is either the species *anceps*, *Lamarck*, or *baculoides*, *D'Orb.*, both widely distributed in space, though restricted in time. It is to be regretted that more cephalopoda were not collected, as they afford ready means of determining the age and position of the beds in which they occur. The following species of cephalopoda occur in the collection:—

“ Ammonites	-	Rhotomagensis, D'Orb.
“ „	-	Coupei, Sharpe.
“ Baculites	-	Baculoides or Anceps.
“ Hippurites	-	allied to Sulcatus, Def.

“Associated with the above in rock of a similar lithological aspect and texture occur many species of lamellibranchiata, but few gasteropoda, and I have no hesitation in referring them to the cretaceous formation also, though perhaps many of them may represent higher beds in the chalk than the cephalopoda; but as I have no means of knowing or determining the succession of the beds, or their superposition with regard to each other, I cannot do more than give a list of such as I have been enabled to name, either generically or specifically.

“ The following Genera of Gasteropoda and Lamellibranchiata are all I have been enabled to determine :—

“ *Gasteropoda.*

“ Nerinæa,	Cerithium,	Natica,	Scalaria, (?)
“ Fusus, (?)	Tornatella,	Dentalium,	Actæon.

“ *Lamellibranchiata.*

“ Pecten delumbris (Conrad).	Cardium biseratum, or large C. bellum.
“ „ obrutus (Conrad).	Nucula crebrilineata (Conrad).
“ Anomia „	Leda perdita (Conrad).
“ Ostræa, resembling Syriaca (Conrad).	Lithodomus cretaceous (Conrad).
“ „ „ flabellata (Nillson).	Thetis rhotomagensis.
“ Exogyra (fragment).	Corbula „
“ „ dentata.	Opis „
“ Astarte syriaca.	Lucina „
“ „ undulosa.	Arca „
“ Cucullæa pallelala.	Cyprina „

“ *Annulosa.*

“ *Serpula.*

“ MIDDLE EOCENE.

“ *Nummulite Group.*

“ It is quite evident, upon examining the specimens in the collection, that the higher portion of the elevated tract surrounding Jerusalem to the east, viz., the summit of the Mount of Olives and the Mount of Offence, are composed of strata of different and subsequent date to the underlying Cretaceous rocks ; and I believe I am right in assigning the close-grained marble-like foraminiferal limestone to the Middle Eocene or Nummulite Group, being in fact an extension of the Middle European and North African deposits, as evidenced by its contained fossils.

“ I referred these interesting species to Professor Rupert Jones, who at once determined them, and has permitted me to make use of the notes he appended and supplied to some of the rock specimens collected from the Mount of Olives, and which were determined by careful microscopical sections. His results leave no doubt as to the age to which the specimens collected should be assigned, viz., the *Middle Eocene or Nummulite Group*, undoubtedly belonging to the same series of deposits which range from the Pyrenees and Alps to the Carpathians, is finely developed in Algeria, Morocco, Egypt, and Asia Minor, and onwards to India and China.”

Professor Rupert Jones states that they are interesting as being almost entirely foraminiferal limestone alveolina being mingled in the same beds with the nummulites. “ The chief species of nummulite comprising the mass is *N. Brongniarti*, a *var.* of ‘*N. complanata*,’ and rarely met with in the East.

“ The specimens from Gerizhen are a foraminiferal limestone, *chiefly* composed of *foraminifera*, with fragments of echinodermata, polyzoa, and mollusca. The following species being determined in the specimens :—

- “ 1. *Alveolina ovoides* is the most conspicuous foraminifera in this rock.
- “ 2. *Orbitioides complanatus* not unfrequent, and large size.
- “ 3. *Nummularia Guettardi*, or var. of *N. striata*, abundant.
- “ 4. *Triloculina trigonula*, abundant.
- “ 5. *Quinqueloculina saxorum*?
- “ 6. *Textularia pygmæa* and evidence of other forms are all to be distinguished in the rocks from “ Gerizhen.”

These prove that the corresponding age of the nummulitic limestone is that of the Bracklesham beds of the Middle Eocene of this country, and that the Cretaceous series corresponds with the lower chalk of this country. The Santa Croce beds in colour much resemble the red chalk of Norfolk, but are much harder. And the black bituminous beds would seem to represent the black Cretaceous strata of the Alps.

T O P O G R A P H Y

JERUSALEM.

WITH this preliminary sketch of the geological structure of the country, we are prepared to understand the peculiar character of the topography of the country in and about Jerusalem.

The effect of denudation has been to remove all the nummulitic limestone, with the exception of that which occupies the summit of the high ground extending from Mount Scopus to the Mount of Olives and the Mount of Offence, and that which occupies the summit of the Mount of Evil Council.

The city itself is built on the formation called “ Missæ,” but denudation has exposed the “ Malaki ” and the “ Santa Croce ” formations, as previously described.

The Santa Croce formation is largely exposed to the west of the city, in the neighbourhood of the Convent of the Cross; and it is from the quarries in this quarter that the marble casing of the Holy Sepulchre, the shafts of the beautiful Corinthian columns in the Mosque-el-Aksa, and the greater part of the ornamental stones used in the ancient and modern buildings were obtained.

The ground occupied by the city is bounded on the west and south by the valley of Hinnom, and on the east by the valley of Jehoshaphat or of the Kedron; these unite at the fountain of Joab, about half a mile to the south of the city, and from thence the valley with its water-course, under the name of the Kedron, descends to the Dead Sea. The promontory, thus surrounded by deep valleys on the west, south, and east, is divided by a smaller valley, intersecting the city from north to south, running from the Damascus gate by the pool of Siloam to the valley of

the Kedron, and called the Tyropean valley, or valley of the Cheesemongers; a branch from which ran westward to the citadel. Another small valley to the north of the Harem-es-Sherif entered the valley of the Kedron from the N.W. at St. Stephen's gate.

The ground is thus formed into two spurs, which run out from the higher ground on the north-west of the city, the western and highest of which is the Mount Zion of the Bible, and the "Upper city" of Josephus; whilst the eastern is Mount Moriah, upon which the Temple formerly stood, and the Mosque of Omar, or Dome of the Rock, at present stands.

MOUNT ZION.

The citadel occupies the narrow neck of ground between the valley of Hinnom and the Tyropean valley, and barred the only level approach to the ancient city (for that part of the city which lies to the north of the citadel is, comparatively speaking, a modern addition), and which, being surrounded by valleys on every other side, and being 110 feet higher than Mount Moriah, must have been a very strong commanding position for a small city.

"David and all Israel went to Jerusalem, which is Jebus. David took the castle of Zion, which is the city of David. And David dwelt in the castle; therefore they called it the city of David."—1 *Chron.*, xi.

"David took the stronghold of Zion, the same is the city of David. So David dwelt in the fort, and called it the city of David."—2 *Samuel*, v.

"David began the siege of Jerusalem, and he took the lower city (Acra) by force, but the citadel held out still. When David had cast the Jebusites out of the citadel, he also rebuilt Jerusalem, and named it the city of David, and abode there all the time of his reign."—*Josephus*, "*Antiquities of the Jews*," Book vii. chap. iii.

"Beautiful for situation, the joy of the whole earth, is Mount Zion, on the sides of the north, the city of the great king."—*Psalms*, xlvi.

There can, therefore, be no doubt but that this hill is Mount Zion, for it has been so called in all subsequent histories, and is so called at present.

MOUNT MORIAH.

From the 21st chapter of the 1st Chronicles we learn that David bought the threshing floor of Ornan the Jebusite, and "built there an altar unto the Lord."

"Then David said (1st Chronicles, xxii.), This is the house of the Lord God, and this is the altar of the burnt offering for Israel."

"Then Solomon began to build the house of the Lord at Jerusalem in Mount Moriah, in the place that David had prepared in the threshing floor of Ornan the Jebusite."—2 *Chronicles*, iii.

No one has ever questioned that the Temple formerly stood within the Haram-es-Sherif; and therefore there can be no doubt but that the hill on which the Haram stands has been properly named Mount Moriah.

Now, although on the sketches of the ground the contours and the levels indicate the hills and valleys which have been described, these features are defined with less of that sharpness and distinct-

ness which they must have had in former times. We learn from history and from actual exploration underground that the Tyropean valley has been nearly filled up, and that there is a vast accumulation of ruins in most parts of the city.

Thus, for example, it has been found, by descending a well to the south of the central entrance of the Haram, that there is an accumulation of ruins and rubbish to the extent of 84 feet; and that originally there was a spring there, with steps down to it, cut in the solid rock.

Now, if we examine the photograph of the rocks and houses to the west of the valley, we see that the side of the valley was there nearly precipitous (see Photograph No. 31.a.), and that the ground southward was also very steep, if not also precipitous.

So again, if we refer to the photograph of the stairs, No. 37.b., cut in the solid rock in the English cemetery, we know that this was covered up with about 40 feet of rubbish; and there can be little doubt but the scarped rocks visible in the cemetery itself extend to a great depth below, and probably formed the southern boundary of the ancient city.

Again it was found that there was not less than 40 feet of rubbish in the branch of the valley of the Cheesemongers near the citadel; there is also a large accumulation in that small valley which has been described as joining the valley of the Kedron at St. Stephen's gate.

In fact, we know that it was part of the settled policy of the conquerors of the city to obliterate, as far as possible, those features upon which the strength of the upper city and the Temple mainly depended. The natural accumulation of rubbish for the last 3,000 years has further contributed to obliterate to a great extent the natural features of the ground within the city.

PLAN OF THE CITY.

Having described the ground upon which the city stands, we may now give a brief description of the city itself.

The form of the city may be described as that of an irregular rhomb or lozenge, the longest diagonal of which runs from N.E. to S.W., and is 4,795 feet, or less than a mile long.

The northern side is 3,930 feet long, the eastern 2,754 feet, the southern 3,245 feet, and the western 2,086 feet long, as measured straight from point to point.

The total area of the city within the walls is 209.5 acres, or one-third of a square mile; but in addition to the large area of the Haram-es-Sherif, which is 35 acres, there are many open places about the city walls which are not built upon.

It is consequently only equal in extent to a very small English town, but the population is very dense, the houses being piled upon one another, even in many places across the streets, and in

the year 1865 was estimated at about 16,000, but at Easter time the number of pilgrims and travellers increase the population to about 30,000.

The whole city occupies no larger a space than the block of the City of London included between Oxford Street and Piccadilly, and between Park Lane and Bond Street.

There are five gates to the city, the Damascus gate in the centre of the northern side, St. Stephen's gate on the east side, a little to the north of the Haram enclosure. In the south side there are two, the Water or Dung gate in the Tyropean valley, and the Zion gate on the hill of that name.

Jaffa gate is in the centre of the west side, and immediately under the walls of the northern front of the citadel.

The photographs, Nos. 32, 33, represent the Damascus gate, and portions of the wall to the west of it, with the scarped rocks upon which the wall is built. No. 34 represents the Zion gate.

The city is intersected from north to south by its principal street, which is three-fifths of a mile long, and runs from the Damascus gate to Zion gate. It is about the length of the street running from St. James's Palace along Pall Mall to St. Martin's Church. From this principal street, the others, with the exception of that from the Damascus gate to the Tyropean valley, generally run east and west, at right angles to it; amongst these is the Via Dolorosa along the north of the Haram, in which is the Roman archway, called Ecce Homo. See Phot. No. 27 b.

THE QUARTERS OF THE CITY.

The city is divided into quarters, which are occupied by the different religious sects. The boundaries of these quarters are defined by the intersection of the principal street, and that which crosses it at right angles from the Jaffa gate to the gate of the Haram, called Bâb as Silsilé, or gate of the Chain.

The Christians occupy the western half of the city, the northern portion of which is called the Christian quarter, and contains the Church of the Holy Sepulchre; the southern portion is the Armenian quarter, having the Citadel at its north-west angle.

The Mahometan quarter occupies the north-east portion of the city, and includes the Haram-es-Sherif. The Jewish quarter is on the south, between the Armenian quarter and the Haram.

WATER SUPPLY.

The city is at present supplied with water principally from the numerous cisterns under the houses in the city, in which the rain water is collected, but as even the water which, during the rains from December to March, runs through the filthy streets is also collected in some of these cisterns, the quality of the water may be well imagined, and can only be drunk with safety after it is filtered and freed from the numerous worms and insects which are bred in it.

A supply is also obtained from Joab's Well, from whence it is brought in goat skins on donkeys, and sold to the inhabitants; but this is also very impure.

Of the drainage of the city it is sufficient to say, that there is none in our acceptation of the word, for there are no drains of any kind from the city, and the accumulation of filth of every description in the streets is most disgraceful to the authorities.

ANCIENT SUPPLY.

But when we come to examine the ancient systems for supplying the city with abundance of pure water, we are struck with admiration; for we see the remains of works which, for boldness in design and skill in execution, rival even the most approved system of modern engineers, and which might, under a more enlightened government, be again brought into use.

From the three Pools of Solomon, as they are called, water was led by a conduit from the lower pool along the contour of the ground into the city, the distance being about 13 miles, and the fall 53·8 feet, but the pools were supplied not only from the "sealed fountain" immediately above them, but from a conduit which has been traced for several miles along the Wady Urtas, but not to the source from which the water was obtained.*

Josephus tells us that "Pilate, the procurator of Judea, undertook to bring a current of water to Jerusalem, and did it with the sacred money, and derived the origin of the stream from the distance of 200 furlongs" (Antiquities of the Jews, Book XVIII., Chap. III. par. 2); and it is quite possible that this is the work referred to.

In constructing this conduit, tunnels were cut through a hill near Bethlehem, and through another hill on its way to the valley of Hinnom, crossing which, above the Lower Pool of Gihon, it was led round the southern end of Mount Zion, and entered the city at the altitude of 2,420 feet on the west side of the Tyropean valley.

The conduit was not traced beyond this; but by reference to the levels within the city, it is evident that it might have been carried as far up the Tyropean valley as the spot on which the Austrian Hospice now stands, the level on the front of which is 2,418 feet, but this is much above the original level of the ground. It might also have been led to any of the cisterns within the Haram enclosure, the height of the surface ground being only 2,418 feet at the northern gates. The Pool of Bethesda might also have been filled from it, the height of the bottom of which is 2344 feet.

The two beautiful fountains in the street El Wad, and that near the court-house, of which photographs are given (see Frontispiece and No. 28 a.), might also have been supplied with water brought in at the level of this conduit, these are supposed to be of the sixteenth century, (Moryson, who was at Jerusalem in 1596, says, when describing this part of the city, "Here I did see pleasant fountains of waters.")

But there is a second conduit, which is still more remarkable, and which we have distinguished by the name of the high-level conduit. This comes from the south, down the Wady Byar, in which it is

* This has been since traced by Captain Wilson to a fine fountain in the Wady Aroob, and the Pacha of Jerusalem has repaired the conduit from Solomon's Pools to Jerusalem, which is now supplied from Ain Etan and the "sealed fountain" above the upper pool.

probable a reservoir was formerly constructed ; a tunnel through a hill led round the Upper Pool of Solomon at an elevation of 2,616 feet, and preserving its elevation by following the contour of the ground, till it crosses the ridge of the hill to the west of Bethlehem ; it is carried by a syphon across a hollow which lies in its course, near Rachael's tomb, the lowest part of the syphon being over 100 feet below its mouths.

This syphon is made of blocks of stone with collar and socket joints, and covered with rough rubble in cement to strengthen and protect it, as shown in the sketch. The internal diameter of the syphon is 15 inches.

His Royal Highness Prince Arthur examined a stone syphon of a similar kind at Patara, in Lysia, at the south-west angle of Asia Minor, the internal diameter of which was nine inches.

This high-level conduit then crosses the plain of Rephaim towards Jerusalem, and most probably passed round the Upper Pool of Gihon and entered the city through the citadel ; the fall from above the Pools of Solomon to the Jaffa gate being 88 feet.

It will thus be seen that the water by these conduits was brought from different sources ; and that by the high-level one the upper city could be fully supplied with water, and that means were provided for running the water of the upper into the lower both at the Pools of Solomon and at the Pools of Gihon. This arrangement seems to prove that the city was supplied at one and the same time from two principal sources, as well as from the sealed fountain above the Pools of Solomon.

As regards the tradition that the city was supplied from springs within its walls, the geological and physical structure of the ground, taken in connexion with these great works to supply the city from distant sources, renders it extremely improbable that any spring of importance ever existed within the city walls. The valleys surrounding the city are dry water-courses, such as may be seen in the chalk districts of this country ; and it is only during the heavy rains that the surface water is in part carried off by them. The spring in the Tyropean valley, with steps cut down to it, must necessarily have given only a very insignificant quantity of water ; and the quality and quantity of water found at the Pool of Siloam, although described by Josephus as being sweet and in great plenty, is now very impure and insignificant in quantity.

HOLY SEPULCHRE.

The Sepulchre in which the body of our Lord was laid was originally a nearly square chamber, of about 6 feet in length and breadth and about 9 feet high. It lies nearly east and west ; and on the north side there is a low bench, on which the body was laid. The entrance to this chamber was by a very low passage, leading into the south side from the east. The Sepulchre was cut in the natural rock, but when the Emperor Constantine, at the instigation of his mother the Empress Helena, determined to do honour to this sacred spot, he is said to have caused the rock all round the Sepulchre to be cut away to form a spacious enclosure round it, leaving the Sepulchre itself standing in the midst ; and an examination of the ground fully sustains this description.

He then caused the detached rock to be cased with marble, and a church to be erected on the east side of it, which was finished A.D. 335. The church was seen by Eusebius and Jerome within a few years after it was built; and they describe it as being on the north of Mount Zion, whilst the Pilgrim of Bordeaux, who saw it soon after it was finished, describes it as being on the left of the street leading from the Zion gate to the Damascus or Neapolis gate, as it was also called, in consequence of its leading to both these places.

The church has been rebuilt at various times; but from the concurrent testimony of several writers from time to time there can be no doubt but that a knowledge of the original site was preserved to the time of the capture of Jerusalem by the Crusaders in 1099 and up to the present day.

The Sepulchre is surrounded by a handsome circular building, with a dome open at the top, but at present much needing those repairs which the Empress of the French is exerting herself to raise money to effect.

The Greek church, the principal one of those grouped round the Sepulchre, is immediately to the east of the Sepulchre itself.

Calvary is 140 feet S.E. of the Sepulchre, and 13 feet above the level of it. See Plan of the Church of the Holy Sepulchre.

The *Haram-es-Sherif* is a large quadrilateral enclosure of 35 acres, and nearly one mile in circuit,

The northern side	being	1,042	feet	long.
The eastern	„	1,530	„	„
The southern	„	922	„	„
The western	„	1,601	„	„

The Mosque of Omar, or Dome of the Rock, stands on a platform a little to the west of the centre of the enclosure. The Dome of the Chain, or Tribunal of the Prophet David, is as near as possible in the centre of the enclosure.

The Dome of the Rock is a magnificent building, erected over and around the Sakhra. The Sakhra is a portion of the natural rock, the summit of Mount Moriah; its highest point stands 4 feet 9½ inches above the marble floor of the Mosque, and is 2,440 feet above the level of the sea.

Beneath the Sakhra there is a cave, which is entered by descending some steps on the south-east side. The cave itself is about 9 feet high in the highest part, and 22 feet 6 inches square; a hole has been cut through from the upper surface of the rock into the chamber beneath, and there is a corresponding hole immediately under it, which leads to a drain down to the valley of the Kedron. This hole is supposed to have been made for the purpose of carrying off the blood of the animals sacrificed on the rock when it was the altar of burnt offerings to the Temple.

The Mahometans venerate this rock as the spot from which, according to their belief, their prophet ascended to heaven.

The Dome of the Rock, as we see it at present, is a restoration by Soliman the Magnificent, in the middle of the sixteenth century, of the building originally erected over the Sakhrah by Abd-el-Melik-Ibn-Menvan in A.D. 688 to 691.

The Crusaders took Jerusalem in A.D. 1099, and called the Dome of the Rock the "Temple of the Lord," and the mosque El Aksa the "Palace of Solomon;" and it was here that King Baldwin founded the celebrated order of Knights Templars.

After the expulsion of the Christians these buildings were again converted to the purposes for which they were originally designed.

ENCLOSURE OF THE TEMPLE BY HEROD.

As regards the question as to whether the present area of the Haram-es-Sherif corresponds with the area of the enclosure of the Temple, as it was built by Herod, we are informed by Josephus that in the time of Herod "the fortified places about the city were two, the one belonging to the city itself, " the other belonging to the Temple ; and those who could get them into their hands had the whole " nation under their power, for without the command of them it was not possible to offer the sacrifices ;" and again, " Herod had now the city fortified by the palace in which he lived, and by the Temple, " which had a strong fortress by it called Antonia, and was rebuilt by himself." The similarity of the commanding positions selected for these two fortresses, the citadel and the tower of Antonia, and of the ground forming the two hills, is very striking.

The fortress rebuilt by Herod was that formerly built on the same spot and called Baris.

This fortress, Josephus goes on to say, " was erected on a great precipice," and " stood at the " junction of the northern and western cloisters, that is, on the north-west angle of the enclosure of " the Temple ;" and that " it had passages down to both cloisters, through which the guard (for there " always lay in the tower a Roman legion) went several ways among the cloisters with their arms on " the Jewish festivals, in order to watch the people."

Josephus, in his description of the siege of the Temple by Pompey, B.C. 63, says that the Roman Commander found it impossible to attack it on any other quarter than the north, on account of the frightful ravines on every other side ; and that even on this side he had to fill up "the fosse and " the whole of the ravine, which lay on the north quarter of the Temple ;" and in the description of the siege of the Temple by Herod, B.C. 38, 37, he says, that Herod made the attacks in the same manner as did Pompey, that is, from the north side of it.

When he comes to the description of the siege by Titus, A.D. 70, the Temple with its enclosure, and the tower of Antonia at the north-west angle of the enclosure, having been entirely rebuilt by Herod, B.C. 17, Josephus says that the design of Titus was "to take the Temple at the tower of

“Antonia;” and that for this purpose he raised great banks; one of which was at the tower of Antonia, and the other at about 20 cubits from it; and that for the purpose of obtaining materials for filling up the immense fosse and ravine to the north of the Temple, he had to bring them from a great distance; and that the country all round for a distance of 10 or 12 miles was made perfectly bare in consequence.

After a protracted siege the tower was at length taken possession of by the Romans, and from it Titus directed the further operations of the siege against the inner enclosures of the Temple itself; during which “the Romans burnt down the northern cloister entirely, as far as the east cloister, “whose common angle joined to the valley that was called Kedron, and was built over it; on which “account the depth was frightful.”

Now, on referring to the plans and photographs of the Haram enclosure, No. 7, we see that there is a high rock on its north-western angle, the precipice upon which the tower of Antonia formerly stood, and upon which the barracks for the Turkish guard now stands; we see also that this rock has been in part cut away to make the enclosure square, as Josephus tells us it was.

We see also that the northern side of the enclosure extends to the edge of the valley of Kedron, and that outside there is an immense fosse, now called the Pool of Bethesda, No. 16, and also the ravine which has been described as being on the northern quarter of the Temple.

It would seem, therefore, to be impossible to resist the conclusion, that the northern front of the Haram is identical in position with that of the northern front of the enclosure of the Temple, as it was built by Herod, for the description would apply to no other position for it.

In the description of the enclosure of the Temple, Josephus tells us that “both the largeness “of the square edifice and its altitude were immense, and that the vastness of the stones in the front “was plainly visible;” and that “the wall was of itself the most prodigious work that was ever heard “of by man.”

By means of the photographs and actual measurements we can judge how far this description is applicable to the lowest, and therefore oldest, courses of masonry, which can be traced at intervals nearly all round the enclosure of the Haram.

In examining the photographs, Nos. 17 and 18, of the north-east angle, we find that the lower courses of the masonry are composed of immense stones, one of which is no less than 23 feet 8 inches long and 4 feet deep; and that there is a wide “marginal draft,” $5\frac{1}{4}$ inches wide to these stones, giving the masonry a very bold, and at the same time a very peculiar character, which should be specially noted.

The “batter,” or slope of the wall, is obtained by setting back each course of stones 4 or 5 inches, which also gives a peculiar character to the masonry.

From the north-east angle we trace this peculiar masonry down to, and for 51 feet beyond, the Golden Gate; and again in great perfection for about 250 feet before arriving at the south-east angle,

No. 11, where we see the same peculiar marginal draft to the stones and batter to the wall as at the north-east angle; one of the stones here is 39 feet 8 inches long. Turning the south-east angle, we trace the same peculiar masonry nearly all along the southern side of the enclosure to the south-west angle, Nos. 12, 13, where again this grand old masonry is seen in great perfection, one of the stones at this angle measuring no less than 38 feet 9 inches in length, 10 feet deep, and 4 feet thick.

Thirty-nine feet north of the corner we meet with the springing of a great arch, called Robinson's arch, No. 14. This arch was 50 feet wide, and must have had a span of about 45 feet.

Proceeding northward, we trace this old masonry at one of the ancient gates of the city, the whole of the lintel over which could not be measured, but the part exposed measured 20 feet 1 inch in length, and was 6 feet 10 inches in depth. Immediately north of this gate is the Wailing Place of the Jews, in which the old masonry is again seen in great perfection, Nos. 14, 15.

From this the old wall is traced to the pool or cistern "El Burak," under the entrance gate (Bab-as-Silsilé) to the Haram, the northern portion of which is covered by a semicircular arch, having a span of 42 feet and a width of 43 feet. This arch was discovered by Captain Wilson; it abuts against the old wall, and, as in Robinson's arch, the springing stones form part of the old wall itself.

The western wall of the enclosure is perfectly straight throughout its length, but from Wilson's arch northwards the Haram wall can nowhere be seen below the level of the enclosure. There is an accumulation here of rubbish to the depth of 72 feet, on which the modern Moslem houses are built too close together to admit of explorations under ground, and which, if it were possible, would not be permitted by the Turkish Effendis, the tombs of whose families are placed as close as possible to the sacred enclosure.

We see, however, that all round the enclosure, where it is possible to examine the wall, we have the same grand old masonry; and as there can be no doubt but that Robinson's arch is part of the bridge which Herod built across the Tyropean valley, and led to the royal cloister, which he also built along the south side of the enclosure of the Temple, it necessarily follows that the present Haram enclosure is identical with the enclosure of the Temple of Herod.

We are further confirmed in this view of the subject from the description which Josephus has given of the south side of the enclosure, "which reached in length from the east valley unto that on the west, for it was impossible it should reach any further;" and we see how this side extends, as described, to the very edge of the valley on each side, and this description would not apply to any other supposed position or extent of the south side.

So again, if we examine the substructures on this side, we see that in making the foundations some of the inner parts, as Josephus says, were included and joined together as part of the hill itself to the very top of it, when "he (Herod) wrought it all into one outward surface, and filled up the hollow places which were about the wall, and made it level on the external upper surface."

In the south-east angle we find that the present level surface of the ground is supported by a great number of arched vaults, and although the existing vaults may be of a much more recent date

than those constructed by Herod, it is difficult to resist the conclusion that the supporting pillars are on the exact lines of the ancient supports, the distances between them corresponding so nearly with the dimensions given by Josephus, viz., 45 feet for the central walk, and 30 feet for the two others.

After a careful consideration of what has been written about the sites of the Holy Places, I feel convinced that the traditional sites are the true sites of Mount Zion and the Holy Sepulchre, and of Mount Moriah and the Temple.

Ordnance Survey Office,
Southampton, 29th March 1866.

HENRY JAMES,
Colonel Royal Engineers.

N.B.—The orthography on the plans, which may be relied upon as correct, has been taken from the name lists which were obligingly supplied and translated by the Rev. Dr. Sandreezki, Protestant Minister at Jerusalem, see *fac-simile* copy of his notes at the end.

H. J.

SURVEY OF JERUSALEM.

I.

ON THE STAFF AND METHODS EMPLOYED FOR MAKING THE SURVEY OF JERUSALEM.

THE survey of Jerusalem was made during the winter of 1864-65 by a party of one officer, one serjeant, and four non-commissioned officers and men of the Royal Engineers from the Ordnance Survey, under the direction of Colonel Sir H. James, R.E., F.R.S., &c.,

Capt. C. W. Wilson.	
Serjt. J. McDonald.	
Lance-Corporal F. Ferris.	Director.
„ J. McKeith.	
Sapper J. Davison.	
„ T. Wishart.	

Sailing from Southampton on the 12th September 1864, the party reached Jerusalem on the 2nd of October, and at once proceeded to work.

Though former plans of the city itself were tolerably correct, the character of the ground outside the walls was found to be very different from what had been expected, for not only was there a considerable quantity of timber to the north of the city, but the ground was rough and cut up into small enclosures by loose stone walls, all of which added to the expense of the survey. There was some little difficulty in selecting a site for a base, from the difficulty of getting a level piece of ground, and one where the two ends could see each other; the base adopted for the calculations was measured on the plain of Rephaim, to the south-west of the city.

Though the government of the Porte had been good enough to forward a firman authorizing the prosecution of the survey, and his Excellency the Governor, Izzet Pacha, personally took great interest in it, it was impossible to say at first how the inhabitants themselves would submit to the constant trespass, &c. on their property necessary in carrying out the details of a minute survey, and some caution had to be observed till they became accustomed to the presence of the party amongst them, and the party became better acquainted with the manners and habits of the place.

The ground covered by the survey was triangulated with a 7-inch theodolite, and a chain survey Vide Plate I. then made of the whole, a 5-inch theodolite being used to lay out the longer and more difficult lines. The base was measured three times with a standard chain, and the mean of the three measurements, which had a range of half a link, was used for calculation. A traverse survey was made of the city and Haram area with a 5-inch theodolite. The chain survey was plotted at Jerusalem, and traces made

of the work, which were taken into the field and carefully examined on the ground, any inaccuracies or omissions being at once corrected. The contouring was done with a 5-inch theodolite, and was a very troublesome and tedious piece of work ; the Haram area was instrumentally contoured, but rubbish and ruins covered the ground to such an extent that it was not possible to do this in the city, and the streets were levelled instead, bench marks being left at frequent intervals. Plans of the interiors of the most remarkable public buildings were made, but unfortunately the sum of money granted for the survey was not sufficient to admit of these being made as perfect as could have been wished.

The labourers employed were Nubians and Arabs ; the former were all Moslems, living in the poor houses attached to the mosques in the Haram, and whilst surveying that portion of the city were of great use in making matters smooth with the other inmates of the Haram, who on certain occasions are said to have maltreated Frank visitors. No trouble was experienced by any member of the surveying party whilst at Jerusalem, except on one occasion at Siloam, where a woman created some little disturbance, but the presence of a Government policeman at once put a stop to it. Little difficulties of course often arose, but they were all such as must be met with in working amongst a population speaking a different language and having peculiar customs.

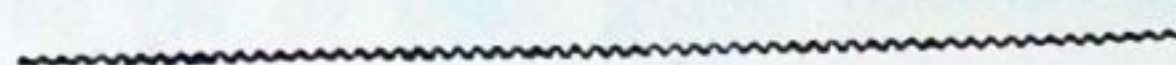
Photography was not considered an essential part of the survey ; the views were taken at spare moments, and were intended to illustrate as far as possible the masonry of the walls and architectural details of the different buildings.

By the time the survey was completed there was not sufficient money remaining to make a regular levelled geological section, and the health of the whole party was becoming so impaired, that it was expedient to move out into the fresh air of the country as quickly as possible.

During the winter the health of the surveying party was everything that could be wished for, but about Easter the city became crowded with pilgrims, and unfortunately it was just at this time that the largest portion of office work had to be done, the confinement arising from which had a visibly bad effect on all.

The names of places in the different churches were obtained from the priests of the different sects ; the Arabic names of the streets and other localities were kindly supplied by Dr. Sandreczki, of the Church Missionary Society, who was ably assisted by Herr Ohly, the Chancellor of the Prussian Consulate, and accompanied by a native of Jerusalem named Yakûb-as-Saa'ty.

In making plans and drawings of the subterranean passages, &c., Mr. Schick, who has charge of the School of Industry, was kind enough to give the aid of his extensive experience, and the assistance he rendered on several occasions was very valuable.





1a. KUBBAT AS SAKHRA FROM S. E. CORNER OF PLATFORM



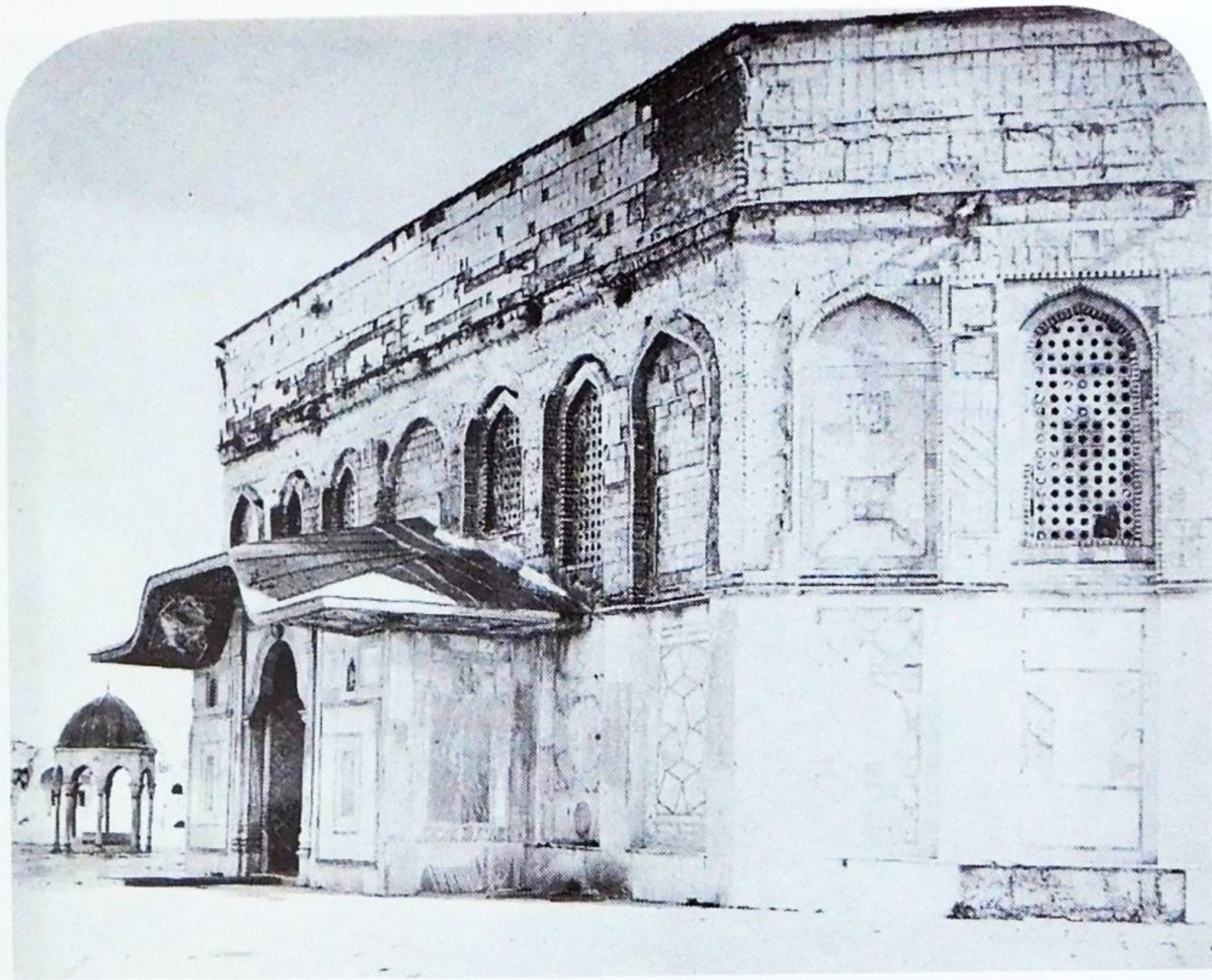
1b. KUBBAT AS SAKHRA FROM N. W. CORNER OF PLATFORM



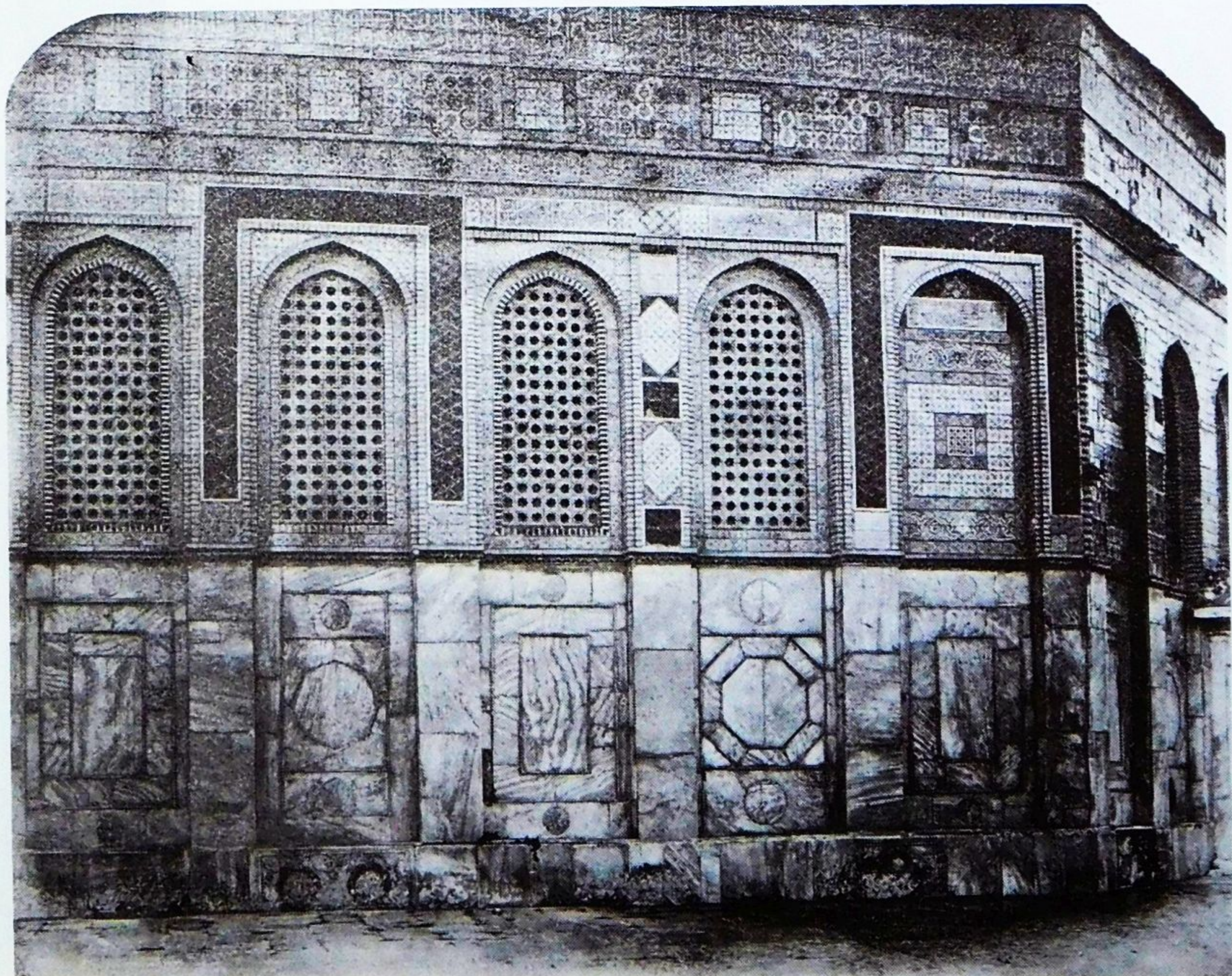
2a. NORTH SIDE OF PLATFORM FROM THE MINARET OVER THE POOL OF BETHESDA



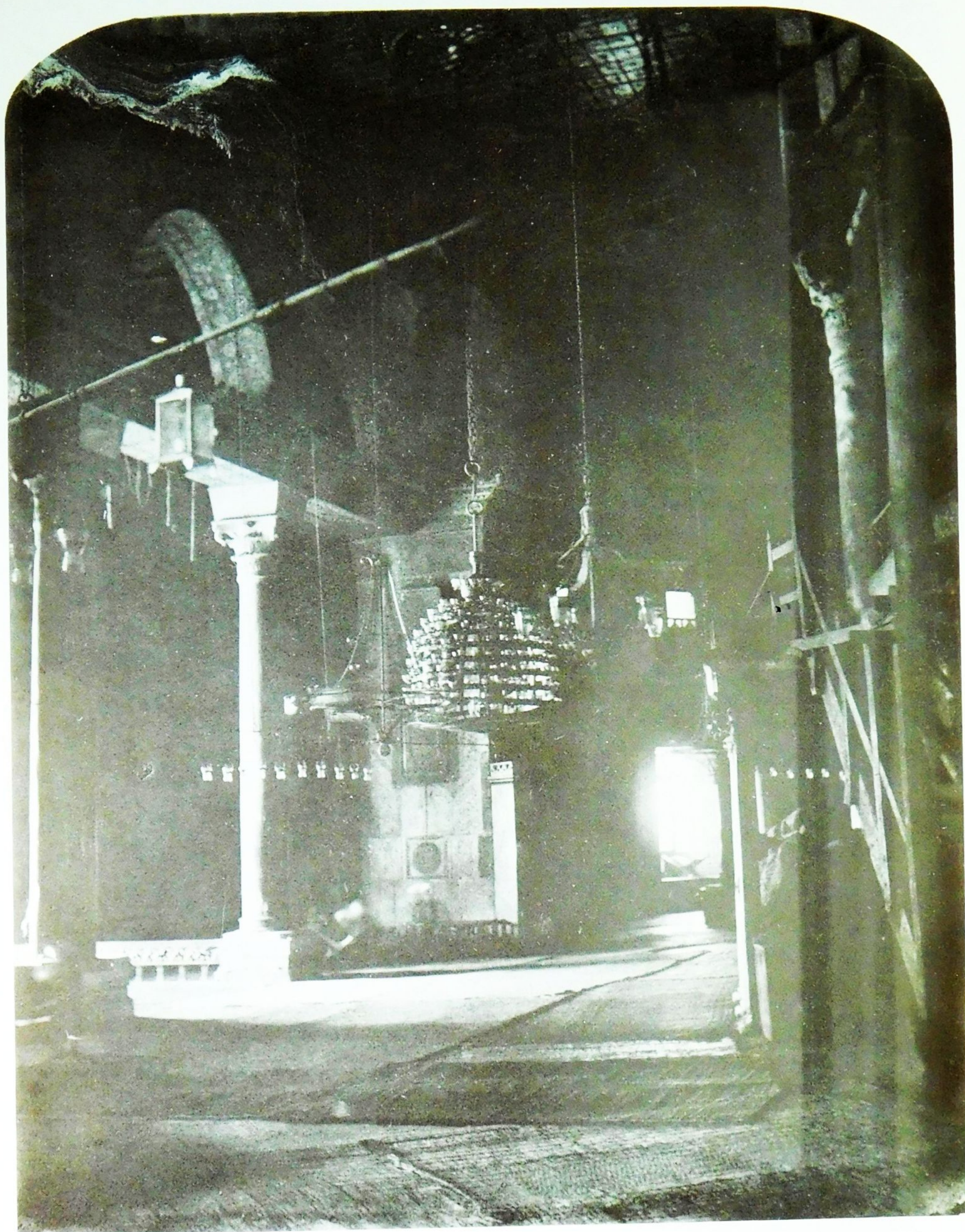
2b. SOUTH ENTRANCE TO KUBBAT AS SAKHRA



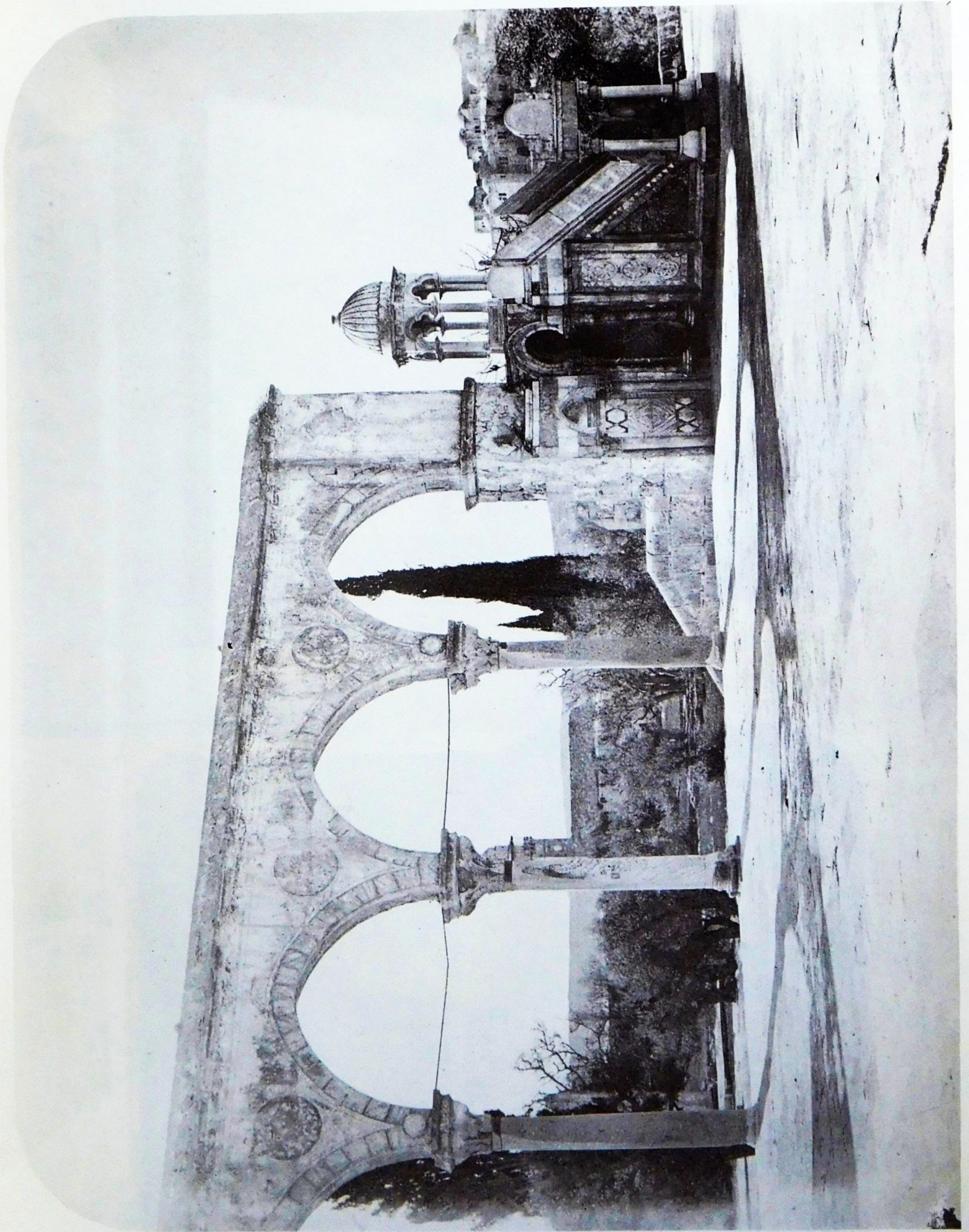
3a. WEST ENTRANCE TO KUBBAT AS SAKHRA



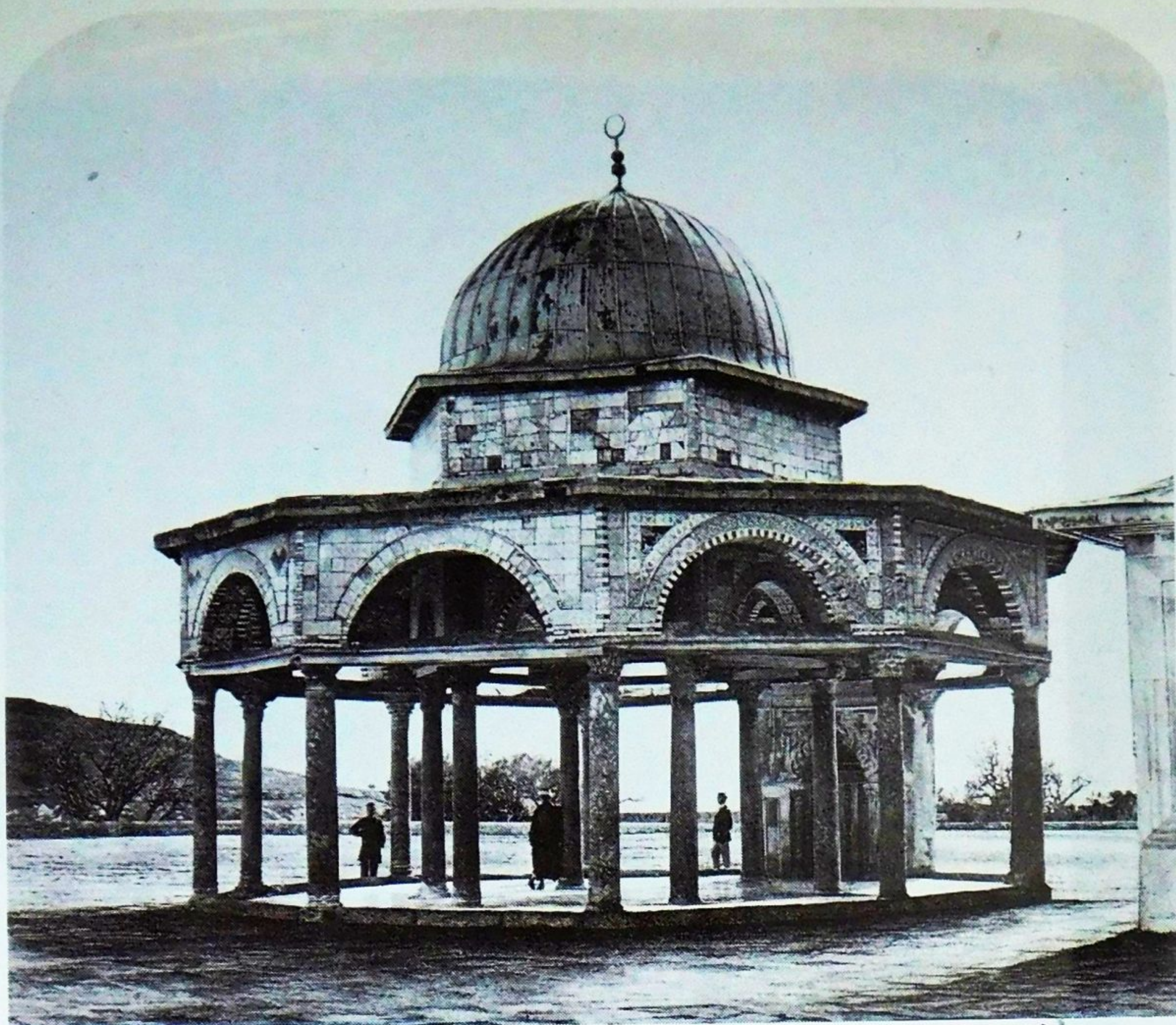
3b. DETAILS OF N. E. SIDE OF KUBBAT AS SAKHRA



4a. INTERIOR OF KUBBAT AS SAKHRA



4b. SCREEN AND PULPIT ON THE SOUTH ENTRANCE TO THE PLATFORM



5a. DOME OF THE CHAIN



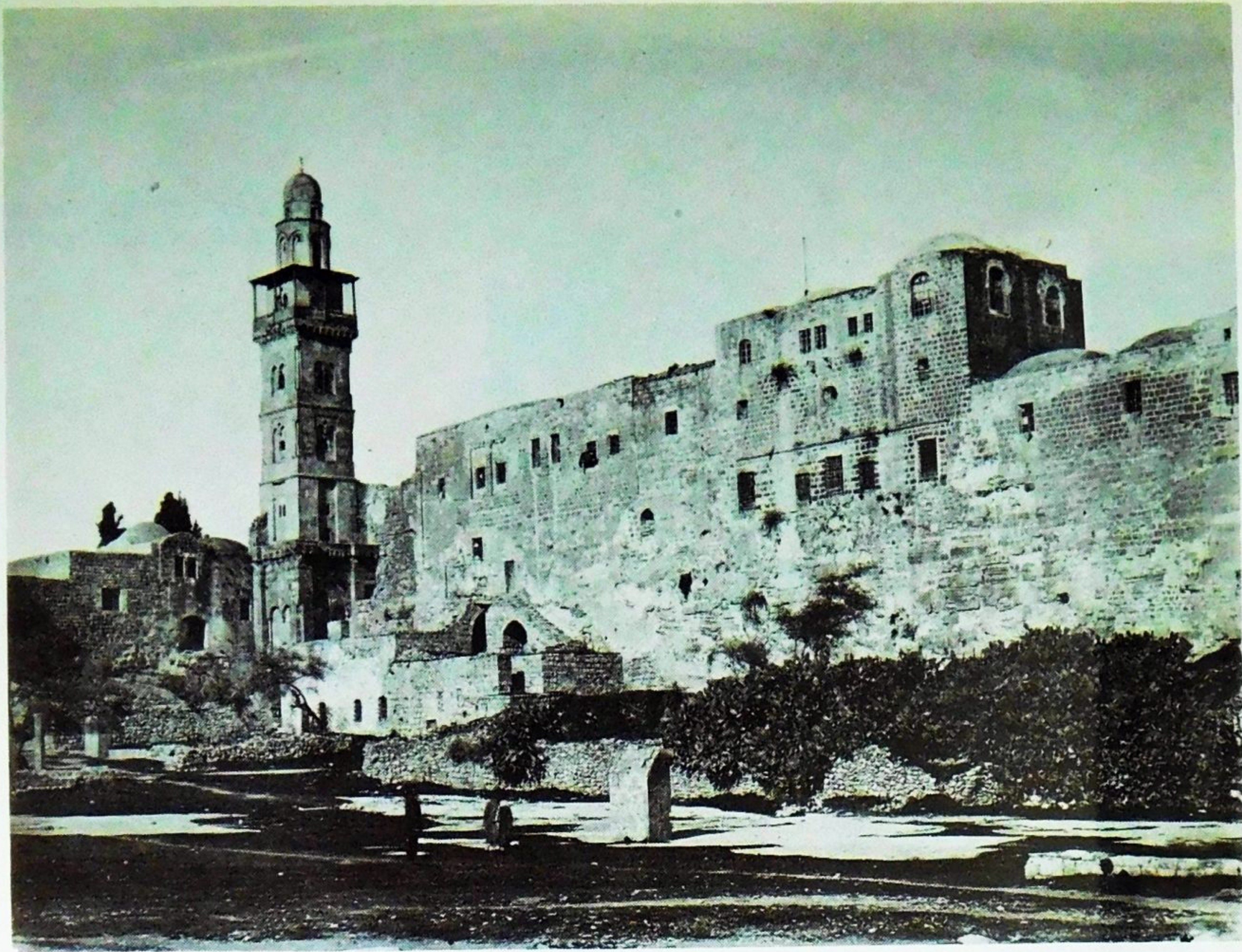
5b. S. W. CORNER OF THE PLATFORM



6a. GATE OF THE COTTON MARKET IN
THE WEST WALL AND CLOISTER



6b. WEST WALL AND CLOISTERS,
LOOKING SOUTH



7a. MINARET AT NORTH-WEST ANGLE AND BARRACKS



7b. BARRACKS IN NORTH WALL



8a. MASJED AL AKSA FROM THE S. E. CORNER OF THE PLATFORM



8b. NORTH FRONT OF MASJED AL AKSA



9. EASTERN VIEW OF THE PLATFORM FROM THE GOLDEN GATE





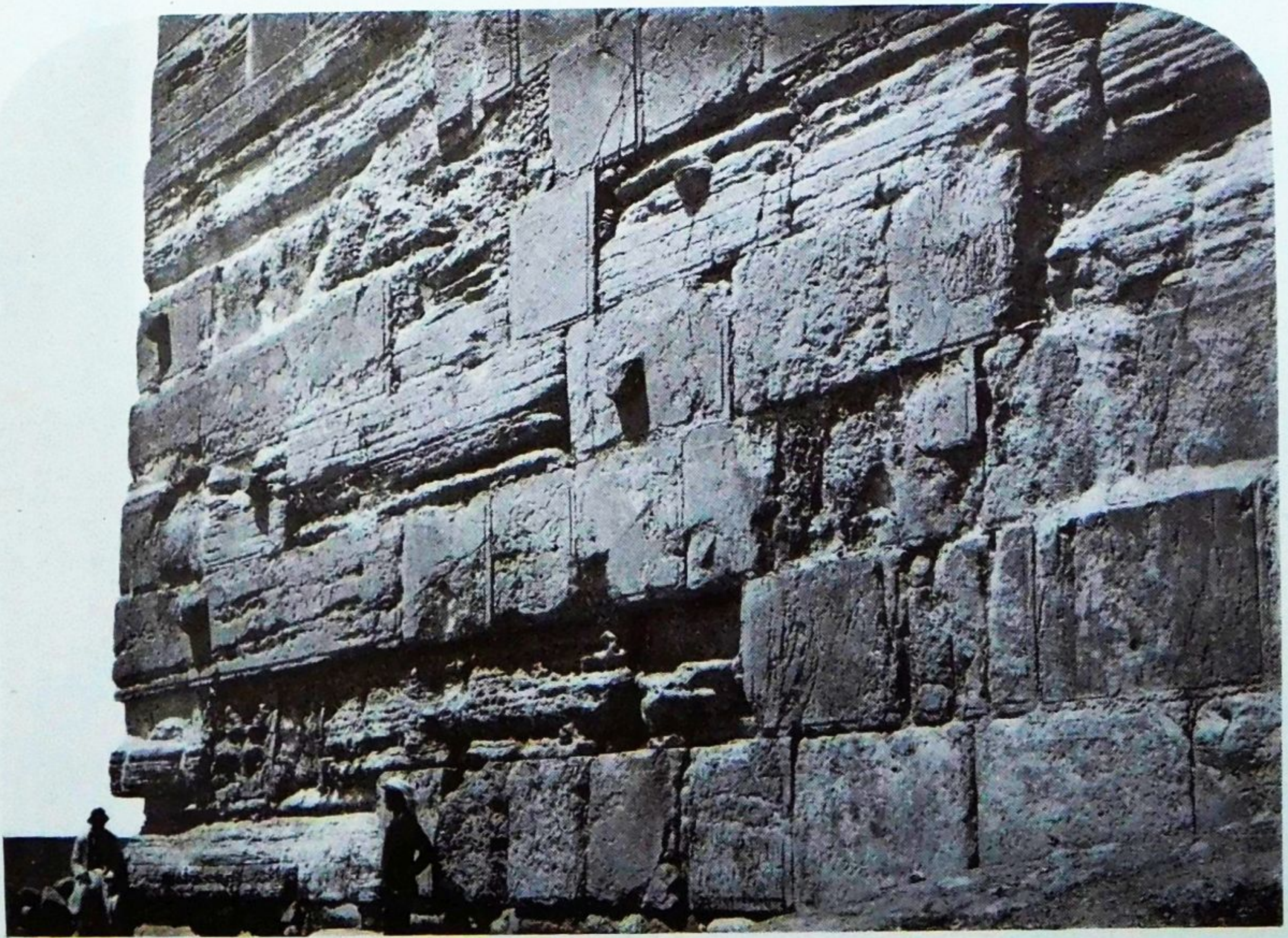
10a. GOLDEN GATE FROM OUTSIDE

10b. GOLDEN GATE FROM INSIDE





11a. EASTERN WALL NEAR SOUTH-EAST ANGLE



11b. EASTERN FACE OF SOUTH-EAST ANGLE



12a. SOUTHERN FACE OF SOUTH-EAST ANGLE

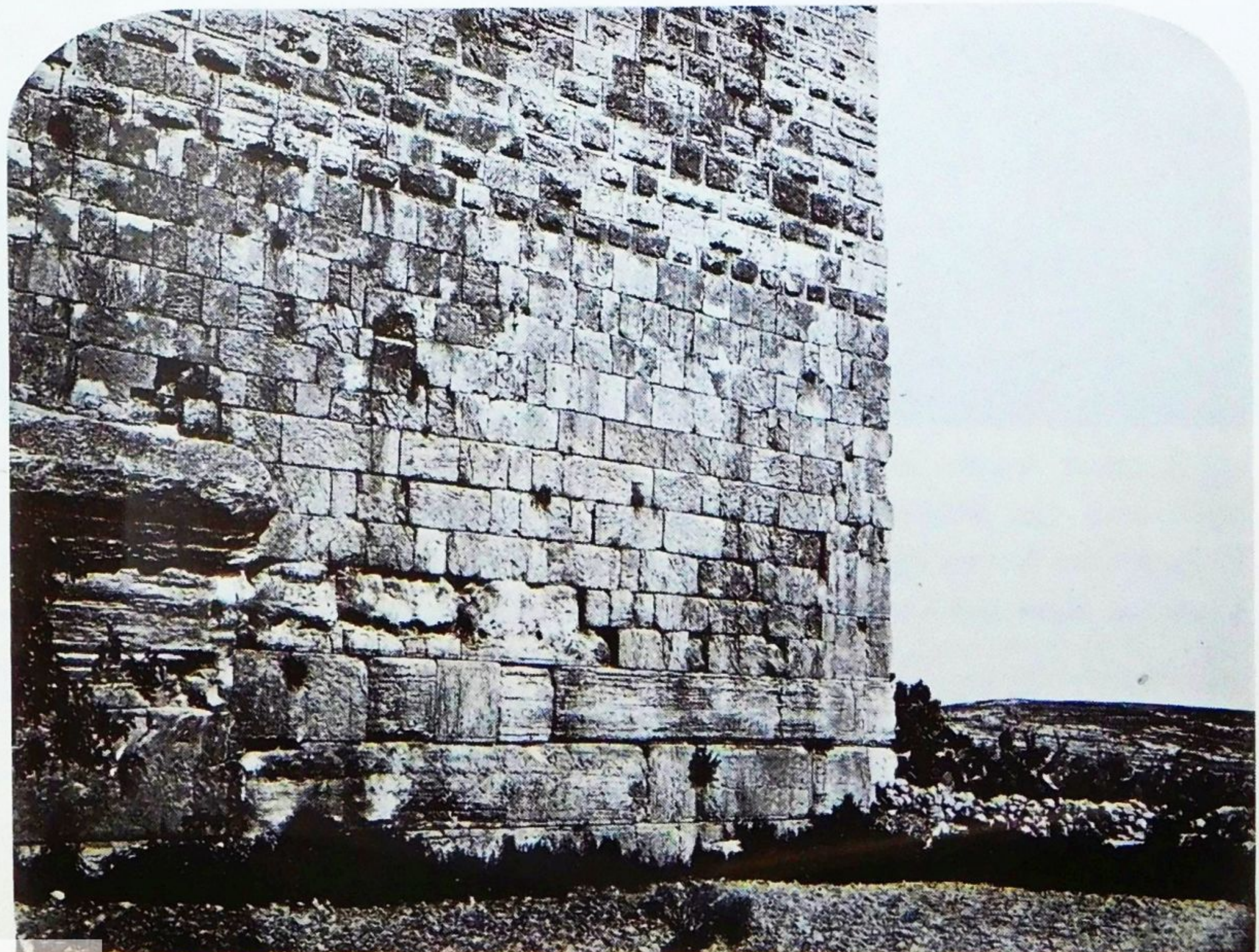


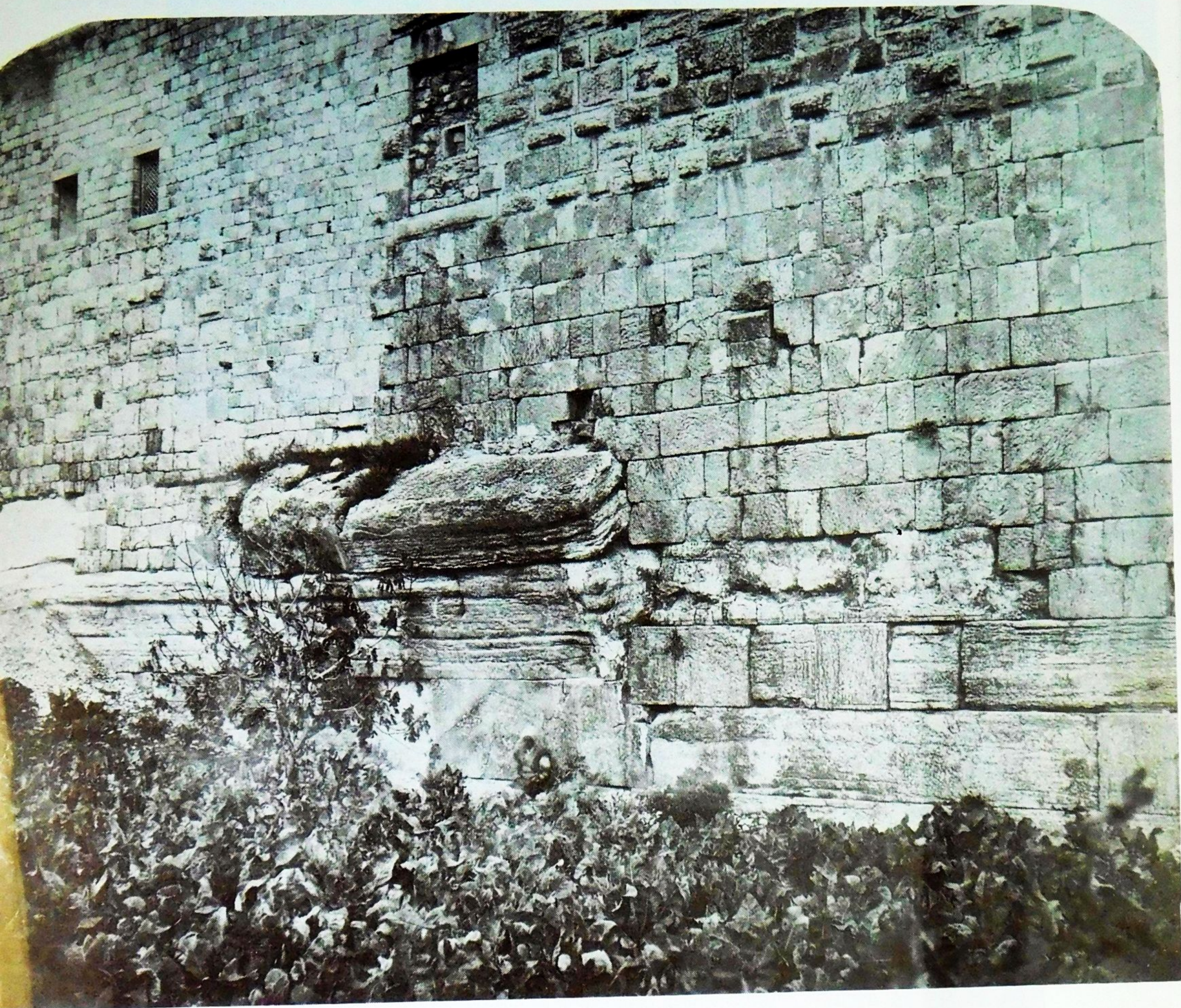
12b. TRIPLE GATEWAY IN SOUTH WALL



13a. DOUBLE GATEWAY IN SOUTH WALL

13b. WEST SIDE OF SOUTH-WEST ANGLE





14a. PART OF SPRINGING OF ARCH NEAR SOUTH-WEST ANGLE

II.

LEVELLING FROM THE DEAD SEA TO THE MEDITERRANEAN.

In levelling from the Dead Sea to the Mediterranean the party consisted of two observers, two stave men, and one chain man. The expense of running two independent lines of levels would have been so great, that it was decided to dispense with this, and to have a single line with two instruments and two observers instead. The back and forward staves were read twice by each observer, and the results obtained compared on the spot; if they lay within a certain limit, the instruments were removed to another station, if not, the readings were taken over again. The rate of levelling of course varied according to the nature of the ground; the average number of stations in a day was 89, and the greatest interval between the staves was eight chains, four on each side of the instrument. Water had to be carried for the use of the men during the daytime, and, as it was very scarce, had often to be brought from a distance; the usual mode of carrying water was in goat skins, which, though convenient for transport, were no protection against the sun, and the water became tepid and disagreeable. Whilst working between Jerusalem and Jaffa it was found necessary to pitch a tent for the protection of the working party during the middle of the day; the hottest period was found to be between 9 and 12, before the sea-breeze commenced to blow. A traverse survey of the whole route was made with a 5-inch theodolite, and the position of the bench marks laid down. Bench marks were cut at several places on the route; at the Dead Sea no rock could be found on which to cut one, and a stone was carried from Kasr Hajla and sunk in the sand on the shore of the bay, nearly opposite the small island and on the top of the beach, and bearings were taken from this to marked points in the hills around, as shown in sketch. A bench mark was cut in the rock opposite the ruins of an old khan at the commencement of the ascent on the right bank of the Wady Kelt. At Jaffa a bench mark was cut on the north wall of the city near the sea, in the position shown in the sketch.

No ruins that have not been previously described were found during the course of the levelling. At Jericho, excepting a few mounds and an old pool, there are no remains earlier than the Christian era, but the traces of aqueducts and conduits furrowing the plain in all directions show that it was once in a high state of cultivation. At Birfileeya a very perfect specimen of an ancient wine-press was found; it consisted of two rectangular excavations in the rock, one about 9 feet square and 12 inches deep, with a sloping floor, so that the juice when pressed out from the grapes might run down into the smaller one, which was about 2 feet 6 inches square. At Lydda some catacombs were opened, built of masonry with vaulted roofs, semicircular arch, and the stones put together without mortar; the chambers seemed to join on end to end, with a passage running through the middle, and were 9 feet by 6 feet; on each side were two recesses, probably for holding the sarcophagi; several sarcophagi of various sizes were found lying about, most of them in a mutilated state, but on one could be traced the inscription below:—

ΘΑΚΗΤΙΩΝΑΛΚΙΟΤΣΙΜΩΝΟΤΓΩΒΑΡ.

θακης υιων αλκιου σιμωνος γωβαρ.

The geological formation of the country seemed to be an immense fold, running nearly in a north and south direction, the anticlinal axis being at Ain Suleiman, in the Wady Suleiman; towards the east, the strata have a dip of 10° to 12° , and strike 123° east of north, and towards the west a dip of 17° , and strike 42° west of north. The Jordan valley near the Dead Sea is composed of a fine calcareous deposit, on which nodules of sulphur are found, and the appearance of this is that of a recent deposit; at present the torrents of each successive winter wash out new and deeper clefts through it, and the old road from Jericho to Kasr Jehûdi is cut through in numbers of places by these. At the commencement of the vale of Ajalon the chalk formation is met with in the same state as that on the Mount of Olives, nothing appears to be fully developed, and the flint is only found in boulders, instead of the continuous bands seen in the country between Jerusalem and the Dead Sea, which have frequently been mistaken by travellers for basalt. No trace of any volcanic action was visible in the country between Jerusalem and the Dead Sea, and as far as could be judged the Jordan valley appeared to be a deep cleft, the same strata cropping out on both sides. The maritime plain is very rich, and lies on a substratum of sandstone of modern formation, and, from its similarity to that at Alexandria, apparently formed by the desert sand. On the sea coast at Jaffa a sandstone or conglomerate is now in course of formation, the modern shells and sand being probably formed into a conglomerate by the rain water which runs down highly saturated with lime from the mountain country.

The instructions for levelling from the Mediterranean to the Dead Sea having been received after the party had arrived at Jerusalem, it was thought best to level in the first place from Jerusalem to the Dead Sea during the cool months, and to complete the line to the Mediterranean at Jaffa, when the party were on their way home.

But in describing the line levelled, we may assume that it was made direct from Jaffa to the Dead Sea.

The line selected was that which runs across the maritime plain direct from Jaffa to Lydda, three miles beyond which, on the road to Beth Horon, the line turns to the right by Jimsu, Birfileeya, and Beit Sira; and from thence up the Wady Suleiman to El Jib, where it again joins the old Roman Road from Lydda, by Beth Horon to Jerusalem. But at about $1\frac{1}{2}$ mile on the north road from the Damascus Gate, the line turns to the eastward over Mount Scopus, where it reached the altitude of 2,724 feet, the height of the top of the large cairn on it. This was the highest point crossed between the Mediterranean and the Dead Sea.

From Mount Scopus the line follows the high ground to the Mount of Olives, and thence takes the road down to Bethany, and, following the road by Khan Hudhur to near Jericho, the line turns to the right within about a mile of the latter place, and was carried thence across the plain bordering the Dead Sea to a point opposite a small island in the sea itself.

Throughout the entire length of this line bench marks ($\overline{\uparrow}$) have been cut at intervals, wherever it was practicable, on the fixed rocks, or on permanent objects.

The following is a list of the bench marks, with the distances between them :—

LIST of the Bench Marks made in Levelling the Line from the Mediterranean to the Dead Sea in
March, May, and June 1865.

No.	Place.	Distance, in Miles and Links.	Altitude.	Where cut.	Remarks.
1	Jaffa -	0 0	Feet. 3·800	Castle wall -	On the wall, 3·800 feet above level of the Mediterranean.
2	„ -	0 1490	31·080	Town wall -	On gate at entrance to town.
3	„ -	0 7972	31·225	On fountain -	On the fountain near Jaffa.
4	- -	1 5831	55·735	On a well -	At west side of road.
5	Yazur -	3 7656	85·405	On a well -	At the east end of the village.
6	Beit-Dejan -	5 5843	91·435	On a well -	At the west end of the village.
7	Sephoreeya -	7 3157	126·540	On a wall -	In Sephoreeya village, near lone tree.
8	- -	9 6495	143·630	On a tree -	On a lone tree on maritime plain.
9	Lydda -	11 5922	164·770	Garden wall -	At east end of Lydda village.
10	- -	14 0358	248·630	West angle of well -	Half a mile west of Jimsu village.
11	Jimsu -	14 5194	411·605	On rock -	In road at thrashing floor, Jimsu.
12	- -	15 1714	478·725	On rock -	On side of road, top of hill.
13	- -	15 6495	549·000	On rock -	On road, top of hill.
14	- -	16 4284	573·035	On rock -	West side of road.
15	- -	17 0548	517·520	On rock -	Side of road and junction of Wady.
16	- -	18 0479	650·075	On rock -	At junction of road to Birfileeya.
17	- -	18 7527	819·180	On rock -	East side of road.
18	- -	19 5196	747·865	On rock -	On side of road.
19	- -	21 7893	751·105	On rock -	In centre of road.
20	- -	25 7849	1,157·530	On rock -	On side of road.
21	- -	26 5121	1,251·470	On rock -	On side of road.
22	- -	27 3392	1,423·015	On wall -	Corner of garden wall in Wady.
23	- -	30 3428	2,064·945	On rock -	South side of stream.
24	- -	30 7617	2,258·250	On rock -	Entrance to Wady Suleiman.
25	- -	33 5560	2,419·505	On rock -	East side of road.
26	- -	37 1670	2,681·915	On stone -	Near Trigonometrical station, Jerusalem survey.
27	- -	37 4078	2,685·390	On stone -	In centre of road.
28	Mount Scopus -	37 6345	2,648·545	On rock -	In centre of road.
29	„ -	38 0612	2,688·700	On cistern -	East side of road.
30	„ -	38 1896	2,715·795	On rock -	Near Gustav Pole.
31	„ -	38 5086	2,662·905	On pillar -	On east side of road.
32	„ -	38 6530	2,603·875	On stone -	West side of road near junction.
33	Mount Olivet -	39 0236	2,623·790	On wall -	West side of road.
34	„ -	39 1721	2,662·500	On rock -	Near summit of Mount Olivet.
35	„ -	39 1731	2,665·080	Surface -	At Trigonometrical station.
36	Ascension -	39 2794	2,643·220	On house -	South side of road.

No.	Place.	Distance, in Miles and Links.	Altitude. Feet.	Where cut.	Remarks.
37	Bethany	40 2409	2,281·825	On rock	Trigonometrical line, Bethany to Scorpion.
38	"	40 4225	2,208·755	On rock	Near well, Bethany village.
39	-	41 0148	2,018·350	On rock	North side of road at junction of fences.
40	Well of the Apostles	41 6063	1,519·615	On wall	Base of Bethany hill.
41	-	42 2457	1,351·845	On rock	South side of road.
42	-	43 1606	1,163·060	On rock	South side of road.
43	-	44 0032	1,039·145	On rock	North side of road.
44	-	45 0375	902·515	On rock	Near junction of Neby Moosa Road.
45	-	47 0498	654·190	On stone	Opposite trees in valley.
46	-	47 3127	776·130	On rock	At the top of the hill.
47	Khan Hudhur	48 5296	870·590	On rock	At entrance to cave opposite Khan.
48	-	50 2545	537·010	On rock	On side of road.
49	-	51 0706	451·510	On rock	At top of hill.
50	Old Aqueduct	52 7866	89·715	On rock	On side of road.
51	-	53 5174	99·035	On rock	On side of road.
52	-	54 0339	209·890	On rock	North side of road.
53	-	54 4465	477·045	On rock	In centre of road, opposite house.
54	-	62 2514	1,273·215	On stone	Sunk on the beach of the Dead Sea opposite island.
55	-	62 2965	1,292·135	Level of sea	Height of Dead Sea on the 12th March 1865.

At the distance of $3\frac{3}{4}$ miles beyond Khan Hudhur, on the road to Jericho, the level of the Mediterranean was crossed, and from thence towards the Dead Sea the levels are marked with the negative sign.

On the 12th March 1865, the party reached the Dead Sea, when its level was found to be 1,292 feet below the level of the Mediterranean; but from an examination of the drift wood on the shore, it was ascertained that at some time of the year, probably after the winter freshets, the water rises $2\frac{1}{2}$ feet higher, which would make the least depression 1,289·5.

From inquiry amongst the Bedouins and European residents in Palestine, it was ascertained that during the early summer the level of the sea falls at least six feet below the level at which it stood on the day the levelling was taken, which would make the depression 1,298 feet; and we may conclude that the maximum depression at no time exceeds 1,300 feet. Lieut. Symonds, R.E., in 1841, made the depression 1,312·2 feet.

The soundings in the Dead Sea by Lieut. Vignes of the French Navy, gave a maximum depth of 1,148 feet, making the depression of the bottom of the Dead Sea 2,446 feet below the level of the Mediterranean. The soundings in the Mediterranean, midway between Malta and Candia, by

Capt. Spratt, R.N., gave a depth of 13,020 feet, or a depression of the bottom five times greater than that of the bottom of the Dead Sea.

The levelling was executed by two independent observers, and from a comparison of the two sets of levelling, it is certain that the levels have been obtained with absolute accuracy to within three or four inches.

The establishment of a chain of levels across the country, with bench marks cut on so many points, cannot but prove of the utmost importance for any future investigations, or for any more extended surveys in Palestine, such as are contemplated by the Society which has been formed since this survey was made, "for the accurate and systematic investigation of the archæology, the topography, the geology, and physical geography, &c. of the Holy Land, for Biblical illustration."

For the survey of Jerusalem itself, it was of the utmost importance, as it enabled us to connect all the levels in and about the city with the level of the Mediterranean, and to harmonize, so to speak, all the levels which have been taken.

III.

HARAM-ES-SHERIF.

Haram-es-Sherif is the name now commonly applied to the sacred enclosure of the Moslems at Jerusalem, which, besides containing the buildings of the Dome of the Rock and Aksa, has always been supposed to include within its area the site of the Jewish Temple. Mejr-ed-din, as quoted by Williams, gives Mesjid-el-Aksa as the correct name of the enclosure, but this is now exclusively applied to the mosque proper.

Vide Plan of
Haram Grounds,
&c.

Holy City, Vol. I.,
App. 2, page 151.

The masonry of the wall which encloses the Haram is of varied character, due to the numerous reconstructions which have taken place during the present era. The lowest courses, and therefore the oldest, are built of what have been generally called "bevelled" stones, a term which has led to much confusion, the style being in reality almost identical with that of the granite work in the forts now building in England, each stone having a "draft" from one-quarter to three-eighths of an inch deep, and two to five inches broad, chiselled round its margin, with the face left rough, finely picked, or even chiselled, according to the taste of the time or labour that could be spared upon it; of the rough work, some portions of the wall near the south-east angle show the best specimens; of the finer, the Wailing Place is a well-known and favourable example. The annexed sketch shows the detail from stones at the Wailing Place; from local indications the fine dressing appears to have been given to the faces after the stones were set. Above these stones, and often mixed with them, are those added during the first reconstruction, large blocks scarcely inferior in size to the older ones, but having plain chiselled faces without a marginal draft; this gradually changes into another style, similar

Photogs. a and b,
page 11.
Sketch 1, Plate X.

in workmanship, but with a very marked difference in the size of the stone, and above comes the later work, of the same date as the great rebuilding of the walls by Suleiman the Magnificent. At the south-west corner another species of masonry is found, which, from other remains of the same kind in the city, appears to be of the Saracenic period, prior to the Crusades; the stones are small, and have a deeply-chiselled draft round their margins, so as to leave the faces projecting roughly two or three inches. The mode of obtaining the necessary batter or slope to the wall has been in each style of building by setting the courses back from half an inch to an inch, as seen in sketch.

Photog. b, page 13; Photog. a, page 14.

Sketch 2, Plate X.

It is extremely difficult to tell what portion of the old masonry of the Haram wall is really "in situ;" it may be urged that the stones are so large that they could not easily have been overthrown, and that wherever they are found in masses they must necessarily be in their original position, but a strong argument against this is the badness of the actual building, for it seems hardly conceivable that men who went to such great expense and labour in tooling the beds and sides of their stones should afterwards disfigure their work by leaving wide open joints, as is here usually the case; some of this defect is due to weathering, but the part thus destroyed can easily be seen, and at Hebron and Baalbec, where the masonry has been less disturbed than at Jerusalem, the joints are so close that it is difficult to insert a knife. Great want of judgment has been shown in the choice of material, and no care has been taken to place the stones on their quarry beds, which has made the progress of decay much more rapid than it would otherwise have been. To the north of Jerusalem, between the Tombs of the Judges and the village of Shafat, there is a very curious tomb, having in its vestibule a representation of the old mural masonry cut on the solid rock, and if this is a copy, as it probably is, of the style in use when the tomb was made, there is certainly nothing now "in situ" in the Haram wall, except perhaps the south-west corner and a portion of the wall under the

Sketch 3, Plate X.

Mahkama. A glance at the accompanying sketch will show the beautiful regularity of the work at the tomb, having, in elevation, the appearance of Flemish bond in brickwork, the marginal drafts of the blocks being chiselled and the faces finely picked. Though, however, much of the masonry now visible may not be "in situ," the present wall has probably been built on the foundations of the older one, and the same stones re-used without that regard to neatness of workmanship which would be shown in a time of great national prosperity.

The material used in the older portions of the wall is from the "missae" and "malaki" beds of stone, in the later Turkish additions from the "cakooli." The "missae," if well chosen, is extremely hard and good, and may be readily recognized in the wall by the sharpness of its angles, which are often as clean and perfect as when they left the mason's hands, even the marks of the toothed chisel being seen on many of the marginal drafts; this stone, however, varies in different beds, and little care has been shown in selecting the best, many of the fine blocks being ruined by the rain or moisture which has found its way into the faults or veins which run through them. The "malaki" is good if it can be kept from the rain, and stone free from flaws is used; most of that in the wall has suffered severely from the weather. The "cakooli" is soft, and inferior as a building material.

A fuller description of the lower or oldest portion of the wall, as seen from the outside, may now be given, commencing with the north-east angle, where, in the so-called Castle of Antonia, we find five perfect courses of large stones with marginal drafts, and above these at the northern end portions of six others; the draft is here $5\frac{1}{2}$ inches wide, and the faces of the stones are better worked than

Photogs., pages 17 and 18.

nearer the south-east angle; the courses vary from three to four feet in height, and some of the blocks are of great length, one being 23 feet 8 inches. The straight joint left between this mass of masonry and the city wall running north, with the sudden termination of the large stones, shows it to have been in existence long before the latter was built, and the appearance of the southern end, where the stones are properly bonded and the draft completed round the corner, would seem to indicate that the four lowest courses were "in situ," if it were not for the irregularity and coarseness of the jointing. Between this tower and the Golden gateway, one, two, three, and occasionally four courses of large stones are visible, the lowest of which projects beyond the others, and seems never to have had the dressing of its face completed. Several of the stones in this part of the wall are the remains of door jambs and lintels.

Photog., page 17.

Sketch 4, Plate X.

The piers of the Golden gateway are built of stones having plain chiselled faces; the northern one is not so well built as the southern, and stones taken from other buildings seem to have been made use of, if we may judge from one or two which have reveals or notches cut in them. The piers are flanked by buttresses of more modern date, which were built to sustain the mass of masonry placed above the gateway when it was turned into one of the flanking towers of the wall, and the entrance was probably closed at the same period; to gain the necessary slope or batter the buttresses were pushed forward four inches, and to take away the unsightliness of the projection the inner edges were chamfered, as seen in sketch annexed.

Photogs. a, page 10, and b, page 18.

Sketch 5, Plate X.

From the Golden gateway to the "so-called" postern, a distance of 51 feet, there are three courses of large stones, with marginal drafts three to six inches wide, and extremely rough faces, projecting in many cases as much as nine inches. Over the doorway there is a sort of lintel, but there are no regular jambs, and the whole has more the appearance of a hole broken through the masonry and afterwards roughly filled up, than that of a postern in a city wall, still it probably marks the site of Mejr-ed-din's gate of Burak. To the left or south of this there is a curious stone, hollowed into the shape of a basin, which on three sides is perforated by a round hole, and attached to the one at the back is a portion of an earthenware pipe, which was probably at one time in connexion with the water system of the Haram, and supplied a fountain at this place.

Sketch 6, Plate X.

Southwards from the postern the stones have all plain chiselled faces, and portions of several broken marble columns have been built transversely into the wall, with their ends left projecting several inches, but shortly after passing "Mahomet's pillar" the marginal draft is again met with, and the ground falling rapidly towards the south-east angle, exposes 14 courses at that point. Shortly before reaching the offset which marks the position of the corner tower, two stones, forming the springing of an arch, and extending over a length of 18 feet, are seen, and immediately above them there has been at some period a window to admit light to the vaults within, which is now closed with modern masonry, leaving a small chamber in the thickness of the wall. The annexed sketch shows the arrangement of the stones, which do not appear to be "in situ," and have nothing in their appearance to justify the belief that they formed part of the arch of a bridge over the Kedron valley; it seems more probable that they came from the ruins of the tower close by, part of the original vaulting of which, made of large stones, may still be seen in the "Cradle of Jesus."

Photog. a, page 11.

Sketch 1, Plate XI.

The stones at the south-east angle form a species of ashlar facing to a mass of coarse rubble work (seen in the vaults), and from this and the fact that the offset at the north end is sometimes formed by notching out the stone, the draft being continued on both tower and wall, it seems probable that they are in their original position. The courses vary in height from 3 feet 6 inches to 4 feet 4 inches, and are set back from half to three-quarters of an inch as they rise; the upper portion of the wall is sadly out of repair, and looks as if the least touch would bring it down; from its summit the wavy, irregular course of the eastern boundary of the Haram can easily be distinguished by the eye.

Photogs., page 11.
Sketch 2, Plate
XI.

Photog. a, page 12. Turning the corner and proceeding along the southern wall, the 14 courses of large stones break down rapidly, and the ground rises so as to allow only one course to be seen at the "single gateway," a closed entrance to the vaults, which has a pointed arch.

Photog. b, page 12. Between the "single" and "triple gateways" there is one course of stones with the marginal draft, with a few scattered blocks above. The "triple gateway" is closed with small masonry, its arches are semicircular, with a span of 13 feet, and the stones in both piers and arches have plain chiselled faces. In front of the gateway are some large flat slabs of stone, which appear to have formed part of a flight of steps leading up to it; an excavation was made here, and three passages discovered by Monsr. De Sauley explored, a description of which will be given in another place. To the west of the gateway there are two courses of stones with the draft, and one of these can be traced to the "double gateway," where it abruptly terminates; this course is of some height, 5 feet 5 inches being seen above ground, and the blocks are finely finished with plain picked faces, and $3\frac{1}{4}$ inch draft chiselled round the margins; one of these stones, which forms part of the left jamb of the western entrance of the "triple gateway," has a moulding worked on it, which seems to have been intended as a sort of architrave, and to have been worked at the time the gateway was built, certainly after the stone was set; on its face the characters shown in Sketch 4, Plate XI. can be traced.

Sketch 3, Plate XI.
Photog. b, page 12.

Sketch 4, Plate XI.

Photog. a, page 13. At the "double gateway," a portion only (5 feet 8 inches) of which is seen, further progress is stopped by a wall running southwards; but, entering the city, part of the ornamental arch over the western door is found in a vault of the Khatuniyeh, and thence the southern boundary of the Haram may be traced to the south-west angle. The construction of the "double gateway" will be better examined from the interior; but here it may be noticed that adjoining the relieving arch over the lintel of the eastern door is the Antonine inscription built into the wall upside down, most of the letters still retain their sharpness, and with the aid of a magnifying glass may be read from the photograph; they are shown in Sketch 5, Plate XI. :—

Photog. a, page 13.
Sketch 5, Plate XI.

Sketch 6, Plate XI. In the portion of Haram wall seen within the vaults of the Khatuniyeh plain chiselled stones and those with a marginal draft are mixed up together, but from thence to 50 feet east of the corner the former only are found; at this point, by forcing a way through the thick growth of cactus, the junction of the two styles of masonry may be seen, and as this takes place near the ground line, it shows how complete must have been the destruction of this part of the retaining wall at the period of reconstruction. The south-west angle, and 50 feet on either side of it, is the finest and best preserved piece of old masonry in the wall, and the stones have more the appearance of being "in situ" here than at other places; one of the blocks is 38 feet 9 inches long, nearly 4 feet thick, and 10 feet deep,

Photogs. b, page 13,
and a, page 14.

and others are of little less size; the bonding of the stones has been very carefully attended to, and the workmanship is admirable; unfortunately the accumulation of rubbish and cactus against the sides of the wall prevent its being seen to such advantage as the south-east angle, which, however, is greatly its inferior in construction and finish. The southern boundary of the Haram is a straight line, the south-west corner a right angle, and the south-east corner an angle of $92^{\circ} 50'$; some trouble was experienced in getting the exact line of the southern wall, on account of the buildings which are clustered against it beneath the Mesjid-el-Aksa.

Thirty-nine feet north of the corner is the springing of an old arch, first brought to notice by Dr. Robinson, and now known by his name; portions of the three lower courses still remain, and from the appearance and position of the stones there can be no doubt about their having formed part of the original wall; the breadth of the arch is exactly 50 feet, and its span must have been about 45 feet, but from the upper stones having slightly slipped, and their surface being a good deal weather-worn, it was not possible to determine the exact curve; indeed, in several of the stones the line of the curve is no longer to be distinguished, as they have been taken from the "malaki" bed, which is soft and easily acted upon by the weather. An excavation was carried to a depth of 37 feet, in search of one of the piers, without much result, except to impress still more on the mind the magnificent effect which must have been produced by a solid mass of masonry rising sharply from the valley to a height of probably not less than 80 or 90 feet, and crowned by the cloisters of the Temple. The line of springing of the arch is on a level or nearly so with the present surface of the ground, and an offset of 1 foot 3 inches, forming the top of the eastern pier or buttress, can just be seen.

Photog. a, page 14,
and Sketch 1,
Plate XII.

From the arch to Abu Seud's house, and in his house as far as could be seen, there is a mixture of plain chiselled stones and those with a marginal draft, but just beyond this, in a small yard to the south of the Wailing Place, the older masonry is again found in the shape of an enormous lintel which covers a doorway, now closed, leading into the small mosque dedicated to El Burak, the mysterious charger of Mahomet. The masonry is here of good, well-chosen material, and apparently "in situ;" the whole of the lintel could not be seen, its measured parts were 20 feet 1 inch in length by 6 feet 10 inches in height.

Sketch 2, Plate
XII.

At Abu Seud's house is the Bab-al-Maghâribé, or Gate of the Western Africans, so called from its proximity to the mosque of the same name; the approach to it is by a steep ascent from the valley, and it enters the Haram on a level with the area; there is nothing of great antiquity in its character.

Immediately north of the lintel is the Wailing Place, which has always been considered as part of the original sustaining wall of the Temple area, but the carelessness of the building, and the frequent occurrence of coarse open joints, makes it doubtful whether the stones really are "in situ." The chiselled draft is here from 2 to 4 inches broad, and from one-quarter to three-eighths of an inch deep, and the faces are all finely worked. Many of the stones are a good deal worn by the weather, the decay being hastened by their not being placed on their quarry bed, or by their softness; indeed the material used is of very different quality, some being of the best "missae," as the whole of the second course from the bottom, which is admirably finished and in a good state of preservation, but above and below this, besides a few blocks of "malaki," a great deal of the upper "missae" has been

Photog. b, page
14; and Photogs.
a and b, page 15.

used; this stratum, which may be almost called "cakooli," contains a number of small nodules, which become loosened by moisture, and commence the work of destruction. The photograph, "Detail of Masonry at Wailing Place," shows the different kinds of stone used, and a few of the blocks set on edge. Several holes cut in the surface of the wall were rather puzzling, till their use was discovered, whilst exploring the vaults under the Mahkama, where they receive the groin point of the arches, so that a series of similar vaults must at one time have covered a great portion of the Wailing Place wall.

Entering a small garden at the north end of the Wailing Place, a continuation of the same style of masonry is seen, and can be traced at intervals in the vaults under the Mahkama till the edge of the pool or cistern of "El Burak" is reached.

From this garden the face of the Mahkama, or court house, also built of stones with marginal drafts, can be examined; it is evidently constructed from old material, and at a much later date than the Haram wall, yet some of it has more the appearance of being "in situ" than many of the other remains in the city.* The double series of vaults which support the court house seem of different ages, from the mixture of segmental and pointed arches; in those next the Haram, the skewbacks of the arches, and where requisite, the seat of the groin, has been cut out of the wall itself.

Descending into the pool of "El Burak," we find a fine portion of the Haram wall exposed, for a length of 36 feet, and then reach the springing of a large arch covering the pool. This arch is semi-circular, has a width of 43 feet and a span of 42 feet, abutting, westwards, on a solid mass of masonry of the same style as the Haram wall. There are 23 courses in the arch of equal thickness, which gives an almost painful appearance of regularity; and the stones, as far as could be judged from the bottom, ranged from 7 to 13 feet in length, not equal in size to those near the south-west angle, but from their perfect state of preservation forming the most remarkable remain in Jerusalem.† Here, as at the south-west angle, the stones at the springing and for two courses above form part of the Haram wall, and whatever date is given to the masonry of the Wailing Place must be ascribed to this, whether it be the Herodian period or that of the first reconstruction after the taking of the city by Titus; if of the former, its perfect preservation may be easily understood, by its forming the best and readiest means of communication for troops passing from one hill to the other, and, as such, of the greatest importance to the Roman garrison.

Immediately north of this arch is another, which covers the remainder of the pool; it is of a perfectly different character, being made of rubble work of small stones, and not having such a large span; it appears also to be slightly pointed, but this cannot be very well seen from the bottom of the pool. At this point also there is an offset of five feet forming the abutment of the later arch, and built of rubble, which conceals the true line of the Haram wall. The north end of the pool is closed, and there is a flight of steps leading up to a door in it filled with loose masonry; an attempt was made to break through this and get down to the Haram wall on the other side, but unfortunately without success. Within the pool the joints of the large stones are covered with cement, and the sides of the later masonry at the south end are completely coated, but it is of bad quality, and

* There is a straight joint between the wall of the Haram and that of the Mahkama.

† At some distance from the ground there is on each side a row of square holes left open where the centering was removed.

beginning to peel off. The floor is formed of two thick layers of good cement eighteen inches apart, the space between being filled with rubbish, and the lower layer resting on a bed of small rubbish levelled to receive it. Through one of the arch stones a hole has been broken to draw water, but the pool seems to have been dry for some years. This is probably "the bridge" mentioned in the Norman Chronicle as quoted by Williams, at which time there appears to have been a free passage beneath to the "Dung Gate."

Holy City, Vol. I.,
Appendix 2, pages
136 and 138.

The principal entrance to the Haram area passes over the arch and enters on a level with the ground within through a double gateway, the one on the right is called the Bab-as-Silsilé (Gate of the Chain), and the one on the left the Bab-as-Salâm (Gate of Peace); at the bottom of the left jamb of the latter there is a massive stone with marginal draft, the north end of which corresponds with the end of the arch over the pool below. The decoration of the exterior face of the gateway is very handsome, and some of the twisted columns have been used in its construction.

From this point to the north-west angle the Haram wall can nowhere be seen below the present level of the area, attempts were made to get at it underground through every opening that could be found, but they were all unsuccessful; there is, however, one place which was not noticed till the winter rains had set in and stopped exploration, where something might be discovered; viz., a large cistern, near the Bab-an-Nâzir, in the court yard round which the houses of poor Moslem pilgrims are ranged. North of the Bab-as-Salâm the rubbish along the western wall rises nearly to the level of the Haram area, and close to the Bab-al-Kaṭṭânîn has a depth of 72 feet; on this, and closely clinging to the western cloisters of the enclosure, are the modern Moslem houses, built too closely together to allow of exploration or excavation, if this were not already prevented by the numerous tombs of Turkish effendis placed as near as possible to the sacred enclosure, and revered by the present generation as of equal if not greater sanctity than the area itself.

There are six gates on the western side north of the Bab-as-Salâm, known as the Bab-al-Mathara (Gate of the Bath), the Bab-al-Kaṭṭânîn (Gate of the Cotton Sellers), the Bab-al-Hadîd (Iron Gate), the Bab-an-Nazîr or Nadhir (Gate of the Inspector), also known amongst Moslems as the Bab Ali-ad-dîn-al-Bosri, the Bab-as-Sarai (Gate of the Seraglio), and the Bab-al-Ghawânimé, or Ghawâriné, called also the Bab-al-Dawîdâr (Gate of the Secretary). The first of these is a small gate formerly leading to the Hammam-es-Shefa but now to the latrines attached to the Haram; the second is a handsome Saracenic doorway opening into an arcade, along the sides of which are ranged a series of vaulted chambers, once the Cotton Bazaar, now the receptacle of all the filth of the neighbourhood which is carelessly thrown in and walled up when a chamber becomes full to overflowing. In the court yard of an effendi's house between the Bab-al-Hadîd and Bab-an-Nâzir, a portion of the exterior face of the Haram wall can be seen; its direction is in the exact prolongation of the line of the Wailing Place, and the wall is composed of large blocks (with plain chiselled faces), backed with coarse rubble, one or two of the stones have the marginal draft, but the style of the work is that of the middle portion of the Wailing Place wall, and it is apparently of the same date. Great hopes were entertained of finding a lower portion of the wall in a cistern at this place, but on descending, the cistern turned out to be a small modern one built in the rubbish and not reaching as far as the wall; the effendi said that in sinking for the foundations of his house, he went down between 30 and 40 feet, and then finding no bottom built on the rubbish, and so great was his fear of it falling down from any disturbance of the ground in the neighbourhood, that not

Photog. a, page 6.

Photog. a, page 16.

even the offer of a large bakhshish could induce him to allow a small excavation to be made in front of the Haram wall so as to determine the character of the lower masonry. The Bab-as-Sarai leads to the official residence of the Pacha of Jerusalem, and is the gate by which Frank visitors generally enter the Mosque grounds. The Bab-al-Ghawânimé is near the north-west angle, and is partly formed by cutting through the natural rock which here rises to the surface. The boundary of the Haram at the north-west angle is formed by houses built on the rock, which has been scarped on the side facing the area.

Turning the corner and proceeding along the northern side, the Barracks form the boundary for some distance ; they are built on the rock, somewhat in the manner shown in the annexed sketch, the main building, which is entered by a flight of steps, being above the natural level of the ground ; the escarpment on the south side is in places 23 feet high, and can be seen from the interior of the Haram, that on the north side is found in a chamber entered from the *Ṭarîk Bab Sittî Maryam* (Via Dolorosa), by a door near the Barrack steps ; the scarped face is 10 feet in from the street, and rises to a height of 8 feet, how far it continues below the made-up floor of the vault cannot be seen without excavation. Between this and the *Birket Israîl* (Pool of Bethesda) the ground is so covered with buildings standing on a level with the Haram area, that neither rock nor wall can be traced, but in the pool the northern retaining wall is exposed to some depth below the Haram level ; it is quite different in character from any other portion of the wall, and its construction is that ordinarily adopted in the pools round Jerusalem ; viz., large stones set widely apart, the joints being packed with small angular stones, to give the cement a better hold. In places large fragments of cement still adhere to the wall, but the pool is useless as a reservoir ; it now receives the drainage of the neighbourhood, and the bottom is covered by a large accumulation of rubbish which conceals the original depth and makes exploration neither easy nor pleasant. At the west end there are two parallel passages covered with slightly pointed arches and of considerable size but now nearly choked up with filth, the drainage and refuse from the houses above being discharged into them by holes broken through the crowns of the arches ; near the pool there is a communication between the two passages by a low arched opening, but the most curious feature is that both passages are cemented as if they had been at one time used as water channels or additional reservoirs, the southern one, which runs along the Haram wall, was traced for 100 feet when the rubbish rose to the crown of the arch and prevented further progress ; the cement and rubbish unfortunately concealed the character of the wall. The *Birket Israîl* lies at the end of the shallow valley, which running down from the north-west passes between the Church of St. Anne and *Al-Mamûniyé*, but it is difficult to say what was the original character of the ground, and what portion of the pool is cut out of the rock which is visible neither in the pool itself nor in the Haram behind it. The eastern end is closed by a dam, formed of the roadway leading into the Haram, and the city wall, but here again there is nothing to indicate the date or mode of construction, and without excavation no one can be certain whether the dam was built wholly or only in part at the time of the reconstruction of the walls, or whether it is wholly artificial closing up the end of the valley mentioned above, or partly rock and partly masonry. The annexed section through the pool and wall shows the present nature of the ground which deserves a more perfect examination. There are three entrances to the Haram on the north side, the *Bab-al-'Atm* (Gate of Obscurity), the *Bab Hytṭa* (Gate of Pardon), which, according to *Mejir-ed-din*, derives its name from the command given by God to the Israelites to say "pardon" as they entered it ; and the *Bab-al-Asbât* (Gate of the Tribes [of Israel]), which is close to the north-east angle, and so-called Castle of Antonia ; the stones in the north face of the castle have the marginal draft, and some of them appear to be "in situ,"

Sketch 1. Plate XIII.

Photog. b, page 7.

Photog. b, page 16.

Sketch 2. Plate XIII.

but the greater portion is a reconstruction most probably of the same date as the towers at the Damascus Gate ; it is, however, much older than the wall running northwards which joins on to it with a straight joint. Photog. page 17.

The area of the Haram is a curious mixture of rock, made ground, and rubbish ; in the north-west angle the rock forms the surface over a considerable extent of ground, and at the Bab-al-Ghawânimé and under the Barracks there is an escarpment which rises in one place to a height of 23 feet * ; a portion of the passage leading out from the Bab-al-Ghawânimé is cut out of the rock, and from this point the bare rock is seen sloping gradually down to the north-west corner of the platform, on which the Kubbat-as-Sakhra stands, where it again rises to nearly the height of the platform pavement. The ground has been lowered by cutting down perpendicularly at the north-west angle, and then removing the overlying strata as far as the platform, so that the surface of the rock, where seen, is at its natural slope or dip. Some very curious cuttings in the rock, which had the appearance of small water channels, for supplying a fountain, were noticed here but their arrangement and object could not be clearly traced. The strata that have been removed are the upper thin beds of "missae" and are exposed in section under the Barracks ; they have a dip of 10° towards the east in the direction of the north wall, and of 15° towards the south in the direction of the west wall. In the north-east corner and between the Birket Israïl and Golden Gate, there has been an immense amount of filling in to bring this portion up to the general level of the area, and it appears to have been done at a period long after the erection of the Golden Gate, the north side of which is nearly hidden by an accumulation of rubbish rising 26 feet above the sill of the western doorway. Immediately in front (west) of the Golden Gate there is a deep hollow, the descent to the entrance being over a sloping heap of rubbish, which, on excavation, would probably be found to cover a flight of steps leading up to the higher level ; the southern side is not so completely covered as the northern, but even here the rubbish is 9 feet above the western door sill, and soon rises to the general level. A little to the south-west of the Golden Gate the rock is again found on the surface, having a dip of 10° due east, and here only one layer of "missae" covers the "malaki," in which the cisterns are excavated ; nearly opposite this a portion of rock "missae" is seen in the wall of the platform. The south-east corner of the area is supported by an extensive system of vaulting, a detailed account of which will be given in another place. Over the space covered by the Masjed-al-Aksa and between it and the platform there is much less rubbish than has generally been supposed ; the irregularity of the ground seems to have been levelled by building up the southern part with massive masonry and filling in the inequalities ; at one point only, near the south-east corner of the platform, the natural rock is seen, rising about 9 inches above the ground, and having its surface chiselled so as to be horizontal, and near this there are a number of large flat stones, probably the remains of some ancient pavement. Along the whole western side of the area nothing can be seen sufficient to decide the original character of the ground ; the Mosque "Al-Burak" near the Maghâribé Gate, lies at a low level, but there seems no reason to suppose that there are any more vaults in connexion with it, spite of the Moslem tradition, which is here probably as groundless as it was proved to be in other places. In the south-west corner are two or three cisterns, which, as far as could be judged from the surface, appeared to be small and cut in the rock ; if so, it would go far to prove the non-existence of a system of vaults

Photogs. a and b,
page 7.

Vide Photogs. a
and b, page 7.

Photog. b, page
10.

Photog. page 9.

* The rock where exposed is shown on Plan by etching.

Photog. a, page 2;
Photog. page 9.

similar to that at the south-east corner.* There is nothing ancient in the appearance of the masonry of the platform, and the covering arches of the vaults on the west side and at the south-west corner are pointed; the chambers were so covered with plaster that no rock could be seen, they appeared to have been built to overcome the irregularity of the surface. At the north-west corner the rock rises nearly to the level of the platform, and wherever it can be seen in cisterns it is not far below the surface. The principal interest of the platform centres in the rock covered by the Mosque, which gives it an air of mystery and a prominence which, were the ground restored to its original shape, it would not possess; in forming the platform, there is no doubt that the rock was cut away in many places, and every possible means taken to give a complete and conspicuous isolation to the central point.

Photogs. a and b,
page 1.

The "Kubbat-as-Sakhra" (Dome of the Rock), has been so frequently repaired and covered by various decorations, that it is difficult to say what belongs to the original building, however, westerly gales outside and Turkish carelessness within are rapidly reducing the Mosque to its original state; no attempt has been made of late years to carry out any repairs, and each succeeding winter sees the fall of larger portions of marble, fayence, and mosaic work, which are carefully collected and locked up till Allah shall send money to put them in their place again, or what is more probable till they disappear through bolts and locks by the mysterious agency of western "bakhshish." The rock is covered by a very elegantly shaped dome, supported on four piers, standing in the circumference of a circle of 75 feet diameter; between each of the piers are three columns from the capitals of which spring slightly elliptical arches which assist in carrying the tambour of the dome. This circle is surrounded by an octagonal

Photog. a, page 4.

screen containing eight piers and sixteen columns which carry an entablature above which are discharging arches slightly elliptical in shape. There is a peculiar feature in the entablature of the screen, that over the intercolumnar spaces the architrave is entirely omitted, and over the columns is represented by a square block cased with marble. A slab from one of the blocks had fallen, but on getting up to it nothing could be seen except the mortar backing against which the slab had rested, and any disturbance of this the Mosque attendants would not allow. The columns, averaging 5 feet 11 inches in circumference for the screen, and 7 feet 10 inches for the inner circle, are of various coloured marbles, and serpentine; they may have been taken from the remains of former buildings, but this can hardly be the case with the capitals, which are all identical in character and very similar to those in the basilica at Bethlehem, the details of capital and entablature are well given by De Vogüé, in "Le Temple de Jerusalem," but after close examination no trace could be found of the cross shown in his engraving, many of the monograms or bosses are quite perfect, and have nothing of the cross about them, and in those destroyed the obliteration is so complete that it requires a very vivid imagination to make anything out of them.

Planche XX.

Photog. a, page 3. Outside the screen is the main building, also octagonal, composed of the best "malaki" stone, finely chiselled, with close beds and joints, and having on each side seven recessed spaces or bays with plain semicircular heads. There are four entrances to the Mosque, the Bab-al-Tanné (Gate of Paradise), the Bab-al-Gharby (Western Gate), the Bab al-Kiblé (Gate of the Kiblé, that is "the gate on the side towards which they turn when praying," the Mecca side), and the Bab-an-Neby-Dâûd (Gate of the

* Since the above was written more recent exploration has proved the existence in these cisterns of a continuation of the passage leading eastwards from the Gate of Mahomet, of which the Mosque Al-Burak (Fig. 5, Pl. XVII.) is a well known portion.

Prophet David) ; each appears formerly to have had an open porch of columns which with the exception of the one at the Bab-al-Kibl  have been closed in and cased with marble, leaving just room enough to enter by the doors, the side portions being turned into rooms for the attendants of the Mosque. Photog. b, page 2.

As far as can be judged, the oldest portion of the Mosque consists of the main building, screen, inner circle, and discharging arches, in fact, everything below the tambour of the dome stripped of its marble casing, ornament and roof, and this from the regularity of its construction, and the perfect agreement of its details, must have formed part of the original building.

The exterior of the Mosque is richly decorated with marble and fayence. The casing of various colored marble reaches from the ground to nearly the foot of the windows, some little of it may be original, but the greater portion is a patchwork, in which old material has been used up, not, however, without some attention being paid to the design which is generally chaste and simple. The slabs are fastened to the stone by metal cramps, run in with lead, a good even bed of mortar having been prepared to receive them as shown in annexed plan and section. At the foot of the casing on the eastern side of the Mosque and built in without any regularity of design are some curiously sculptured marble slabs evidently taken from some other building, as they have been cut down to fit the height of the base or plinth of the Dome of the Rock, one of these slabs was found forming part of the decoration of the Mihrab of John and Zechariah, in Al-Aksa, and another, the most interesting, with a Greek inscription partly cut off, built into the lower part of the casing within the Dome of the Rock and close to the Bab-al-Gharby. The inscription is given below, the latter portion of it seems to be *σωτηρίας Μαρίας* ; on the face of the slab is a simple wreath, similar to the one on Sketch 4, Plate XIII., but without the intersecting squares in the centre. It seems very probable that all these slabs were taken from some Byzantine Church, and that the inscriptions were cut off when the material was re-appropriated ; nothing like them was found in any other part of the city. Above the marble casing the original appearance of the Mosque has been altered by building new windows with pointed heads into the old ones, and so badly has this been done, without bond or tie of any kind, that some have completely fallen out, and all those on the western sides are rapidly approaching the same fate, leaving the semicircular arches behind plainly exposed to view. The whole of this portion as well as the outside of the tambour was covered with fayence, the eastern sides are perfect, and afford a good specimen of this style of decoration, but in consequence of the prevailing westerly winds and rain the sides facing that quarter are sadly out of repair. Three periods of workmanship can be traced, of which the first and oldest is far superior to the others both in elegance of design and quality of manufacture ; the second is also very good, and specimens of it may be seen in two or three places in the city, where, as in the Armenian church of St. James, it shows to better advantage than when beside the finer work on the Mosque ; the third period is that of the later repairs which have been made in bad taste and with worse material. Each piece of fayence is 9½ inches square, and was bedded firmly in strong mortar, a thick coating of which was spread over the whole exterior surface of the building. The interior face of the external wall is covered with a marble casing in which the use of old material is perhaps more apparent than in the work outside ; the piers of the screen and inner circle are ornamented in the same way, and the soffits of the discharging arches under the dome are covered with alternate slabs of black and white marble. The capitals are gilded and the entablature painted with bright colors to bring out the salient points in the architecture ; the bottom of the entablature is covered with a beautiful representation Photogs. a and b, page 3.

Sketch 3, Plate XIII.

Sketches 4 and 5, Plate XIII. ; 1 and 2, Plate XIV. ; also Photog. b, page 3.

Sketch 3, Plate XIV.

Photogs. b, page 1, and a, page 3.

Photog. b, page 3.

in bronze of vines with clusters of grapes. The pavement of the Mosque between the external wall and screen is a confused mass of old material, amongst which there are many portions of sculptured slabs like those seen outside, one of which, a little to the north of the western gate is nearly perfect; between the screen and inner circle the paving has been better cared for, and round the rock itself the workmanship leaves nothing to be wished for.

Sketch 4, Plate
XIV.

The space between the external wall and inner circle is covered by a flat roof with a panelled wooden ceiling, very well finished, and similar to, though in a much better state of preservation than, the ceilings in some of the old mosques at Cairo. The whole internal surface of the dome and tambour is covered with arabesques in mosaic, which, though in some places peeling off, in others retain much of the original freshness of coloring. The discharging arches of the screen are covered with mosaic of an older date, with arabesque patterns and a Cufic inscription, which runs round the Mosque. The windows of the Mosque are remarkable for the beauty of their tracery, no less than for the brilliancy of the coloring, and the admirable way in which the different colors are blended, producing perfect harmony in the whole; one window near the western door is of especial beauty, but to be seen to advantage they should have the full blaze of a Syrian sun streaming through them, which unfortunately cannot be obtained on eight sides at once. The light is admitted through three mediums; first, there is on the outside, as seen in Photog. b, page 3, a thick coating of plaster or mortar, covered with fayence of an open net work pattern, which allows the light to pass to a second window of stone with white glass, and through this to reach the inner window which gives the design and coloring.

The rock stands 4 feet $9\frac{1}{2}$ inches above the marble pavement at its highest point, and 1 foot at its lowest; it is one of the "missae" strata, and has a dip of 12° in a direction 85° east of north. The surface of the rock bears the marks of hard treatment and rough chiselling; on the western side it is cut down in three steps, and on the northern side in an irregular shape, the object of which could not be discovered. Near and a little to the east of the door leading to the chamber below are a number of small rectangular holes cut in the rock, as if to receive the foot of a railing or screen, and at the same place is a circular opening, communicating with the cave, which may either have been the mouth of a cistern, or the ventilator of a tomb, for similar openings were found in the vestibules of most of the large tombs round Jerusalem, either for light and ventilation or to facilitate the excavation. The entrance to the cave is by a flight of steps on the south-east, passing under a doorway with a pointed arch, which looks like an addition of the Crusaders; the chamber is not very large, with an average height of six feet; its sides are so covered with plaster and whitewash that it is impossible to see any chisel marks, but the surface appears to be rough and irregular; on tapping the sides a hollow sound is produced, which the Moslems bring forward as a proof of their legend that the rock is suspended in the air, but after careful examination and trying places where no hollow could exist, it was found to arise from defective plastering, the plaster having become separated from the rock in much the same way as two coats do in careless and bad plasterers' work in England, where the defect is discovered by the wall producing the same sort of hollow sound. There may be a small opening in the side, but certainly no large one, unless it is blocked up with masonry. The floor of the cave is paved with marble, and produces a hollow sound when stamped upon, not merely over the mouth of the supposed well, but over nearly the whole surface.

Vide Plate II.

The Mosque contains several objects held in great reverence by the Moslems; entering by the northern gate (Bab-al-Tanné), we find under our feet the K̄abr Suleiman (Sepulchre of Solomon), and just beyond this a dwarf screen called Taklîd-saif-'Ali (the imitation of Ali's sword), on which pilgrims to the Mosque usually hang shreds from their garments. Over the tomb of Solomon, a small piece of marble, called Balatat-al-Tanné (the Flagstone of Paradise), is let into the pavement, this according to tradition, was formerly studded with nails, which, at uncertain intervals, drop through to the tomb below. At present three remain perfect, and one has sunk some depth; when these disappear, Mahomet will come to judge the faithful. It was not a little curious to see the careful way in which Moslem pilgrims approached the spot, and to hear the grave caution of the attendant, "Take care how you tread, lest you shake a nail through and hasten the day of judgment." At the south-west corner of the rock is shown the K̄adam Mohammed (Footprint of Mahomet), where the prophet's foot last touched earth on his heavenward journey, and hard by on the west is the Kaff Sayidna Gabraîl (Handprint of our Lord Gabriel), where the angel seized the rock and held it down by main force, as it was rising with Mahomet, who it seems could not shake off earthly dust from his feet without some assistance. Over the "footprint" is a rude shrine covered with the little worsted shreds of pilgrims' garments, and containing, carefully screened from vulgar eyes, an object of deepest veneration, a single hair of the prophet's head; close to this, on the east and within the rough wooden railing which surrounds the rock, are the Sarjal-Burak (Saddles of Burak) the mysterious charger of Mahomet, and the pomegranates of the prophet David, said to have been made by his own hand; here also is a really interesting relic, if true, the banners of Omar, carried before him when he conquered Jerusalem, they are now covered with cases which seem not to have been removed for years.* Opposite the handprint of Gabriel is preserved the buckler of Hamza,† the uncle of Mahomet, and on the eastern side of the rock is shown the K̄adam Sayidna Idrîs (Footprint of our Lord Idrîs [Enoch]), a slight hollow in the marble pavement; at the north-east corner a small recess cut in the rock receives the title of K̄iblat-al-Ânbîâ (the Standing (prayer) Place of the Prophets). Entering the cavern by the Bab-al-Maghâra (Gate of the Grotto), a projecting portion of rock in front is known as Lissân-aş-Şaḡhra (Tongue of the Rock), and here is seen the slender shaft of a column which is supposed to uphold the rock; within on the right is the Mihrâb Suleiman (Solomon's Mihrab), and close by, the impression of Mahomet's head, a small cavity in the roof where on the prophet's standing up the rock is said to have yielded like wax to his head: the height from the floor, and therefore of the prophet is 6 feet 7 inches. In the northern corner is the Maḡâm-al-Khiḍr (Place of Elias), and opposite to this the Mihrâb Dâûd (David's Mihrab), with the Maḡâm-al-Khalil (Place of the Friend [Abraham]) between them, a niche in the wall with a step before it. The hollow beneath the floor is called the Bîr-al-Arwah (Well of Spirits), of which several legends are told, and through the circular opening in the roof Mahomet is said to have ascended.

Near the southern gate is a large Mihrab known as the Mihrâb-al-Hanîfi (Mihrab of the Hanefites), of which it may be remarked that it does not take that prominent position in the architectural design that

* Once a year the dust is collected from the surface of the rock to be sold in small quantities to pilgrims, as a specific remedy against all diseases.

† In April 1866 a closer examination of the buckler of Hamza showed that it was an ancient shield of very fine workmanship, and perhaps of Persian manufacture. The face of the shield, which is highly ornamented with figures of birds and animals in relief, of which the peacock is most prominent, has been flattened in, and the polished back is now shown as the face; the shield is enclosed in an open wooden case, and the real front is turned to the wall, to hide the forbidden figures from devout eyes.

Photogs. b, page 1, and b, page 2. Mihrabs do in other mosques, and is supplemented by another smaller one, of rough construction, in front of the southern door.

Photog. a, page 5. The platform on which the Mosque stands is paved with the stone of the country, and carries several smaller buildings, of which the Maḥkamat-an-Naby-Dâūd (Tribunal of the Prophet David) or Dome of the Chain is the most beautiful, the columns and capitals have been taken from some older building, the latter are of various kinds, and have lost all that simplicity of design which is so characteristic of those in the Dome of the Rock. The fayence in the small dome is in excellent preservation, and produces a good effect. Besides this there is the Kubbat-al-Arwaḥ (Dome of the Spirits), called "Chapel of the Angel Gabriel" in Catherwood, the Kubbat-al-Khyḍr (Dome of Elias or St. George), and Kubbat-an-Naby-Mohammed (Dome of the Prophet Mahomet), the "Fatima Chapel" of Catherwood, the two buildings shown on Catherwood's plan as the "Throne of Mahomet" and "Gabriel's Throne" appeared to have no particular name, and are used as sleeping places for pilgrims during Bairam. In the wall of an old magazine at the south-west corner are three twisted columns of beautiful workmanship, and near the flight of steps leading to Al-Aksa is a very handsome pulpit, rapidly falling to decay, known as the Minbar-aṣ-Ṣaif (the Summer Pulpit). At the head of each of the flights of steps leading up from the area to the platform is a screen, to which the name "Mawâzîn" (balance) is given by the Mahometans, perhaps in allusion to the weighing of good and bad actions at the day of judgment, which will take place there. The screens consist of four or five columns carrying pointed arches, and having capitals of various ages, many of them have been covered with plaster and whitewash in the most approved churchwarden style.

Photog. b, page 5.

Photog. b, page 4.

Photog. b, page 4; also Photogs. a, page 2, and page 9.

Photogs. a and b, page 10, and b, page 18. On the eastern side of the Haram area is the Bab-al-Taûbé (Gate of Conversion or Penitence), or as it is sometimes called Bab-ad-Daharîyé (Gate of the Eternal) or Bab-aḍ-Ḍâherîyé, more commonly known to Franks as the Golden Gateway. Descending a steep slope formed by the accumulation of rubbish, access is obtained by a small doorway to the hall or vestibule, the ends of which are closed with modern masonry; the roof is of comparatively late construction, but the body of the work is in a good state of preservation, the finer parts having been preserved by the plaster put on at some time to conceal it. The jambs and lintels of the eastern entrance are very fine, in the latter the sockets for the door posts are still visible, and in one of the former (that on the south) are some markings as if to allow a bolt to be pushed back. On the south side is a small doorway near which on the outside are the remains of an arch, which seems to indicate that at some period there were other buildings in connexion with the gateway. The style of decoration of the cornice and part of the frieze is identical with that seen in the decorated arch over the double gateway, and with the portion of old Roman cornice built into the façade of the Church of the Holy Sepulchre; a very pretty variation in style is seen in the capital of the pilaster, at the north-east corner, where a stone cord has been used to loop up the acanthus leaves; the details are well given by De Vogüé (Temple de Jerusalem, Pls. 7 to 12). No trace of a drafted margin could be found on any of the stones which are plain chiselled; the material has been principally taken from the "malaki" bed, and so badly chosen that much of the decorated portion, exposed to the air, has crumbled away. The two columns, 10 feet 1 inch and 10 feet 2 inches in circumference, supporting the roof are, by a Mussulman tradition, said to have been brought on her shoulders by the Queen of Sheba as a present to King Solomon; through the gateway itself, at the last day, the good will pass on their way to the Houris of Paradise, after having safely crossed the Kedron on that bridge which is sharper than the sharpest sword; and their legend says that the Christian Prince who retakes Jerusalem will here make his

Sketch 1, Plate XV.

Photog. b, page 10.

triumphal entry, and it may be remarked that this belief in the recapture of the city by the Christians, and that their tenure is drawing to a close, seems widely spread amongst the Moslems in the country.

From the top of the Golden Gateway a good general view of the mosques is obtained, and of the wavy course of the eastern wall. The height of the wall, on the outside, is here 42 feet 3 inches. Photog. page 9.

North of the Golden Gateway is a building called "Solomon's Chair," to which peculiar sanctity seems to be attached, as none of the party were allowed to enter it; but the windows were opened wide enough to obtain a good view of the interior. The building is small and of modern date; it contains a sort of mausoleum covered with carpets and cloths like the Tomb of David, and appears to be visited only once a year, at Bairam, by the Moslems themselves. "Solomon's Chair."

At the south-east corner of the area a flight of steps leads down to a small mosque, in which is shown the Sarir Sayidna 'Aisa (the couch or cradle of our Lord Jesus), an old Roman niche placed on its back and covered by a sort of shrine; to the right of this is the Mihrâb Maryam (Mihrâb of [the Virgin] Mary), and two recesses in the eastern wall are shown respectively as the Maḳâm al-Hawariyîn (Place of the Disciples), and the Maḳâm Yahya wa Zakariya (Place of John and Zachariah). The mosque is built on a mass of rubble masonry, and most of it is of comparatively recent date, but on the eastern side, in the interior, the springing of a large heavy arch can be plainly seen. The masonry is now so thickly covered with plaster and whitewash that its character cannot be determined, but it is probably of the same date as that of the wall outside (south-east angle), and formed part of the covering arch of a chamber in the tower. From a small window on the right-hand side going down the steps, a good view of the vaults may be obtained by those not able to accomplish the descent. The height of the wall from the ground is here about 80 feet, the upper part is in a very unsafe state. "Cradle of Our Lord Jesus."

The entrance to the subterranean vaults called "Solomon's stables" by Franks, and Al Masjed-al-Ḳadîm (the old mosque) by Moslems, is through a hole, broken in the crown of one of the arches, near the south wall of the Haram between the Aksa Mosque and the Cradle of Jesus. The piers of that portion of the vaulting east of the Triple Gateway, are a reconstruction with old material, which is much worn as if it had been exposed to the weather for some time; all of the stones have drafted margins, in some cases the draft was found on all four sides, in others on two, but in most on only one. One of the piers is made of a huge lintel or door jamb, the reveal of which is filled up with small stones as shown in sketch; the bottom of the lintel was covered with rubbish, its measured height was 12 feet 6 inches, but if it extended to the level of the floor it would be from 8 to 10 feet more. In the masonry of the piers may still be seen the holes by which the Crusaders fastened their horses when the place was used as a stable. The level of the floor of the vaults is 38 feet 3 inches below that of the Haram above. The arches are semicircular 11 feet 5 inches span, 5 feet 9 inches rise, and neatly finished with plain chiselled stones. The divergence of the eastern wall which makes an obtuse angle with the southern one, has necessitated a slight splay in the aisles, each of which opens out towards the north, thus avoiding the unpleasant appearance which would be caused by the extra width being made up in one aisle. In the south east angle are the remains of some very coarse rubble work; the large blocks seem to have been thrown irregularly together, and the interstices then packed with smaller stones and mortar. The whole block appears to have formed the foundation of a tower, of which the fine portion of masonry seen outside was the facing, there is nothing by which it can be determined Vaults at south-east angle.

Sketch 2, Plate XV.

Photogs. b, page 11; a, page 12.

whether there was a similar facing inside, but from the isolated position of the ruin it is probable there would have been. The lower part of the eastern wall of the Haram as seen from the inside, is built of large stones with their faces left undressed, and much as taken from the quarry; the material is of varied quality. A little to the north of the tower a small opening admits light through the eastern wall, and here there is a chamber in the thickness of the wall formed by closing up both ends of what appears once to have been a window, but one made on the reconstruction of the wall. Just below this is a large stone half covered with rubbish, which may either be part of a window sill or of an engaged column for the jamb of a gateway, in its side there is a hole to lift the stone by, similar to those now made in the granite quarries of Cornwall. There is a great deal of rubbish in the vaults and a large accumulation of small stones, from a habit the Moslems have of making a pile of stones in a sacred place when they make a vow. The remaining part of the substructure is made up of the three vaulted passages leading from the "Triple Gateway," these appear to have been built at the same time as the other vaults; but having been intended as an entrance, the eastern boundary is of solid masonry, through which there is an entrance from the other substructures, by a slightly elliptical doorway, the arch having a span of 5 feet 9 inches, and rise of 3 feet 4 inches. There is a large accumulation of rubbish in the passages, especially the two eastern ones, which cannot be traced far. The jambs of the "Triple Gateway" seen from the inside, are made out of old material, the one on the west has a portion of an engaged column, similar to those at the Golden Gate, built into it at the bottom, but there was too much rubbish to see whether this was a portion of an older building "in situ," or merely a stone taken from some other gateway; it may be mentioned that several of these stones are found lying about and built in, in the immediate neighbourhood. On examining the western wall or boundary of these passages, the pilasters were found to be cut out of the solid masonry of an older building, so as to correspond with the piers supporting the vaults. Not far from the gateway a hole in the ground opens into a short passage which, passing beneath the western wall, leads to a cistern (No. X.); the first part of the passage is through rubbish, and is roofed with large flat stones, but the latter part is cut in the solid rock; higher up there is a hole on the right-hand side, partly excavated in the rock, and beyond this on the left there is, in the side of the wall, either a large stone or a portion of the natural rock which looks very like the lintel of an old doorway. The surface of the rubbish rises to the under side of this, but a stick between three and four feet long could be pushed in horizontally, and the ground beneath appeared to be soft; the distance between the vertical joints was 18 feet 2 inches. A little higher up the passage are the remains of a water pipe (partly embedded in a groove cut in the wall), for conducting surface drainage into the cisterns; from this point to the end of the passage, the western wall is formed of the natural rock scarped down. Some of the arches near the gateway have been supported by columns placed under their centres, and others look as if they would soon need it, the roots of trees having in several places forced their way through.

Sketch 3, Plate XV.

"Double Gateway."

Photog. a, page 13.

The entrance to the subterranean passages leading to the Double Gateway is at the foot of a flight of steps immediately in front of the Masjed-al-Aksa, and is called by the Moslems Bab-al-Aksa-al-Ḳadīm (the Gate of the old Aksa). At the end of the passage next the gateway is a vestibule, which appears to have undergone several changes at different periods. The two entrances of the Double Gateway are separated by a pier on which rest the ends of the two large lintels which cover the openings; above the lintels are relieving arches, and over these a cornice; each lintel is further supported by two columns, the height of which being too short for the purpose has been increased by placing blocks of stone on

the tops of the capitals ; the capitals themselves are of various designs. On the outer or south side of the gateway, and immediately under the lintels, are two ornamented arches, forming no part of the wall, but simply fastened on to it with metal cramps ; it is a very clumsy piece of work and now almost falling ; the style of decoration of the arch and cornice is the same as that of the Golden Gateway. In Photog. a., page 13, the construction of the eastern entrance can be seen. The western entrance is open and leads into the vaults of the Khatuniyeh, but the eastern one is closed by a wall, through a small window in which light is admitted to the vestibule. It seems very probable that the gateway at first was covered only by the lintels, and perhaps relieving arches, that at a later period the cornice and ornamented arch were added, and that afterwards when the Aksa was built its great weight cracked the lintels, to support which it was found necessary to introduce the columns mentioned above. The stones at the south end of the pier between the two gates have chiselled drafts round their margins. The sides of the vestibule were originally built of stones having the marginal draft, but at some period of reconstruction the walls were cut away in order to give relief to four pilasters opposite the monoliths which support the roof, and the draft thus disappeared ; the work was however either left unfinished, or the floor was at a higher level, for at the foot of the pilasters the junction of the old and new work may be seen left in a rough state. There is a curious piece of unsymmetrical workmanship in the roofing of the vestibule which has an unpleasing effect, it is that the most northern of the arches carrying the small domes does not spring from the pilasters but from the wall and rests on the engaged column, instead of the pier, as shown in sketch. The material used in making the domes has been taken from other buildings. No trace of joints could be found in the monolithic columns, they, as well as the pier in the gateway, are of "malaki" stone, and have suffered considerably from time and weather. The columns, capitals, and sides of the vestibule are covered with thick whitewash. In the western wall of the vestibule there is a recess, said by the Mosque attendant to be the entrance to the tomb of Aaron's sons, shown in Al-Aksa ; it appears more like a hole broken into a solid mass of masonry, than an original gateway, but is so covered with plaster and whitewash that an opening closed with masonry would escape notice. In the western wall of the vestibule there is an old doorway leading into a small chamber, called the "Place of Elias" ; the door is covered by a lintel and small relieving arch, and on the jambs are seen holes for the bolts used in closing it ; at the back of the little chamber there is apparently another door, now walled up, the head of which is covered by a very primitive style of arch. Leaving the vestibule by a flight of steps which leads up to the western passage, the end of the eastern one being a wall of solid masonry formed of stones with drafted margins, both passages are found to have a slight ascent towards the steps which lead up to the Haram area. At a distance of 17 feet 5 inches from the head of the steps there appears to be a small closed doorway in the western wall, the masonry of the sides of the two passages from the steps to opposite the third pier from the engaged column seems to be "in situ," but from thence to the entrance it is of a mixed character ; the batter is obtained here by setting the courses back 4 inches as shown in sketch. The covering arches are semicircular and well built. The ascent from the double gateway to the Haram level must have originally been much more rapid, as in examining the water supply it was found that the conduit connecting the "Well of the Leaf" with the other cisterns and so with the aqueduct from the Pools of Solomon, had been cut through when the ground was lowered to form the present passage ; the two opposite ends of the conduit are seen in the east and west walls, close to the Mihrâb near the entrance. No water runs from the pools at present, but a shallow drain under the floor of the passage carries some of the surface drainage of the area into the cistern ; this conduit is covered with large flat stones and runs into the shaft of the "Well of the Leaf." No trace of steps having once been built into either eastern or western walls could be found.

Sketch 4, Plate XV.; 1, Plate XVI.

Sketch 4, Plate XV.

Sketch 2, Plate XVI.

Sketches 3, 4, 5, 6, and 7, Plate XVI.

Sketch 1, Plate XVII.

"Masjed-Al-Aksa."

Photogs. a and b,
page 8.

Sketch 2, Plate
XVII.

Sketch 3, Plate
XVII.

Sketch 4, Plate
XIII.

Passing from the "Dome of the Rock" to the Mosque or Masjed-Al-Aksa, the eye is at once struck by the inferior workmanship shown in the latter and the mixture of styles and material used in its construction. The porch in front, from two niches for statues still remaining in it, would appear to be the work of the Templars when they occupied the building. In the interior, four styles of capitals were noticed, those on the thick stunted columns forming the centre aisle, which are heavy and of bad design; those on the columns under the dome which are of the Corinthian order and similar to the ones in the "Dome of the Rock"; those on the pillars forming the western boundary to the women's mosque, which are of the same character as the heavy basket-shaped capitals seen in the Chapel of Helena; and those on the columns to the east and west of the dome which are of the basket-shape, but smaller and better proportioned than the others. One of the small basket capitals was broken, and on examination proved to be made of plaster, the others of the same series seemed to be of similar construction, whilst the Corinthian ones were all of white marble. The large heavy columns of the centre aisle have a circumference of 9 feet 3 inches, to a height of 16 feet 5 inches, of which the capital takes up 3 feet 4 inches; on most of the capitals there is a monogram as in sketch. The smaller columns at the southern end of the mosque have a circumference of from 4 feet 11 inches to 5 feet 3 inches, to the same height (16 feet 5 inches); the piers of the eastern and western aisles are of solid masonry. Some of the building inside is very bad, in several places rough piers of masonry have been built up by the side of the columns to gain sufficient support for the piers above (as in sketch), and at the Mosque of the Forty Martyrs, the broad elliptical arch over the entrance has been propped up by a pillar placed under its centre. At the south end of the mosque is a large Mihrâb, which must have formed part of the original design of the present building; it is called the Mihrâb-al-Imâm-al-Shafia'i (Mihrâb of the Shafia'ite Imâm). In the Mosque of Zachariah one of the sculptured slabs was found built into the wall, similar to No. 1. of the Dome of the Rock series, without the squares in the centre. The floor is roughly paved with old material, and the spaces between the stones filled with coarse mosaic work. The portion of the mosque allotted to the women is surrounded by a wall, and within this is the mouth of a cistern, through which it was hoped an entrance might be obtained to the traditionary vaults below, but on examination the cistern proved to be a small one cut in the solid rock; the depth was 25 feet, and the rock was seen 10 feet below the floor of the mosque. In the north-east corner of the mosque is one of the mouths of the cistern known as the "Well of the Leaf," which always has a good supply of water. The columns and piers in the mosque are connected by a rude architrave, which consists of beams of roughly squared timber enclosed in a casing of one-inch stuff, on which the decoration, such as it is, is made; the beams are much decayed, and appear older than the casing. All the arches are pointed. Some of the windows in Al-Aksa are very good but hardly equal to those in the "Dome of the Rock," with the exception of one in the northern portion of the tambour of the dome; this, which is only seen immediately on entering the mosque, is of a delicate blue colour; of the other windows that in the Mosque of Zechariah is perhaps the best, but the pattern is too decided, and the colours are not so effectively blended as in the "Dome of the Rock." A great part of the Mosque Al-Aksa is covered with whitewash, which gives a glaring, unpleasant effect, but the interior of the dome and the portion immediately under it is richly decorated with mosaic work and marble casing, the arabesques of the mosaic are similar in character, though of different design to those in the "Dome of the Rock"; during the restorations made in the present century, some paintings of a very poor order were introduced. On the exterior the mosque is covered with plaster on which traces still remain of the favourite Moslem decoration, broad red stripes to represent the joints of masonry. Through the south wall of the Aksa, a door leads into the buildings

called Khatuniyeh, from whence the relieving arches over the double gateway, and the Antonine inscription can be examined; this south wall thins off towards the east, which at first led to the supposition that there was a small offset in the southern boundary of the Haram, but after some trouble this was found to be a straight line, the irregularity being due to the unequal thickness of the later masonry above. The peculiar objects of reverence in the mosque are, the *Ḳubûr Âulâd Hârûn* (the Tombs of the Sons of Aaron) which is near the main entrance, and is a stone slab cracked down the middle, and protected by an iron railing; the entrance to the tomb is shown in the double passage; near the large *Mihrâb* at the south end is the *Minbar Omar*, a magnificent pulpit made at Damascus, by order of Nouredin, and brought to Jerusalem by Sala-eddin; it is entirely of wood, with small raised panels, the intricate arabesques on which are very finely worked; near this on the west is the *Mihrâb Musa* (Mihrab of Moses), next to which in another small *Mihrâb* is shown the *Ḳadam 'Aisa* (Footprint of Jesus), and a little further westward is the place where "the faithful" try their chance of seeing the Houris in Paradise, by passing between two columns which stand close together, one of these is chipped, so that there are few who cannot stand the test. On the eastern side of the mosque is the *Jâmia'-al-Arba'in* (Mosque of the Forty [Martyrs]), and the *Mihrâb Yahya wa Zakariya* (Mihrab of John and Zachariah), and near this is the gate leading out towards the "Cradle of Jesus"; it is called *Bab-al-Khidr* (the Gate of Elias). Let into the north wall of the mosque beneath the porch, is a black slab, which is connected with another proof of fitness for Paradise, those who wish to try their chance of finally reaching the wished for goal, place their backs against one of the pillars of the façade, shut their eyes, and walk with outstretched hand towards the slab; if they are fortunate enough to plant their hand in the centre they will be saved, if not they are doomed. Many of the fellaheen or peasantry were observed going through this ordeal with varied success.

East of Al-Aksa and adjoining it are some buildings now used as storehouses for the pieces of fayence, marble and tesserae, which are continually falling down from the decoration of the "Dome of the Rock." The buildings appear to be of comparatively late date, and all the arches are pointed; in one corner is a second opening to the "Well of the Leaf." Stores east of Al-Aksa.

At the south-east corner of the Mosque Al-Aksa, an open doorway leads into the *Jâmia' Omar* (Mosque of Omar), a long low building with pointed arches, in its southern wall between two of the twisted columns stands the *Mihrâb* of Omar, which according to the present tradition marks the place where Omar first prayed when he entered Jerusalem. A great deal of confusion has arisen from the name of this mosque having been applied to the large one on the platform, which has no other name than *Jâmia'* or *Kubbat-as-Sakhra* (Mosque or Dome of the Rock). " Mosque of Omar."

To the west of Al-Aksa is the building called by Catherwood and others, the Mosque of Abu-Bekr, but the Sheikh of the Haram knew nothing of this name, nor did any of the educated Moslems living at Jerusalem, they invariably called it *'Al-Baka'at-al-Baidha* (the white corner or place) sometimes adding "of Solomon"; it is a low building with groined roof and pointed arches, and runs nearly to the western wall of the Haram; its exterior wall is faced with small stones, having a deeply chiselled draft round their margins, and their faces left rough. " Al-Baka'at-al-Baidha."

The *Jâmia'-al-Maghâribé* (Mosque of the Maghâribé), is a similar building at right angles to the last, and is used more particularly by the Maghâribé or Mogrebbin Moslems, that is, those who come from the west (African). Between this and the western wall of the Haram is a courtyard belonging to the " Mosque of the Magharibé."

family of Abu Séud, whose house stands without the wall ; there is nothing worthy of notice here except it, be an old sarcophagus found in the neighbourhood of the city.

Near the Bab-al-Maghâribé is the Mosque of Al Burak, situated some distance, 23 feet, below the level of the Haram ; access is obtained to it by a flight of steps leading down from the eastern cloisters of the area, and within is shown the ring to which Mahomet fastened his steed Al Burak, during his famous night journey, but something far more interesting may be seen here, in the interior elevation of the old doorway described at page 27 ; the opening is on this side, covered by a flat arch of stone, forming a facing to the large lintel which lies immediately behind it. The western portion of the Mosque is covered by a solid segmental arch, of fine workmanship, having a simple moulding round its eastern face, the eastern by an elliptical arch built with smaller stones, but of greater height and span than the segmental one ; the level of the floor is here 1 foot 4 inches below that of the western half. The walls are covered with plaster, and on being knocked with a hammer give out a hollow sound, which may arise from bad plastering or chambers beyond, probably the former. The three arches have been built at different periods, the flat arch first, then the segmental one, and last the elliptical. The ascent from this doorway to the Haram level* must always have been by steps, but no trace of the original ones remain, the present are certainly modern, and in forming some of the upper ones a portion of the crown of the segmental arch has been cut away. The old entrance is called by some writers, the "Gate of Mahomet," but the Sheikh of the Haram knew nothing of this name.

The western and northern sides of the Haram area are lined by cloisters, but there is nothing remarkable in their construction or appearance, and over the portion of the area near these are scattered a number of praying places and small buildings ; the former are simply blocks of stone pavement, open to the air, and provided with a Mihrâb to point the direction of Mecca ; the only one of the small buildings which is of interest is a fine fountain near the Bab-al-Kaṭṭânîn, sometimes called "Saladin's Fountain," but more properly the fountain of Quäit Bâi, by whom it was built (De Vogüé, "Temple de Jerusalem," pages 105, 106.) The same style of decoration was noticed in several places at Cairo.

Access was obtained to the water conduits through a hole in one of them in front of Al-Aksa, and they were traced as far as possible, but the rubbish has fallen in in many places, and with the exception of two or three the branch ducts are too small to admit of the passage of a man. From the number of openings seen, there must be a perfect net-work of small subterranean channels in this part of the area, but without excavation they could not be traced. It is very difficult to judge of the age of these conduits, but where cut in the rock they have been probably made at the same period as the cisterns, as the one which enters the large cistern east of the "Great Sea," and this was found to be in connexion with another conduit leading down to the "Well of the Leaf," and one running up in the direction of the Fountain Al-Kas (the cup) ; the connecting branches were in part cut out of the rock, in part made of masonry and roofed with large stones. Besides these conduits which appear to have been in connexion with the aqueduct from the Pools of Solomon, there are a number of others, apparently of more modern construction for collecting the surface drainage into the cisterns. No regular system of water channels could be found in the northern part of the area, except those of very modern date, but it is not improbable that such may exist.

* Vide account of later discovery, in Appendix.

" Mosque of Al Burak."

Vide Plan and Elevation 5, Plate XVII.

Haram water supply.

The cisterns in the Haram are all cut out of the "malaki" stratum, and may be divided into three classes; the small retort-shaped ones, those roofed with rock, and those roofed with masonry. The first generally have long square shafts lined with large blocks of hewn stone, and often not broad enough to admit the passage of a man's shoulder; they are supplied by surface drainage, and the percolation of water through the "malaki," which acts as a capital collector. The second class are of great size and height, in some cases as much as 40 feet from the floor to the roof; they are now supplied by surface drainage, but in most of them the mouths of old conduits can be seen. The last class are evidently of more modern date than either of the others and are not found in the southern portion of the area. A detailed description of the cisterns may be of use.

Vide Notes on water supply of Jerusalem.

Cistern No. I., under platform to north of the "Dome of the Rock," descended; 40 feet deep, 1 foot 6 inches of water, rectangular in shape; the southern end is raised 4 feet 6 inches above the main body of the cistern; there are two openings in use, and one closed; no trace could be seen of any conduit entering, except the surface gutters; the roof is of masonry, and is a plain semicircular vault.

Cistern No. II., under platform to north-east of the "Dome of the Rock," 47 feet 6 inches deep, 5 feet 8 inches of water; not visited, but apparently of large size.

Cistern No. III., under platform to north-west of the "Dome of the Rock," 32 feet deep, 1 foot of water but deeper in western chamber, which could not be explored. The main cistern is divided by a wall of badly built masonry, of which a good deal of the cement has fallen, and through which there is a communication between the two chambers by a low-arched doorway; there are two openings in use, at the south-west corner a channel cut in the rock was noticed coming into the cistern, but it could not be reached; the roof of the southern portion is of rock, but the northern chambers are covered with elliptical, almost pointed, vaults.

Cistern No. IV., under platform to the west of the "Dome of the Rock," 37 feet deep; descended through a long narrow shaft not large enough to receive a ladder; at the bottom one of the small retort-shaped cisterns was found.

Cistern No. V., under platform to the south-east of the "Dome of the Rock," descended; 48 feet deep, 2 feet water. This cistern has a curious cruciform shape; at the eastern end a low doorway cut in the rock leads to a flight of steps, which after ascending some distance in a southerly direction, turns sharp off to the east, and communicates with a subterranean passage; the passage is covered by a semicircular vault, and at its entrance to the cistern are the remains of a doorway; on the floor there was a thick slimy deposit, and a few yards beyond the doorway the opening was blocked up by earth; there are two openings to the cistern in use and one closed, below one of the former a rough basin has been made to collect the water from the different branches. No conduit could be seen entering the cistern; the roof of the south-eastern branch is of rock, but there was not sufficient light to see what that of the other portion was made of.

Cistern No. VI., south of the platform and near the fountain Al-Kas, descended; 41 feet deep, 1 foot 4 inches water. This cistern has a branch on its southern side 25 feet long, and raised 4 feet 8 inches above the floor line; its shape is peculiar, being that of a hollow truncated pyramid; no conduit was seen entering; the roof was partly of rock and partly of large flat stones.

Sketch 4, Plate XVII.

Cistern No. VII., east of the Great Sea, descended; 62 feet deep, 2 feet 6 inches water. The construction of this cistern is very curious, at one side there is a lofty chamber having two entrances and

raised 6 feet above the general level, and in the south-eastern branch four steps lead up to a small flat platform, as to the altar of a church ; on descending, the entrance of a rock-cut water conduit was seen, and this was afterwards found to communicate with the general system in this part of the area ; there are two mouths, close together, with an opening between them, now roofed with fragments of marble columns ; the roofing is of rock. On the cement a number of white hands were painted, probably as a charm against evil spirits.

Cistern No. VIII., north of Al-Aksa, commonly known as "the Great Sea," descended ; 43 feet 2 inches deep, from 3 to 6 inches of water ; the entrance to this is by a flight of steps leading down from a hole on the northern side of the workshops east of Al-Aksa ; it is the largest of the series of cisterns, and the roof is partly supported by stone pillars left for the purpose when the excavation was made ; the shape is peculiar, especially a small circular chamber in the north-west corner, the floor is uneven, and was partly dry when the cistern was visited ; a conduit cut in the rock was seen coming in from the east, but it could not be reached ; there have been a great many mouths, but only three are now in use ; the roof is principally of rock, but part is of large flat stones and part vaulted.

Cistern No. IX., under Al-Aksa, known as the "Well of the Leaf," descended ; 42 feet deep, 3 feet 6 inches water at northern end ; at southern, deeper ; on the north side there is a curious branch or arm, and near the centre a pillar has been left to assist in sustaining the roof. Whilst proceeding towards the south, a sudden fall into deep water extinguished the light, not however before the southern boundary was seen ; the measurements were lost, but the plan was made from memory immediately after ascending ; the conduit seen in the "double passage" was noticed entering the shaft ; the roof is of rock.

Cistern No. X., descended ; 30 feet deep, no water ; the entrance to this is by a hole in the most western of the passages leading from the "Triple Gateway" ; it has one mouth nearly closed, and is roofed with rock.

Cistern No. XI., east of Al-Aksa ; 62 feet 6 inches deep, 8 feet of water ; not visited, apparently very large.

Cistern No. XII., southernmost of the three cisterns to south-west of Golden Gateway, descended ; 44 feet deep, no water ; no conduit seen coming in ; roofed with a plain semicircular vault.

Cistern No. XIII., middle of three cisterns near the Golden Gate, not visited ; 40 feet deep, dry ; apparently small, and roofed with masonry.

Cistern No. XIV., northern of the three cisterns south-west of Golden Gateway, descended ; 29 feet deep, dry ; there are two chambers, connected by an opening, which appear to be, in part, natural caverns ; the cisterns are covered by a plain semicircular vault.

Cistern No. XV., near Golden Gateway, not visited ; 35 feet deep, dry.

Cistern No. XVI., near Pool of Bethesda, not visited ; 23 feet deep, dry.

Cistern No. XVII., near Pool of Bethesda, not visited ; 29 feet deep, dry.

Cistern No. XVIII., near Sarai' ; 37 feet 6 inches deep, 6 inches water.

Cistern No. XIX., in south-west corner of Haram ; 44 feet deep, 8 inches water.

Cistern No. XX., in south-west corner of Haram ; 30 feet deep, 4 inches water.

In the two last cisterns the mouths and shafts were too small to descend ; as far as could be judged from the surface they were of no great size.

The cisterns were visited in December and January, before the fall of the later rains ; the measurements were made with a rule when alone, with a tape when in company, and the bearings taken with a prismatic or pocket compass ; neither can be considered very exact, as it is no easy matter to work with a candle in one hand and up to the knees in water ; it was very difficult in some cases to determine the character of the roof, and be certain that no conduits existed, as candles gave but a poor light in such large chambers, and before any magnesium wire could be obtained from England the winter rains had fallen and stopped further exploration. Three men were employed in visiting the cisterns, an interpreter and two porters ; most of the descents were made with a rope ladder, but in some of the smaller cisterns the shaft was not large enough for this, and a rope tied round the breast was used, the arms being held well above the head to diminish the width of the shoulders as much as possible ; when the ladder was lowered one of the porters passed his body through a rung, whilst the other held on to the spare rope to prevent the first from being carried across the mouth of the opening ; the interpreter saw that all was right above ground and lowered candles, &c. by a line kept for the purpose ; some of the descents were made with Dr. Chaplin, who was ever ready to give assistance, and others alone ; the only trouble was in ascending, as the ladder, which often hung free in the air for 40 feet, swayed and twisted in a very disagreeable manner, and the wet clothes sticking to the legs prevented free climbing action.

In connexion with the Haram are several schools, where Arabic and Turkish are taught ; the Schools. instruction seems confined to learning the Koran by heart, the masters reciting a portion and the pupils repeating it after them ; indeed the Koran is almost all that a Moslem requires, for it at once combines both the civil and religious law, no amendment of which is allowed.

A little beyond the north-west corner of the Haram area is a very remarkable remain, first discovered when excavating for the foundations of the convent of the Sisters of Zion ; it consists of a broad vaulted passage abutting at either end on an escarpment of rock, the entrance is from a narrow side street to the north of the "Via Dolorosa," and through the kitchen building of the convent, a descent of some distance down a flight of modern stairs leads to a chamber in which is the reputed spring, and from this a low doorway, made by those who built the convent, opens to the passage. At the southern end there is a narrow passage cut in the rock, and leading towards the Haram, but the depth of drainage would not admit of its being explored ; near this, in the western wall is a flight of steps leading upwards, which could not be traced far on account of the rough foundations of some later building which completely filled the passage ; this doorway and flight of steps is of the same date as the arch covering the large passage ; at the northern end there is also an old flight of steps leading up to a well-built doorway in the cross wall, and beneath this is an arched opening, apparently for the passage of water ; the cross wall would seem to have been part of the original structure, and the doorway the old entrance from the north, without passing through the northern chamber, as at present. The passage is covered by a semi-circular arch of excellent workmanship and built of plain chiselled stones ; in one place the arch has been broken and repaired with a pointed arch, and in another place can be seen the point where the work, which appears to have been built from each end at the same time, met a little out of the straight line. In the sides of the passage are some curious holes, evidently part of the original construction, and possibly

Passage at
Convent of
"Sisters of Zion."

Vide Plan 6,
Plate XVII.

made for purposes of defence. A great many holes have been broken through the crown of the arch, and as the rubbish accumulated above rough shafts carried up from them; they are now all closed, and appear to have been so for some time, but they show that at one time a good supply of water existed at this place. The passage is so full of rubbish and drainage that it cannot be properly explored, to do which it will be necessary to pump out the water, &c. As far as could be judged from what was seen, the passage was constructed to protect troops whilst crossing a ditch cut in the rock, and probably at the same time cover and conceal from an enemy the course of an aqueduct running down to the Haram area from the north.

To the west of this passage, and just below the "Ecce Homo" arch, is an escarpment in the rock, running east and west, which, though what can be seen is at a higher level, may be connected in some way with the other cutting.

IV.

THE CITADEL.

Al-Kala', the Citadel, is situated near the centre of the western wall of the city, and consists of a group of buildings surrounded by a ditch; it has a commanding position, and before the introduction of fire-arms must have been of great strength; even now the solid masonry of the lower portion would resist any artillery that could be brought against it for some time; the upper part is, however, in a bad state of repair, and would soon fall. There are several guns of small calibre mounted, but both guns and carriages look as if they had not been touched since the Egyptian war, and would be of more danger to the besieged than the besiegers. A few officers and men of the Turkish artillery are quartered in the place to fire salutes and take charge of the powder magazine near the Minaret.

The so-called "Tower of David" appears to be the oldest portion of the Citadel; it has a sloping escarp of masonry, round the top of which runs a "berm" or "chemin des rondes," and above which the tower rises in a solid mass to the height of 29 feet; upon this the present superstructure is raised. The escarp is faced with large stones, and retains to some extent its original appearance, but time and hard treatment have worn away much of the finer work, and the repairs have been executed in a very slovenly manner; where the original workmanship can be seen it is quite equal if not superior to that of the Wailing Place, the faces of the stones being finely chiselled, and having a shallow draft run round their margins; the whole, when perfect, must have presented a smooth surface difficult to escalate, and, from the solidity of the mass, unassailable by the battering ram. The escarp of all the other portions of the Citadel is built of small stones with plain chiselled faces, and is evidently of later date, fragments from older buildings being worked in; in one place it forms a straight joint with the masonry of a tower as in sketch. No entrance, or appearance of one, could be discovered in the solid masonry of the basement portion of the tower, though it was carefully searched for; although many of the stones are much the worse for wear, they appear to be in their original positions, and to have been set without mortar. Where repairs have been necessary, from decay of the material or fracture of the masonry, they

Vide Plate III.
Photogs. page 19.

Photogs., pages 20
and 21.

Photog. b, page 20.

Sketch 1, Plate
XIX.

Photog. b, page 21.

have been made with small stones set in mortar. The marginal draft on these stones is wider than usual, being from 4 to 5 inches, and the dressing of the faces seems never to have been finished, as many of the stones are left in the rough state shown in the annexed sketch. A very curious feature is the number of deep square holes left in the surfaces of the stones; they have sometimes been considered as marks to show the workmen how deep to dress the stones, but this can hardly be the case here, as in many instances they go deeper than the chiselled draft, and would have presented a very unsightly appearance on the face of the finished work. Above the solid block of masonry there is a plinth course, and over this the superstructure, which contains several chambers and a cistern; the cistern rests on the solid masonry, and is supplied entirely by rain-fall; in one of the chambers is shown the Mihrab of David, marking, according to Moslem tradition, the place where David composed the Psalms. In the superstructure, which is badly built, there is a mixture of stones with the marginal draft and those with plain chiselled faces, all set in mortar; and over the main gateway a very unpleasant effect has been produced by suddenly bringing the masonry of the upper part to the face of the large stones instead of keeping it back on the plinth course. The adjoining sketch will show the three different portions of the tower, which, it may be remarked, is in a manner separate from the other buildings; where walls join on there is always a straight joint, and where there are arches the skewback is cut out of the solid masonry. The Tower was carefully examined for any trace of its having been connected with other buildings by a wall; no appearance of this could be found, but the masonry is in places so covered by later additions, that it may have escaped notice.

Sketch 2, Plate XIX.
Photog. b, page 21.

Sketch 3, Plate XIX.

The interior of the tower, near the Saluting Battery, consists of one large chamber covered with a pointed arch; the masonry appears to be a reconstruction, most of the stones have a deeply-chiselled draft round their margins, with the faces left rough and turned inwards towards the chamber; from this a passage, the entrance of which is now closed, apparently led into the ditch. Within the chamber there is a cistern, and a second at the entrance of the tower, which were described as being of great size and always containing a good supply of water; when visited, they were too full of water to admit of exploration; they are supplied partly by surface drainage and partly by a branch of the aqueduct from the Birket Mamilla, which, after passing in front of the Jaffa Gate, crosses the ditch on a wall, and then runs into the tower and cisterns. Whilst examining the portion of the aqueduct in the ditch, the remains of a conduit were found beneath the Jaffa Gate, and 12 feet below the level of the present one.

No rock was seen in or near the Citadel. The southern portion of the ditch is used as a cesspit to receive the drainage of the barracks and its latrines which stand on the edge; the remaining portion is given up to the soldiers for their gardens, except that on the north-west, which is filled with a thick growth of cactus; here, immediately outside the Jaffa Gate, two inscriptions are built into the escarp, one in the Cufic and the other in the modern Arabic character. The masonry of the smaller towers can be seen very well from the ditch, it is composed of shafts of columns, portions of arch stones, &c., mixed up with better dressed stones; a good deal of the work, especially on the south, is of the same style as that in the upper part of the south-west angle of the Haram wall; some of the escarp too is very well finished, but not equal to that of the "Tower of David." At the corner of the ditch, marked A on plan, there is a closed doorway with pointed arch, said to be the entrance of a passage passing under the market place, and thence eastward to the Haram area, but it seemed more like the entrance of an old magazine.

Photogs. b, page 13 and page 19.

The interior of the Citadel is a confused mass of buildings in a very ruinous state, and of all periods from that of the crusades to the present day ; old material has been used freely in the construction, and in one place a portion of a very pretty fluted column of white marble, and 9 inches in diameter, was found. In one of the vaults there is a pointed doorway, the arch stones of which have been ornamented by a draft chiselled round their margins. There is a great quantity of rubbish in the Citadel, and many of the vaults are half-choked with it ; in one opened accidentally a few years ago, some very interesting remains (arrows, &c.) of the crusading period were said to have been found, but the hole was hastily closed again and no information could be gained of its exact position.

Sketch 4, Plate XIX. Citadel.

V.

CHURCH OF THE HOLY SEPULCHRE.

The only means of entering the Church of the Holy Sepulchre is by a door leading out of an open court on the south, and this is never opened except by one of the members of the Moslem family who have possession of the keys, which however they are not allowed to use without the authority of the Patriarch of one of the Christian sects. The Church is always open for a few hours in the morning, and again in the afternoon, for the various services ; when closed during the middle of the day, entrance may be obtained by getting the permission of one of the Patriarchs, and giving a slight "douceur" to the gate-keepers, and it was at these times that the survey of the Church was made.

Vide Plan of the Church of the Holy Sepulchre.

The open court is paved with the limestone of the country, and is partly supported by vaults, the arches of which are semicircular, and well built.* Here pedlars from Bethlehem expose their trinkets for sale, and drive a thriving trade with the numerous pilgrims. On the south side of the court is the Greek Convent of Gethsemane, a short distance in front of which are the bases of three columns which appear to be the remains of a screen or portico. On the east side are the Greek Convent of Abraham, the Armenian Church of St. John, and the Coptic Church of the Angel ; on the west side are three Greek chapels, that of St. James, that of the Forty Martyrs, in which is a very beautiful font, and that of St. John, immediately under the tower ; at the eastern end of the south side of the court is a Greek chapel, dedicated to the Egyptian Mary, and at the western end, the entrance to the church, formerly a double doorway, but the eastern entrance is now closed by the masonry of the Chapel of Calvary, and the steps which lead up to it. East of the entrance a flight of steps leads to the small Latin Chapel of the Agony, lying above that of the Egyptian Mary. The style of the southern face is seen in Photogs. Pages 22 and 23 ; in building it portions of a very beautiful cornice, almost identical in design with that of the Golden Gateway, have been made use of, to furnish a string course above the door and a cornice above the windows. Beneath the cornice over the Chapel of the Egyptian Mary are some well-preserved ornaments of the crusading period ; one representing two lions has been sculptured with a great deal of life and energy. Over the western door is a representation, much disfigured, of our Saviour's entrance into Jerusalem ; one of the columns here has a longitudinal fracture, through which the "Holy Fire" is at one time said to have issued, and now when a pilgrim has a tooth drawn he places it in this crack,

* Vide Notes on Excavation, No. VII.

believing that the old one will be consumed and a new one commence growing ; great numbers of teeth were seen lying in the crack at various times.

Entering the Church, on the left is the bench on which the Moslem door-keepers sit, and immediately in front is the "Stone of Unction," said to mark the place where our Lord's body was anointed after it was taken down from the cross ; the stone itself is raised a few inches above the level of the floor, and is of limestone.

The Chapel of the Holy Sepulchre is in the centre of the Rotunda, and is built principally of the limestone having a reddish colour, and generally known as "Santa Croce marble." The shape of the western end is polygonal, whilst that of the eastern is square ; the interior is divided into two chapels, the eastern one of which is commonly called the Angel Chapel, in commemoration of the angels at the sepulchre, and a marble decoration over the door that leads into the inner chapel is descriptive of this ; overhead is the figure of our Lord rising from the tomb ; on the right the angel is seated, and on the left the two Marys are represented as bringing incense and spices for the anointment. In the centre of the chapel is shown a portion of the stone that was rolled away from the sepulchre, enclosed in a sort of vase ; the Armenians, however, claim to have possession of the real stone. On either side of the entrance are two holes through which the "Holy Fire" is given out at the Greek Easter.

"Chapel of Holy Sepulchre."

"Angel Chapel."

The entrance to the western chapel is by a low doorway, said to be the original entrance of the tomb slightly enlarged. The doorway is in great part covered with plaster, and is well polished by the backs of the pilgrims, who have to stoop on entering ; in one place a small portion of stone or rock was visible, bearing chisel marks similar to those seen on the dressed stone used for building ; the material appeared to be from the "malaki" bed, which would not naturally occupy this position ; a few cracks, such as would arise from slight settlement in an arch, were noticed, but none of the joints of the stones could be distinguished, nor could enough be seen to speak positively of its character. A very peculiar feature about the entrance is, that it is slightly askew, its sides not being parallel to those of the two chapels ; this may have arisen from careless building, or from the existence of rock which it was not thought advisable to touch when the repairs were executed in 1809.

"Holy Sepulchre."
Sketch 1,
Plate XX.

The western chapel is entirely lined with marble and no rock is visible ; it is said to have been but slightly injured by the fire of 1808, whilst the Angel Chapel was destroyed and had to be rebuilt ; the marble casing, however, seems to have been put on at the time of the repairs, as the architect Commenes has inscribed his name in large letters on the surface, and it is almost impossible that this could have been done without laying bare the natural rock if it really exists beneath, and this must have been well known at the time, though no writer appears to have left any record of it. From the ceiling hang 43 lamps, 13 Latin, 13 Greek, 13 Armenian, and 4 Coptic ones, and over the sepulchre itself are three representations of our Lord, belonging severally to the Greeks, Latins, and Armenians.

What is shown as the Tomb of our Lord is a raised bench, 2 feet high, 6 feet 4 inches long, and 3 feet wide, covered on the top by a marble slab, which has a groove cut transversely across its centre. No rock is visible at present, but it is by no means improbable that it exists below the marble slab, as in forming the level floor of the Rotunda, a great quantity of rock must have been cut away, and the portion containing the tomb would naturally be left intact. The sepulchre at present has certainly very

Sketch 2,
Plate XX.

little in common with other tombs in the neighbourhood of the city, but its original shape is said to have been altered ; it may have been either one of the open shelve-like arrangements, or one of the deep "loculi," with its head and side removed, as has been done in the small chamber near the "so-called" tombs of Joseph and Nicodemus, where the bed of the loculus, if covered with a marble slab, would present an appearance not unlike that of the Holy Sepulchre.

Over the entrance to the Angel Chapel are three representations of the Resurrection, and in front are twelve large candlesticks belonging to the Latin, Greek, and Armenian communities.

The floor of the Chapel of the Holy Sepulchre is slightly raised above that of the Rotunda, which has the same level as the court in front.

Tombs of Joseph
and Nicodemus.

Sketch 3,
Plate XX.

To the western end of the Chapel the Copts have attached a temporary building, in which, on certain occasions, they perform service, and nearly opposite to this is a door leading to the Syrian Chapel, and thence to the chamber in which are the so-called tombs of Joseph and Nicodemus. These were the only tombs met with which were cut out of the hard or "missae" strata of limestone, in those outside the city advantage having always been taken of the softer "malaki" beds ; and they have also another peculiarity not noticed elsewhere, that they slope downwards, the general rule being to make the beds of the "loculi" horizontal. Next the two open "loculi" is a third, the mouth of which is closed, and in front is a hole in the floor of the chamber, formerly covered with a stone slab ; here there seem to have been two "loculi" or treasure chambers, at right angles to each other, one of which is now closed by a stone, over which the wall of the Rotunda is built, so that it cannot be moved ; the end could not be felt by probing with a two foot rule.

The floor and roof of the chamber, as well as the right-hand wall on entering, are of rock, one of the hard or "missae" strata ; the left-hand wall is of masonry ; the whole has at one time been thickly covered with plaster.

" Syrian Cham-
ber."

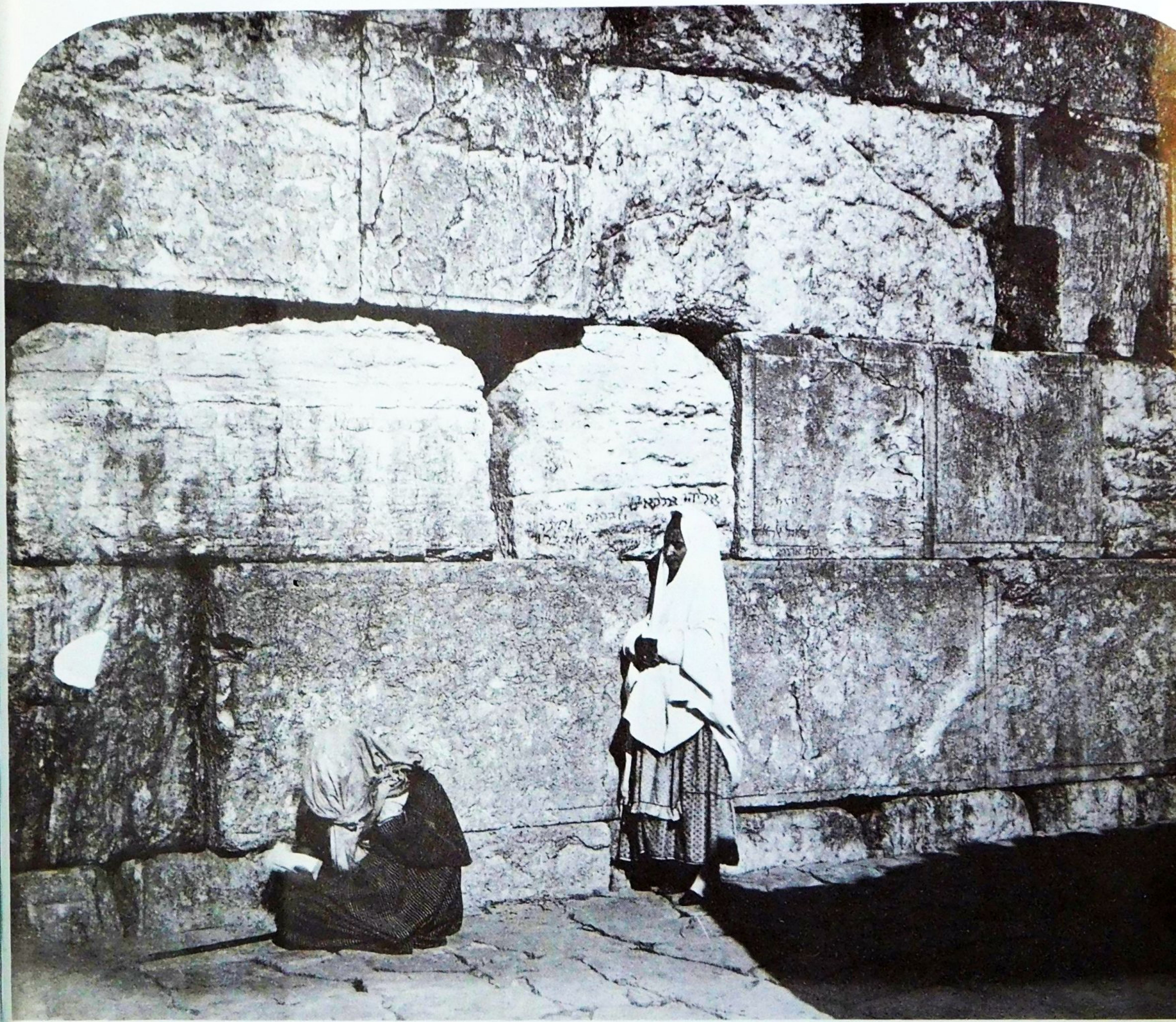
Sketch 4,
Plate XX.

In the right-hand wall are the mouths of two "loculi," closed with masonry, and near these a door leading into a chamber occupied by the Syrian community ; the floor and roof of this are of rock, and it seems to have been formed at a later date than the chamber which contains the tombs, as one of the "loculi" has been cut away, so as to leave only the aperture, and one side of the other, with part of its roof, has been removed ; the floor has also been sunk some distance below the level of the bed of the "loculus," so that it has the appearance of a raised bench.

The rock can be traced to the door leading from the tombs to the Syrian Chapel, but in the Chapel itself no trace of it could be found.

" Latin Chapel."

North of the Chapel of the Holy Sepulchre is shown the place where our Lord appeared to Mary Magdalene as a gardener, and a little beyond is the Latin Chapel, which contains, besides a small shrine with relics, the stone to which our Saviour was bound when he was scourged ; this is enclosed in a sort of iron cage, with a hole in it, through which pilgrims are allowed to push a stick, kept for the purpose, which, after being rubbed against the stone, is kissed with the greatest reverence. Behind the Chapel is the Convent of the Franciscans, who live in the Church, in one of the rooms of



14b. DETAIL OF MASONRY AT WAILING PLACE



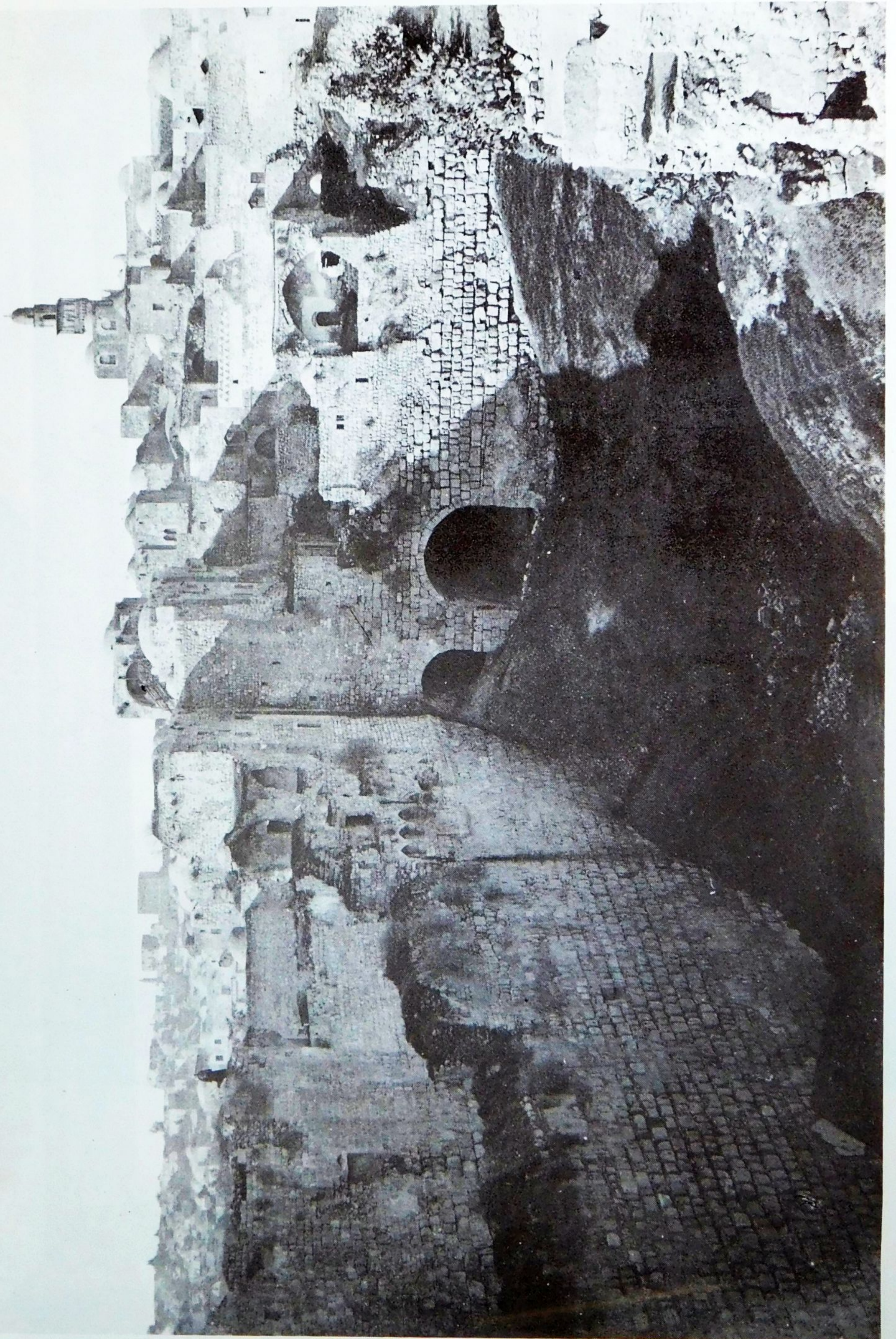
15a. WALL SOUTH OF WAILING PLACE



15b. WAILING PLACE OF THE JEWS



16a. PART OF WESTERN WALL NEAR BAB AL HADID



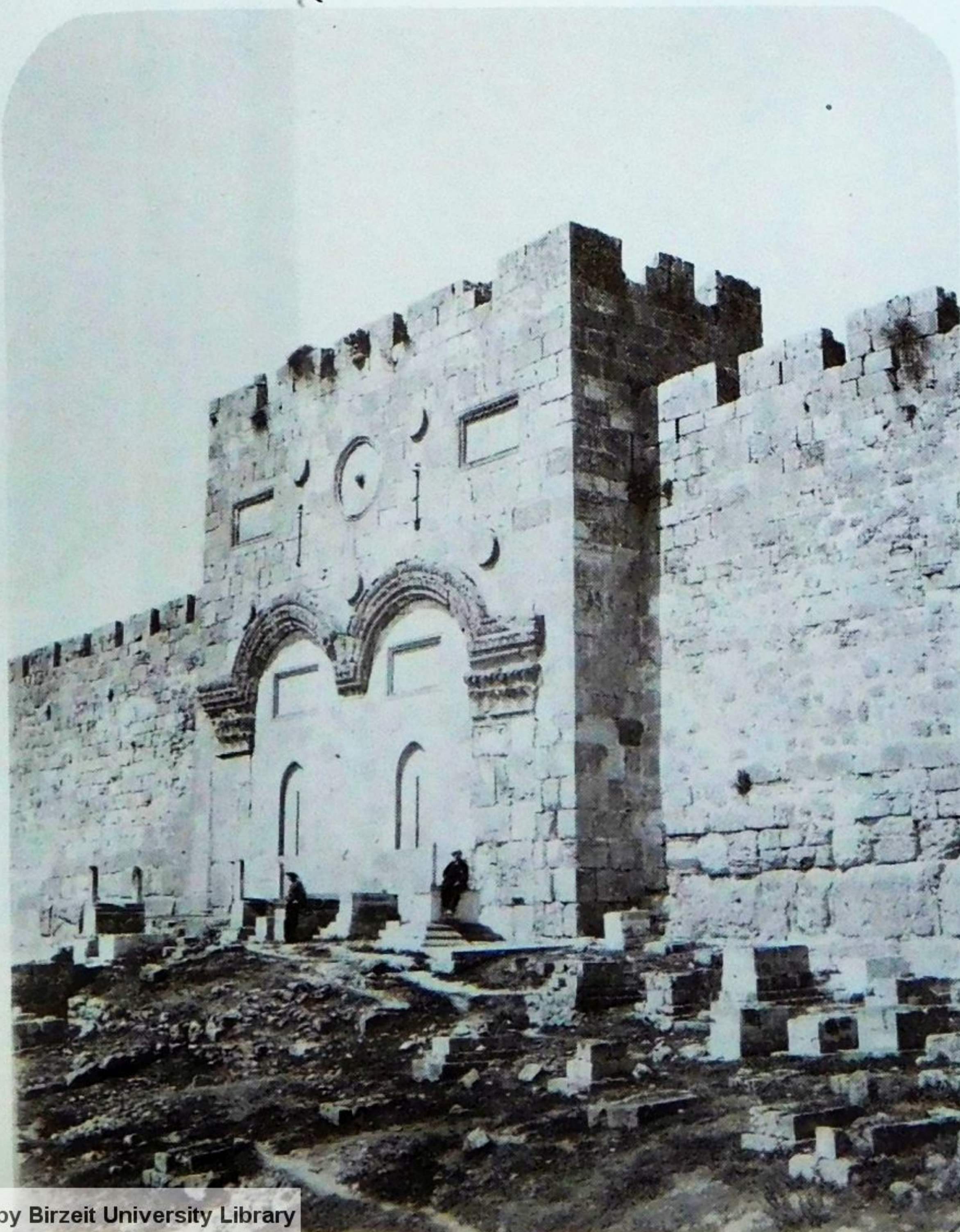
16b. NORTH WALL AT POOL OF BETHESDA



17. N. E. CORNER OF HARAM ENCLOSURE



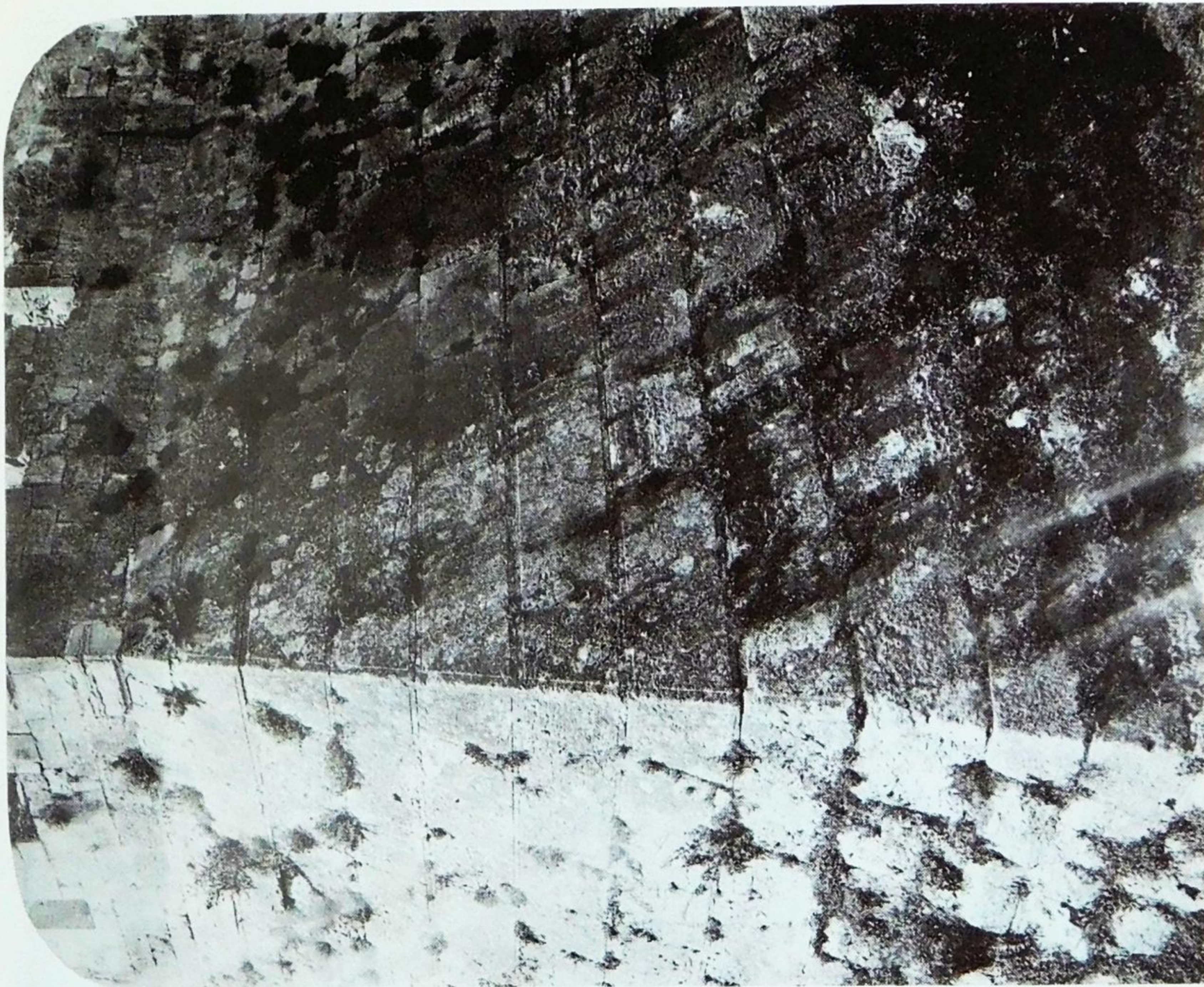
18a. EAST FACE OF N. E. ANGLE



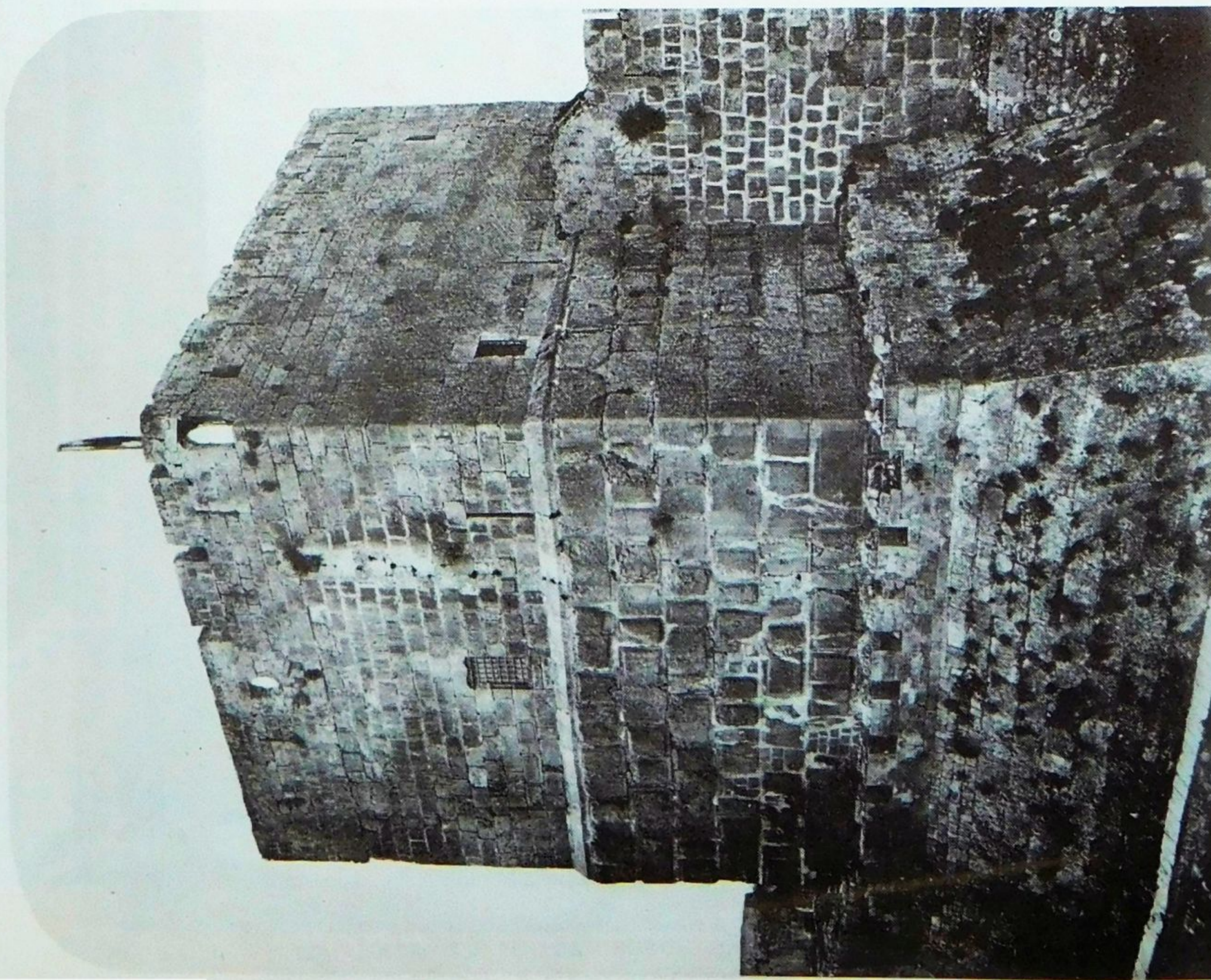
18b. GOLDEN GATE FROM THE NORTH-EAST



19. FROM THE S.W. OUTSIDE THE WALL OF THE CITY



20b. DETAIL OF THE ESCARP OF THE N. E. TOWER OF CITADEL



20a. TOWER AT N. E. ANGLE OF CITADEL



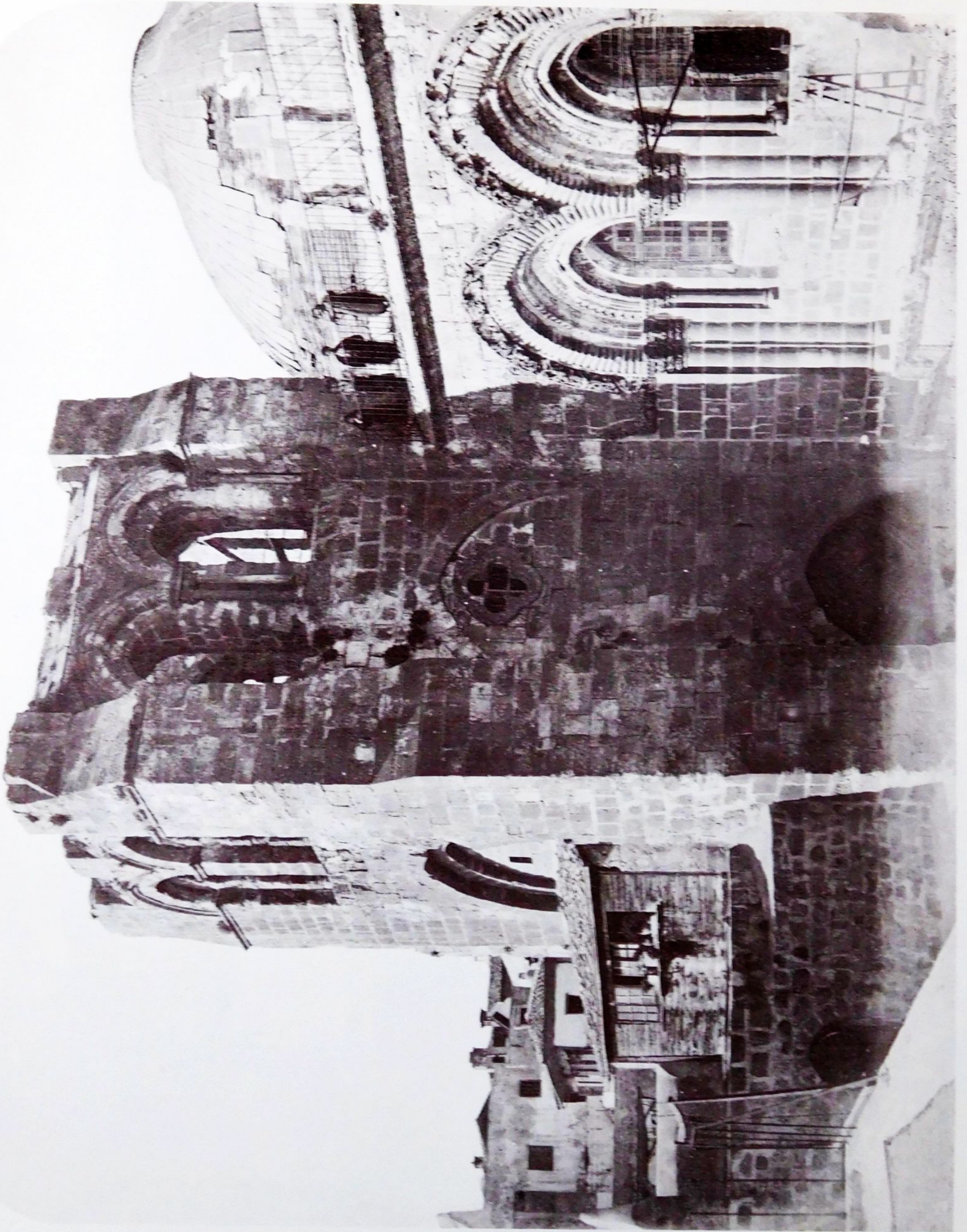
21a. ENTRANCE TO CITADEL



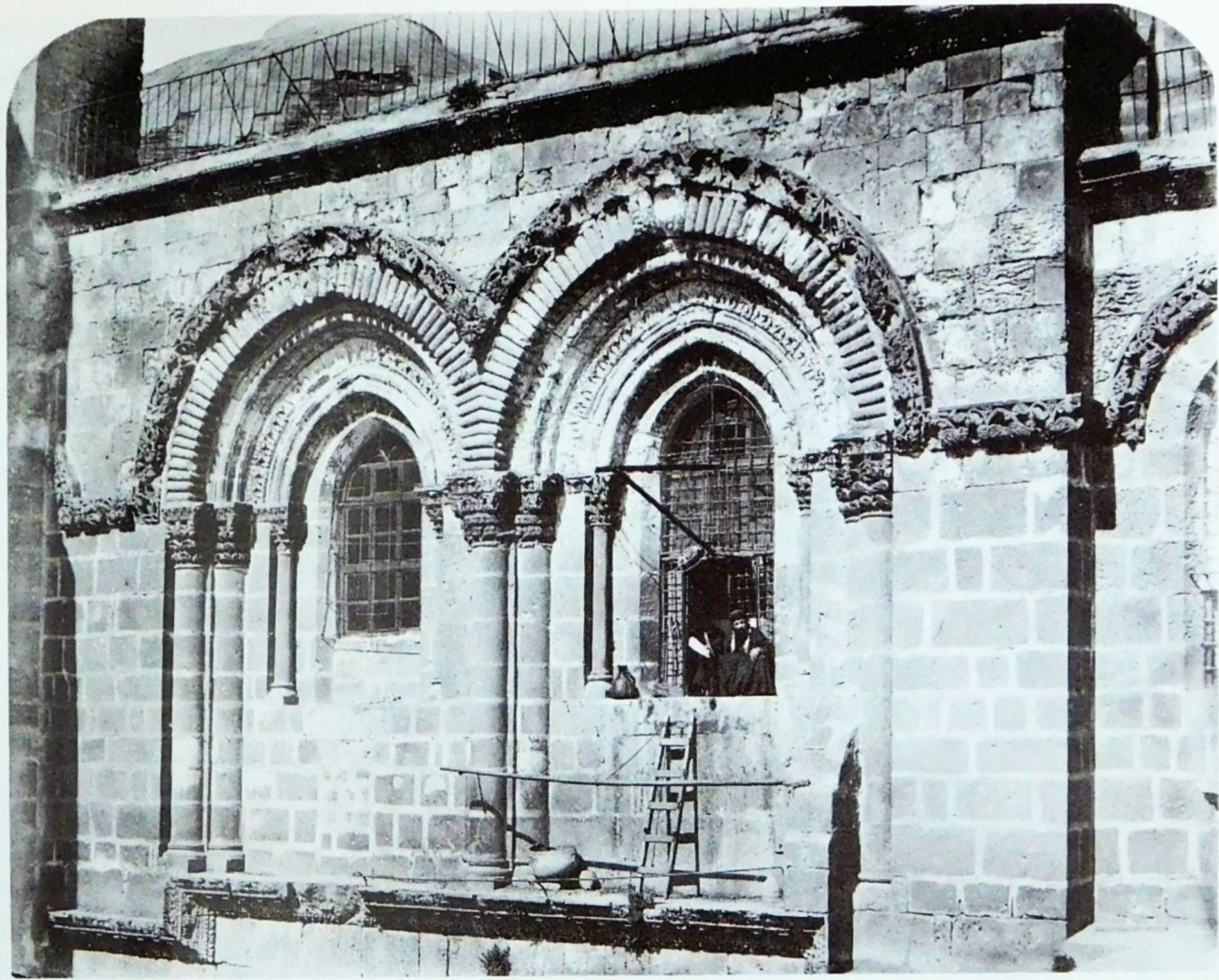
21b. DETAIL OF LOWER PART OF THE N. E. TOWER OF CITADEL



22a. ENTRANCE TO THE CHURCH OF THE HOLY SEPULCHRE



22b. THE TOWER OF THE CHURCH OF THE HOLY SEPULCHRE



23a. WINDOW IN THE SOUTH FACE OF THE CHURCH OF THE HOLY SEPULCHRE



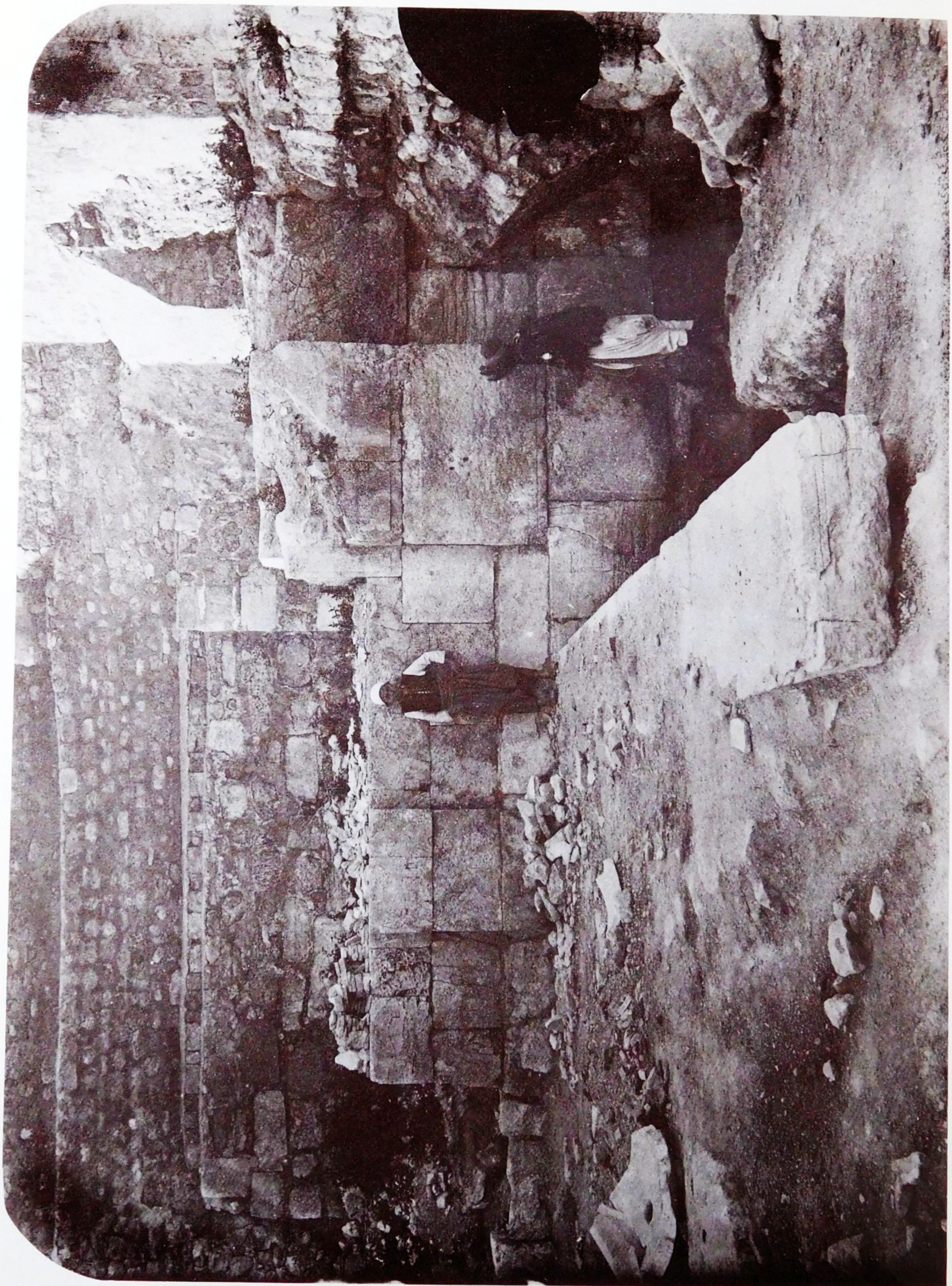
23b. ENTRANCE TO THE CHURCH OF THE HOLY SEPULCHRE



24. WEST ENTRANCE TO THE CHURCH OF THE HOLY SEPULCHRE (BUILT UP)



25a. RUINS NEAR THE CHURCH OF THE HOLY SEPULCHRE, ON THE EAST SIDE





26a. ANCIENT GATEWAY AT THE DAMASCUS GATE



26b. PORTION OF AN OLD ARCH AT THE
S. W. END OF THE BAZAARS



27a. ENTRANCE TO HOSPITAL OF THE KNIGHTS OF ST. JOHN



27b. ECCE HOMO ARCH



28a. ANCIENT FOUNTAIN IN THE STREET EL WAD



28b. CHURCH OF ST. ANNE, WITH NORTH FACE OF THE POOL OF BETHESDA



29a. THE SO-CALLED TOWER OF ANTONIA, IN THE STREET LEADING TO ST. STEPHEN GATE



29b. STREET EL WAD, OR, OF THE VALLEY





31a. PRIVATE HOUSES STANDING ON THE WEST EDGE OF THE TYROPEAN VALLEY (OPPOSITE ROBINSON'S ARCH)



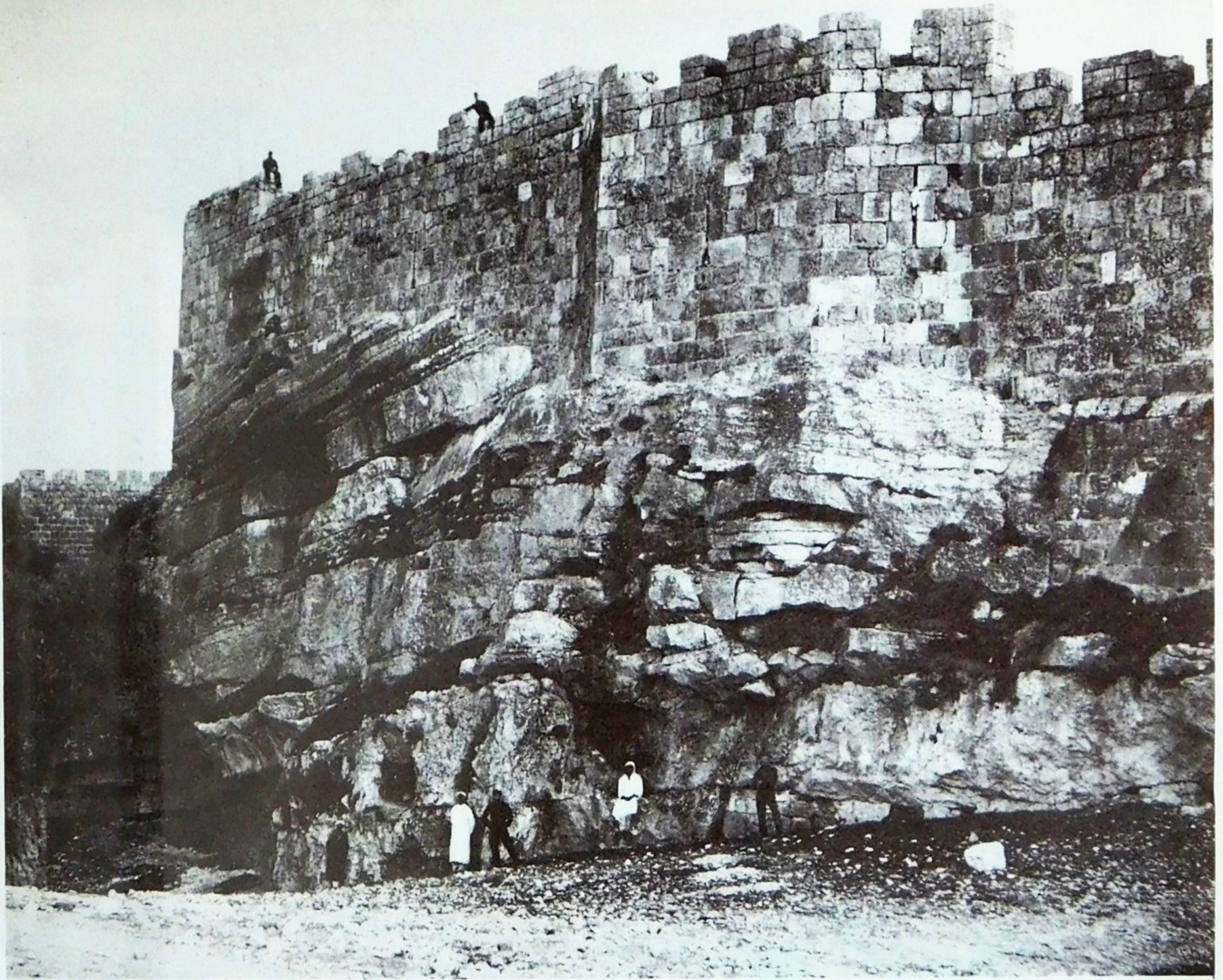
31b. GOLIATH'S TOWER AT N. W. CORNER OF THE CITY



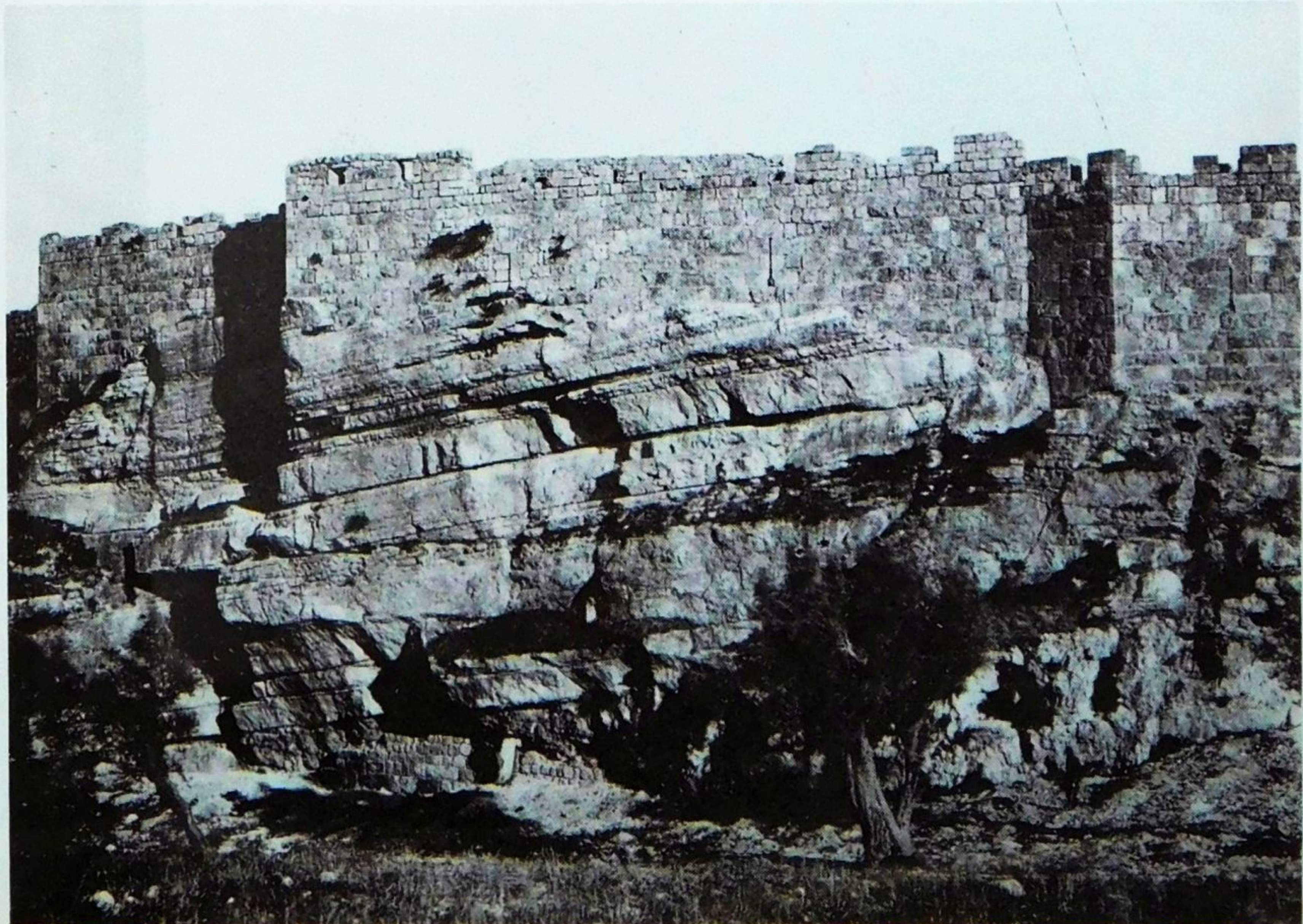
32a. THE DAMASCUS GATE



32b. OUTSIDE OF WALL OF CITY, CLOSE TO THE DAMASCUS GATE ON THE EAST SIDE



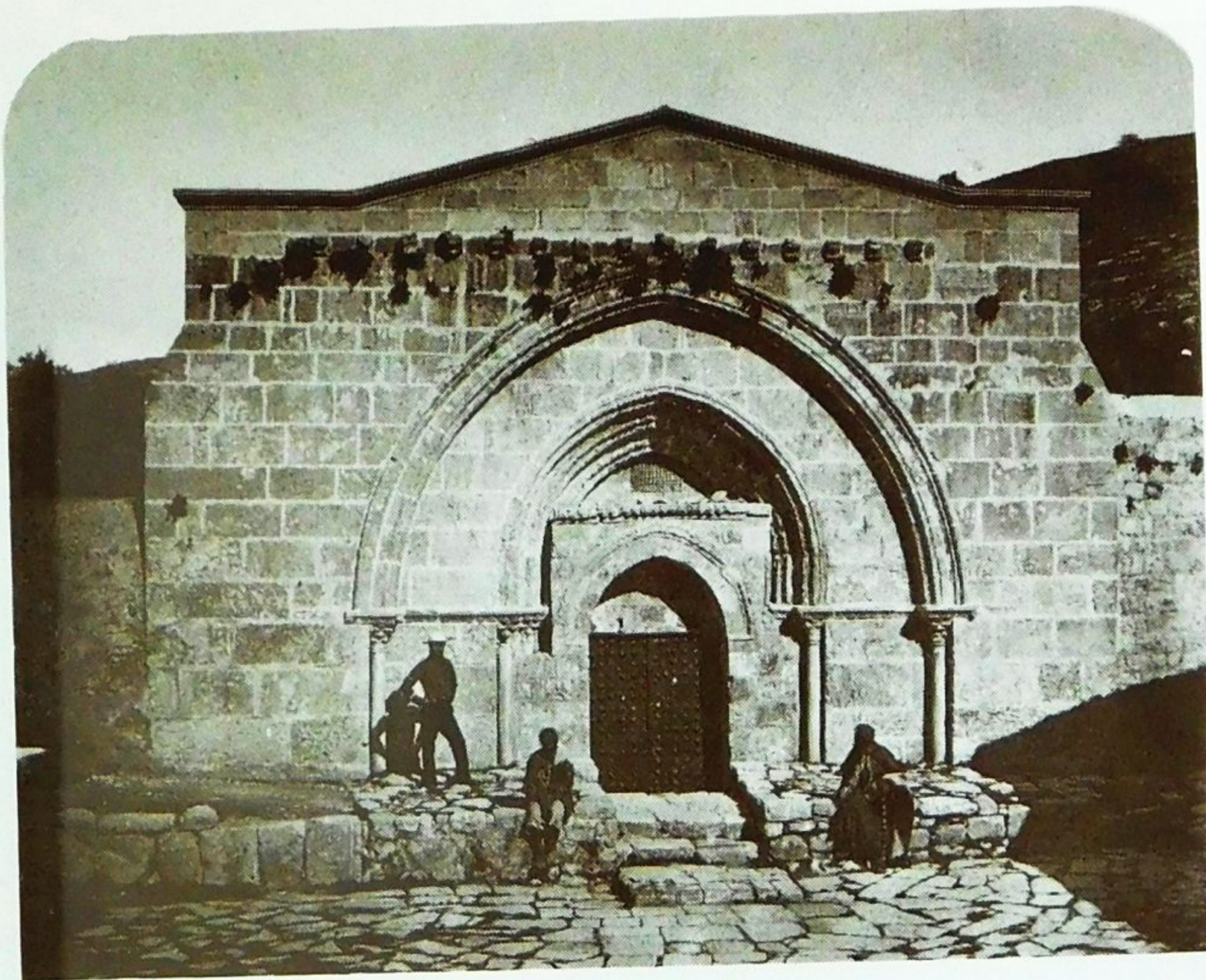
33a. EXTERIOR OF THE NORTH WALL OF THE CITY,
EAST OF DAMASCUS GATE



33b. EXTERIOR OF THE NORTH WALL OF THE CITY,
EAST OF DAMASCUS GATE



34. THE ZION GATE



35a. ENTRANCE TO THE CHURCH OF THE VIRGIN,
IN THE VALLEY OF THE KEDRON



35b. THE GARDEN OF GETHSEMANE AND CHURCH OF
THE VIRGIN, IN THE VALLEY OF THE KEDRON



36a. THE VILLAGE OF SILOAM



36b. TOMB OF DAVID



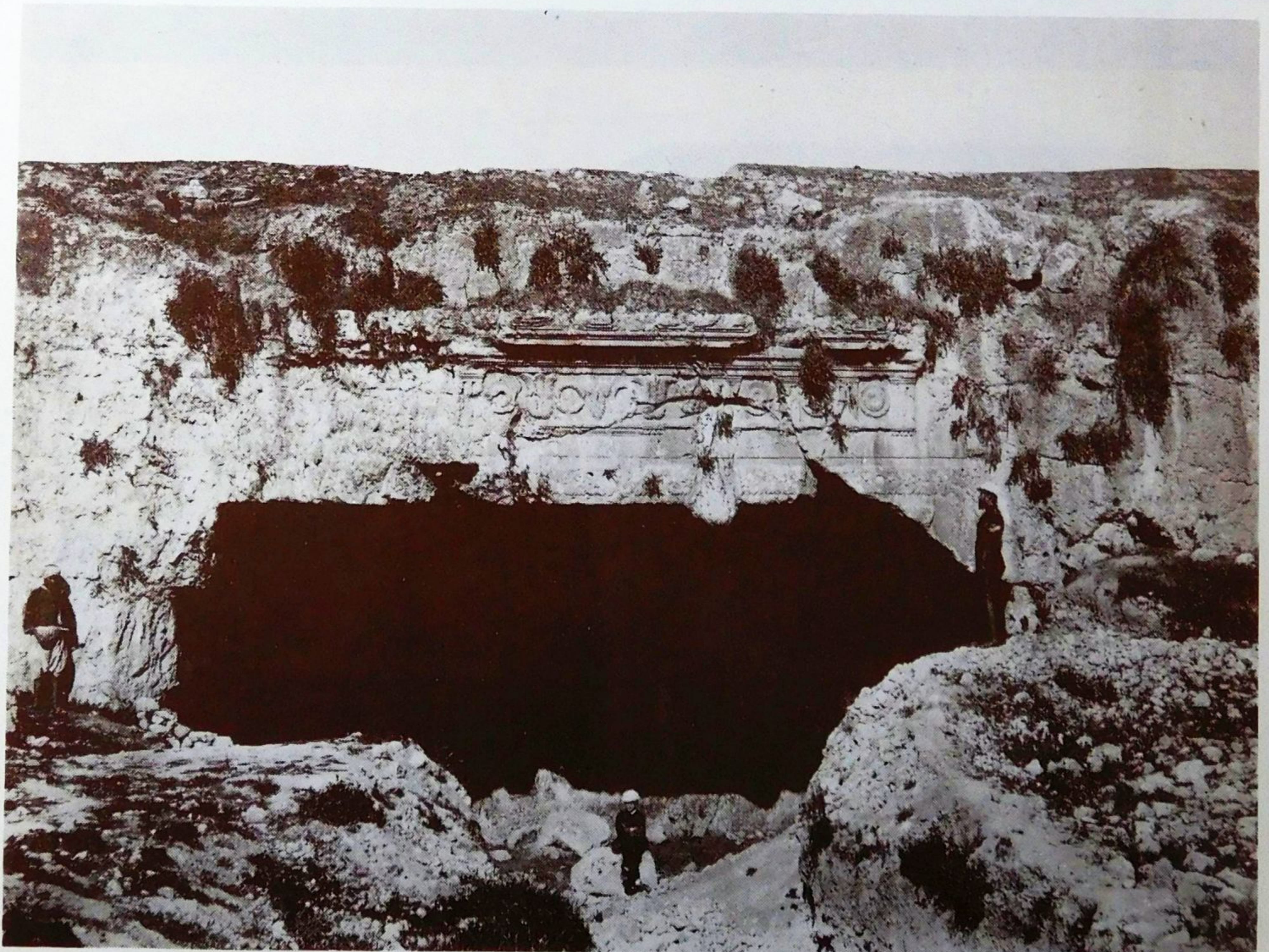
37a. VALLEY OF HINNOM, LOOKING SOUTH FROM THE JAFFA GATE



37b. STAIRCASE IN THE ENGLISH CEMETERY, CUT OUT OF THE FACE OF THE ESCARPED ROCK



38a. TOMBS IN THE VALLEY OF THE KEDRON



38b. ENTRANCE TO THE TOMBS OF THE KINGS



39a. TOMB OF ABSALOM



39b. TOMB OF ST. JAMES

which the natural rock forms a considerable portion of the floor. The Chapel and part of the Convent are under the property of a Turkish effendi, who till lately kept his horses in a chamber over the Chapel; after the Crimean War, however, matters were arranged by the Latins building a new stable for the Moslem, a little further removed from the Chapel.

East of the Latin Chapel are the latrines, which are kept in a bad state, and the drainage of which is very defective; indeed, during Easter, when the Church is crowded with pilgrims, the air becomes so tainted, that it is impossible to remain long in the northern aisle.

The northern aisle which leads to "the Prison" appears to be one of the portions that escaped from the fire of 1808, and is not parallel to the axis of the Church.

In the Greek Chapel of the "Bonds of Christ" is shown a large stone with two round holes in it, through which our Saviour is said to have placed his feet, which were bound beneath by a rope. East of this is the Greek Chapel of the Prison of Christ, where He is said to have been temporarily placed by the soldiers whilst they drove back the crowd that pressed on them. There are three altars in the Chapel, one marking the spot where our Saviour was placed, one at the gate leading into the garden, and one commemorative of the binding to the pillar.

In the Greek Chapel of Longinus is a portion of the rock of Calvary, said to have been cut away to make room for the marble casing; between this and the Armenian Chapel of the "Parting of the Vestments" is a chamber, which appears to lie in what was once an eastern entrance to the Church. In the Greek Chapel of the Crown of Thorns a portion of a granite column is shown as the seat on which our Lord sat when He was crowned, and a crown of thorns is also kept here, made from the same species of shrub that tradition affirms the original one to have been made of.

From the eastern aisle a flight of steps leads down to the Chapel of Helena, which does not seem to have been touched by the fire of 1808. It is divided into three aisles by four stunted columns, which carry a small dome rising up in the court of the Abyssinian Convent, and giving light to the Church below. The capitals of the columns are heavy looking, and of the same style as those in the portion of the Masjed Al-Aksa, walled off for the women. There are two apses containing altars, dedicated respectively to the Penitent Thief and to St. Helena, but where the third apse should have been there is an opening, and a flight of steps leading down to the Chapel of the Invention of the Cross. No rock could be seen, but it would probably be found beneath the plaster with which the walls are thickly overlaid. In the Chapel is shown the place where Queen Helena sat whilst the workmen were searching for the cross, and in the northern wall a niche, where it is said the wail of departed spirits can be heard.

The Chapel of the Invention of the Cross is said to mark the place where the cross was found; it appears to be either an old cistern or a natural cavern enlarged; the roof is principally of rock, but about five feet is arched over with well-finished masonry, and in this part there are three round holes, which look like mouths for drawing water, but may also have been left for lowering lamps. On the roof of the Chapel can be seen marks of chiselling like those noticed in most of the quarries round Jerusalem, as shown in sketch. The Chapel appears to be cut out of the "malaki" bed, the roof of "missae."

Sketch 5, Plate XX.

Sketch 6, Plate XX.

In the Greek Church, which occupies the centre of the whole pile of buildings, is shown the centre or navel of the earth. The Church is very richly decorated, and surmounted by a dome which in point of repair contrasts favourably with its large neighbour over the Rotunda.

"Chapel of Adam,"
Golgotha.

Near the entrance of the Church is the Chapel of Adam, where his skull is said to have been found, and a picture in it represents the tradition that when our Lord was crucified, the blood ran down on to the skull of the first man, raising him to life. Here is also seen the rock of Calvary, and the rent made by the earthquake at the time of the Crucifixion. Though the rock was examined several times as closely as circumstances would allow, no sign of any transverse crack or building up could be seen; but to decide the question properly it would be necessary to remove a large portion of the marble casing. There can hardly be a doubt that the lower portion is natural, and the upper part may very likely be so, as at the tombs of Joseph and Nicodemus the hard "missae" strata are seen, at Calvary the softer stratum containing small nodules which lies above it, and in the Chapel of the Invention of the Cross the "malaki" bed, which lies below both the former. The rent in the rock, as seen in the Chapel of the Exaltation of the Cross, runs in a direction 96° east of north, and this is nearly the same as that of the cracks or veining of the strata round the city, to which it is very similar in appearance. Whilst the surveying party was at Jerusalem the rock was examined by Professor Oscar Fraas, of Stuttgart, well known in geological circles, and also by an experienced Cornish miner, both of whom gave it as their opinion that the rock was natural; indeed, if it is artificially built, it is one of the cleverest contrivances that can be seen anywhere.

In the Chapel of the Exaltation of the Cross is shown the hole in which the cross is said to have been placed; the bottom is covered by a piece of marble, but on the side the bare rock can be seen distinctly. The floor of the Chapel is 15 feet above that of the Rotunda, and this is the level of the top of the rock.

The Latin Chapel of the Crucifixion is supported on vaults, in the roof is a mosaic representation of our Lord, said to have been uninjured by the great fire.

No rock could be seen in the neighbourhood of Calvary excepting in the two Chapels (of Adam and of the Exaltation of the Cross), where it is shown to pilgrims, but there is a large space into which no entrance could be found; a visit to the cistern in one of the Greek chambers close by would probably show where the rock lay, but unfortunately it was not seen till the season was too late to make a descent.

The northern part of the pile of buildings which surround the Church of the Holy Sepulchre is occupied by a Turkish effendi, whose family have lived there since the time of Salah-eddin; nothing of particular interest was found there, but it was curious to see the manner in which the Moslem property was mixed up with the Christian; high up between the two domes is the hareem, which at one time had windows through which the inmates could see what was going on in the Church below, and over the Latin Chapel and convent are several of the offices of the house. A large Mosque is attached to this house, the side of which forms part of Christian Street; it is not of very ancient date.

Photog., page 24.

In Christian Street is seen a doorway, now closed and partly hidden by the arch which spans the street, which formerly led from the street direct to the triforium.

The Abyssinian Convent and court-yard lie over the Chapel of Helena and that of the Invention of the Cross ; there appears to have been here at one time either a church or on old monastery, one side of which, the southern, is tolerably perfect ; the windows are all pointed. The Abyssinians number about seven priests and 70 poor inhabitants, who live in a state of the greatest poverty, crowded into little rooms scattered about amongst the ruins in the court ; by their own account the Copts have robbed them of everything, even the little chapel attached to the western end of the Holy Sepulchre. They claim to have in their court-yard the original Mount Moriah, and show a bush marking the spot where the ram's horns were caught ; near the entrance to the court is shown the site of the last fall made by our Saviour when bearing the cross.

"Abyssinian Convent."
Sketch 8, Plate XX.

Close to the Abyssinian Convent the Copts have nearly completed a large new convent and are busily engaged in clearing out the vaults beneath, an activity arising from the great increased prosperity of Egypt during the last few years. Near the entrance of the Abyssinian Convent they have cleared out a chamber which they purpose turning into a chapel, and disclosed a very handsome capital of white marble, and of the same style as those in the Dome of the Rock ; this pillar and capital carry one end of an arch, the other extremity of which rests on a capital of the Crusading or perhaps later period. There is a great deal of rubbish here, but by getting over it into an adjoining vault the exterior of the closed entrance between the "Chapel of Longinus" and that of the "Parting of the Vestments" can be seen. From this chamber there is an entrance leading to the extensive crypt under the Coptic Convent ; nothing of great antiquity can be seen here ; the arches are all slightly pointed, and are supported sometimes by square pillars, sometimes by the shafts of columns without capitals or any architectural detail ; the rubbish with which the crypt is filled is being removed by the Copts, and at one place the rock has been uncovered at a depth of three feet below the level of the street outside. In the Convent yard, and growing on the top of an arch, is one of the few palm trees in Jerusalem ; the Convent has been constructed from the designs of a native architect.

"Coptic Convent."

East of the Abyssinian Convent, in some ground lately purchased by the Russian Government, are some very interesting remains which have been taken for part of the old (second) wall of the city ; they would seem, however, with more probability to be the remnant of an old church, as portions of the piers forming the aisles, and the springing of some of the arches, as well as a good piece of the original pavement,* can still be plainly seen. Old material has been made use of freely, but none of the existing remains bear the character of mural masonry ; the portion where the large stones with marginal drafts are seen is lined on one side with stones having plain chiselled faces, and the manner in which the large stones themselves are laid is not that which would be adopted in building a city wall. The draft on the chamfered edge is not continued to the bottom, nor have all the stones drafted margins. The gateway on the southern side of the ground is semicircular, and apparently a reconstruction, as one end rests on a pilaster with a capital, whilst the other rests on a column with a roughly hewn block of stone in place of a capital ; on the column a large cross is cut in relief ; this capital and one at the northern end of the ruin are of the same character as those in the Dome of the Rock ; along the side of the wall there are a number of curious niches, as if for lamps. At the door leading out from this ground to the Bazaar there are the shafts of two granite columns standing up, and not far off the shaft of a third column is lying on the ground. It may be noticed here that these remains, some of similar character in the ground

"Russian property."

Photogs. a and b,
page 25.

* The stones of the pavement are from eleven to thirteen inches in thickness.

formerly belonging to the Knights of St. John, and the so-called "Gate of Gennath," are nearly in the same straight line.

"Cistern of Helena."

Sketch 7, Plate XX.

A little to the east of the Church of the Holy Sepulchre is a large cistern known as that of Helena, to which there is an entrance from the street leading up to the Coptic Convent. At several visits the water was found to be too deep to take any measurements, and it was not till some magnesium wire had been obtained that the whole extent could be seen; two strands of wire lighted the place up, and it turned out to be not nearly as large as was expected, being estimated at 60 feet long by 30 feet broad. The cistern is of irregular shape, hewn out of the "malaki" bed, with the overlying bed of "missae" left as a roof, one of the most ancient types of cisterns and similar to those in front of the Masjed Al-Aksa. A flight of steps, covered with cement, but apparently cut in the rock, leads down to the bottom of the cistern, and a stone baluster or guard has been left to prevent people falling into the water on their way down. There is only one shaft to this cistern, which is used by both Moslems and Christians, the latter have possession of the mouth of the shaft, in the Latin poor-house, whilst the former draw water from a hole broken into the shaft much lower down; the consequence is that the buckets often get entangled and continual disputes are going on. The Copts have the entrance at the steps, and are obliged to carry the water up on their backs. The depth of the cistern measured from the mouth of the shaft in the poor-house is 66 feet; there is always a good supply of water, except in seasons of great drought, due to the excellent state of the cement, as no conduit could be seen entering the cistern and the supply must be derived entirely from rain collected on the roofs and terraces above. The exploration of this cistern was first made by Dr. Tobler, who swam about, pushing a board with some lighted candles on it in front of him; he gives it a much greater size, but his measurements having been made under circumstances of great difficulty can scarcely be considered accurate.

VI.

WALL, GATES, AND CHURCHES WITHIN THE CITY.

City wall.

At the north-east angle of the Haram enclosure there is, as mentioned before, a straight joint between the masonry of the "Castle of Antonia," so-called, and that of the city wall; from this point to the Bab Sitti Maryam (Gate of the Lady (Virgin) Mary), commonly known as St. Stephen's Gate, the lower portion of the city wall is built of small stones having no draft round their margins. The St. Stephen's Gate appears to have been built at the time of the last rebuilding of the walls; from this to the Burj Laqlak (Stork's Tower), which forms the north-east angle of the city, the wall is of modern date, composed of old material, and for a portion of the distance is protected by a ditch cut in the rock, the wall being built flush with the face of the escarp; the bases of the projecting towers, 32 feet wide, are also cut out of the rock. From the north-east angle to the quarries near the Damascus Gate, the wall is of the same character and similarly protected by a ditch cut in the rock. Between these two points there is a closed gateway, sometimes known as the "Gate of Herod," but called by the natives, Bab-az-Zahriyeh (the Gate of Splendour), or Bab-az-Zahiré (the Gate of the Blooming, Flourishing); there were no signs of great antiquity about it. In front of the quarries the ditch

Photogs. page 33.

is filled with rubbish, but just beyond it is of considerable depth, and here seems to have been the ancient entrance to the quarries. Close to this is the Damascus Gate, Bab-al-'Amûd (Gate of the Column), by far the most picturesque of the city gates; there is a large accumulation of rubbish in the neighbourhood of the gate almost concealing the remains of an older entrance over which the present one is built. The rubbish rises to the springing, and part of the modern gateway is built in front of the arch, so that only a portion of it can be seen. The arch is semicircular, and built of large plainly chiselled stones, and from its appearance and position would seem to be of great age. At the southern end of a large cistern outside the Damascus Gate, and 26 feet below the surface, rock was found, and over this, either cut out of the rock or built in masonry, was a moulding of the description shown in the annexed sketch. As this is just under the doorway mentioned above, it is in all probability the base of the old wall, but the cementing prevented the style of masonry from being seen, and the mud and water in the cistern were too deep to allow of any measurements being taken. It would be well worth while making an excavation at this point, and also in front of the old gateway if permission could be obtained to work there.

Photog. b, page 32.

Photog. a, page 32.

Photog. a, page 26.

Sketch 1, Plate XXI.

There are two towers, one on each side of the Damascus Gate, which are built of large stones with drafted margins, and have generally been supposed to be a portion of the old city wall; they may be and probably are built on the foundations of older work, but there can be no doubt that the whole of what is now seen is a reconstruction with old material; the stones are set with broad open joints; in the lowest course, visible, of one tower some of the stones are two inches lower than the height of the course, and in the second course a portion of an engaged column has been built in. In the eastern tower the staircase remains quite perfect, and is built with large stones; the covering arches in both towers are pointed, and built with small stones in the same style as the Turkish work of the present day. In the side of each tower nearest the Damascus Gate there is a curious recess, the object of which could not be discovered, it may possibly mark the course taken by the original wall.

From the Damascus Gate to the north-west angle of the city where the Kala't-al-Jalûd (Goliath's Castle) stands, the wall is protected by a ditch cut in the rock, in places filled with rubbish, but still easily to be traced for the whole distance. The wall appears to have been built on the foundations of an older one, though of no extreme antiquity, and material of all descriptions has been used in its construction; stones with marginal drafts, those with plain chiselled faces, and some with finely picked sunk panels on their faces; near the Damascus Gate may be seen a curious attempt of the Moslems to accommodate the large stones to their own work without the labour of breaking them, a false joint being cut on their faces to correspond with that of the later masonry.

The Kala't-al-Jalûd (Goliath's Castle), as it at present stands, is a mass of rubble masonry, partly faced with large stones having the marginal draft, the facing of the greater portion having fallen away. It is probable that the tower was at one time connected with the city wall, and is the Tower of Tancred mentioned in the accounts of the Crusades. A fuller description of this will be found under the head of "Excavations," where a detailed plan with sections is given.

Photog. b, page 31.

From the north-west angle to the Jaffa Gate, Bab-al-Khalîl (Gate of the Friend, *i.e.*, Abraham), there are evident signs of the present wall having been built on the remains of an older one, though, like the northern one, not of great antiquity. In front of the wall there is a great quantity of

rubbish, and this at the Jaffa Gate is of such extent as to entirely conceal the natural features of the ground.

South of the Jaffa Gate is the Citadel, protected by its ditch, and from this to the south-west angle, and round to the Zion Gate, Bab Naby Daûd (Gate of the Prophet David), the wall is a reconstruction with old material; at the south-west angle there are a great number of large stones with the marginal draft, but not in their original positions. Between the Zion Gate and the Dung Gate, Bab-al-Maghâribé (Gate of the Western Africans), the wall is of the same description; at the point between them, where the wall turns to the north, there is a tower called Burj-al-Kibrÿt (the Sulphur Tower), and at the next corner the low-level aqueduct from Solomon's Pools enters the city. The Sulphur Tower appears to be of the same date as the walls, but the lower portion of the masonry could not be seen on account of the rubbish. From the Dung Gate to the south-east corner of the Khâtûniye gardens, and thence to the Double Gateway, a great many large stones with the marginal draft have been built into the wall, but they are intermingled with smaller stones in such a manner as to preclude the idea of their being in their original position. From the Double Gateway to the Castle of Antonia the city wall is also that of the Haram-ash-Sharif, and has been described under that heading.

Over the whole of the ground occupied by the present city of Jerusalem there is a large accumulation of rubbish, which attains its maximum in the valley running down from the Damascus to the Dung Gate, where it is not less than from 50 to 70 feet deep, and in places perhaps more than this. Where the Armenian gardens are situated, near the Citadel, there is from 25 to 30 feet of rubbish, and in other places more or less. It would greatly add to a knowledge of the original features of the ground on which the city stands if some intelligent person living at Jerusalem were instructed to note the depth of the rock when it is uncovered by sinking for foundations, &c., and refer the measurement to one of the bench marks left by the surveying party; a record might be kept in the following form:—

Date (.). At the rock was uncovered, and its surface found to be below (or above) the bench mark at

Distances should be measured from the horizontal line of the bench mark $\overline{\uparrow}$

Though the present streets of Jerusalem are of comparatively modern date, it is not improbable that they follow in a great measure the direction of older ones, and a curious instance of this is said to have come to light in digging for the foundations of the house belonging to the Prussian Deaconesses, where the houses of an old street were found several feet below the surface, following the same direction as those above.

In one of the side streets, turning out of the main one leading from the Jaffa Gate to the Haram, and nearly opposite to the southern end of the bazaars, is the so-called "Gate of Gennath"; the level of the street is now up to the springing, and only half the arch can be seen; it is semicircular, and looks very old, but the stones are rough, and the masonry is more like that of the entrance to some vault than of a city gateway; on comparing it with the old archway at the Damascus Gate, the difference of construction and style of masonry is very noticeable.* This arch bears a great resemblance to some

"Gate Gennath,"
so-called.
Photog. b, page 26.

Photog. a, page 26.

* An excavation has since been made in front of the "Gate Gennath," showing it to be of comparatively modern date.

very old ones in the Jewish bazaar, and is probably of the same date ; the latter appear to have formed portion of an old bazaar, but it is impossible to judge of their age from their appearance ; they are not far above the rock, and there is little rubbish about them, beyond the modern houses of the quarter.

The Hospital of Helena (at-takiyeh) is a fine old building of the Saracenic times, situated near the bottom of the street in which the Prussian Consulate stands. The doorways are very handsome, and in building the jambs of these thin sheets of lead have been used instead of mortar, the only instance of the kind met with in Jerusalem. No very ancient masonry could be seen, though old stones have been used in several places. "Hospital of Helena."

The Maḥkama, or Court House, is partly supported by the large arch over the Pool of Al-Burak and partly by the more modern vaults to the south of it ; the building at one time appears to have been richly decorated, but now the marble paving is fast disappearing, and the most interesting object is a stone sarcophagus* with some sculpture on it, taken from one of the tombs in the neighbourhood. Nearly opposite the entrance is a handsome fountain, now dry. "Maḥkama." Photog. on Frontispiece.

In the street leading to St. Stephen's Gate are some ruins, known as the "Tower of Antonia ;" facing the street are some large stones with drafted margins, but they are not in their original position and nothing of the kind is visible inside, where there is a small court in which various Moslem saints and celebrities are buried ; at the head of one of the graves is a portion of the shaft of a fluted column of red granite ; the tower appears to be part of an old mosque or church and the place is called by the natives the Masjed (and Makbara) of the Majâhidîn, that is, the Mosque (and cemetery) of those that fought against the Infidels (Knights of the Crescent). "Tower of Antonia." Photog. a, page 29.

It is absurd to attribute any great antiquity to the sites shown in the Viâ Dolorosa, the present level of the ground being in many places as much as 30 to 40 feet above what it must have been at the time the events happened which it is now attempted to localize. The oldest monument on the road is the Ecce Homo Arch, which at present consists of a large arch spanning the road, with a smaller one on the north side ; the large arch is slightly elliptical, the smaller one, which is about to be included in the new Church of the Sisters of Zion, is semicircular, between the two is a niche ; some years ago a similar small arch is said to have been standing on the other side, which was pulled down by a Moslem when enlarging or rebuilding his house. The arch has all the appearance of a Roman triumphal arch. On excavating here for the foundations of the convent a number of large flat paving stones were found, some of which are now lying in front of the convent, they probably formed part of the old city pavement and are similar to those with which the bazaars are now paved. At the Ecce Homo Arch the rock is said to be nine feet below the surface ; but it can scarcely be as much, for just below the rock rises above the level of the street and is scarped down for some height ; on the top of this is some old looking masonry similar to that at the north-west angle of the Haram beneath the Barracks. Whilst excavating for the new Church of the Sisters of Zion rock was found everywhere, and had in several places to be cut away. On the south side of the road under the Ecce Homo Arch is shown a niche which is said to have been made by the Virgin when pressed against the wall by the crowd following the cross ; some distance lower down in the valley is shown the house of Lazarus, a few years ago the stone on which he sat to beg was pointed out, but Turkish improvement has swept this away ; farther on still is the house of Dives, and at "Viâ Dolorosa." Photog. b, page 27.

* Since removed to the Louvre Museum at Paris.

the top of the Via Dolorosa is shown the shaft of a column, said to be part of the gate of the Judgment Hall; from what the man in the shop said, this column appears to stand on the rock, the base is now covered up so that it could not be seen, but rock is visible in one of the vaults of the corner house opposite. Higher up the city is a street running northwards, and nearly opposite the upper portion of the Church of the Holy Sepulchre is a stone with a hole in it built into the wall of a comparatively modern Greek convent, and some eight feet above the ground; this is shown as one of the stones that should have spoken; it is pretended that the reproof went so far that mouths actually commenced to form in the stones to issue the rebuke, and that this is one of them; it is much visited by pilgrims at Easter time, when a little circle kneeling devoutly in the dirty street and offering up prayers in front of this piece of stone makes one wonder at their credulity and the implicit faith they place in everything told them by a set of uneducated priests. The house of St. Veronica and many other sites are shown, but none of them have the least appearance of antiquity, a shaft of a column or an old capital is enough to localize any event.

"Muristan,"
Knights of St.
John.

Photog. a, page 27.

Sketch 2, Plate
XXI.

Not far from the entrance to the Church of the Holy Sepulchre is the old gateway which formerly led into the pile of buildings belonging to the Knights of St. John. The arch is semicircular, and was at one time beautifully decorated, now much of this is destroyed, and a portion of the stone carving has been cut away to allow a rude earthenware spout to be brought down across the face of the arch. Round the arch are a series of figures, in stone, now much dilapidated, but apparently at one time representing the signs of the Zodiac, as the centre is occupied by the sun and moon, and round the border portions of the names of the months can still be made out. The inscription at present reads, FEB, MA,,, IAIVS, LIVS, L, LVNA, AVGWSTVS, SEPTENBER, BER, NOVEMBER, DEC Above the arch is a cornice, and on this are figures of lions and other animals worked with great spirit, and of the same style as those over the Chapel of the Egyptian Mary at the Church of the Holy Sepulchre. A little east of the gateway is the apse of the old chapel, and there are also portions of the old convent and dormitories; in one of the courts there is a pretty window, but the accumulation of rubbish and filth is so great that little can be seen, and it is disagreeable work exploring that. Except at the north-east corner, the site of the old hospital, &c., called by the natives "Muristan," is now a field, annually sown with barley, and offering a favourable situation for excavation. In this field, on the line of the bazaars, are some ruins, supposed by some to be a portion of the second wall of the old city, they have not however the character of mural masonry, the few large stones there do not appear to be in their original positions, and no trace of work of this kind could be found in the vaults of the bazaar beneath. It has been too much the custom at Jerusalem to attribute high antiquity to any building where stones with drafted margins have been found, without any regard to the manner in which they are built in, many of them have doubtless done good service in other places before they reached their present position.

"Ground near
Jaffa Gate."

In the excavations made for the foundations of the new buildings erecting for the Latin Patriarch between the Jaffa Gate and Goliath's Castle, there was found to be seven feet of small rubbish, and beneath this a confused mass of large stones and rubbish, with nothing that could be identified as the foundation of an old building. The aqueduct seen outside the city near the Russian Convent was also met with here, and cut through in several places. It was said that in digging for the foundations of the new church a portion of the old wall was uncovered, but the excavation had been filled in before the surveying party reached Jerusalem.

Near the St. Stephen's Gate is the Church of St. Anne, built over the grotto of St. Anne, which is cut out of the "malaki" bed, and looks remarkably like an old cistern. The church now belongs to France, and repairs almost amounting to a rebuilding are being executed. The material used in the repairs is picked stone from the upper bed of "malaki;" but the work goes on slowly, and is very expensive, all the timber for scaffolding, &c., having to be brought to Jaffa and thence over the bad roads to Jerusalem. The building is called by Moslems Salahîye, and was for a long time used by them as a mosque; an Arabic inscription remains over the doorway, and in the south wall the large Mihrab cut out by the Moslems may still be seen. The rock is seen in several places round the church, and opposite the east end are two courses of large stones with drafted margins, but they do not seem to have been of sufficient size or good enough workmanship to have formed part of the city wall.

Church of St. Anne.
Plate V.
Photog. b, page 28.

The Church of St. James in the Armenian Convent is one of the richest in gilding, decoration, and pictures in the city; the main church is dedicated to St. James, and the site of his massacre is pointed out; on the north there is a side chapel dedicated to St. Stephen, and here is shown an old stone font, in which tradition affirms the first Jew was baptised; in the chapel on the south are kept three stones, highly revered by pilgrims, one being from Mount Sinai, one from the Jordan, and one from Mount Tabor. There is a great deal of fayence work about the church and its chapels, but all is of the later date and not equal to that on the Dome of the Rock. In the southern chapel the wall is partially covered with a sort of enamel on plaster or brick, which is rapidly scaling off and appears to be of later date than the fayence. In the dining room of the convent, a few pieces of the older and finer fayence are left, mixed up with a large quantity of the new. The dining room is long and fitted up much as it must have been in mediæval times; a step divides the Patriarch and Bishops from the rest of the clergy, and here the tables are fine slabs of white marble, the pavement is of the "Santa Croce" marble, and there is some pretty inlaid work. A new building has lately been erected on the Armenian property, for a school and dormitories, and there is a large establishment for the reception of pilgrims. No masonry of very high antiquity was found, either in the ground or buildings of the Armenian Convent.

Armenian Church of St. James.
Plate IV.

To the north-west of the Church of St. Anne is the old ruin known by the name of "Al-Mamûniyé;" it was at one time a church, supposed to be that of Mary Magdalene, but is now used as a pottery. The eastern end being on the side of the hill is supported by vaults; the church is built east and west, and two of the apses remain, with a portion of the main entrance at the western end; along the southern side are ranged a number of cells or small rooms, probably intended for the monks. The arches of the vaults are all pointed. In one place is shown the print of our Saviour's foot, on a stone, which seems to be a Moslem tradition only. The clay used by the potters who have possession of the church is obtained from El-Jib (Gibeon).

In the street behind the Austrian Consulate is the Mosque "Al-Mawlawîyé," formerly a small Christian Church, with three apses, the central one of which is much larger than the others, and has traces of the paintings of saints, &c., showing dimly through the whitewash with which it has been covered. The church (supposed to be that of St. John), is divided into three aisles by two rows of square pillars, and is raised above the level of the street by a series of vaults or crypt, the arches of which are all pointed. Attached to the mosque is a convent for Moslem pilgrims.

In Christian Street, and nearly opposite the Pool of Hezekiah, is the Greek Church and Convent of "the Forerunner" (John the Baptist); the church is of comparatively modern date, and dressed out with

"Church of St. John the Baptist."

gilding and paintings in the usual Greek style, but immediately underneath is a much older church, half filled with rubbish, but apparently still in a good state of preservation. The altar in the eastern apse is perfect, and ranged above it are three skulls, peculiar from their smallness and round form, which were found by the workmen when excavating. The floor of the church is about 25 feet below the level of Christian-street, and its form is shown in the annexed sketch. In front of the western end there seems to have been a sort of arcade, the covering arch of which is semicircular; there are two doors, one in the southern apse and one at the west end, both of which are covered with a lintel, with semicircular relieving arch above. The church is well built, and nicely finished, so that it is a pity the Greeks do not take the trouble to clear out the rubbish; several capitals of pilasters and pieces of sculpture were dug up when building the present church, and much more would probably be found.

Sketch 4, Plate XXI.

Sketch 3, Plate XXI.

"Austrian Hospice."
Sketch 1, Plate XXIII.

Whilst digging for the foundations of the Austrian Hospice some years ago, several rock-hewn chambers were found, and a few interesting relics; they consisted of a piece of mosaic work representing the Judæan partridge, the head was lost, but the colouring and action of the body and legs was well executed; and a small column and mural tablet to the memory of some lady; the same Greek inscription was on both column and tablet, and on the latter a female figure reclining on a bier, with her head raised and resting on one hand, was painted with much spirit, and is still well preserved. A plan and description of the rock-hewn chambers is given by Dr. Tobler (*Dritt. Wand.*, page 245.)

"Pool of Hezekiah."
Photog. p. 30.

The pools of Hezekiah and Bethesda, so-called, have been already described; it may here be noticed that the highest water line traced on the cement of the former was 7 feet 8 inches above the bed of the pool, and that during the winter of 1864-65, the depth of water was about 4 feet.

Es-Shefa Well.
Plan and Section;
Plate XXII.;
Sketch 2, Plate XXIII.

The Es-Shefa well is near the Bab-al Kaṭṭânîn of the Haram, and supplies the Turkish bath there. On descending the well the different styles of architecture were very noticeable, semicircular arches at the bottom, pointed ones higher up, and near the top the later additions of the present day, the shaft seeming to have grown upwards as the rubbish increased. The passage is covered by arches of different sizes, and has been made at various times, the portion cut in the rock seems to be of great antiquity, and was probably connected with the water system of the old city. The water was reported to have failed during the winter of 1864-65, but arrangements could not be made for paying it a second visit. The plan and sections show the details.

Photog. a, page 31.

Beneath the rocky face of the western side of the central valley, the tunnel through which the water from Solomon's Pool at one time passed can be seen and followed for some distance. The face appears to have been scarped, but the modern houses of the Jews' quarter cover the ground so completely, that it was not possible to find out whether traces of an old wall remained above the escarpment. The rock rises to a height of 29 feet 8 inches above the level of the street below.

"Passage under Mission premises."
Sketch 5, Plate XXI.

In the house of the Rev. J. Barclay, incumbent of Christ's Church, there is a shaft by which access is obtained to a passage running east and west under the Mission premises. The rock was found here to be 34 feet below the yard in front of the church; the passage has been cemented, and in its original state was probably a water conduit or drain; the roof is in places of large flat stones, in others of a rough sort of vaulting with large stones, as shown on sketch; it seems doubtful, however, whether any portion of this formed part of the original covering. At the western end is a closed shaft reaching

nearly to the surface, and at this point the passage turns off to the left for a short distance, when it is closed by rubbish; the eastern end is closed by the falling in of the roof; a great portion of the passage is cut out of the rock. The plan gives details, &c. of the construction. Sketch 5, Plate XXI.

A great number of cisterns were visited in different parts of the city, principally with the view of determining the depth at which the rock lay, but little success was obtained owing to the thick cement with which the interiors were covered, and the difficulty of obtaining sufficient light to distinguish between rock and masonry. The state of the cisterns has been alluded to in the paper on the water supply; no description can give an adequate idea of the filthy deposits found at the bottoms of many of them; the shafts also generally leaked and admitted the moisture which had soaked through the refuse above. "Cisterns."

In the part of the town nearly over the entrance to the Quarries near the Damascus Gate there is a curious escarpment in the rock, running from north-west to south-east, or in the direction of the valley which runs down to the Pool of Bethesda. Only a small portion of it can be seen, the rubbish covering the southern end; but it looks as if an interior wall had at one time followed this line.

VII.

WALLS, TOMBS, &c. OUTSIDE THE CITY.

To the south of the city the ground is deeply covered with rubbish; there are several escarpments in the rock and a great number of cisterns, principally of the oldest or retort-shaped type, but no trace could be found of any city wall, or even of the foundations of any large buildings in this direction, nor did the escarpments seem to have any connexion with each other, which they would certainly have had were they a portion of some system of defence; large excavations would be necessary to settle the question of the course of the old city wall in this direction.

From the Mission Schools to the end of the Protestant Cemetery an escarpment of the rock can be traced, which is best seen at the end of the cemetery, where there is a flight of steps hewn out of the rock; these have been traced downwards for some distance by excavations made by the Mission, but the loose rubbish has prevented their reaching the bottom; under the top of the steps is a rock-hewn cistern; following the course of the escarpment to the south-east, a ditch cut in the solid rock is reached a little beyond the cemetery; there is a great quantity of rubbish about, but the ditch can still be traced, and is cut out of the upper "missae" strata, which here have a dip of 12°. Rock is visible at several places near the wall that surrounds David's Tomb, and also in the school house. From the position and appearance of this escarpment, it must have formed part of the defences of the old city, the wall running along the crest, but it cannot be traced beyond the ditch mentioned above; the steps which lead down towards the Valley of Hinnom could be defended by a couple of men against any force, before the invention of fire-arms. The escarpment was probably carried down to the valley in a succession of terraces as shown in sketch, on one of which the cemetery has been formed; the large amount of rubbish, however, will Photog. h, page 87.
Sketch 1, Plate XXIV.

not allow anything to be seen clearly. There was at one time a Turkish bath here, portions of which still remain.

Along the western side of the city the rubbish is very deep, and no remains of buildings could be found.

Except in the immediate vicinity of the Damascus Gate there does not appear to be much rubbish to the north of the city ; there are a great number of cisterns in this direction, but they are all of the more modern description, and with a few exceptions are covered by pointed arches ; one of the cisterns had on each of its sides a large Greek cross in relief on the cement. Between the north-east angle and the Russian Convent some foundations were uncovered whilst building a house for Mr. Bergheim, the banker ; they were a reconstruction with old material—stones with drafted margins and those without being alike used—and appeared to have belonged to some house or public building. The only other remains found to the north of the city were the two rows of large stones described in account of excavations, Nos. II. and III. ; these two rows are nearly in the same straight line, but the masonry is different, the stones to the east, in the cistern, being finely dressed in the style of the Wailing Place masonry, with their faces turned towards the city, whilst those to the west have their faces left rough and turned towards the country ; whether either or both formed part of the old city wall it is perhaps now impossible to tell, at least without excavation on a large scale ; the ease with which the stones could be run down the slope towards the city, and reused in later constructions, would account for the disappearance of the greater number.

Sketch 2, Plate XXIV.

Sketches 1 and 2, Plate XXVI.

The colour of the virgin soil round Jerusalem is bright red, whilst the remains of houses leave a greyish deposit, and attempts have been made to trace the extent of the ancient city by this means ; but after the lapse of so many years this can hardly be considered a fair test.

On the east of the city no remains of walls or buildings could be found, the rubbish covering everything. It may here be noticed that the portion of the eastern hill, south of the Haram enclosure, seems to have been less disturbed than other places since the destruction of the city, and offers a promising field for excavation.

In the Armenian Church and Convent called the "House of Caiaphas," is shown the prison of our Lord and the place where He slept. The Church is close to the Zion Gate, but there is little of interest in it ; on the walls are some portions of fayence work, but all of the later period.

"House of Caiaphas." Plate IV.

The "Cœnaculum" and Tomb of David are in the same building, the latter being the crypt of an old church of probably the crusading period, above which the former has been built. In the crypt, which is rather low, the arches are all pointed and the roof is groined ; the space is divided into two aisles by four piers. The cœnotaph shown as the Tomb of David occupies the eastern end, and is separated from the other portion of the crypt by a sort of screen. The real tomb is said to be in a cave below ; but no Moslem has ever been hardy enough to venture a visit ; the party were not allowed to take any measurements in the crypt. The "Cœnaculum" has pointed arches and a groined roof, and on the side facing the south has three pointed windows. At the east end is a sort of wely, which seems to have been an

"Cœnaculum." "Tomb of David." Plate IV.

addition to the regular building, and in this there is a cœnotaph, covered with green rags, which is generally shown to strangers and even Moslem pilgrims as the Tomb of David. At one corner of the "Cœnaculum" a flight of steps leads down to the crypt.

The Church of the Tomb of the Virgin is a subterranean chapel in the valley of the Kedron, excavated out of the rock; in forming it advantage seems to have been taken of a natural cavern, or possibly an old tomb chamber; in its present state it has little of the character of the tombs of the neighbourhood. Not far from this is shown the "Grotto of the Agony," a natural cavern slightly altered to meet the requirements of the services, &c. performed there.

"Tomb of the Virgin."
Plate V.

The Church of the Ascension is a small circular building in the middle of an open court on the Mount of Olives. At the east end of the court are altars belonging to the different sects. No trace of the old churches said to have been built here could be found, but the sites may be covered by the heap of rubbish on which the village stands.

"Church of the Ascension."
Plate V.

The church at the Convent of the Cross belongs to the Greek Church, and is said to mark the site of the tree from which the wood to make our Saviour's Cross was cut. The church is divided into three aisles by square pillars, and at the eastern end of each aisle is an apse, behind the northern one of which is shown the exact spot on which the tree grew; this place is much visited by pilgrims, who carry away some of the dust in small bags. The floor of the church is paved with mosaic work, which in places has got out of repair and has been mended with some fine pieces of fayence work. The colours of the mosaic work are red, black, white, and yellow, and some curious designs have been traced out in these, especially in front of the screen, where a piece remains in a good state of preservation; the form is a square, in the centre and at the angles of which is a winged bird like a cock, surrounded by some pretty scroll work, with a broad border of quaint animals, birds, and flowers round the whole. The church and convent formerly belonged to the Georgians, whose peculiar paintings and dismal-looking patriarchs cover the walls; these however will not last much longer, as the plaster and paint are rapidly coming off. In the church are some pictures said to have been saved from the convents in the Jordan Valley when they were destroyed by Arabs, and on the screen is a curious picture showing the history of the tree. The church is said to have been repaired in 1644, at which time many remains of older buildings were found, with some cells cut in the solid rock, like those at Bethlehem. In connexion with the convent is a college or school for the education of priests, which appears to answer very well.

"Church at the Convent of the Cross."
Plate IV.

There are several old quarries in the neighbourhood of the city, the best known of which is that near the Damascus Gate. The present entrance is through a small hole left between the heap of rubbish with which the ditch is filled and the roof of the cavern; the quarries are of considerable extent, and have been worked for the purpose of getting out the "malaki" beds of stone; in places the stones have been left half cut out, and the marks of the chisel and pick are as fresh as if the workmen had just left, and even the black patches made by the smoke of the lamps remain. The tools employed seem to have been much the same as those now in use, and the quarrymen to have worked in gangs of five or six, each man carrying in a vertical cut 4 inches broad till he had reached the required depth; the height of the course would determine the distance of the workmen from each other, in these quarries it was found to be about 1 foot 7 inches; when the cuts had all obtained

"Quarries."
Sketch 3, Plate XXIV.

the required depth the stones were got out by working in from the end. The cuts were apparently made with a two-handed pick, and worked down from above, as shown in the section annexed, and the way in which the men worked is shown on plan. None of the stones left half worked were of great size, and this material does not seem to have been much used in mural masonry, for which it was little suited. In one part of the quarry is the so-called well, which is nothing more than the leakage from the cisterns above, and the constant dropping has worn away the rock into the form of a basin; it is quite impossible that this water should come from any other source, as the rock above the quarry is completely cut off by the ditch from the drainage of the ground to the north. The sides of the cavern were carefully examined for any traces of an opening, but none could be found; the entrance must always have been a little to the east of the Damascus Gate, and now forms part of the ditch; the marks of the quarrying in this part before the underground work was commenced are still visible. The rubbish in the ditch now closes the entrance, and within the quarry there is a large accumulation from the stone chippings, which seem never to have been cleared away. The roof is supported by pillars of rock left at uncertain intervals, but the workmen have been rather careless about this, and left the spaces too wide, so that in many places large flakes of the overlying strata have fallen in, and more seems ready to follow its example, making the position of the houses above rather insecure. The steps left by the quarrymen for getting about inside can be easily traced. On the opposite side of the road is another old quarry, worked in a similar manner but not to the same extent, to which the name of Jeremiah's Grotto has been given. Similar sections are exposed on each side, and show very clearly the manner in which the hard limestone beds, called by the natives "missae," overlie the softer beds, to which the name of "malaki" has been given. After visiting these quarries and others at Siloam, in the valley of the Kedron, and at various points around, the question rises of, what has become of the enormous quantities of stone taken out of them, as comparatively little is found in the city; some has no doubt been cut up and re-used several times over, and much that has been left has been reduced to powder by the wear and tear of time; and it seems probable that most of the public buildings were built of this stone, so temptingly easy to work, and have in consequence disappeared, whilst the walls, built of solid blocks of "missae," have in places been able to defy time and hard usage.

Vide Photogs.
page 33.

"Siloam Village."

Sketches 4 and 5,
Plate XXIV.

Entering the village of Siloam on the north, there is on the left a high cliff, which bears evident signs of having been worked as a quarry, and on the summit of which is a curious place which appears to have been an old dove cote cut in the rock; on the right-hand side is the curious monolith with the heavy Egyptian cornice; the exterior of the roof is quite flat, but the interior is sloping like a tent; in front is a small cistern. The present village of Siloam occupies the site of an old quarry, the houses are often made simply by the walling up of the excavation, and sometimes they cling to the scarped face of the rock: one excavation was of considerable extent, and similar in character to that near the Damascus Gate, though not nearly so large: several pillars were left to sustain the roof. The stone from this quarry is "malaki" of a very soft kind; higher up, by the monolith, "missae" and the upper bed of "malaki" are found. A large portion of the quarrying at Siloam has been in the "missae" beds, and throughout the village the deep vertical cuts made by the quarrymen may be seen exactly corresponding to those found in all the quarries; steps cut in the rock lead to different parts of the village, first made for the convenience of the workmen, they have now been made to serve as streets. There are a few tombs in the village, but not as many as has generally been supposed. The state of the

houses and streets was worse than anything seen about Jerusalem, and they were swarming with vermin ; still the village is highly interesting, and deserves more notice from travellers than has generally been bestowed on it.

The whole of the passage from the Fountain of the Virgin to Siloam is cut out of the solid rock, and ^{“ Fountain of Virgin.”} only at one place, on the right-hand side near the Fountain of the Virgin, was there any appearance of a passage coming into it ; this opening was filled with soil, which, being of a different character to that found in the channel, is probably washed down from above ; the opening was of no great size. The first part of the channel from the Virgin Fountain is low and winds about, but in one place there is room to stand up for a few yards ; there are three or four very low places, especially one near the centre, where only a few inches were left between the water and the rock, and at this place it was necessary to lie down at full length in order to get through. Towards the Siloam end the passage increases in height, and near the exit is from 18 to 20 feet ; near this end too are some holes, at one time probably open to the sky, but now filled with large stones, and here must have fallen the rubbish which stopped Dr. Tobler in his first attempt at a passage ; during this visit nothing was found to obstruct the way. At one point the sound of water falling into some basin was distinctly heard ; it was to the right of the passage, and the water apparently ran under it. Several false turns were noticed, arising probably from the men having worked without a compass ; at one point, a little more than half way from the Fountain of the Virgin, the passage turns sharp to the left, at right angles to its former course, and here the junction was probably made, as there were several false cuttings close to it. The noise of donkeys passing overhead was distinctly heard. The passage was formerly cemented throughout, and great labour must have been expended in its construction, as only one man could work at a time, from each end ; it must have been difficult, too, getting a supply of fresh air before the communication was cut through. The passage occupied one hour and a quarter, and was rather troublesome ; fortunately there was a thick deposit of mud in the conduit, which protected the knees in crawling along ; no measurements or bearings were taken, as the water got into the compass and prevented the needle from acting freely.

Above and a little to the south of the Fountain of the Virgin is the entrance to the ancient drain ^{“ Old Drain.”} of the city, which was explored for a little over 600 feet, when further progress was stopped by rubbish ; much of it is quite perfect, and what is not requires very little repair ; it varies from 5 to 6 feet in height, and is paved with large square stones ; part of the drain is cut through the rock, the roof is arched with small stones and is semicircular. About 500 feet in, an old trap was noticed, and near this point Mr. Barclay, who afterwards visited the place, saw a passage coming in from the right ; on a second visit to examine this, water was flowing down and prevented exploration. The upper portion of the drain has a slight fall, but when it reaches the brow of the hill the descent is very rapid. There is no doubt that this was the main outlet of the drainage of the ancient city, and the mouth seen by Mr. Barclay was probably the branch from the Temple area ; it is not improbable that the surplus water from the cisterns there was used for flushing the drain. The main drain seems to have come down the central valley, and then to have been carried across the eastern ridge to discharge itself into the Kedron valley. The present exit is in the central valley, on the way to Siloam, but, except after heavy rain in winter, little of the ordure finds its way out ; the old drain may still be in use within the city, though the position of its outlet has been changed. The dirty water is now used for manuring the gardens on the eastern ridge.

"Tombs."

The ancient tombs round Jerusalem form a peculiar feature from the diversity of their construction and arrangement ; there is nothing left by which their dates can be told, and if there ever were any inscriptions they have long since disappeared under the ruthless hands of treasure-seekers ; indeed there is not a tomb near the city in which the marks of pick and chisel are not visible in attempts to discover hidden chambers. Perhaps the commonest form of tomb is that in which a natural cavern has been taken advantage of, and the "loculi" simply hollowed out round its sides ; a second form are those which are entered by a small doorway, closed by a flat stone, with the "loculi," ranged round the sides of a square chamber hewn in the rock ; a third kind has more pretensions to grandeur, having a small ante-chamber, from the sides of which doors open to the chambers containing the "loculi," and besides these there are the large series of catacombs known as the "Tombs of the Kings," "Judges," "Prophets," and others in the valleys of Kedron and Hinnom. The "loculi," or receptacles for the bodies, are also different in shape ; the common form is a long hole cut in perpendicular to the face of the rock, from 6 to 7 feet deep, 3 feet 6 inches broad, 3 feet high, and closed by a stone door, fitting into a reveal, so that the face of the door should be flush with that of the rock ; these reveals are so beautifully finished that the joints made by the doors must have been hardly visible to the naked eye. Some of the "loculi" have chambers at their ends, as those in the "Tombs of the Kings," which may have been for treasure ; the positions they occupy are not always the same. Some few of the tombs have remains of decoration over their entrances, all of which appears to be of about the same date as that on the well-known Kedron tombs. Commencing at the Damascus Gate, and proceeding along the north or Nablus road, the first tombs reached are those of "the Kings ;" here a flight of steps leads down to an arched doorway, opening into an open court sunk in the rock, at the west end of which is the entrance to the tomb ; formerly two pillars supported the sculptured face of an open vestibule, but these have gone, and some of the decoration itself has disappeared under the chisel and hammer of some enterprising traveller ; at the north end of the vestibule is the low doorway which leads into the ante-chamber ; the door was closed by a round stone, which, though much damaged, still exists, and the arrangements for rolling it backwards and forwards can also be traced ; from the ante-chamber doors lead to the different tomb chambers, which were closed by stone doors, portions of which remain ; the hinges on which they turned fitted into sockets. The "loculi" here run in on a level with the top of the side benches ; many have treasure chambers behind them, and a longitudinal groove cut out in the bottom, a peculiar feature not seen elsewhere ; some of the places for bodies are arched recesses in the sides of the chambers. The way in which the hidden chambers are concealed is very ingenious ; in one, a portion of the surrounding bench lifts up and discloses a flight of steps ; in another the bottom of a "loculus," &c. All the chambers and "loculi" are well and finely finished, and must have been a work of great time and labour. Two of the chambers are now closed, the Jews having collected the bones left lying about by the French and buried them there ; broken doors and sarcophagi are scattered over the floors of the chambers. The group of tombs, of which that of the "Judges" is best known, are to the right of the present road to Nebi Samwil, the old Roman road to El-Jib (Gibeon). The arrangement of the "loculi" in the "Tombs of the Judges" is peculiar to itself ; they are ranged in two tiers, the lower one running in on a level with the ground, whilst the upper runs in from the back of an arched recess. A flight of steps in the first tomb room leads down to an unfinished chamber, in which the "loculi" have not been commenced ; the mode of working is exactly that seen in the old quarries, the stone being cut out in blocks in the same way. Most of the tombs around are of the more finished class, having an ante-chamber, with one or more rooms for the bodies. On the other side of the valley, under the village of Shafat, is a very curious tomb ; the "loculi," indeed, are of the ordinary

Plate XXV.

Photog. 38^b.

kind, but the entrance has been adorned with an imitation of the old Jewish masonry, cut in the solid rock, with a frieze above, in the same style as the other decorated tombs. Descending into the valley of the Kedron, and following its course downwards, there are great numbers of tombs on either side of greater or lesser size, but all of the same character, till the well-known group of Kedron tombs is reached. The first of these, that of "Absalom," is a monolith, with a roof of plain chiselled stones; it has been hollowed out inside, but is now so filled with small stones that nothing can be seen; behind this is the Tomb of Jehoshaphat, of which only the ornamented part over the entrance can be seen, the door being closed by rubbish; it was said to have been open some thirty years ago, and to have been the receptacle for those who died of the plague, after which it was closed up. Lower down is the Tomb of St. James, which has regular tomb chambers with "loculi," and in front a vestibule, with Doric portico; there are two entrances to the vestibule, one leading up to the cliff above Absalom's pillar, the other down to the Tomb of Zechariah, which is a monolith; no entrance has yet been discovered into this monument, and it is not even certain whether it was made for sepulchral purposes; there is some rubbish round the base, which, if cleared away, might throw light on the subject. There are some smaller tombs below this, and also above on Mount Olivet, where is the curious tomb called that of the "Prophets;" this is peculiar, from the circular arrangement of the passages, and also from the construction of its "loculi," which are partly sunk below the level of the passage. The entrance to this tomb is by a hole in the ground, which opens into a circular chamber having a round hole in the roof, probably to admit light; from this chamber an open doorway leads into a passage, which taking a semicircular direction, comes out into the same cavern; there are some branches leading into side chambers, containing two or three "loculi" each, and "loculi" were ranged round the semicircular part, their mouths being level with the ground. All the passages and "loculi" are cut with semicircular heads, and the passages are cemented and plastered, as if the tomb had at one time been used for a dwelling place; the whole has been cut out of the soft chalk. The next large group of tombs is that known as "Aceldama," in the lower part of the valley of Hinnom; many of these are curious, from bearing signs of having been made or modified at a later period than those on the north side of the city; some of the roofs are dome-shaped and ornamented, and near the lower end of the series are two recessed half-domes, cut in the rock, with stone benches round them. Most of the entrances seem to have been closed by a stone door, turning on a socket hinge, and fastened by bolts on the inside, but the means of opening and shutting these bolts could not be seen. Not far below the building known as "Aceldama," is a tomb with a sculptured frieze, on which are grapes, &c., in the same style as at the "Tombs of the Kings;" the tomb itself bears traces of plastering and painting, but the inside has been so mutilated that many of the "loculi" can hardly be traced. On many of the tombs an inscription was found, and on others scattered letters, but nothing that could well be deciphered. The building called "Aceldama" consists of a large pointed arch, covering a deep chamber, one side of which is composed of rock with masonry buttresses, the other of masonry; the lower part of the building seems to be of much earlier date than the upper, and the buttresses or piers are built with stones having the marginal draft. At the bottom are two caves, or sepulchral chambers, with "loculi" and traces of steps, which must at one time have led to the bottom; some few bones were lying about. Up to this point the ascent from Bir Eyub is by steps cut out of the rock, and leading to the different tombs; but here a broad terrace of some length is reached, which, from the remains of old masonry on the edge of the cliff, appears to have been at one time a well cared-for roadway. Close to the building of Aceldama the rock is penetrated by seven "loculi," through one of which a chamber containing several more "loculi" is reached; and one of these again, on the right-hand side, gives access to a second chamber with "loculi;" from that there is

Photog. 39^a.Photog. 39^b.

Vide Plan and
Section.
Sketches 6 and 7,
Plate XXIV.

Sketch 8, Plate
XXIV.

Sketch 9, Plate
XXIV.

Sketch 10, Plate
XXIV.

an opening to a third, and thence down a flight of steps to a fourth and last one. All the chambers have "loculi;" most of them are filled with rubbish, and many have the appearance of leading to other chambers; all bear the signs of hard usage from pick and chisel. A little beyond the rock is chequered with a number of roughly-cut crosses, as shown in sketch, and just to the right of this is a small opening, which is the entrance to the most peculiar tomb of the group, being the only one of its kind close to the city; one of a similar description, but not so large or well finished, is near Shafat, and the "loculi" at Nablus are made in the same way. The opening mentioned above leads to a chamber with two ornamented doorways, one on the right and one on the left, each leading into a chamber fitted for two bodies or sarcophagi, by sinking a sort of box in the rock; a section across would be as shown in sketch, A and B being the two receptacles for the bodies; near these are two common "loculi," one on either side, and in front is a partly false door, the entrance being by a large square opening lower down; on each side, in the thickness of the jamb of the opening, is a gallery; the one on the right is closed, that on the left is of some length, and leads to a large chamber. Passing through the opening another chamber is reached, with an opening on either side, as in the first one, each for two bodies; and from this a gallery about 14 feet long leads down to a large room with recessed niches, like those in the "Tombs of the Kings;" on either hand in the gallery is a bed for a body. The roofs of these chambers are cut out of the rock into the shape of a shallow dome. The remains of several old tombs are seen further on along the terrace, but they are much mutilated, and, as they have commenced quarrying here, will soon be entirely destroyed; they all have the same character, a vestibule in front, from which the tomb chambers branch out, the places for bodies being either deep "loculi" or recessed benches. At the end of the terrace, where the road turns down to the valley, is another tomb, with a Greek inscription; it has three chambers with "loculi;" in the first there appears to have been a sort of treasure chamber, made of masonry, and in one of the rooms were a great many bones and portions of skulls; some little way above this is another tomb of large size, but much mutilated. At the point where the road to the valley crosses the ledge, it is cut through the rock, and on the right of this is a very curious place, which cannot have been a tomb; there is a sort of cave, with three entrances, but no appearance of a "loculus;" steps and lamp niches are cut in the rock around, with basins for water, and a shallow excavation like a small bath, not large enough to receive a body; the rock here has been cut away at a later period, as if the design was to destroy the place. Up above in the chalk, on the Hill of Evil Counsel, are numbers of "loculi" cut in the caves, as many as 12 and 14 being ranged round one; some of the tombs are, however, of the better type, a square doorway with ante-chamber. These are the most remarkable sites of ancient tombs in the neighbourhood of the city, but the tombs are by no means confined to any special locality, being cut in the rock wherever the softer strata crop out. The section of "malaki," exposed in the valleys of Kedron and Hinnom, has been largely taken advantage of, and all the large tombs, except that of the "Prophets" on Olivet, have been cut out of the "malaki," which, from its softness, offered every facility for excavation. In this place may be described the cave north of the Birket Mamilla, called by some the "Tomb of Herod," and known to Crusaders as the "Charnel House of the Lion;" no trace of any "loculi" could be seen, and the whole has more the character of an old cistern than of a tomb; the entrance is from a hole in the surface by a steep descent, the passage being roofed with flat stones. There have been several coatings of cement over the cave, which still adheres in places. The excavation is in the "malaki," with a roof of "missae," through which several holes have been made; there are some branches to the cavern, and in one is seen some masonry, the stones of which are worked in a peculiar way, rarely seen in the city; they have chiselled

drafts round the margins, and on the faces sunk panels plain picked. A few lamp niches may be seen, but they have evidently been made after the cement was put on. In one part of the cave there has been a party wall dividing it in two, and in this are the remains of an arched doorway. The whole place is very curious, and seems to have been used as a hermit's cell, or perhaps a subterranean chapel; in the vicinity there is a large accumulation of rubbish and ruins, and several cisterns cut out of the rock, also a large excavation, which may have been an old pool or the court in front of a large tomb. There is one peculiarity about many of the larger tombs, that they have a circular opening like a well mouth, cut in the roof of their ante-chambers, which may have been either to admit air and ventilation, or to enable the stone to be removed more readily when excavating the interior chambers. Nearly all the tombs have cisterns either attached to them or in the neighbourhood, to hold water for washing the bodies. Near the "Tombs of the Kings," and apparently connected with them, being close to the entrance of the court yard, a small hole gives access to a chamber hewn in the rock, 20 feet by 30 feet, with a pillar left in the centre to support the roof; it is now plastered over for use as a cistern, but its arrangement inside, as far as could be seen from the large accumulation of stones, and also from symptoms of a closed entrance to the flight of steps leading down to the tombs, seemed to indicate that it had been made for some other purpose.

The modern burial places surround the city on all sides; the Moslem graveyards are,—along the eastern wall of the city from a little north of St. Stephen's Gate to near the south-east angle of the Haram, which, from its proximity to the sacred area, seems the most esteemed; the ground above Jeremiah's Grotto covering the whole mound; and the level space around the Birket Mamilla; this last is by far the largest of their cemeteries, and some of the tombs or vaults are not over-carefully closed, as on one or two occasions the half-decayed bodies were visible from above. Besides these cemeteries Moslem Sheikhs or "Saints" are buried in various parts of the city and neighbourhood, especially along the western wall of the Haram area, which caused some trouble when exploring that point, as they are supposed to be of great sanctity, and being private property, are only accessible by permission of the proprietor, generally the representative of the family of the deceased; these rooms all had the same character, a bare deserted looking chamber, only relieved by one, two, or more cenotaphs and the little prayer carpet. The "Welys," or saints' tombs, outside the city, are generally plain square buildings with domed roofs, of sufficient size for the number of cenotaphs they are to contain, and provided with a Mihrab. The cenotaphs are plain rectangular masses of masonry with rounded tops, and are badly built; the tombs in the cemeteries are of a somewhat similar description, but being for the most part built of "cakooli" or chalk, with the worst of mortar, they soon go to pieces, and leave nothing but a heap of ruins. The Moslems are buried without coffins, being simply wrapped in a sheet, and are carried to the grave in a sort of wooden box, borne on the shoulders of six men; the body is preceded by a man bearing a palm branch, and followed by the mourners; the funerals always pass into the Haram by the Bab-al-Asbat (Gate of the Tribes), enter the Dome of the Rock by the Gate of Paradise, go out by the southern gate, and leave the Haram by the way they entered, after which they proceed to the grave. Prayers are offered up in the Mosque whilst the body is there, and at the grave the Koran is recited, and the virtues, &c. of the deceased extolled.

"Modern Cemeteries."

The Christians are all buried on the hill without the Zion Gate near the Tomb of David; the Latin, Greek, and Armenian communities have their cemeteries on the top of the hill; the Protestant one

is some distance down, on the slope which faces the valley of Hinnom, and is the only one which is efficiently closed and at all looked after.

The great Jewish cemetery is on the slope of the Mount of Olives, from Siloam northwards, and running up nearly as high as the Tombs of the Prophets, the hill side being in places literally paved with tombstones. On account of the tradition that that part of the valley will be the scene of the Last Judgment, it is a great object with those Jews who die in Jerusalem to be buried there; but they have to pay rather highly for the privilege, to a man who appears to be sexton and undertaker to the whole community; if the friends of the deceased have not enough money to purchase the right of burial in the Kedron valley, the body is taken to the south-eastern slope of the hill on which the Tomb of David stands. The Caraim Jews have their small cemetery on the south-western side of the valley of Hinnom, near the place where the road crosses the valley to the tombs at Aceldama.

VIII.

EXCAVATIONS AT JERUSALEM.

Excavations were not mentioned in the letter sent by the Porte to the Pacha of Jerusalem, and the permission granted to make them was entirely due to the latter's kindness and liberality of mind, and was obtained through the kind offices of Mr. Moore, Her Majesty's Consul at Jerusalem. The stipulations made by his Excellency were, that notice should always be sent him of the place where an excavation was about to be made, that a zapti (Government policeman) should be present, that the amount of compensation for damage, &c. was to be arranged with the proprietors of the land, and that all treasure trove should belong to the Government; his Excellency promised to allow excavations to be made on any ground belonging to the Government, and to use his influence with landowners who might object to them on their own property; anything it might be desirable to keep out of the "treasure trove" was to be purchased by paying for it at a fair market value. No tombs were to be touched, as, though his Excellency did not personally object to their being opened, the orders from Constantinople on this subject had been too stringent to be set aside.

The great difficulty was in arranging matters with the proprietors of the ground; all land, or rather the produce, is held in 1-12th shares, and the consent of each of the shareholders has to be obtained before anything can be done; of course the whole is only an affair of "bakhshish," but the trouble and annoyance of bargaining with a dozen proprietors, each of whom wishes to get as much as he can, is very great. Outside the city there was no trouble, the fellaheen being glad to have the opportunity of gaining a few piastres, but inside there was some hard bargaining, especially with the family of Abn Saud, for permission to dig in front of the arch (Robinson's); Mr. Moore had been kind enough to arrange through his dragoman that this might be done by paying the head of the family a certain sum per diem, but on going to work the men were driven away; I was sent for, and went down to Abn Saud's house with the consular dragoman, arriving in the midst of an Arab fight; it seems the head

of the house had concluded the bargain without consulting the shareholders, who were accordingly furious, and a new bargain had to be made, in which the whole family were included. These scenes would be rather amusing if they did not cause such a waste of time, as there is no bringing an Arab to the point under a couple of hours' smoking and coffee drinking. It was found, at last, best to commence digging without any one's leave, allowing the proprietors to find out what was being done, and to come and claim compensation, but on one occasion this got us into some little trouble. There were two places where it was desirable to excavate, but matters could not be arranged; these were, for the springing of the west end of the bridge (Robinson's), and outside the Haram wall by the side of the large stones near the Bab-al-Hadid; in the former some cacti bushes would have been destroyed, and the people living above were afraid of their houses coming down; the excavation might have been made if the means available had been larger, as it was, the "bakhshish" could not be brought within a reasonable rate; in the latter case the Effendi, in whose courtyard the excavation would have been made, was afraid of his house falling, as he had gone down 30 feet and then built upon loose rubbish; notwithstanding an offer to rebuild his house if it fell, he could not be brought to terms. A good deal of opposition was made by the Mejlis to any excavations under the Maḥkama in the pool of Al-Burak, but this the Pacha soon put an end to, on being assured that no danger would be incurred by the buildings above.

Shortly before leaving Jerusalem Mr. Moore, Her Britannic Majesty's Consul, kindly accompanied me on a visit to the Pacha, and asked him to allow the Bir Arwah under the Sakhra to be opened; hints had on several occasions been thrown out on this subject to the mosque attendants, who generally answered evasively, and gave it to be understood that with the Pacha's permission there would not be much difficulty. His Excellency was rather startled by the proposal, but after a little consideration said that he had no power to have it opened without the consent of the Mejlis and the guardians of the mosque, but promised to use his influence; and he afterwards laid the matter before them under the form of their taking advantage of my presence in the city to have a professional opinion on the state of the foundations, &c. of the mosque, and the repairs necessary to restore it to its former state; curiously enough the difficulty arose where it was least expected, in the Sheikh or chief guardian of the mosque grounds; the Pacha had him brought to his own house, and tried every means to persuade him to let the excavation be made, and large sums of money were offered, but to no effect. Of course, after the failure of this and bringing the Pacha and Sheikh in opposition to each other, nothing could be done towards excavating in the Haram area, but some future explorer may be more successful.

All excavations were filled in again when required by the proprietors of the ground.

Excavating at Jerusalem is very expensive from the high rate of wages given, the small amount of work performed by each man, and the inferior tools used. The ordinary way of working is for one man to loosen the soil, after which another comes and shovels or rather pulls the rubbish into a basket with a sort of hoe, the basket being held between the legs, and the earth drawn forwards into it; when full it is given to a boy, who carries and empties it out on the heap. As the excavation deepens, steps are formed in its side about the height of a man, on each of which stands a labourer, and the baskets are passed from one to the other till they reach the summit. The supervision is the most difficult part. I was fortunate enough to get a tolerably good overseer, who had been some time in the employ of Mr. Bergheim, the banker, but the amount of work done by each man was not one-fourth of what an

English navy would do. It was found very difficult to get through masonry from the perfect absence of tools suited to the purpose, a pick very like what must have been used by the old quarrymen being the only resource. Tools had to be made, and baskets, which soon wore out, and required constant renewing, bought for the work. The wages of men, unskilled labourers, varied from 1s. 4d. to 1s. 8d. per diem; of boys from 8d. to 1s. The number of each depended on the nature of the work to be performed; when much lifting had to be done, of course more men were required.

EXCAVATION No. I.

The first excavation made was to the north-west of the city, near some buildings lately erected by Mr. Bergheim, and where a portion of the old city wall was said to have been discovered. A trench was opened in two places over the supposed site, when the foundations were found to have been built of old material from various buildings, and to be similar in character to those a few feet to the east; some of the stones having chiselled drafts round the margin, whilst others had plain dressed faces. Nothing that could be called solid mural masonry was discovered, but from the number of well-dressed stones, portions of columns, &c. lying about, there must have been a building of some extent and importance on the spot.

EXCAVATION No. II.

This was made at some remarkable large stones dressed like those at the Wailing Place, and situated in the side of a cistern to the right of the great north road. In the sketch, A B is the direction in which the line of large stones runs, the hatched portion shows where excavations were made, and the dark portion marks the point where a pit was sunk in the cistern. On opening the ground behind the large stones, a number of small cisterns were discovered, which appeared to have been used for keeping oil; they were ranged one behind the other, and divided by party walls of well-built masonry; the cement on all of them was in a perfect state. Towards the west beyond the cistern a trench was dug across the line of the stones, but at a depth of 6 feet 2 inches nothing was found but loose earth and stones. At the eastern end of the large stones the excavation was carried down to the rock, and here a large quantity of broken pottery and portions of white marble casing were found, with some plainly dressed stones, such as would be used in the walls of a house. In the cistern itself a shaft was sunk, to the depth of seven feet in front of the stones; the excavation passed through rich soil, and the face of the cistern below the large stones was uncovered; the rock was here covered with a lining of small stones and cement, in the same manner as the other pools, and after ascertaining its character it was not considered advisable to incur further expense by continuing the shaft to the bottom.

EXCAVATION No. III.

This was made in front of what seemed to be a row of large stones, in the same line as those in the cistern mentioned above, but a considerable distance to the west; a trench 3 feet 5 inches broad and 22 feet long was opened, disclosing a row of large stones with drafted margins, 4 feet 4 inches in height, and standing on the rock. The draft was from 3 inches to 4 inches broad, and the faces were left in a rough unfinished state, projecting in some instances as much as 6 inches, in the same manner as the rougher portion of the masonry between the Golden Gateway and the south-east angle of the Haram wall. The rock had not been prepared to receive the beds of the stones, which were pinned up by smaller ones placed beneath them. The stones had an average depth of 9 feet

Sketch 1, Plate
XXVI.

Sketch 2, Plate
XXVI.

7 inches on the bed, but beyond this and also in front of the line were large stones scattered about without any design or arrangement. The row of stones could be traced for some distance west of the part excavated.

EXCAVATION No. IV.

This was made at the ruins of "Al Jalûd," or Goliath's Castle, in the north-west angle of the city. Plate XXVII.
 The plans and sections will show the details of what was discovered; the trench on the west uncovered a peculiar re-entering angle formed of large stones with drafted margins; on examining this it was found that they must have been built at different periods, the line A B, faced with large stones and running into the mass of masonry, first, and the line C D, which forms the present facing to the tower, afterwards; there is no bond between the two masses, a straight joint being left in the direction C B, the space between the two lines of facing stones is filled in with small rubble masonry, and the backing to the older line A B is of the same description. Both rows of large stones are bedded and jointed with mortar, the chiselled drafts are from 2 inches to 5 inches wide, and the faces are left rough, projecting from 4 to 6 inches. The line D C, if produced towards C, would cut the north-east angle of the so-called "Tower of David" in the Citadel, and if produced towards D, would pass through the remains near Mr. Bergheim's house. Sketch 3, Plate XXVI.
 Within the castle there is a vaulted chamber of modern date, and the floor of this was broken through in consequence of a rumour that there were vaults beneath; the report proved to be correct, for on creeping through the hole a chamber nearly filled with rubbish was reached, and near the east end of this an open doorway led to two other chambers, in which two piers or towers constructed of large stones with drafted margins were found. From the appearance of the masonry they must have existed before the present building, which is built on to it. At first they were thought to be part of an old wall or the towers of a gateway; but, taking everything into consideration, it seems more probable that they were solid piers supporting the groined roof of a chamber beneath some tower of mediæval date; piers of the same character, built with old material and supporting groined roofs, are seen in several places in the city. In this case the groined roof seems to have been destroyed and replaced by a plain pointed arch, to carry which the piers have been connected by substantial party walls, which divide the original chamber into two. The drafts are between 2 and 3 inches broad, and the faces left rough; all the covering arches are pointed. The doorway between the two chambers is of the same style as the one found in the citadel, the stones of the pointed arch having a chiselled draft run round their margins. There is a large accumulation of dry mud in the chambers, and an excavation was made through this to the floor, which was found to be of rock covered with a thick layer of cement. The northern faces of the piers could not be found, though the rubbish was cleared away from the place where they should have been. Nothing found at "Al Jalûd" seemed to be earlier than the Saracenic or Crusading period, except perhaps the piers, and there was no trace of the foundation of any large octagonal building; there is so much rubbish, however, at this angle of the city, that it would require a regular system of excavation on a large scale to explore it thoroughly: another chamber would probably be discovered north of the two that were found. It seems not unlikely that this building formed part of one of the walls during the troubled times of the middle ages, as some large foundations were said to have been found when building the new Latin Church, which would be exactly in a line running down to the Citadel. The ground on which the ruin stands is leased by the Greek Convent from some Moslems, and there was a great deal of trouble in arranging about the excavations; part of it was made in a tobacco garden, and though the hole was not large, it was quite impossible to get the Arabs

to take any care of the plants. They have been so accustomed to see their own crops ridden over and trodden down by the petty Turkish officials and irregular soldiery, that they seem to take the greatest pleasure in revenging themselves whenever they have an opportunity. All this, of course, added greatly to the expense of the work.

EXCAVATION No. V.

Plate XXVII.

Exactly where a prolongation of the line C D (vide Sketch for last excavation) crossed the ditch in front of the north wall of the city, it was found to be completely filled by a mound of rubbish. A trench was dug across this, but no masonry was found "in situ;" several large stones were uncovered, which apparently had formed part of the city wall, and been left as they fell, or as they had been overturned and afterwards concealed by the accumulation of smaller rubbish. The only coin found during the excavations was at this place; it was a copper coin of one of the later Roman Emperors.

EXCAVATION No. VI.

Sketch 8, Plate XX.

Photog. b, page 25.

Photog. a, page 25.

This was made in the ground belonging to the Russian Government, east of the church of the Holy Sepulchre. Three openings were made, first, by the side of the massive masonry said to be part of the second wall, where the rock was reached at a depth of 7 feet 4 inches below the pavement of large flat stones, and nothing found but loose earth and rubbish. The lower part of the masonry was of large stones without the marginal draft; the bottom course was pinned up on the rock with smaller ones; mortar of a bad quality, crumbling directly it was touched, was used in building. The portion of wall running in a north and south direction consists of a single line of large stones with marginal drafts, faced interiorly with stones having plain chiselled faces, and against this a wall running east and west abuts with a straight joint. Many pieces of broken marble casing, and a fine white marble font or basin were found by the Russians in another part of the ground. The second opening was made under the gateway to clear the two sides and examine its construction; on one side the arch rested on a handsome Corinthian capital, whilst on the other it was supported by a column, on the top of which was an unfinished capital or block of stone roughly hewn into shape. On the column a large cross was cut in relief, and beneath the arch in the doorway itself later masonry was found, something like a small oven. The third excavation was made at the foot of one of the granite columns at the north end of the Bazaar; the column is set on a pedestal of the limestone of the neighbourhood, but the rubbish could not be cleared all round it.

EXCAVATION No. VII.

This was made in the courtyard in front of the entrance to the church of the Holy Sepulchre, near the Greek Convent of Abraham. Access was obtained to a passage 6 feet broad, apparently about 10 feet high, and covered with a well-built semi-circular arch, similar in character to that under the Convent of the Sisters of Zion. The passage runs parallel to the buildings on the eastern side of the court, and a few feet from the point of entrance the mouth of a passage coming in from the west was observed, but here farther progress was stopped by the depth of soft mud and water. The end could not be seen, but a stone thrown onward appeared to strike it. This was the only place in which bad air was found in Jerusalem; it was some time before a candle would burn, and

the heat and smell were stifling. It would be very interesting to explore these vaults, which appear to have been either a crypt or a large cistern, and are certainly the oldest portion of the buildings about the church of the Holy Sepulchre; at present they are so full of mud and rubbish, and the air is so foul from the collection of drainage, &c. that it is impossible to get about, and a good deal of excavation would be required.

EXCAVATION No. VIII.

This was made in front of the remains of an arch, near the south-west angle of the Haram enclosure, to try and discover one of the piers. The excavation was commenced at a distance of 45 feet from the face of the wall, exactly opposite the centre of the arch, and made 14 feet long and 10 feet broad, as shown in sketch. As the springing of the arch is on a level with the present ground line it was supposed the pier would soon be found; but, contrary to all expectation, no masonry was discovered till the shaft had reached a depth of 37 feet; here the western face of a block of solid masonry was found, parallel to the Haram wall, and at a distance of 54 feet from it. The shaft had been carried down the whole way through small loose rubbish, which kept continually falling, and on reaching the block of masonry the Arabs got frightened and struck work; no inducement could get them to continue without sheathing the sides, and to have done this, or to have increased the size of the excavation, would have necessitated a fresh arrangement with the proprietors of the ground with additional expense, and the whole would have taken a more extensive form than there was either money or permission to carry out. The most curious fact discovered was the style of rubbish with which this portion of the valley is filled; not one stone was found large enough to have been used in any building, and the whole presented the appearance of a heap of chippings from stone dressing. A small pit was dug in front of the masonry, to a depth of 2 feet 4 inches through similar rubbish; but the bottom of the first course was not reached. The stones had chisel-drafted margins, and, if this was the pier, must have formed its western face.

Sketch 4, Plate
XXVI.

EXCAVATION No. IX.

This was made at the north end of the Pool Al-Burak to try and turn the corner, and find whether a ditch had existed there. An old doorway, filled with modern masonry, seemed to give great facilities for excavation, but after breaking through this the workmen came against a second wall, separated from the first by an interval of 2 inches. This wall turned out to be of good solid masonry, much of the style they build at present, but well set and hard, so much so that after breaking in a hole a little more than one foot deep it was found that skilled masons would have to be employed to proceed farther. Whilst examining the excavation the sound of knocking was heard just above, the workmen having alarmed the family of a Turkish effendi, in whose house, opposite the Mahkama, the noise of the working below could be distinctly heard. From this man it was learnt that we were boring right into the cistern which supplied his house with water, and this, with the prospect of a large expense in employing masons, induced me to leave off the excavation. A small hole was made in the bed of the pool to see what was underneath the cement. The bottom proved to be made of two thick layers of cement 1 foot 6 inches apart, the lower resting on a bed of rubbish levelled to receive it, and similar in character to that seen in the shaft in front of the old arch. The cement was very good, and had a quantity of tow mixed with it.

Sketch 5, Plate
XXVI.

EXCAVATION No. X.

Sketch 3, Plate XV.

Sketch 6, Plate XXVI.

This was made in front of the Triple Gateway, and consisted merely in removing the loose stones thrown in by the French party when they filled in their excavations. The plan shows the position and arrangement of the passages. From the section of its bottom the most western branch of the double channel seems to have been made for a drain ; the eastern branch, which is much larger, ascends rapidly, and must be near the floor of the triple passage inside the wall ; the rise is about 16 feet from the point of junction to the end. In this passage there are the remains of a doorway, which would seem to indicate its having once been used as a secret means of exit and entrance. The bottom of these passages is 19 feet 4 inches below the surface, and they are almost entirely cut out of the rock "malaki." At the foot of the eastern shaft there is only one passage, which, under and within the Haram wall, is cut out of the rock, but outside is roofed with flat stones laid either horizontally or sloping. On the right-hand side going towards Siloam is a small cistern, and a little farther on the passage winds about a good deal, its sides being here formed of what appears to be the foundation of some old building, the stones being carefully and neatly finished with plain chiselled faces. This end is either of later date or the passage has been cut through in sinking for the foundations of the buildings, and afterwards repaired ; the masonry stands on the rock. One peculiarity in these passages is, that they all turn towards the west immediately after passing under the Haram wall. The ends were closed with rubbish, and it is difficult to say what they could have been for, as three would hardly be needed for carrying off the overflow from the cisterns.

EXCAVATION No. XI.

Sketch 6, Plate XVII.

This was rather a filling in, being the construction of a dam or causeway across the water at the southern end of the subterranean passage under the convent of the "Sisters of Zion." The masonry of this end was found to abut against a face of scarped rock, similar to that seen at the northern extremity. Three feet from the southern escarpment a doorway, built at the same time as the covering arch of the passage, was found, and on clearing away the rubbish with which it was filled, a flight of steps leading upwards was disclosed, but it could not be traced far on account of the rough foundations of some later building. At the south-west corner of the passage, a smaller one cut in the rock led off in a southerly direction, but it could not be explored on account of the depth of drainage, from 7 to 8 feet. The drainage of centuries seemed to have accumulated in this place, and fully accounted for the very unpleasant taste of the water from the so-called spring at the Convent, only separated from it by the heap of loose rubbish in the centre of the passage. This drainage is the collection of a period long after the destruction of the city, as the Jews would never have led it down towards the Temple. It would seem that the passage was formed to afford a covered means of communication across a ditch, and at the same time protect a conduit running in from the north, of ancient date, and possibly cut through when the ditch was made. Attempts were made to reach the bottom of the passage, but the water level was too high, and working in the bad air affected the men a good deal ; for any extensive excavations pumping would be required. The holes in the side of the arch are part of the construction ; those in the crown have been broken through at a much later date to get at the water below.

EXCAVATION No. XII.

Sketch 7, Plate XXVI.

This was made on the right of the North or Nablus road, opposite the old pool, where some curious excavations in the rock had often attracted attention ; one of these was cleared and turned out to be

a tomb or grave cut in the rock, somewhat similar to the modern style of grave, with a ledge 1 foot 5 inches from the bottom to take a covering slab. The plan and section show this arrangement. There were a great number of these in this place, some ranged side by side in rows, whilst others were scattered about without regard to regularity of position.

EXCAVATION No. XIII.

This was made to try and discover the conduit which took the water of the pool near the Tomb of the Kings to the city, but failed in its object. A trench was dug along the face of the scarped rock at the eastern end next the road, as this seemed the most likely place to look for it. The bottom was reached in one place, at a depth of 33 feet 6 inches, in an old cistern, where the exit of a conduit running down the valley would probably have been. Though the conduit was not discovered the excavation showed that the pool must have been of great extent.

EXCAVATION No. XIV.

This was commenced at a place to the right of the Jaffa road, where tradition amongst the natives has always placed the site of a concealed spring or well, and was left in the hands of Mr. Schick, of Jerusalem. When the surveying party left nothing had been found; the excavation had got down some depth, and they were then getting up small loose stones. Since this, letters have been received from Mr. Schick. The excavation had been carried to a great depth, but the bottom had not been reached; no sign of manual labour had been found on the rock, and it is still uncertain what the character of the pit originally was. It appears to have been a natural cleft in the rock, probably taken advantage of to form a retort-shaped collector at the bottom.

IX.

WATER SUPPLY OF JERUSALEM.

The sum of 50*l.* was granted by the Syrian Improvement Society for the purpose of investigating the present water supply of Jerusalem, the best means of increasing it, and of settling the discrepancy between the levels of Dr. Whitty and Sir J. McNeill from the city to Solomon's Pools. The first two points were examined during the progress of the survey of Jerusalem, but the levelling to the Pools had to be made separately on the conclusion of the surveying operations, and could not be commenced till the 25th of May. At this time the heat had become very great, and the party were so weakened by their long stay and hard work in the unhealthy atmosphere of the city, that it was found necessary to hasten their departure from the country, and spend as short a time on the work to the Pools as was consistent with obtaining the required information; and this was done by carrying a line of levels from Jerusalem to the bench mark (overflow of lower pool), adopted by Sir J. McNeill. One of the levellers was left at Jerusalem confined to his bed, so that only a single line of levels could be run; and after completing what was absolutely necessary, it was not considered advisable to incur great additional expense, and run the risk of further illness by making more than a cursory inspection of the water supply from sources beyond the Pools, the

Captain C. W. Wilson.
 Serjeant M'Donald.
 Lance-Corporal Ferris.
 Lance-Corporal M'Keith.
 Sapper Davison.

system of which was clearly seen. The party consisted of one officer, one serjeant, and three sappers of the Royal Engineers, and the expense, including a few small excavations in the neighbourhood of Jerusalem, amounted to 52*l.* 7*s.* 11*d.*

ANCIENT WATER SUPPLY.

Springs.

The ancient supply of water to Jerusalem seems to have been obtained from springs, wells, the collection of rain in pools and cisterns, and water brought from a distance by aqueducts. The extensive remains of cisterns, pools, and aqueducts show that little dependence was placed on any natural springs existing in or near the city; and indeed, from the formation of the ground, it is doubtful whether any such existed besides the Fountain of the Virgin. It is true there might have been a source on the western side of the valley, running down from the Damascus Gate to Siloam, but it could only have been a small and not very lasting one.

Wells.

The only old well at present known is Bir Eyub (Enrogel or Job's Well), a little below the junction of the Kedron and Hinnom valleys; but it is not improbable that others of a similar character exist in the city and neighbourhood, whose mouths have been accidentally closed by rubbish, or purposely stopped during some siege, and never re-opened. There is, however, a species of cistern not uncommon in the city which may almost lay claim to the dignity of a well; as, besides receiving the surface drainage from the houses, there is a constant infiltration of water going on between the different strata,—not a very fertile source of supply, but sufficient, even in the driest summer, to give three or four bucketsful between sunset and sunrise. These cisterns appear to be of very great antiquity, and have been formed by sinking deep shafts through the rock, and then making a bottle or retort-shaped excavation at the bottom to act as collector, *vide* Sketch.

Sketch 1, Plate
 XXVIII.

Pools.

The Pools of which remains exist are the Birket Mamilla, Birket-as-Sultan, two pools of Siloam, Birket Sitti Maryam, and a pool near the Tombs of the Kings outside the city; and the pools of Hezekiah and Bethesda, so-called, inside, besides three of which there is an undoubted tradition, viz., one near the Jaffa Gate, one near the Bab-as-Silsile (Gate of the Chain) of the Haram area, and one near the Church of St. Anne. The "Birket Mamilla" collects the surface drainage of the upper part of the valley of Hinnom, and transmits its water to the Pool of Hezekiah by a conduit, which passes under the city wall a little to the north of the Jaffa Gate, and has a branch running down to supply the cisterns in the citadel. The average depth of the pool is 19 feet, but there is a large accumulation of rubbish at the bottom, and it now holds water imperfectly. The cementing has been repaired at various times; the old cement, made with small stones and pieces of pottery is excellent in quality, but the later is poor, easily broken, and in many places has become detached from the well. The pool has not been well placed for collecting the drainage, as that from the western slope is lost; but the position was necessary to get a level high enough to supply the pool of Hezekiah and Citadel. The retaining wall is provided on three sides with buttresses, but the masonry does not appear to be of extreme antiquity. A hole in the ground, 37 feet 6 inches below the lower end of the pool, gives access to a flight of steps leading down to a small chamber, where the conduit, which on leaving the pool is 21 inches square, narrows to 9 inches, so that the opening may be closed by a stone and the flow of water into the city regulated. It has been supposed that the "high-level aqueduct" from Urtas at one time delivered water into the Birket Mamilla, and though no trace of such aqueduct could be found, it seems very likely to have been

the case ; as the pool would form a good reservoir at no great distance from the city, and deliver water over the whole of that portion on which the Citadel and Armenian Convent stand. The "Birket-as-Sultan" ^{"Birket-as-Sultan."} lies in the valley of Hinnom, and at so low a level that it is difficult to see for what purpose it could have been constructed, except the irrigation of any gardens that may have existed lower down the valley. The pool does not now hold water ; it is of considerable size and formed by building a solid dam or causeway across the valley, the upper end being closed by a small embankment, a little above which the low-level aqueduct crosses the valley. There is no masonry on the sides, and the rock is left for the most part in its natural state, or as the bottom of the valley would appear if denuded of soil. A road, which may have existed at an early date, runs over the causeway, and the presence of this embankment probably suggested the idea of converting the ground above into a reservoir. The masonry appears comparatively modern and may well be the work of the Sultan who claims to have built it. The two pools of Siloam are at the ^{"Pools of Siloam."} bottom of the valley, which divides the city into two parts ; they were probably made for the irrigation of the gardens below, and seem always to have been a favourite place for washing purposes ; besides surface drainage they received a supply of water from the Fountain of the Virgin by means of a subterranean channel. The upper pool is small, and at the south-west corner has a rude flight of steps leading to the bottom ; but the whole is fast going to ruin, and the accumulation of rubbish around is very great ; a little below this a dam of solid masonry has been built across the valley, forming the end of the lower and larger pool, now nearly filled up with rich soil, and covered with a luxuriant growth of fig trees. The Birket Sitti Maryam is near the St. Stephen's Gate, and is of no great size ; it is, ^{"Birket Sitti Maryam."} however, curious from being in a situation where it can receive little or no surface drainage, and must therefore have had its supply brought from a distance by the conduit whose mouth is seen at its north-east corner. The pool appears to be of more recent date than the others and still retains water. The pool to the left of the north road, a little beyond the Tombs of the Kings, is now nearly filled with soil ^{"Pool near Tombs of Kings."} washed down by the winter rains ; but at the upper end there is still a shallow excavation which holds water after heavy rain, and at the lower end the scarped rock is visible ; this must have been the largest pool in the neighbourhood of the city, and is admirably situated for collecting the surface drainage of the upper branches of the Kedron Valley. It was probably connected with the Pool of Bethesda by an aqueduct or subterranean conduit, as this latter pool is so large that it must have been filled by some such means ; the difficulty is to find this conduit, the most natural line for it would be to follow the course of the Kedron Valley and enter near St. Stephen's Gate, filling at the same time the Birket Sitti Maryam ; but against this is the constant tradition of water having been brought in near the centre of the north wall of the city, the reputed springs at the Convent of the Sisters of Zion and Church of the Flagellation, and the Arab name of a street in that quarter, Hosh Bakîr or Hosh Bezbezi (the running or bubbling of water), such as would be caused by the bursting forth of a spring ; none such exists, but the name is suggestive. If there is any truth in these traditions the water must have been brought down by a tunnel similar to that at Siloam, and cut in the soft stratum of "malaki," which would here lie at about the right slope and distance from the surface. Perhaps this may have been the ancient conduit lost or destroyed at some troubled period and afterwards replaced by a later one following the course of the Kedron Valley ; in this case the cutting in the rock at the Convent of the Sisters of Zion would be a portion of the former, and the conduit at the Birket Sitti Maryam a portion of the latter. The traditional pool near the Church of St. Anne would of course be connected with such a system of water supply. The Pool of Bethesda ^{"Pool of Bethesda. Photo. 16b."} (Birket-Israil) is at the southern extremity of the shallow valley which lies between the Church of St.

" Pool near Bab-al
Kattanin."

" Pool near Jaffa
Gate."

" Pool of
Hezekiah."
Photo. 30.

Anne and Al-Mamunîyé ; but the drainage of this would not be sufficient to supply such a large tank, and it must have been fed from some other source, probably the one mentioned above. The pool does not now hold water and is a good deal filled up with rubbish, but has still in places a depth of more than 40 feet below the surface of the road. The pool near the Bab-al-Kattanin, of which the site was pointed out, must have been of recent date and formed in the mass of rubbish, which is there of great depth ; it was used in connection with the Hammam-es-Shefa, and may have been supplied by the low-level aqueduct before it was destroyed, and afterwards by the collection of rain from the neighbouring house roofs. Very little information could be obtained about the pool near the Jaffa Gate, except that it was small, and, before filled in, in a very filthy state. The Pool of Hezekiah is close to the street called Christian Street, and receives its principal supply from the Birket Mamilla outside. The masonry does not appear to be very ancient, and no rock could be seen in the pool, a very small portion of which can have been made by excavation. The cement is bad and out of repair, and the bottom is covered with a thick deposit of vegetable mould, the accumulation of several years ; in one corner there was a large open cesspit of so foul a description that it could hardly be approached. The exhalations rising from this pool when the water gets low cannot but be very unhealthy for those living in the neighbourhood ; but when full in winter no inconvenience arises, and the hotel at its side is particularly healthy at that season.

" Cisterns."

The cisterns in Jerusalem may be divided into four classes, of which the first and oldest are the small retort-shaped ones, described above ; the second are those large excavations of which the cistern in front of the Mosque Al-Aksa is a good type, they have been made by breaking small openings through the hard overlying strata of "missæ," and then burrowing out huge chambers in the softer "malaki" below, so as to leave a roof of rock, generally strong enough to stand by itself, but in the larger cisterns supported by rough pillars left for the purpose ; the usual covering to the openings seems to have been large flat stones, but these in places have been replaced by vaulting. The labour expended in mining out the underlying rock and bringing it to the surface through small openings must have been so great that it is probable these cisterns were made before the use of the arch for covering large openings became general. The third class are those in which the rock has been cut down perpendicularly, and a plain covering arch thrown over the excavation ; as in those near the Golden Gateway, under the platform of the Dome of the Rock, and several places in and around the city. The fourth class are the modern ones built in the rubbish, and supplied entirely by rain collected on the roofs and terraces of the houses ; the cement used is of very inferior quality, arising from the quantity of earth mixed with the lime, instead of sand or gravel, small quantities of broken pottery are used as a substitute, but not sufficient for the purpose.

" Aqueducts."

There were three aqueducts from Urtas, but the entrance of only one, which may be called the "low-level aqueduct," can now be traced into the city ; it crosses the valley of Hinnom, a little above the Birket-as-Sultan, on several pointed arches which just show their heads above ground, and winding round the southern slope of the modern Zion enters the city near the new Jewish alms-houses ; it then passes along the eastern side of the same hill, partly supported by masonry and partly through a tunnel, till, taking a sudden turn eastward, it runs over the causeway and bridge to the Haram area, which it enters at the Bab-as-Silsile. The numerous Saracenic fountains in the lower part of the city

appear to have been supplied by pipes branching off from the main at different places ; but the pipes are now destroyed, and the fountains themselves become receptacles for the refuse of an eastern town. The channels and conduits in the Haram are in such a bad state of repair, and so choked with rubbish, that it is impossible to trace them without excavation, but enough was seen to prove that there had once been an elaborate system of waterworks, which provided for the delivery and overflow of the water brought by the low-level aqueduct, and also for the collection of surface drainage in the numerous cisterns. The final or waste overflow appears to have passed through one of the passages, discovered by Mons. de Sauley, under the "Triple Gateway," into the main drain, which discharged itself into the Kedron Valley a little below the Fountain of the Virgin. Besides this aqueduct there are the remains of a conduit coming in on the north-west of the city, first discovered when building the new Russian convent, and since found at some buildings belonging to Mr. Bergheim the banker, and also within the town when digging for the foundations of part of the Latin Patriarch's house ; at the two last places it was visible during the stay of the surveying party at Jerusalem, but it could not be traced beyond the Russian buildings, or found in the neighbourhood, and it is hard to say from whence the water came, unless the conduit were connected in some way with the high-level aqueduct from the pools. The sketch shows its size and construction.

Sketch 2, Plate XXVIII.

Of the three aqueducts which come from, or rather beyond the pools, the low-level one is the best preserved, and still carries water as far as Bethlehem ; it derives its supply of water from three sources, the Pools of Solomon, Ain Etan, and a reservoir in the Wady Aroob. The latter source was not visited but the pool was found by Mr. McNeill to be 240 feet long by 160 feet broad, and according to the account given by the natives and the son of Mr. Meshallam of Urtas, the aqueduct on leaving this follows a winding course amongst the hills, passing Tekoa on its way, before it reaches Wady Urtas. Shortly before arriving at the pools the conduit receives the waters of a spring called Ain Etan, and passes the pools themselves a little below the level of the plug of the lower pool, from which the water is brought down to it by a branch channel ; from this to Jerusalem it has a serpentine course of about 13 miles, and passes through two tunnels, one under the village of Bethlehem, and the other not far from the city.

"Low-level aqueduct."

At Ain Etan, possibly the ancient Etham, the water runs down through a tunnel cut in the rock, to facilitate the construction of which three vertical shafts have been sunk from the surface.

The Pools of Solomon are three in number, and situated near the head of Wady Urtas, or as it is called at that point, Wady-el-Hoch ; they receive their supply from the surface drainage of the ground above them, and from a fine spring near the head of the upper pool, commonly known as the "Sealed Fountain." The pools have been made by building solid dams of masonry across the valley, and are so arranged that the water from each of the upper ones can be run off into the one immediately below it, as in sketch. In the two upper pools the capacity appears to have been increased by cutting down the strata and clearing out the rubbish from the bottom of the valley, the sides and ends were then strengthened by buttresses of masonry, and the whole cemented over ; but the lower one is constructed in a very curious manner, and apparently for some other purpose than that of a simple reservoir. There are several tiers of seats rounded at the end, with a number of flights of steps leading down to them. Across the centre of the pool is a sort of raised passage or platform, and there is a duct from the pool above so arranged as to fill only the lower portion of the pool, which is much deeper than the upper. One idea is that these arrangements were for regulating the flow of water to the different villages, but this would not account for the aqueduct leading into the centre, the numerous flights of

"Solomon's pools."

Sketch 3, Plate XXVIII.

Sketch 4, Plate XXVIII.

Sketch 5, Plate
XXVIII.

steps, and other peculiarities ; and it may be suggested for enquiry whether it was not used at one time as an amphitheatre, though a small one, for naval displays, for which it would be admirably suited. The plug arrangement of the lower pool or exit of the conduit is shown in the sketch ; the chamber and passage are covered with a plain semicircular arch ; and this is the only foundation for the common Arab story, that the pools are supported on a series of arches. The oldest portion of the cement is excellent in quality, and a great deal of metallic pottery has been used in its composition. It is now much out of repair, and as no attempt is ever made to clean the pools, the progress of decay goes on more rapidly every year, aided by a thick growth of weed at the bottom which, this spring, caused the death of a Bedouin, whose feet were entangled whilst bathing. The formation at the pools is the Jerusalem limestone, and has here a dip of 12° , and strike 127° east of north.

" High-level
aqueduct."

The " high-level aqueduct," called by the Arabs that of the Unbelievers, derived no portion of its supply from the pools, but from some spring or reservoir in the direction of Hebron. In the Wady Byar there is a place called Bir-ed-Durragee (Well of the Steps) where a flight of steps leads down to a subterranean channel cut in a rock, at a considerable depth below the level of the valley. This channel was followed for some distance, both up and down, but the season was too early for such explorations, the mud not having dried sufficiently to bear a man's weight, and being too deep to get over in any other way. At first the passage was about 25 feet high, and covered with large stones, but gradually lowered till it was not more than 5 feet. It is very probable that, as Mr. McNeill suggests, the tunnel was continued to the springs in the Wady Aroob ;* but wherever it comes from the winter flood must be very strong, as in places the conduit is nearly choked by large boulders which it has brought down. From Bir-ed-Durragee the water appears, for about 4 miles, to have passed through this tunnel, for the construction of which several shafts were sunk in the bed of the valley, many of which are still open, and to have issued from the ground, a little above Deir Dewan ; it then followed the course of the valley for some distance and passed, by means of another tunnel, through the spur which separates the Wady Byar from that in which Ain Etan lies. After crossing this valley and winding round a smaller spur it passed above the head of the upper pool, probably tapping the Sealed Fountain, and then went on to Jerusalem. The portion above the pool could not be found, but traces of it were quite clear on either side, and the water from the " Sealed Fountain " follows it for a short distance along the side of the upper pool, when it is turned aside to aid in filling the middle pool. On the southern side of the pools a branch has been made to convey water from the high-level duct to the lower pool, and this has been done at a comparatively recent period probably to increase the low-level supply after the portion of the former between the pools and Jerusalem got out of order. In the tributary wadys of the Wady Byar there are several springs which seem to have been used for increasing the supply, at one of them Ain Umjarah portions of a conduit still remain. At the village of Urtas there is also a good spring, but too low to be of use, unless pumping were resorted to. The arrangement of the aqueducts at the pools will be better understood from the sketch.

Sketch 6, Plate
XXVIII.

The course of the high-level aqueduct onwards from the pools was traced and surveyed as far as possible. It first winds along the side of the hills above the valley of Urtas, and with a little care, can

* This has since been examined by Mr. Schick, who, during the dry season, was able to reach the end of the tunnel, which is about 150 feet from the " Well of the Steps." The passage has two bends nearly at right angles to each other, and appears to be partly natural ; at the end was a quantity of wet mud, but no regular spring, and Mr. Schick considers that the tunnel was made to collect the surface drainage of Wady Byar, and convey it to the Pools.

be followed continuously to a short distance from Bethlehem. Most of this portion is an open channel cut in the rock and lined with cement, of which traces still remain. Near Bethlehem the conduit is lost, but it appears to have crossed the divide at some large open cisterns or cutting in the rock, and thence to have skirted the hill to the point where it was found in a tubular form on the slope of the hill above Rachel's tomb; this portion is almost perfect, and carried the water over the valley in the manner shown in the sketch. From the point where it was first found on the hill-side the descent is very rapid to a small cistern or lime-kiln, after reaching which it commences to rise, and passes over the high ground to the east of Rachel's tomb. The tubular portion is formed out of large blocks of stone, jointed as shown in sketches, and set in a mass of rubble masonry; the circular tube is 15 inches in diameter, and cement of an excellent quality has been used to connect the different portions of the tubing.

A. on plan,
Plate VII.

B. on plan,
Plate VII.

Sketch 7, Plate
XXVIII.

C. on plan, Plate
VII.

Sketches 8 and 9,
Plate XXVIII.

Through the kindness of Major Elphinstone, V.C., C.B., R.E., I am enabled to give a sketch and some particulars of a very interesting aqueduct in the neighbourhood of Kalamaki Bay, near Pattara, Asia Minor, which was visited in 1865 by H.R.H. Prince Arthur, during his tour in the East.

The aqueduct crosses a valley near Pattara, in a tubular form, and in the manner shown in the sketch, advantage being taken of a pre-existing mass of Cyclopean masonry to construct it on, which extended across the valley, and was probably built for defensive purposes. The tube is formed of bold square blocks of stone, carefully chiselled so as to fit one into the other, and apparently kept in their places by metal cramps.

Sketch 10,
Plate XXVIII.

Although the construction and the style of workmanship is far superior to that of the "high-level aqueduct" from the Pools of Solomon to Jerusalem, the principle is the same as that on which the portion of the latter crossing the valley near Rachel's tomb has been constructed. They illustrate the manner in which a syphon for carrying water across a valley was made by the ancients, with stones connected by socket joints.

Soon after leaving Rachel's Tomb the remains of the aqueduct came to an abrupt termination, and no certain trace of it could be found between that place and Jerusalem; there is, however, a small portion of a water channel remaining, a little to the right of where the road, after passing Mar Elias, opens out on the plain of Rephaim, and to the south-east of this an old pool, both of which may in some way be connected with it. The point at which this aqueduct entered the city has never been discovered; many have thought that it supplied the Birket Mamilla, and thence the Citadel, but it is not improbable that a branch passed under the high ground on which the Russian convent stands and entered the city east of the Damascus Gate, supplying the pool of Bethesda.

D. on plan, Plate
VII.

The third aqueduct was only seen at one place, to the south of Rachel's tomb, and then unfortunately there was no time to pay attention to it; it was said to follow the northern slope of the ridge lying between Wady Urtas and Wady-er-Rahib, and to have done this must have passed under the divide near the head of the pools by a tunnel.

"Third aqueduct."

The system of aqueducts in the country between the Pools of Solomon and Hebron, and Jebel Fureidis (Frank Mountain) deserve a far more careful examination than could be given to them on this occasion.

MODERN SUPPLY, &c.

The only way of affording a continual supply of good water to Jerusalem is to bring in the water from Solomon's pools either by constructing a new system of waterworks or by repairing the old ones, but the expense of this would be greater than seems likely at present to be incurred. Something might, however, be done towards improving the present supply, which is almost entirely dependent on the collection of the winter rainfall, and this is much less than has generally been supposed, as, through a strange mistake, the rain-gauge of "the Mission" has been read four times higher than it should have been. According to Dr. Chaplin's observations the average rainfall during the last five winters has been 19.86 inches, the maximum being 22.975 inches in the winter of 1861-2, and the minimum 15.00 inches in that of 1864-5, and if we divide by four the results obtained during a period of 12 years, by Dr. McGowan, we get a mean of 16.25 inches. A few notes on the state of some of the present sources of supply may be of use in drawing out a scheme for their improvement.

"Fountain of the Virgin."

From the "Fountain of the Virgin" there is a constant though small flow, but its peculiar feature is the intermittent flow, which consists in a sudden increase of the ordinary one, and seems to be dependent on the rainfall; in winter there are from three to five flows per diem, in summer two, later on in autumn only one, and according to the natives, after a dry winter or failure of the early rains, the flow has been known to take place only once in three or four days; in summer the time of flowing is noticed to be much more regular than in winter. The water is conveyed from the spring to Siloam through a passage cut in the rock, and thence runs down to irrigate the gardens; its taste is decidedly unpleasant and slightly salt, principally arising from the water having filtered through the mass of rubbish and filth on which the city stands, and this peculiarity of taste is slightly intensified at Siloam by the water passing over the slimy deposit, two to three inches deep, which covers the bottom of the conduit. It is doubtful whether much could be done towards improving the supply or quality of the water beyond clearing out the basin of the fountain and the channel; but the "fellaheen" make matters much worse than they need be by bathing and washing in the same basin from which they draw water.

"Bir Eyub."

The well of Bir Eyub (Enrogel) is situated a little below the junction of the Hinnom and Kedron valleys, and has a depth of 125 feet; its supply of water, which is collected in a large rock-hewn chamber, is derived from the drainage of the two valleys and their offshoots, and is directly dependent on the rainfall. In winter the water occasionally rises above the shaft, and flows down the valley in a stream; during that of 1864-5 the rainfall was small, and there was no overflow, but from data collected by Dr. Chaplin it generally appears to take place in the month of January after from three to five consecutive days rain. The supply is said to have occasionally failed, but no European at Jerusalem could speak positively to this from personal observation. The well appears to have been deepened at some time, as at a depth of 113 feet there is a large chamber, from the bottom of which a shaft 12 feet deep leads to the present collector. For 38 feet from the surface the steining is of small stones, then 30 feet of large massive masonry, and after this the bare rock. There is apparently a good deal of rubbish in this part of the valley, and the idea in constructing the well seems to have been to stop out the surface drainage, which might be charged with impurities from the city, and depend entirely on the water running in between the lower layers of limestone. Two or three pointed arches were noticed in the upper masonry, and a semi-circular one in the lower. The rock below this was much worn

by the constant dripping of water, which runs in freely between the strata; but portions of cement could still be found adhering to the sides of the upper chamber. This well, which is the principal source of supply to the poor during summer, might be greatly improved both in construction and management. The collecting chamber at the bottom of the shaft might be enlarged and freshly cemented (a great quantity of water is now lost by flowing through the well), and some arrangement of a public nature might be made for raising the water by horse power, as at present everything seems in the hands of the water carriers and fellaheen of Silwan (Siloam), who charge from one penny to sixpence per goat-skin for water delivered in the city, and are much given to cheating by partly filling the skins with air. The well is so inconveniently situated, at the foot of a steep hill, that donkeys and skins would always be required to carry the water to the city; but large cisterns, such as those in the chief synagogues, might be filled and thrown open to the poor. This would seem a ready means of relieving want; but the love of cheating is so great in all classes of the East that there would be much difficulty in regulating the receipts and issues, and the expense would probably be as great as it is at present. The water of Bir Eyub has, though in a much less degree, the peculiar taste of that of Siloam, arising probably from the surface drainage of the city being imperfectly stopped out.

The Es-Shefa well supplies the Turkish bath in the old Cotton Market. From the bottom of the shaft a channel cut in the rock, and vaulted with masonry, leads down, in a southerly direction, to a small cave or basin, from which the water is obtained in summer by a man who descends for the purpose. No leakage was visible at the sides of the passage, but the greater portion of the water probably passes through the deep rubbish above, and thus acquires the peculiar Siloam flavour. The supply and quality cannot well be improved. "Es-Shefa Well."

The so-called spring at the Convent of the Sisters of Zion is at the northern end of the old passage discovered when building the Convent. Its water tastes much worse than that of Siloam, and it is only used for washing purposes. On exploring the southern end of the arch a passage was found cut in the rock, and leading towards the Haram, which may have been a portion of an old conduit, but it could not be explored on account of the depth of sewerage, from 6 to 7 feet, with which it was filled, and which there was no means of running off. It is this sewerage which, only separated from the water of the spring by a heap of loose rubbish, gives it its unpleasant taste. The supply of water is probably kept up by a constant influx of fresh drainage, and the leakage of cisterns above. "Spring at Convent of Sisters of Zion."

There are some small wells in the Kedron valley which might be much improved; but care should be taken to stop out the impurities which would run in with the surface drainage.

Three pools still hold a certain amount of water, the Birket Mamilla, Pool of Hezekiah, and Birket Sitti Maryam. The Birket Mamilla might be repaired and cleaned out at no great cost; but it is surrounded on all sides by a large Moslem cemetery, the tombs of which run up nearly to the edge, and as all the water collected by the pool must pass through this it would be rendered unfit for drinking. At present, after running down to the Pool of Hezekiah, it is used for a Turkish bath, for washing and culinary purposes by the houses round the pool, and sometimes, it is said, for drinking. The quality of the water would be greatly improved by having the two pools well cleaned every year. "Pools."

The Birket Sitti Maryam supplies the bath near St. Stephen's Gate. It is small, and could not well be made use of in a scheme for water supply.

"Cisterns."

The principal dependence of the inhabitants is on the cisterns which receive the rain collected on the roofs, &c., and these may be divided into three groups, viz. : the cisterns of the Haram, those within, and those without the city.

Most of the Haram cisterns are in a sufficiently good state of preservation to hold water ; and the small leakage which goes on might be easily stopped. They are so numerous, and of such size as, of themselves, to be capable of holding a year's supply for the whole city. Formerly filled by means of the aqueduct from the pools, they now only collect the surface drainage of the Haram area, and that imperfectly, the channels and conduits being in great part broken and choked with mud. Very little deposit was found in them, and the whole system, with its conduits, &c., might be set in working order at a comparatively small expense ; but this would hardly be advisable, as the water would be exclusively for the use of the Moslem population, who, at present, would certainly not allow the Christian and Jewish population free access to the sacred area for the purpose of drawing water ; and the same objection would apply to their being converted into a system of reservoirs, if the low level aqueduct were repaired. In considering this, however, it should not be forgotten that whoever obtains permission to supply Jerusalem with water will have unexampled facilities for excavation. No objection will be made to the use of pick and shovel, even in the sacred area, if the great blessing of abundant water can be obtained by it. And in opening the old conduits and subterranean passages it is hard to believe that something will not be discovered which would fix with certainty the site of the Jewish Temple. Of the cisterns within the city, those lately constructed by Europeans in convents and dwelling houses are very good, and being carefully cleaned out every year the water is always clean and sweet ; but such is not the case with those in the native houses. When the rain commences all that can be is collected, even from the streets, which, being the common latrine of the city, are by the end of the rainy season in a very filthy state ; every duct is opened, and through these all the summer's accumulation of rubbish is carried from court-yard and roof to the cistern below. During the early part of summer little evil arises, the heavier particles settling to the bottom ; but towards autumn the water gets low, the buckets in descending stir up the deposit, and the mixture which thousands then have to use as their daily beverage is almost too horrible to think of. At this time, too, a sort of miasma seems to rise up from the refuse, and the fever season commences. In a city like Jerusalem, where there is no census and such a mixed population, it is difficult to obtain any statistics ; but one fact may be cited to show the present state of affairs : the Jewish population is generally estimated at 9,000, and during 12 months more than 5,000 cases of sickness were attended to at their own hospital, and more than 8,000 at that of the Protestant Mission. Much might be done to better this by simple sanitary regulations ; every cistern should be well cleaned once a year, and the refuse carried to a distance. Now, this is seldom or ever done, and in the few instances where men have been known to clean their cisterns they have carefully placed the refuse in a heap, either in their court-yards or in front of their doors, to be carried back again by the first shower. On the commencement of rain every opening to a cistern should be closed for about half an hour, that the worst portion of the dirt might be washed away, and the terraces, &c. should be well swept ; the water might also be made to pass through a piece of open wire gauze, or some simple filtering apparatus.

Outside the city, especially on the northern side, there are a great number of cisterns, nearly all in a bad state of repair, and half filled with stones, which the fellaheen have a habit of dropping down through the mouths; with the exception of one or two they would scarcely repay the expense of repairing; one a few yards east of the north road, and about half a mile from the Damascus Gate, is of some size, and receiving the drainage of a large area, might be of use if cleaned and recemented; the two just in front of the Damascus Gate receive all the water that runs down the dirty road in front, and would never be good. In front of Jeremiah's Grotto there is an extensive cistern, which, if arrangements could be made with the Sheikh to whom it belongs, might be made available for public supply.

There are several good springs at some little distance from Jerusalem, but the cost of transport ^{"Springs."} is so great that the water can only be used by the rich, and they lie at too low a level to be made use of by pipes or conduits.

A few words may be said here on the sound of running water, which has been heard by travellers near the Damascus Gate, and at the head of the Kedron Valley. On one occasion, when returning to the city, after a heavy storm of rain, the same sound was noticed, and, after some little trouble, found to arise from the running of water into a cistern near the north road; the surface drainage passing through small earthenware pipes, and falling some distance on to the water below, made a splashing sound, which, softened by the vaulted roof, might easily be mistaken for running water. The same thing was noticed afterwards on several occasions, especially at the two cisterns near the Damascus Gate.

In a scheme for increasing the present supply of water it would be well to consider the advisability of clearing out and repairing the old pool beyond the "Tombs of the Kings," which is well situated for collecting the surface drainage of a large area, and is not surrounded by modern graves, or anything likely to make the water impure. The objection to making new pools near the city is, that there is no place where the water collected will not have had to pass through some modern burial ground or the rubbish of the city.

A suggestion has been made for converting the quarries near the Damascus Gate into a cistern, but this would be of no use unless the water were brought into it from a distance, as it collects no surface drainage, and the expense of removing the rubbish and cementing the uneven surface would be as much, if not more, than that of constructing a new pool. The water which drops down from the roof of the quarries arises from the leakage of cisterns and the gradual filtering of the winter rains which fall on the ground above. A glance at the two sections will show the isolated character of the ground above, ^{Sketches 12 and 13, Plate XXVIII.} and its inability to collect a large amount of drainage.

Intimately connected with the water supply is the drainage of the city, of which at present it would ^{"Drainage."} hardly be too much to say that there is none, for those drains that exist are little more than cesspits, and except after heavy rain, when some of the lighter sewerage runs down over the gardens, there is no discharge from the mouth of the present main. Few cities have more facilities for good drainage than Jerusalem, and it seems formerly to have been as well managed as the water supply, the mouth of the main being in the valley of the Kedron, a little below the Fountain of the Virgin, and the sewerage

probably used as manure for the gardens. This old drain is still quite perfect for a distance of over 700 feet, and might be made use of in a new system of drainage; the great difficulty in the city will be dealing with the present sewerage, which, when opened and disturbed, will cause a good deal of sickness and low fever; December and January would be the two best months for working in.

" Levelling."

Plate VII.

A line of levels was carried from Jerusalem to Solomon's Pools and bench marks cut on the road, and a traverse survey was made from the pools to Jerusalem, following as far as possible the course of the high-level aqueduct. A table of some of the levels, giving the height in feet above the Mediterranean, is attached, and the plan shows the course followed by the several aqueducts.

LEVELS OF VARIOUS POINTS.

	Feet.	Inches.
B.M. at Jaffa Gate on west side, and level with sill	2,528	1
B.M. on west side of road to Bethlehem, about $1\frac{1}{4}$ miles from Jaffa Gate and $\frac{1}{8}$ N.W. of Hill of Evil Counsel	2,491	4
B.M. on well near lane leading to Convent of Mar Elyus	2,616	7
B.M. on north-east corner of Rachel's Tomb	2,478	3
B.M. on high-level aqueduct near Rachel's Tomb	2,526	9
B.M. on north-west angle of Castle, near Pools of Solomon	2,624	9
Level of high-level aqueduct near upper pool	2,616	0
B.M. overflow of lower pool	2,513	8
Level of top of Birket Mamilla	2,538	9
„ Birket-as-Sultan	2,388	9
„ Pool of Hezekiah	2,500	9
„ Pool of Bethesda	2,406	9
„ Old pool near Tombs of Kings	2,448	9
Level of Bab-as-Silsilé (Gate of the Chain) Haram	2,420	9
„ highest point of street running from the Ecce Homo Arch to St. Stephen's Gate	2,447	9

C. W. WILSON,

CAPTAIN, R.E.

NOTE ON TWO ANCIENT PASSAGES DISCOVERED IN THE HARAM ENCLOSURE AT JERUSALEM IN APRIL 1866.

THE first passage discovered is one which formerly led from the "Gate of Mahomet," south of the Wailing Place, to the area above. A portion, visible in the Mosque of Burak, has been known for some time; the continuation was found when visiting a cistern the mouth of which is in a small house in front of the Bab-al-Magharibe. From the "Gate of Mahomet" the passage ran east, with apparently a level floor, for a distance of 69 feet, when it entered a sort of vestibule, covered by a domed roof, and then turning south, appears to have risen to the surface by an incline.

In the Mosque of Burak the western portion covered by a segmental arch, with the flat arch over the door, is all that remains of the original passage, the eastern portion of the mosque being covered by an elliptical arch of later date and wider span. At the end of the mosque there is a space of 11 feet filled in solid with rubbish, and then the original passage is again found, covered by a similar segmental arch, the face of which seen under the dome has a simple moulding identical in character with that in the Mosque of Burak. The vestibule is covered by a well-made dome, the stones of which, as well as those of the covering arches, are finely dressed and set without mortar. In the centre of the dome is a circular opening, originally to admit light, but now forming part of the shaft of the cistern. The springing line of the arch over the portion of passage running east and west, both in the mosque and cistern, is horizontal, and its depth from the ground line, measured at the two places, in different years, differs only a few inches, so that the floor was probably level; but in the portion running north and south, the arch has a raking springing which rises to the south at about 1 in 20, to allow of an ascent by ramp or steps. Both in the mosque and cistern the floor is concealed by more than 20 feet of rubbish, as shown by an excavation made in front of the entrance, to try and reach the door-sill, but which failed to do so at a depth of 25 feet. The levels are:—

	Feet.	Inches.
Bottom of lintel	2,398	8
Present floor of passage	2,393	0
Bottom of excavation, sill of door not reached	2,373	8

When the cistern was visited there was 2 feet of water in it, and the entrance being rather difficult, no one could be induced to descend and assist in making the measurements, which, with the exception of the horizontal ones, cannot be considered as very exact. In plotting these, however, from the bearings, the east and west passage was found to be an exact continuation of the older portion of the Mosque of Burak, there being only a slight difference in width, due to the thick coating of cement in that part now used as a cistern; the bearings of the two portions were identical, as also were those of the western wall of the Haram and the southern branch of the passage. In the north wall of the cistern under the dome is an arched recess, and in the southern branch are three steps, which, from their height above the true floor line, cannot be connected with the original passage, and are probably only the form of stepping down the rubbish, which the people who converted the passage into a cistern were too lazy to clear away altogether.

A little to the south of the above a descent was made of another cistern, 40 feet wide and 54 feet long. The western wall was found to be in the exact prolongation of the west wall of the former passage by measurement from the well mouth, and also to have the same bearing, so that it evidently forms part

of the same entrance ; everything has suffered much from hard usage, and the walls are thickly covered with cement, which hides the character of the masonry ; a small portion of an old arch clings to the western wall, and forms part of the covering, the remainder of which, as well as the two piers, are of later date ; but there is nothing to show, with certainty, whether the cistern is the remnant of a well or chamber into which the passage ran, and from which the ascent was by a steep flight of steps, or whether the passage ran on at the same incline till it reached the Haram level, which it would do opposite the remain known as "Robinson's Arch."

The second passage discovered is near the Bab-al-Mathara of the Haram ; it is also used as a cistern, and has two mouths, through which the descent is easy ; there was one foot of water at the time it was visited. The sides and bottom are thickly coated with cement and cannot be examined ; the covering arch is semicircular, and composed of finely-dressed stones of some size, set without mortar. A flight of steps leads up to a small closed door in the western end, the whole of the masonry of which is of modern date, small coarse rubble. The cistern is at right angles to the Haram wall, and is shown to be a portion of an old passage by its piercing the wall at this point, the measurement from the well mouth to the end of the cistern, underground, agreeing with that made above ground from the same place to the exterior edge of the wall to within 3 or 4 inches, which are due to the batter of the wall. The passage would seem to have been an open one, unprovided with a door, as in the case of that previously described, which has the "Gate of Mahomet," and its appearance is more modern. The character of the Haram wall outside is concealed by the rubbish against it ; but it may be mentioned that a pool, which appears to have been built in the rubbish, existed up to a comparatively recent date at this place.

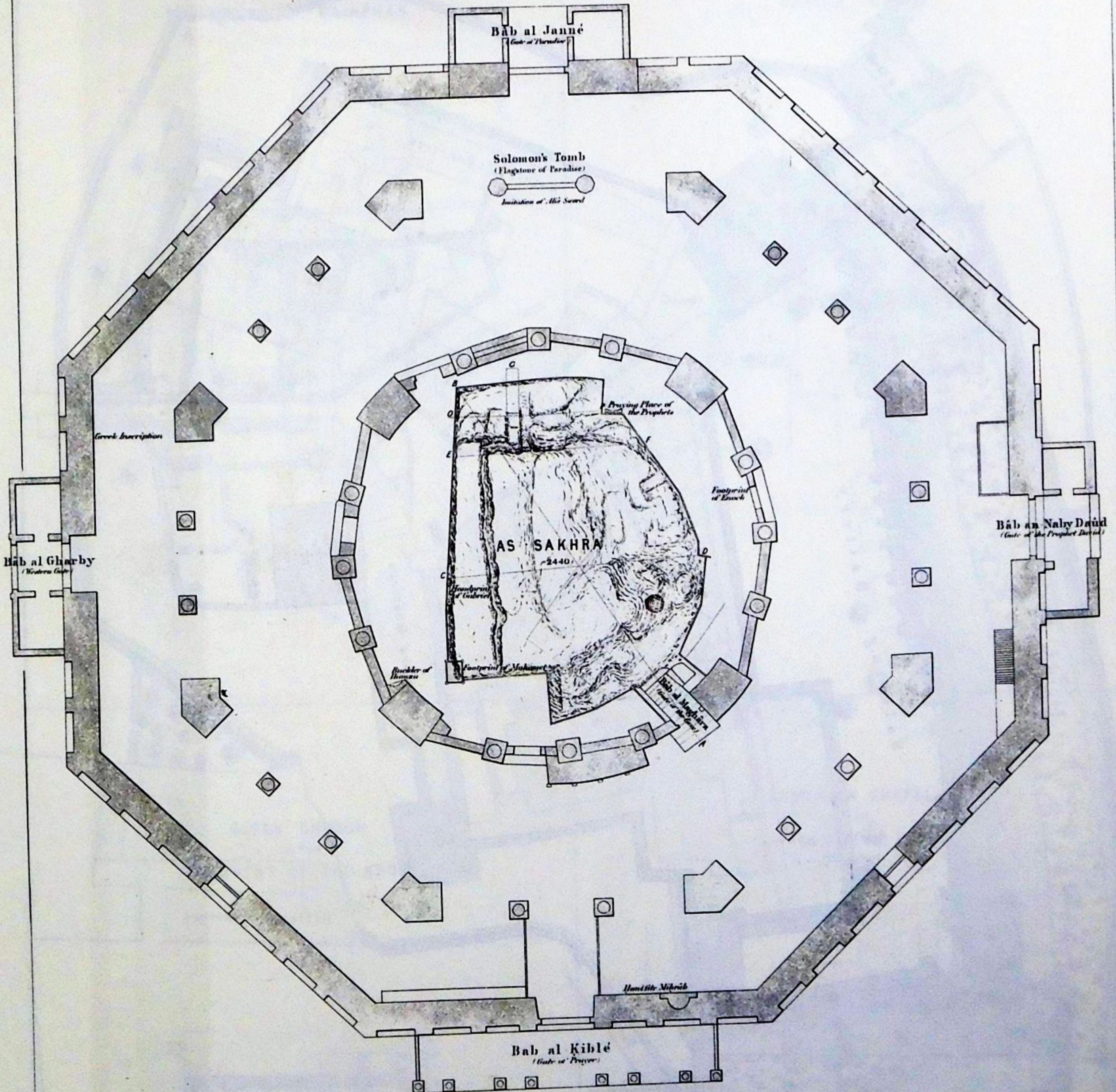
C. W. W.

PLATES

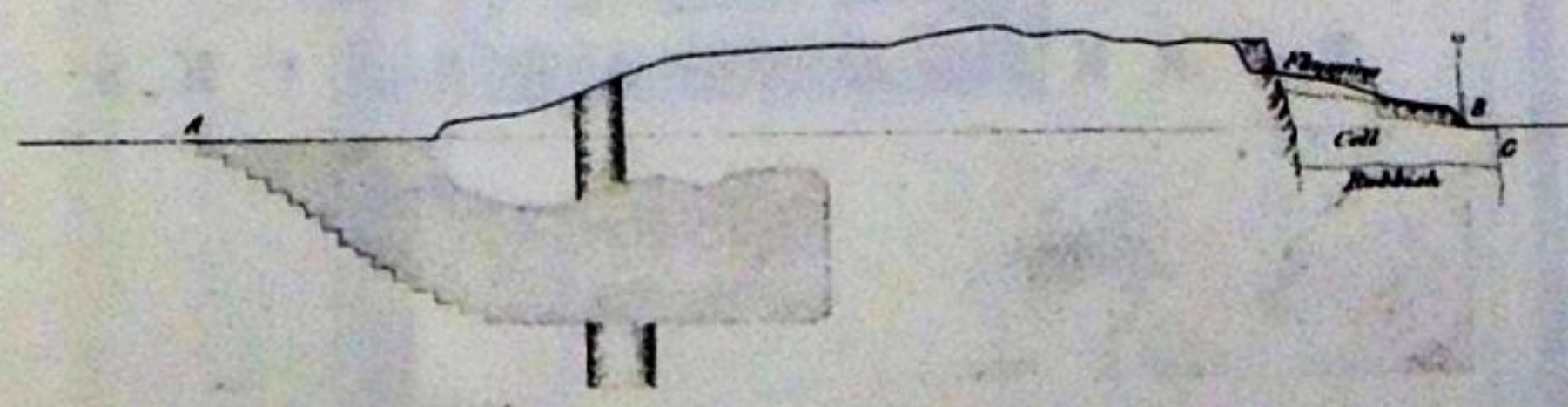
FADA is Birzeit University
Open Repository, it is
housed online at the
University Website
<http://birzeit.edu>.
This new institutional
repository will aggregate
and disseminate the
wealth of scholar
knowledge created by the
University; its Institutes
and Centers

Question
WEBSITE
<http://fada.birzeit.edu>
CONTACT

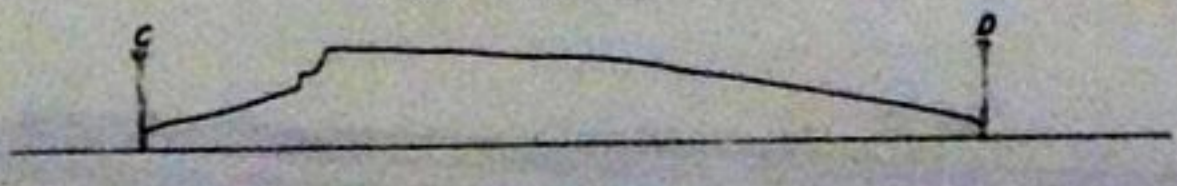
KUBBAT AS SAKHRA (Dome of the Rock)



Section on the line A. B.



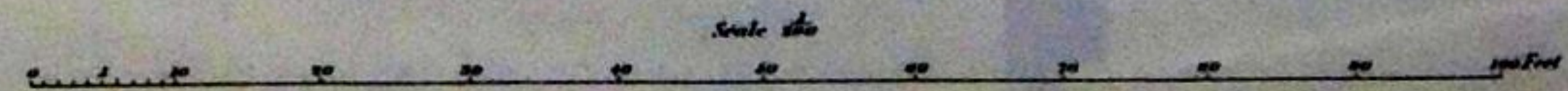
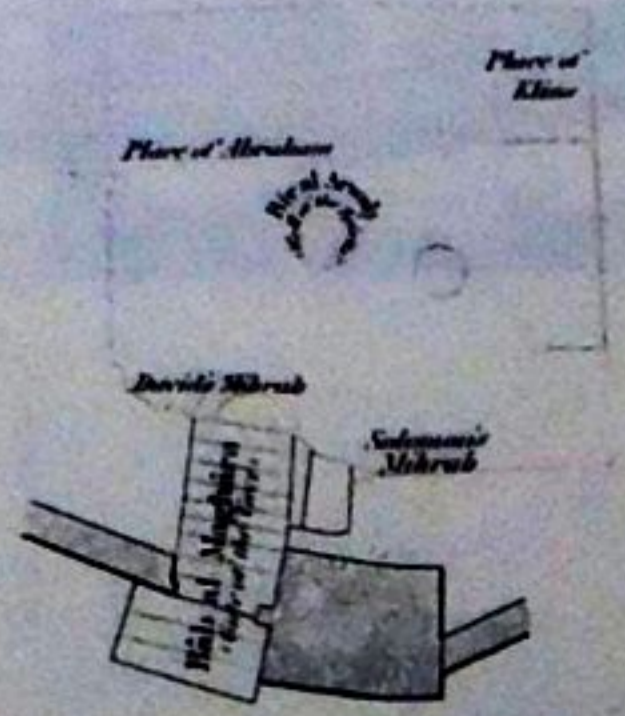
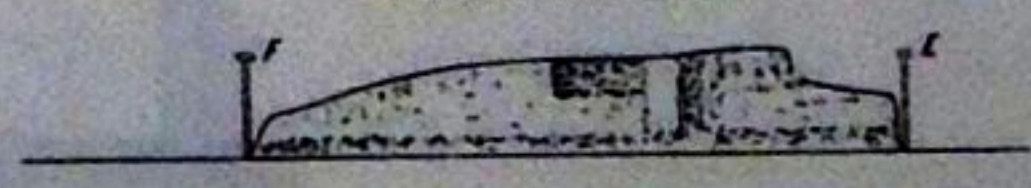
Section on the line C. D.



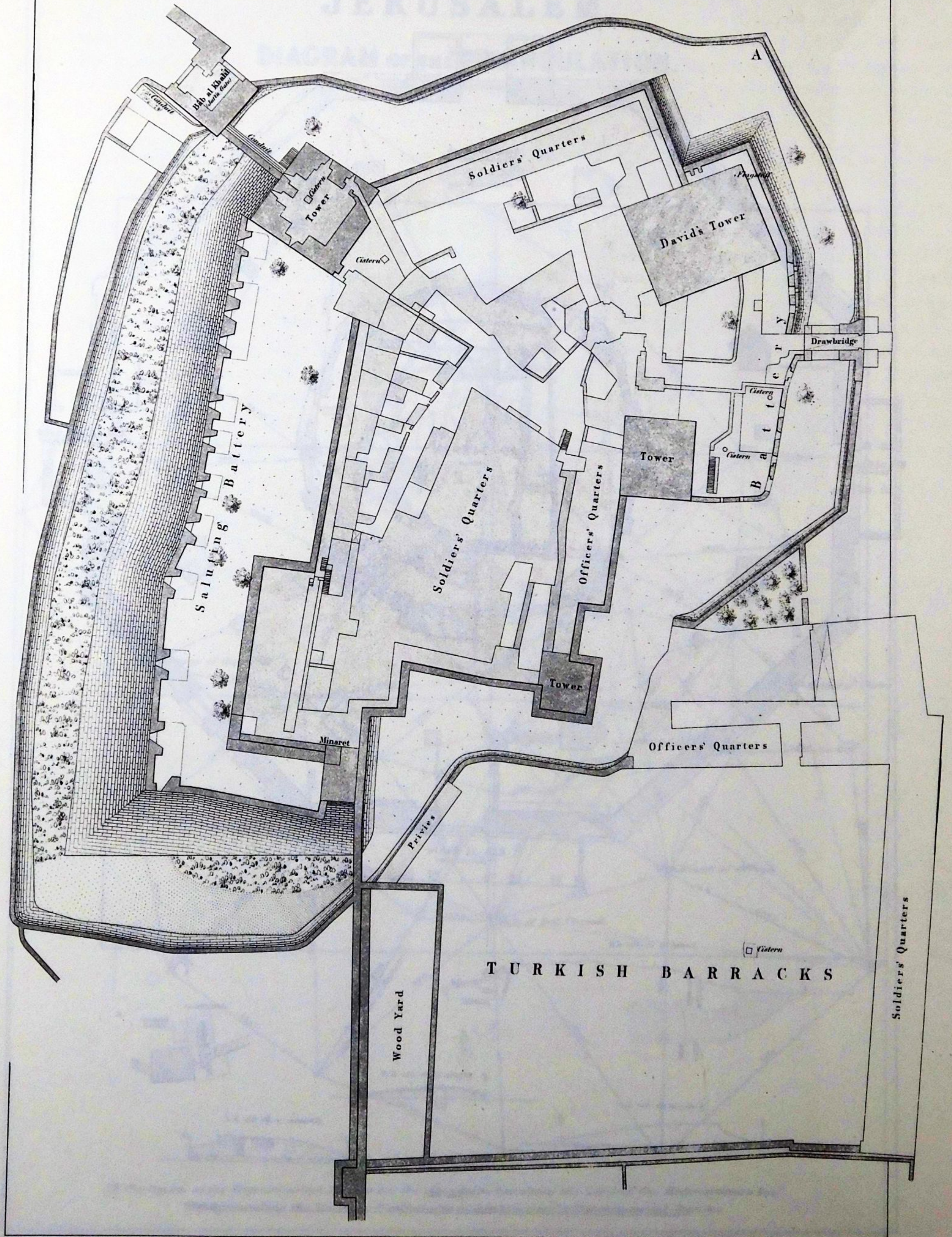
Section on the line O. P.



Elevation on the line E. F.



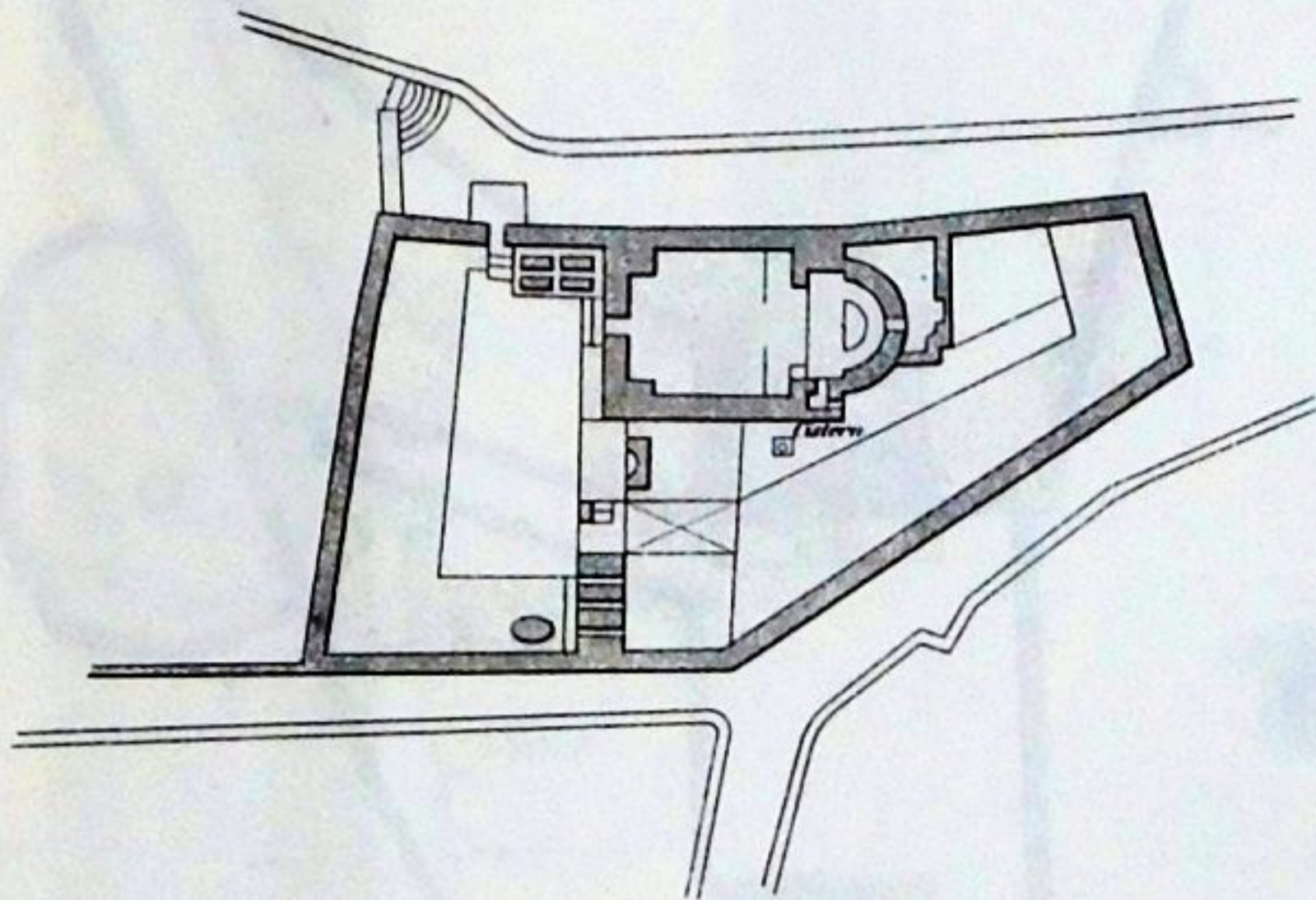
PLAN OF THE CITADEL
(Al Kala)



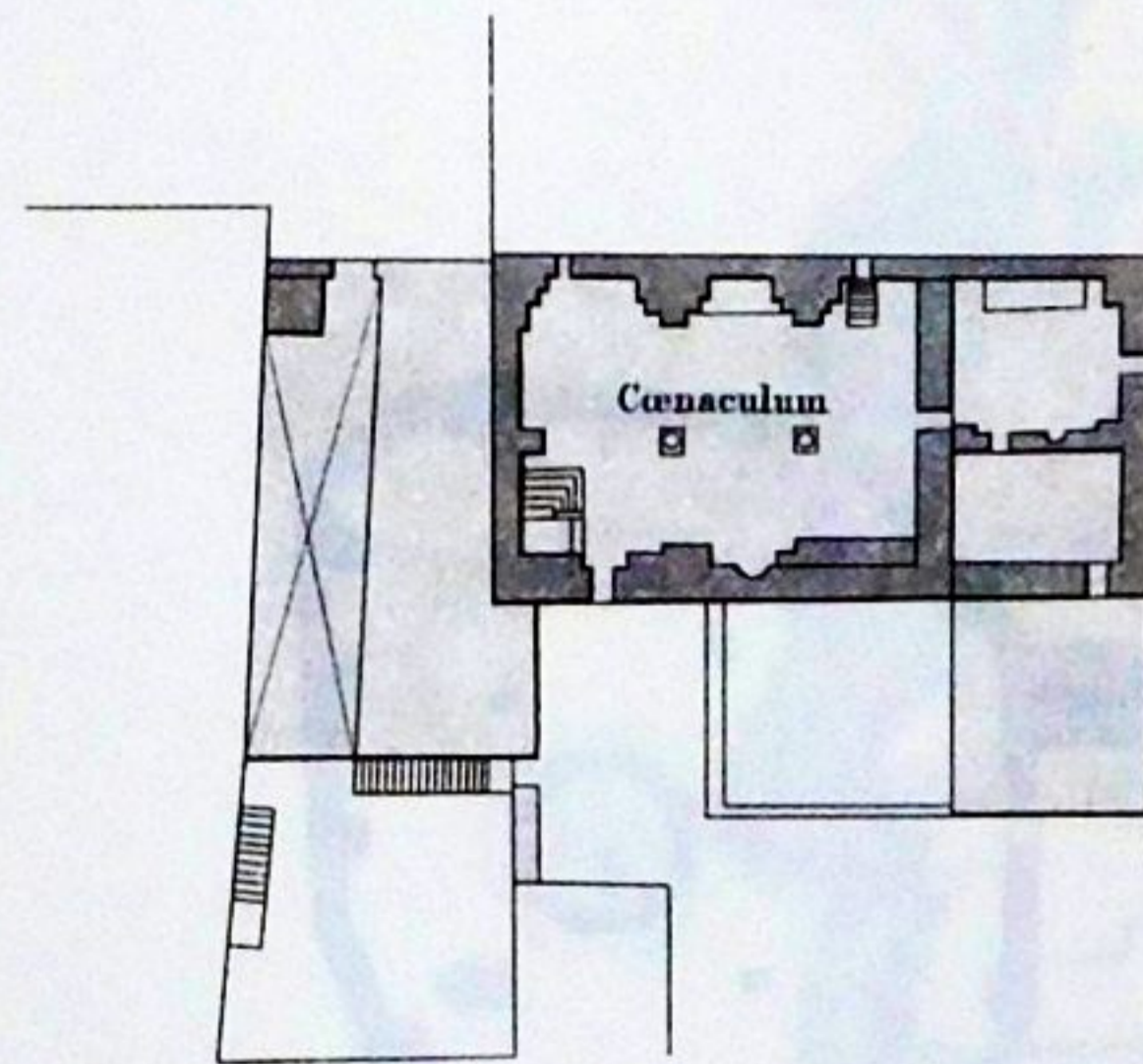
TURKISH BARRACKS

Wood Yard

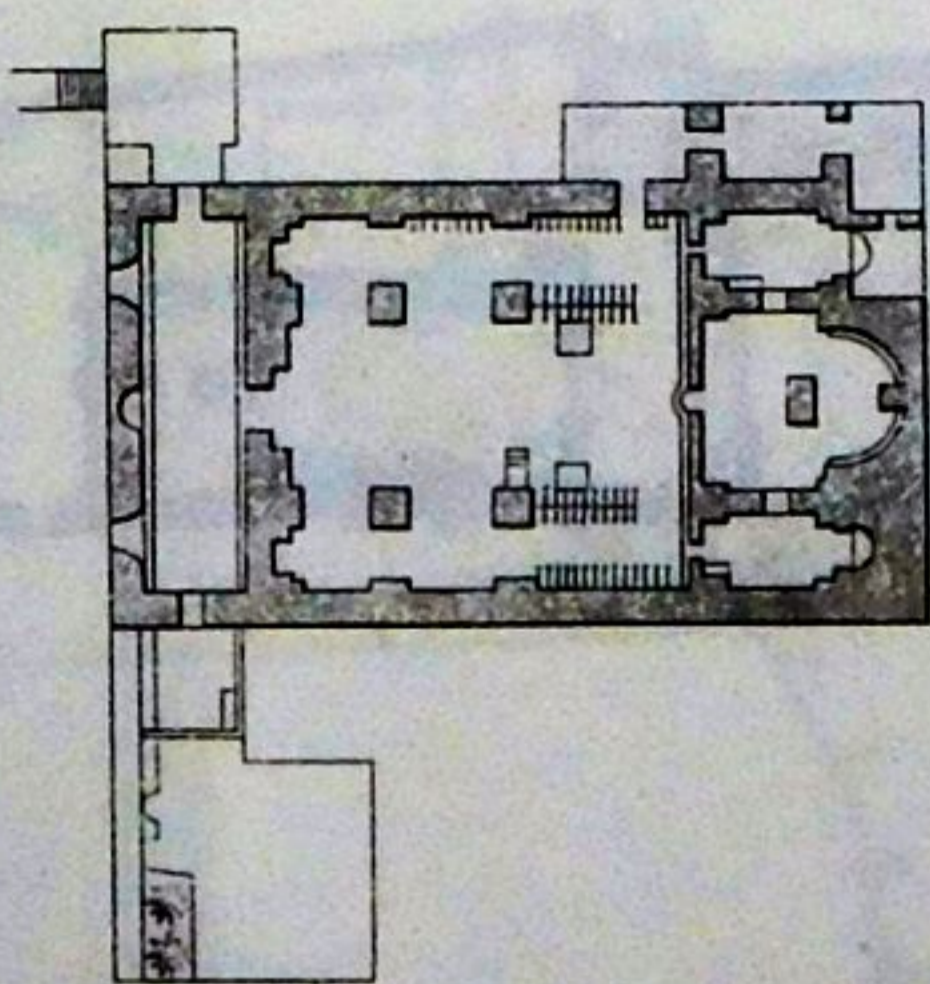
THE HOUSE OF CAIAPHAS



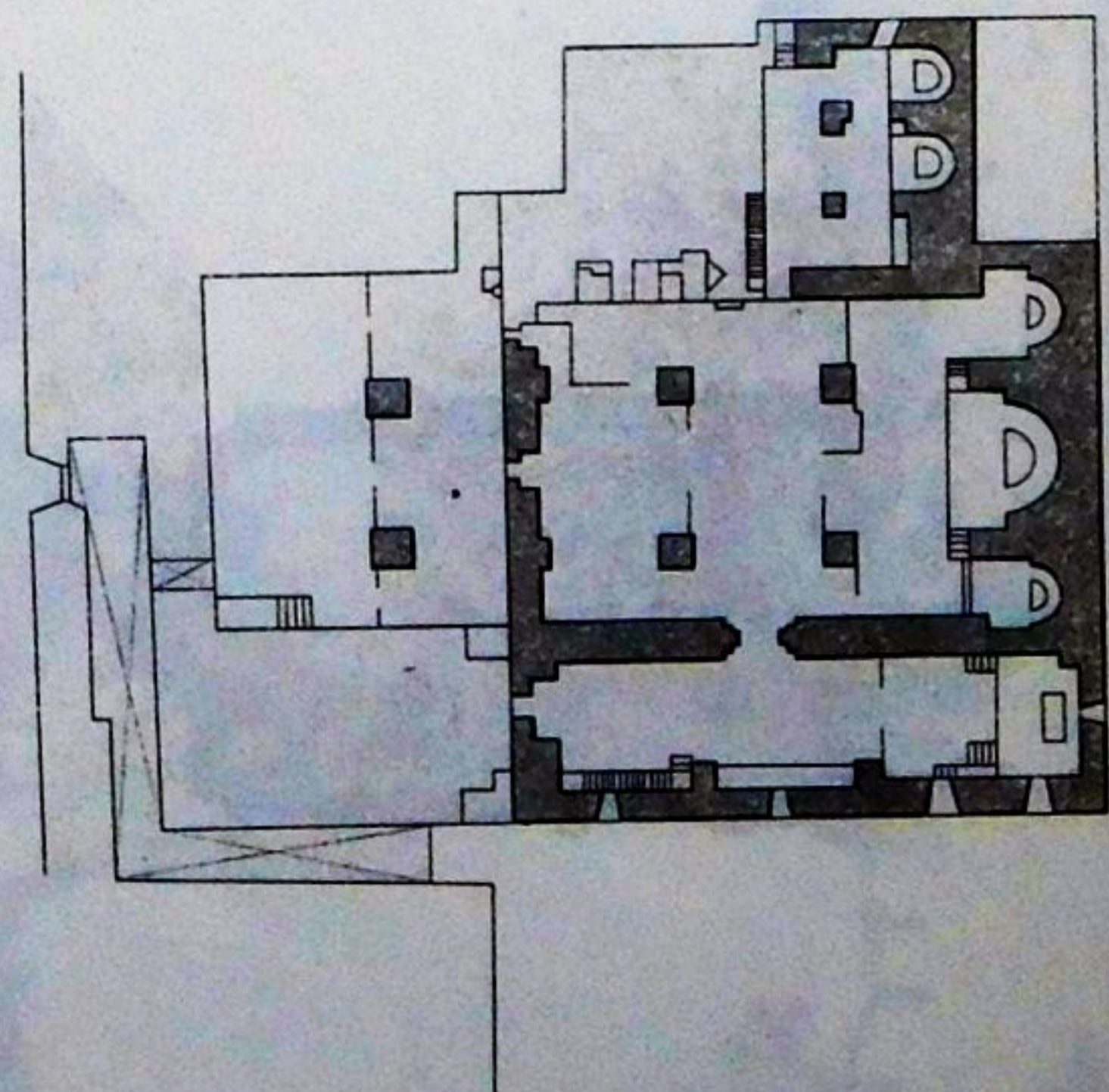
DAVID'S TOMB



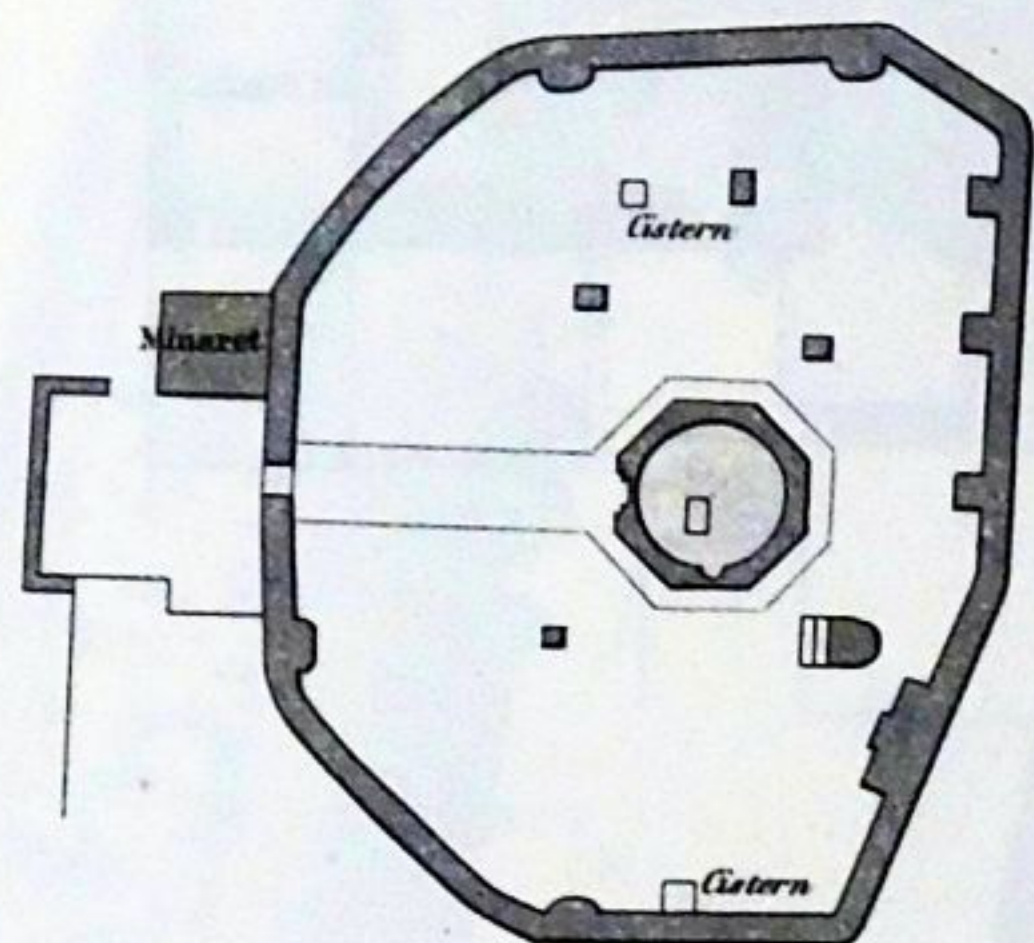
GREEK CHURCH
IN THE
CONVENT OF THE CROSS



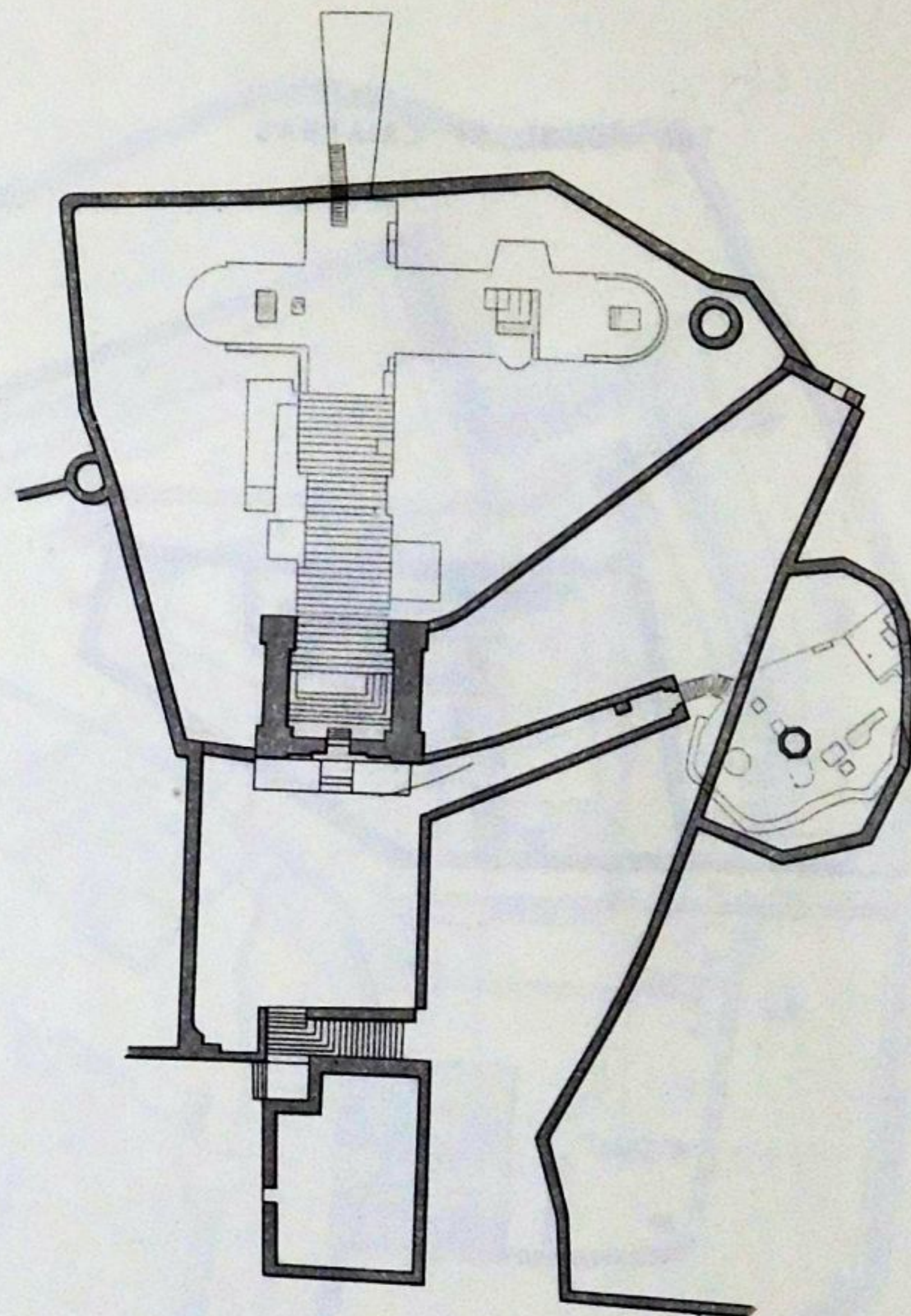
ARMENIAN CHAPEL
IN THE
CONVENT OF ST. JAMES
(Nº1 on Plan)



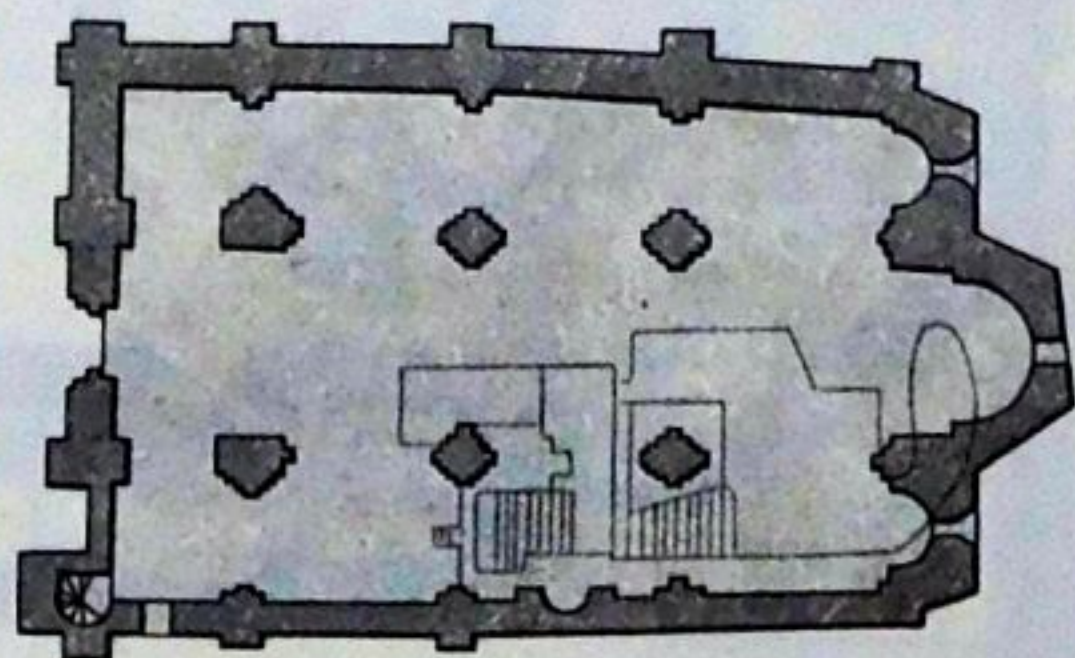
CHURCH OF THE ASCENSION



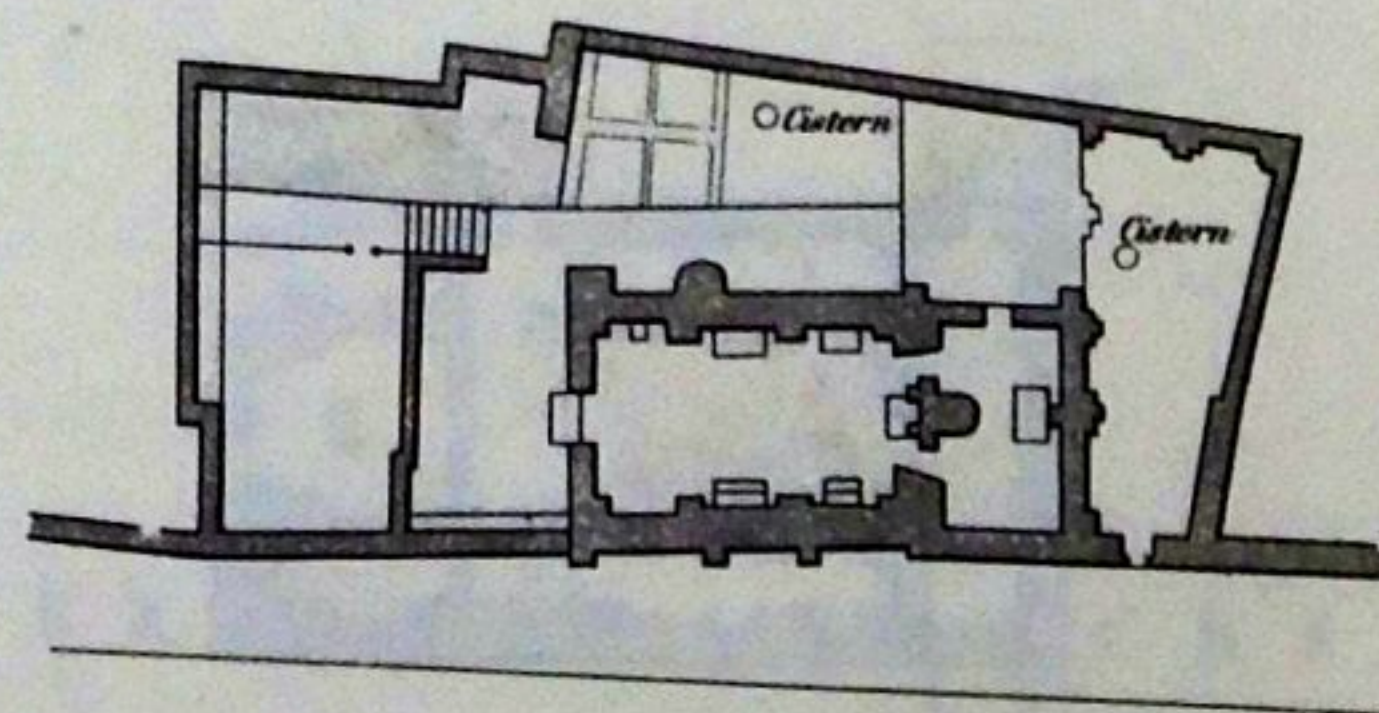
CHURCH OF THE TOMB OF THE VIRGIN



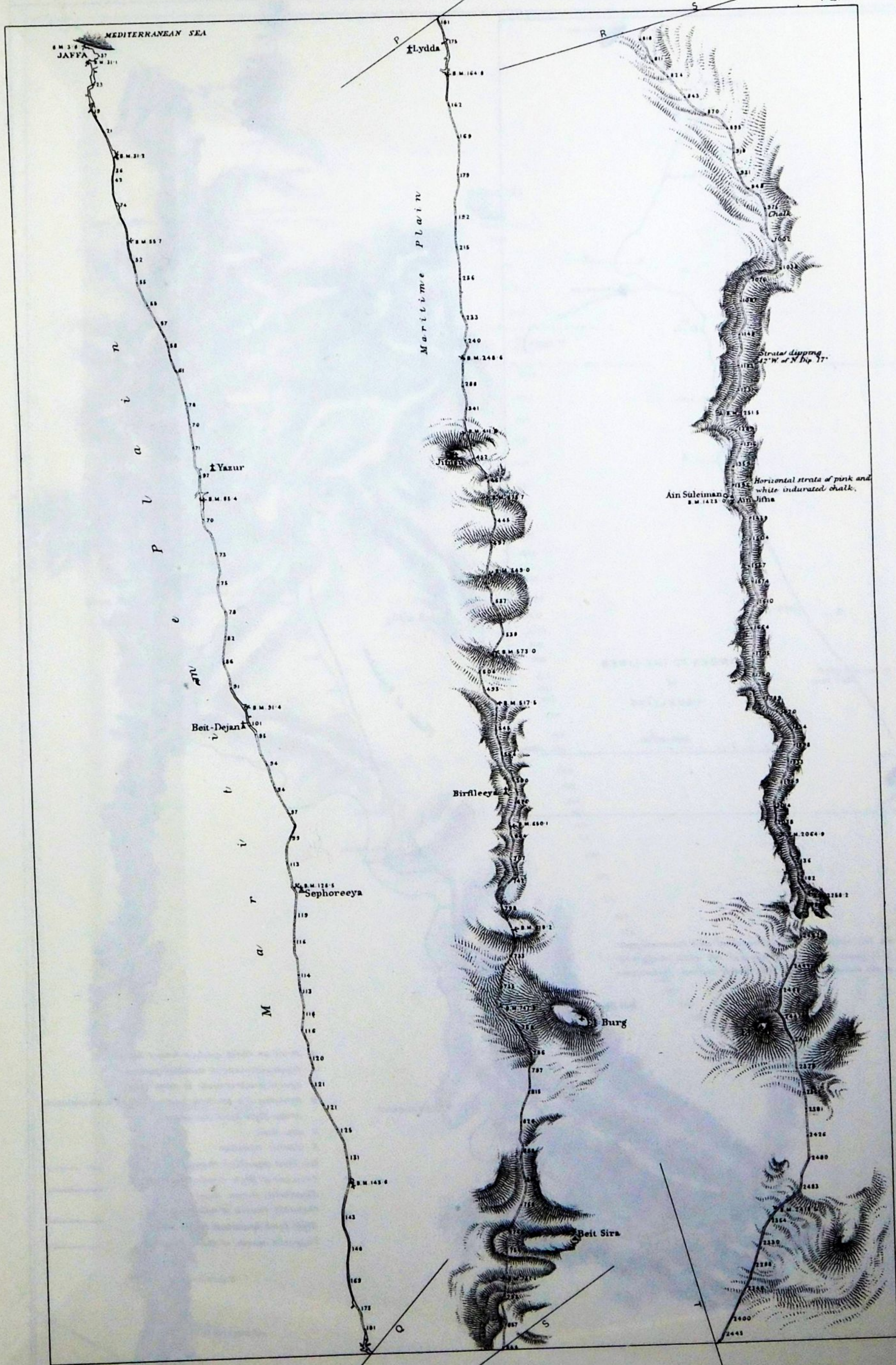
CHURCH OF SAINT ANNE



CHURCH OF THE FLAGELLATION
(N° 33 on Plan)

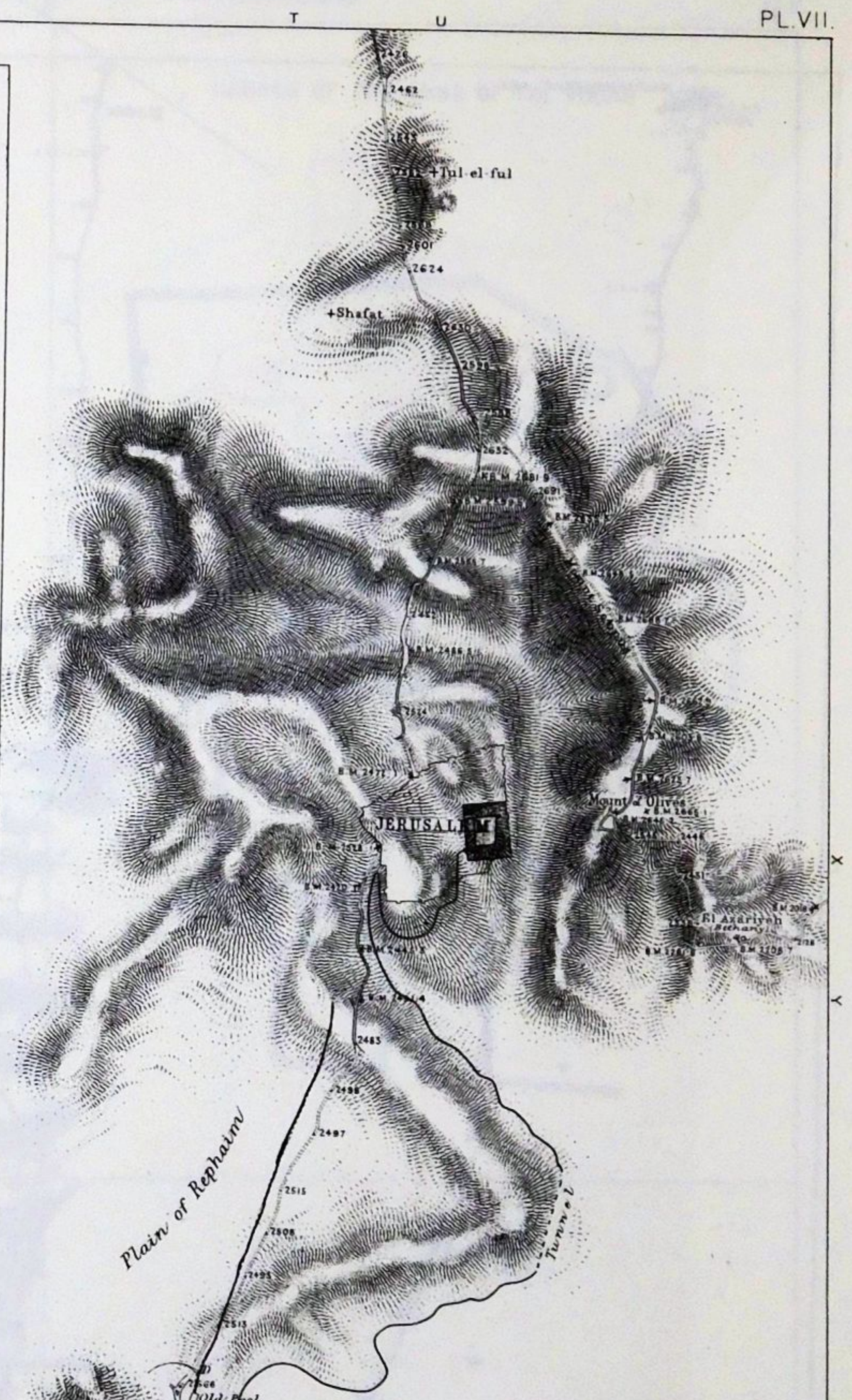
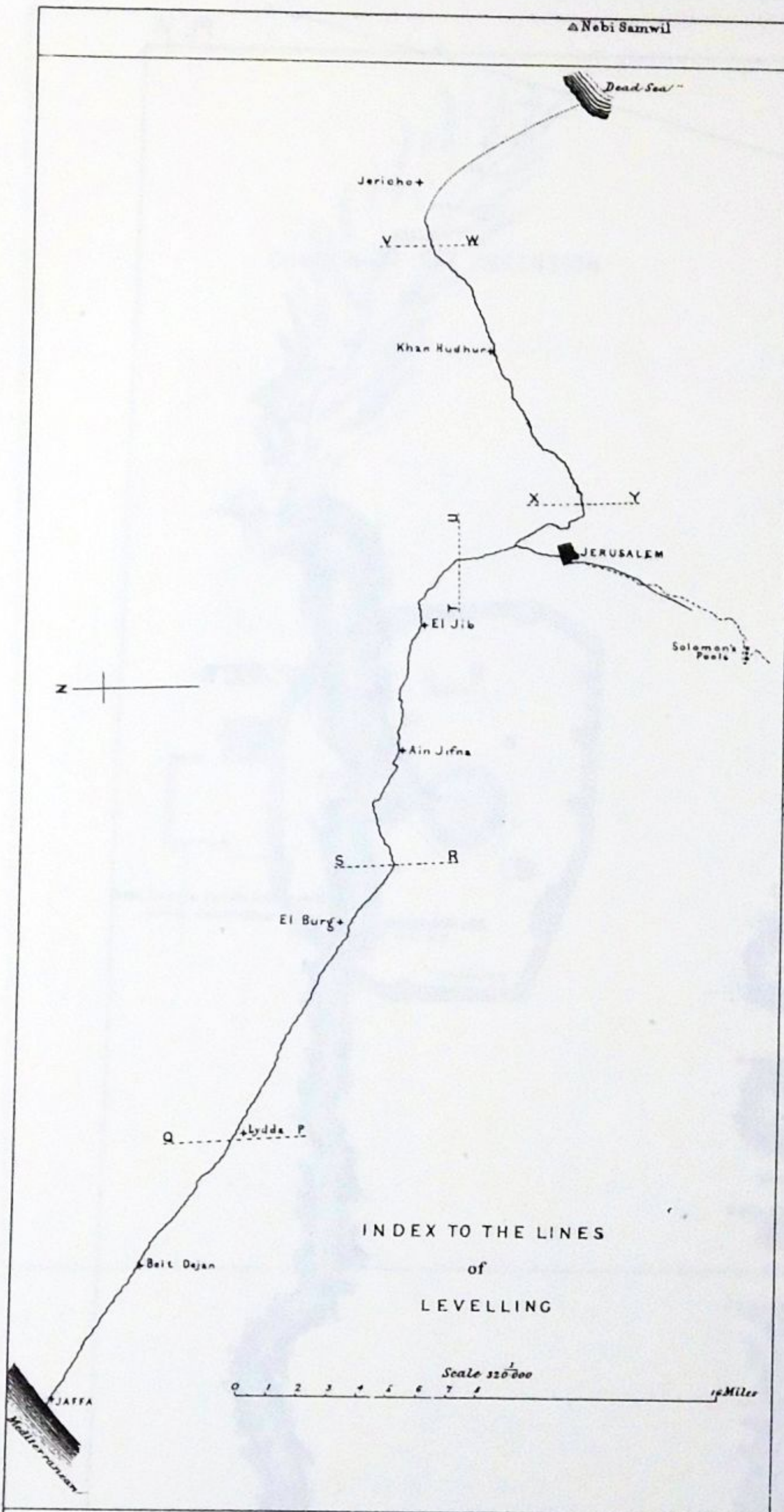


LEVELLING FROM THE MEDITERRANEAN TO THE DEAD SEA.

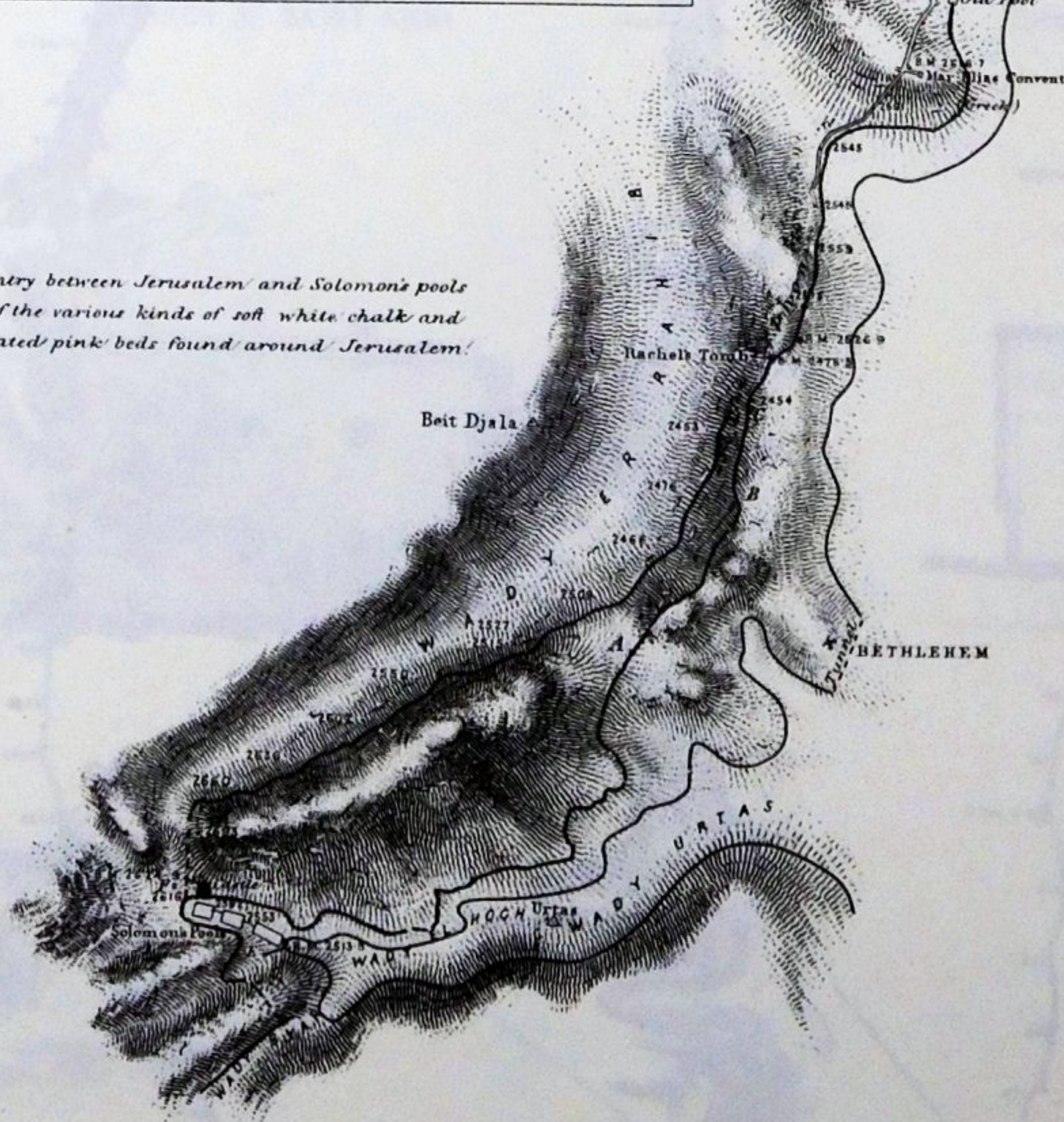


The figures on this Plan denote feet above the level of the Mediterranean.

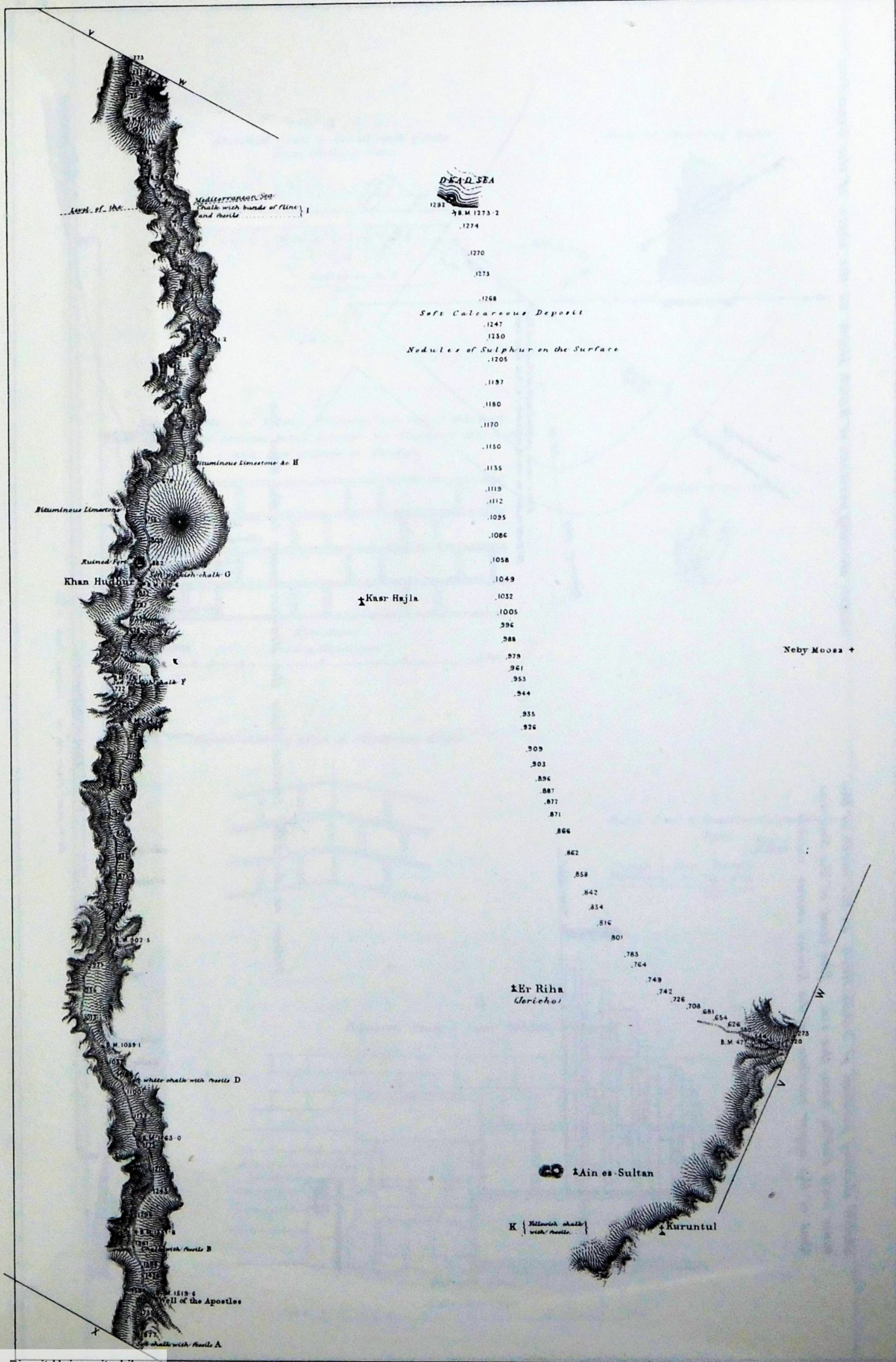
SCALE OF MILES.

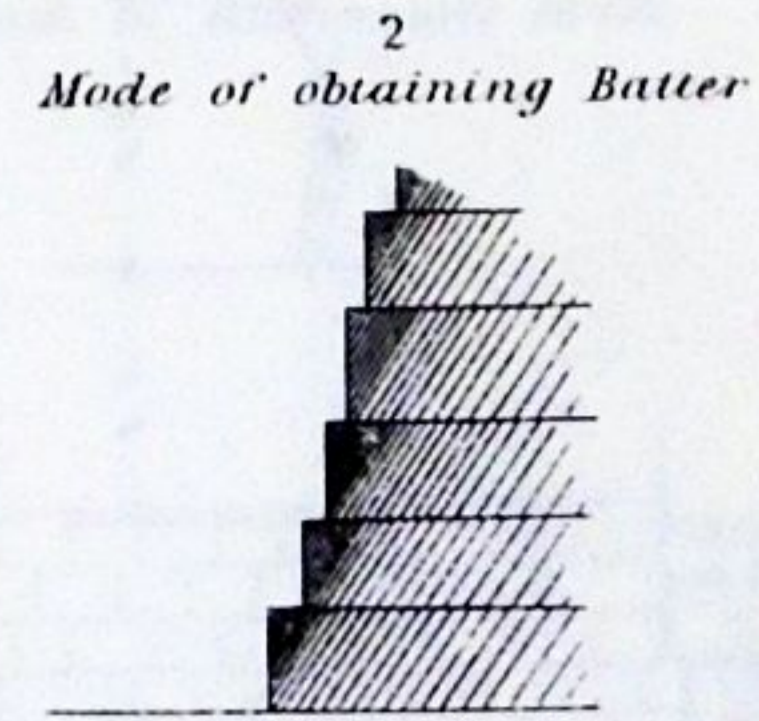
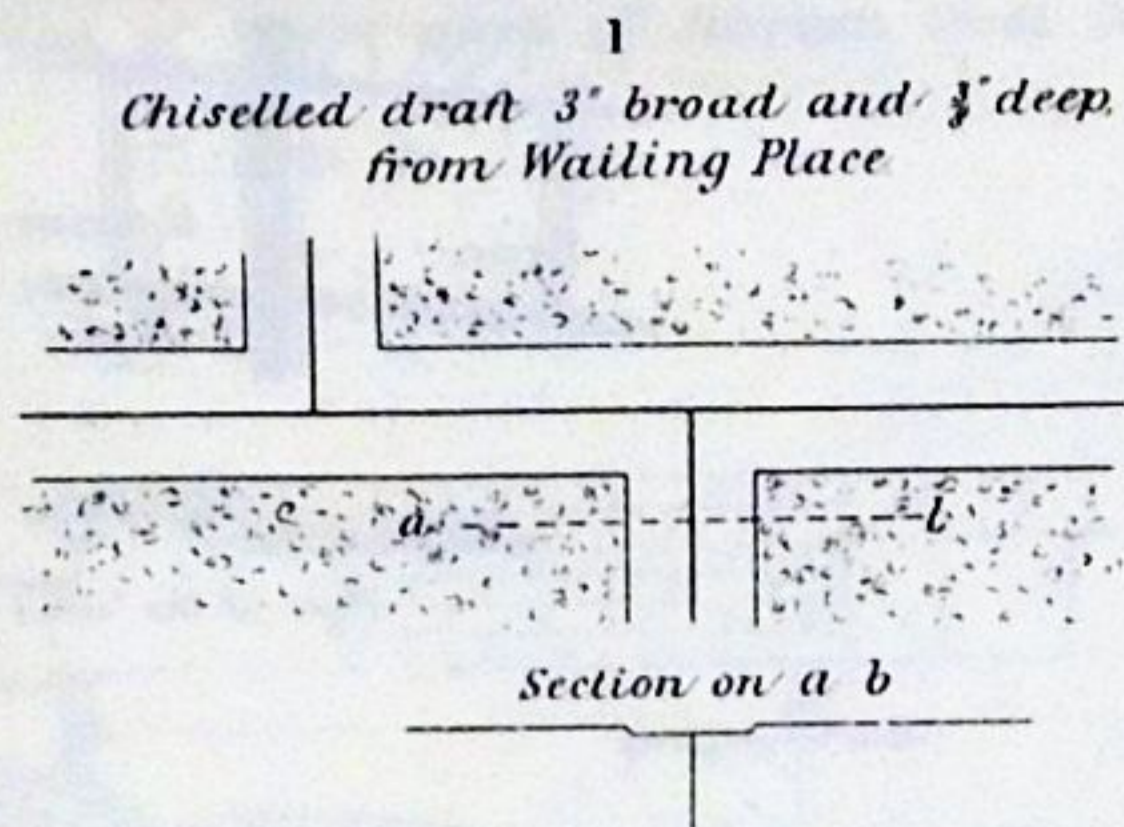


N.B. The country between Jerusalem and Solomon's pools is composed of the various kinds of soft white chalk and of the indurated pink beds found around Jerusalem.

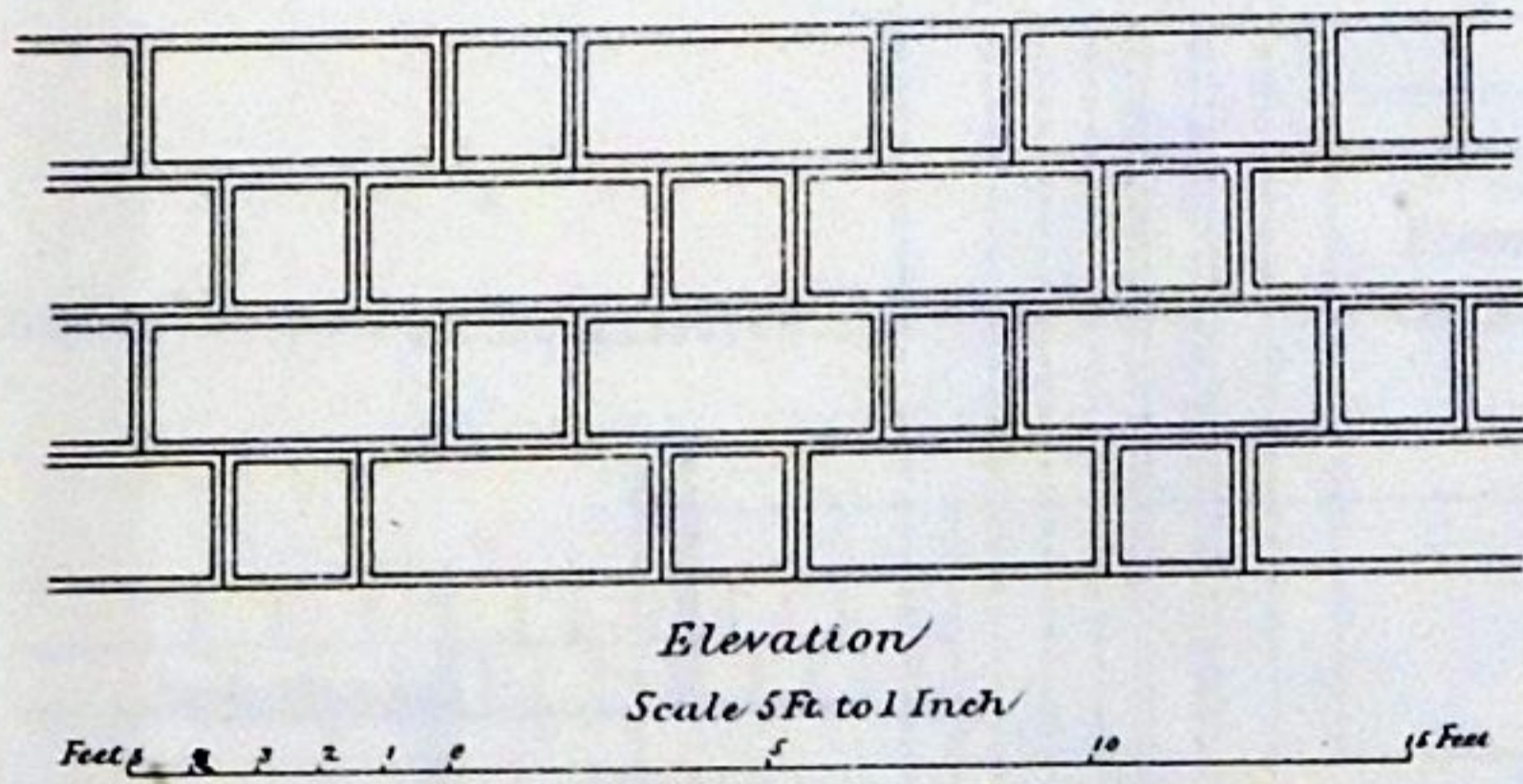


- A. Point at which conduit crosses divide
 - B. Commencement of tubular portion
 - C. Lowest point crossed by stone tube
 - D. Remains of a conduit, supposed to be a continuation of the High Level Aqueduct
 - E. Ain Etan
 - F. Sealed Fountain
- Low Level Aqueduct shewn thus —————
- Remains of High Level Aqueduct discovered, shewn thus —————
- Probable course of remainder of High Level Aqueduct, shewn thus —————
- Supposed course of third Aqueduct —————





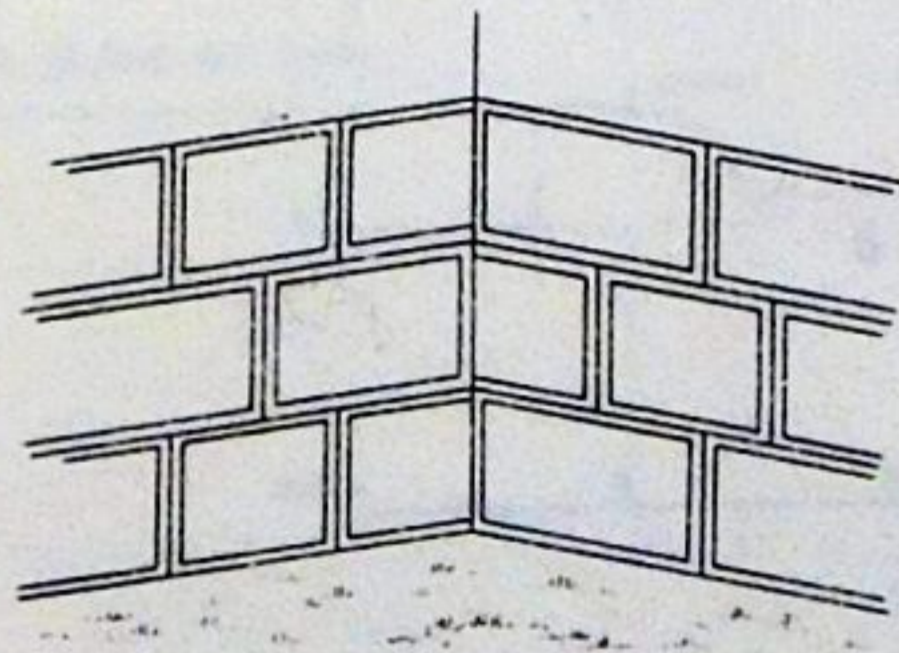
3
Representation of Mural Masonry cut out of the Rock
From vestibule of ancient tomb between the Tombs of the Judges
and the village of Shafat:



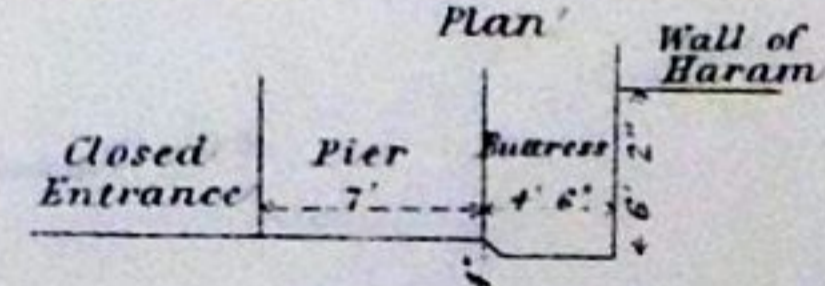
4
Section of one stone



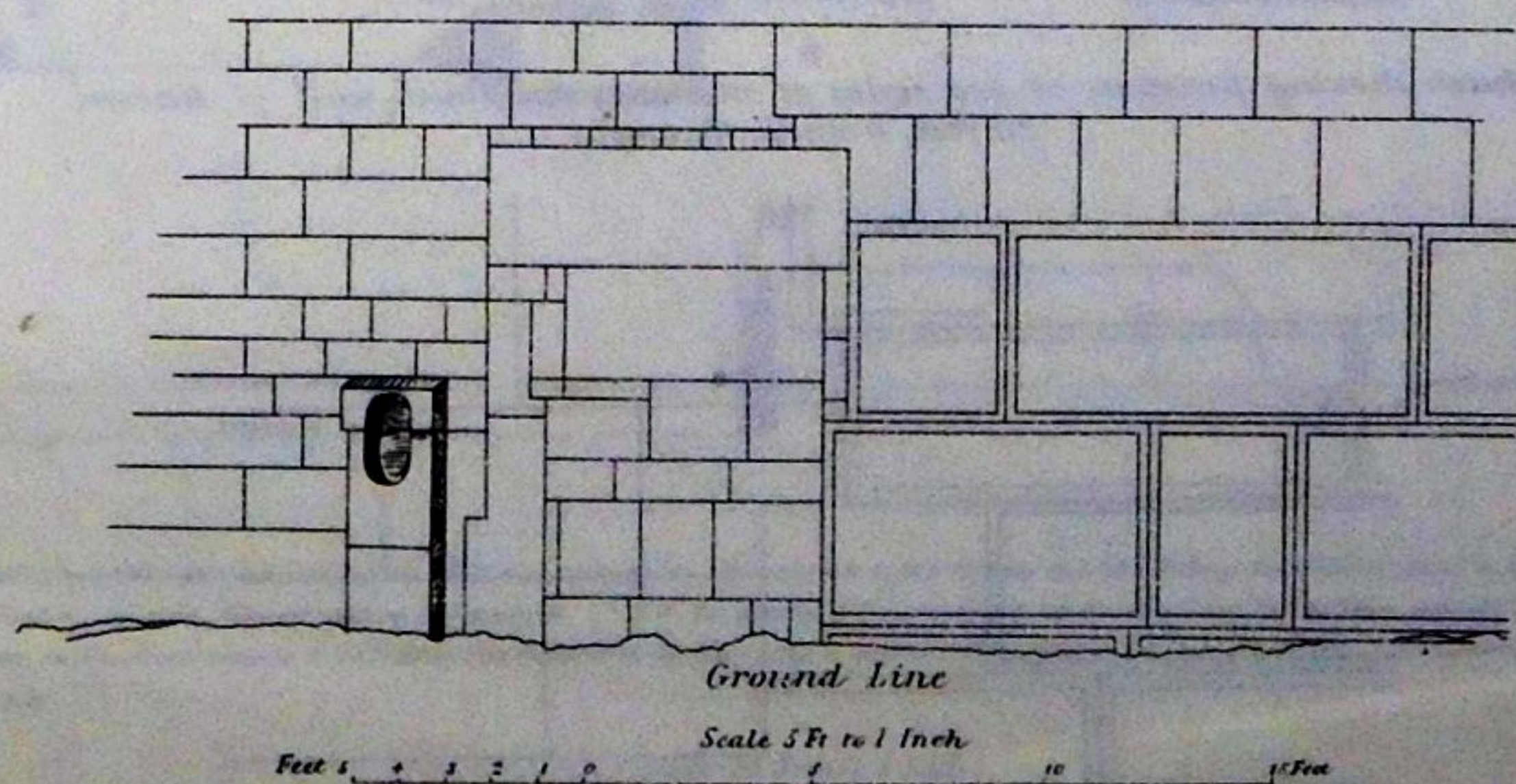
Sketch shewing bond of reentering angle:



5
North Pier & Buttress Golden Gate
Plan

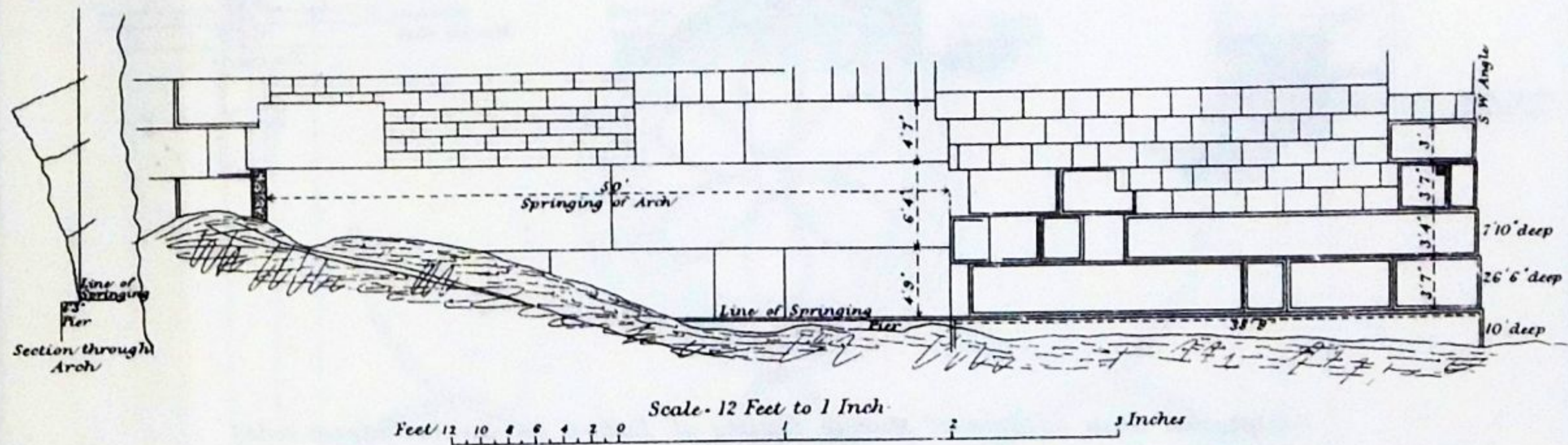


6
Supposed Postern near Golden Gateway.



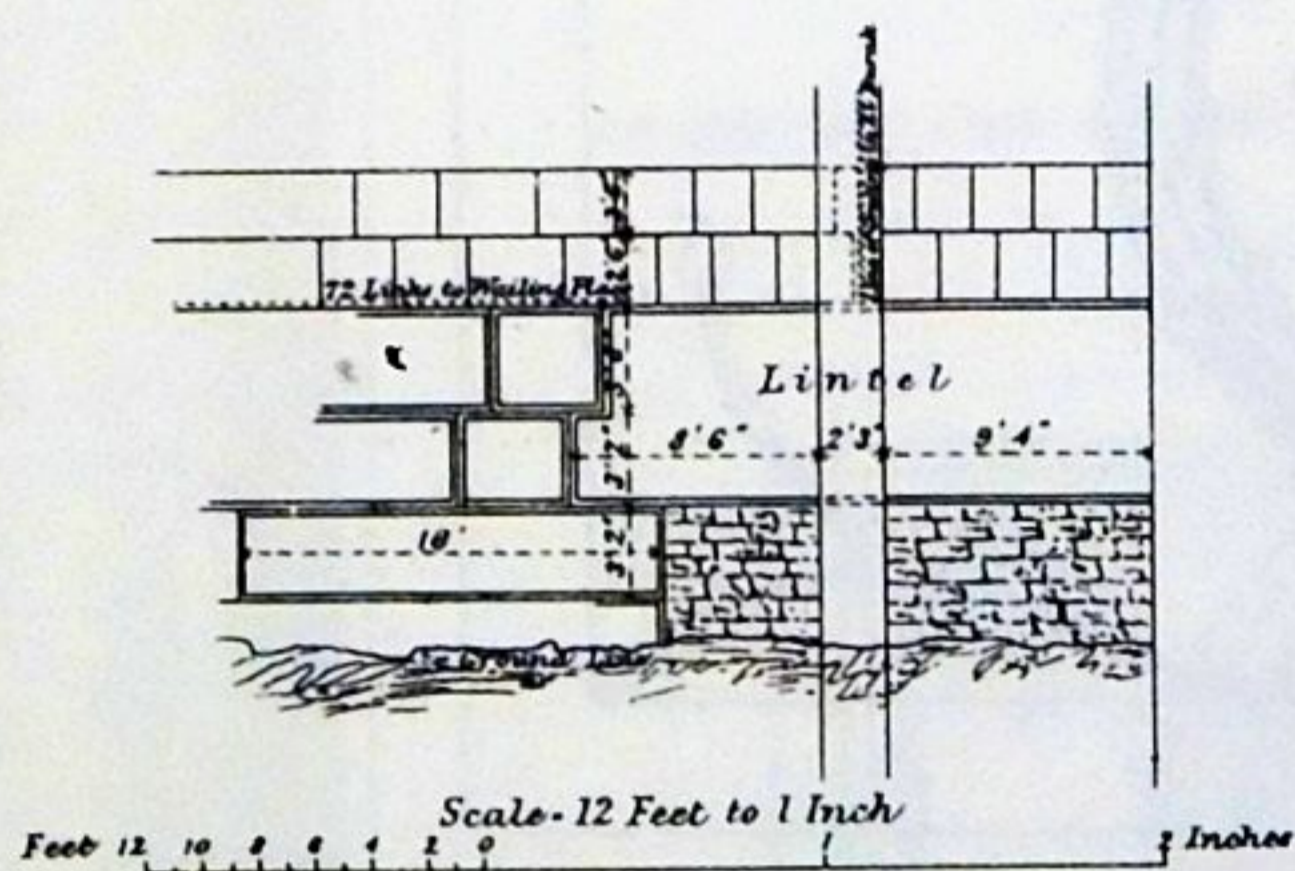
1

Elevation of lower part of Haram Wall from S.W. Angle to end of Robinson's Arch



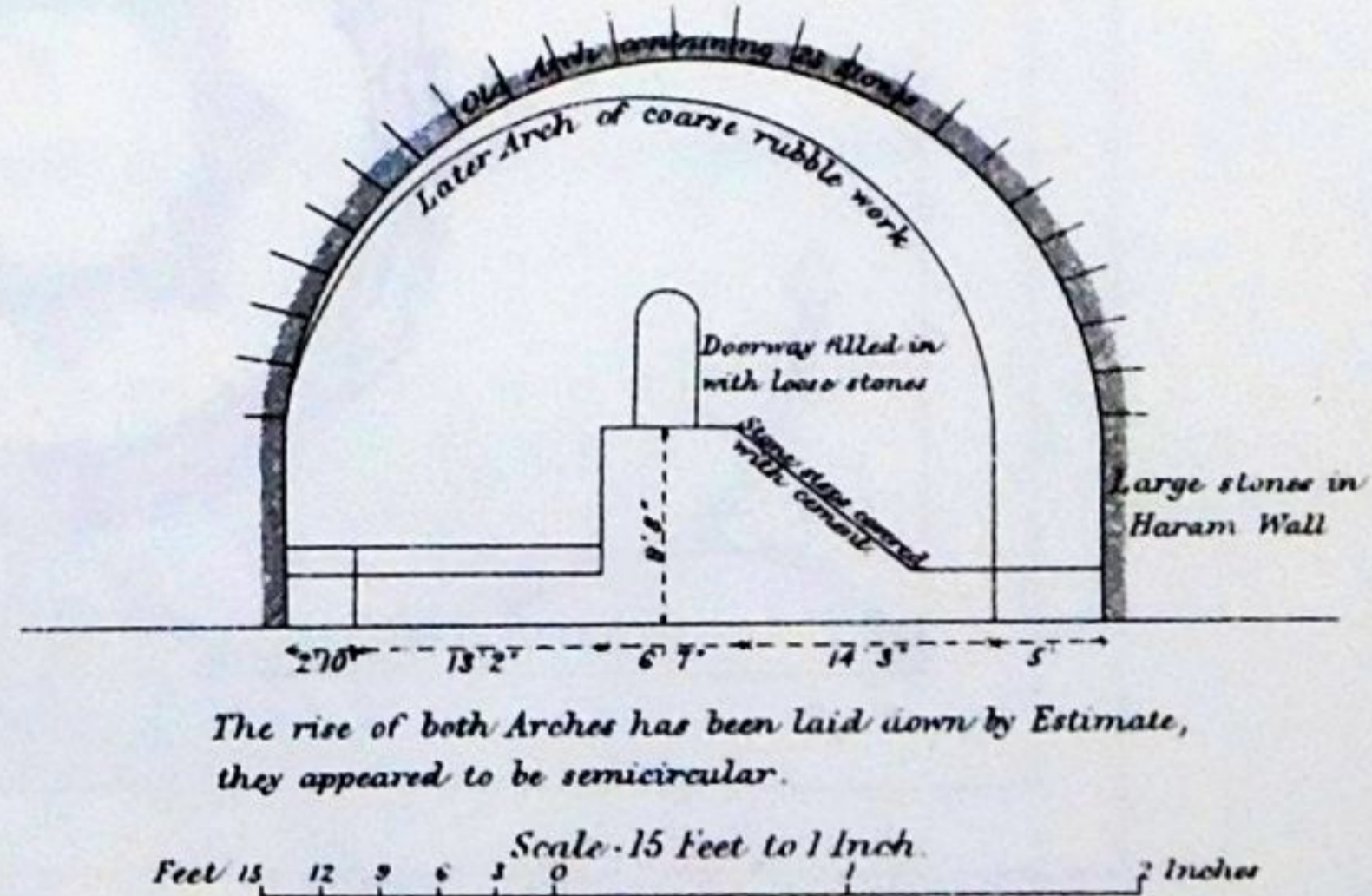
2

Old Gateway in Haram Wall, south of Waiting Place.



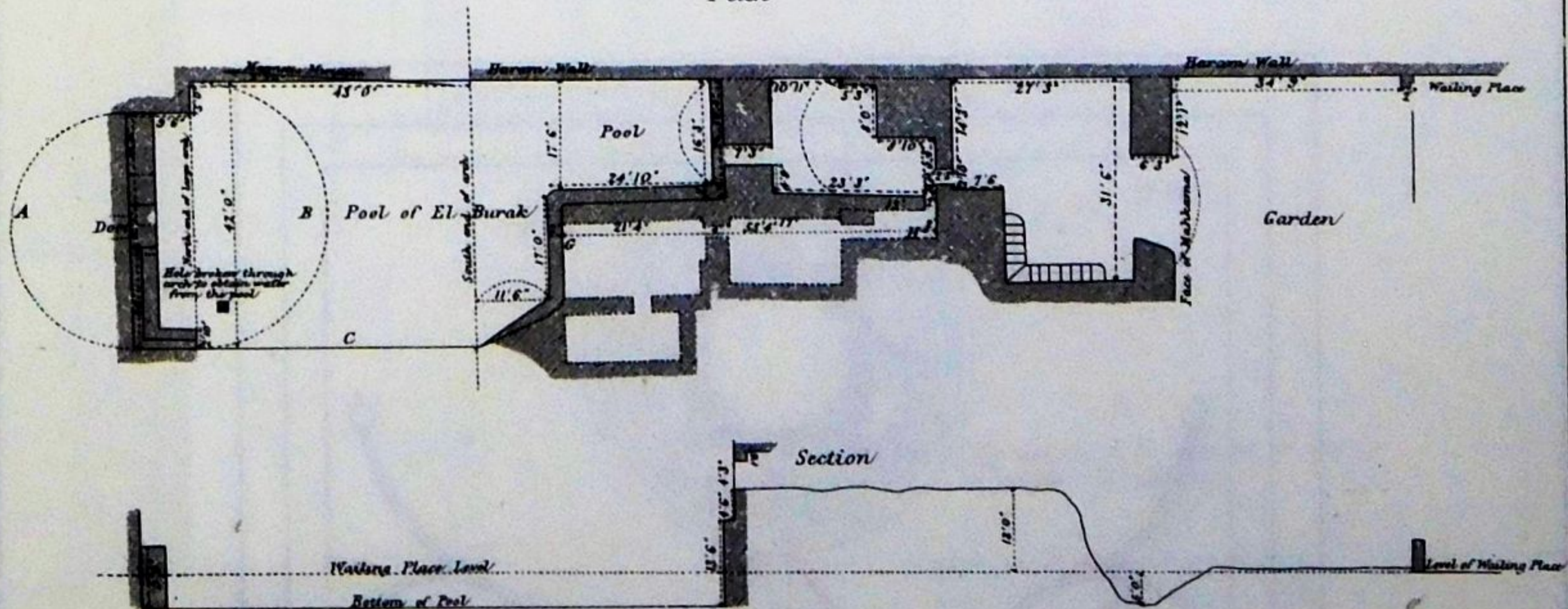
3

Elevation of Northern end of Arch covering the Pool of El Burak, discovered by Capt. Wilson R.E.



4

Plan

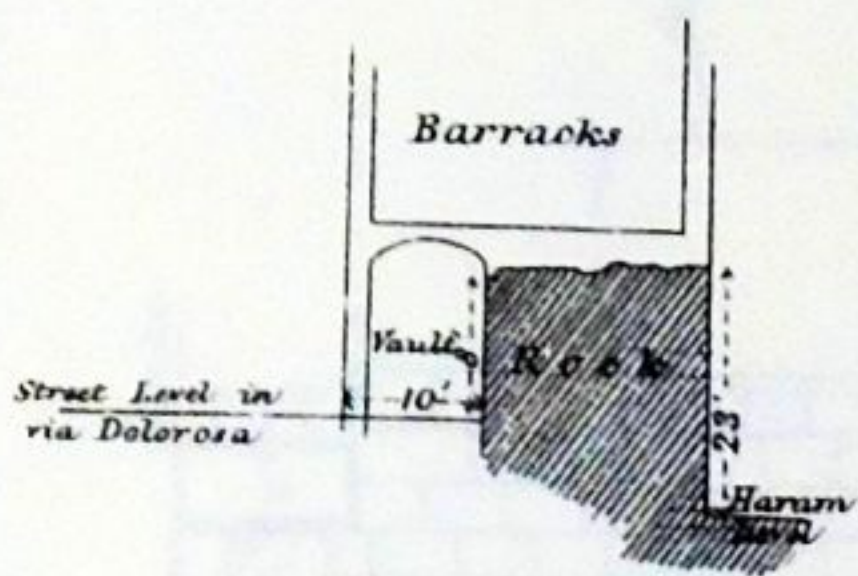


A. Arch built of rough rubble masonry with small stones, and evidently added on at a later period. B. Large Arch built of 23 stones from 10 to 13' long, plain dressed, stones in Haram Wall dressed for Skewback springing. C. Wall or Abutment composed of large stones, holes for entering left unstopped. N.B. The distance G.H. was measured, the chambers shown by dotted lines were only sketched in, they are apparently of no very great antiquity, the arches are pointed and composed of small stones. The Skewback for the later arches to south of Pool has been cut out of the Haram Wall. The Cement on the sides of the Pool is very poor, that on bottom of excellent quality.

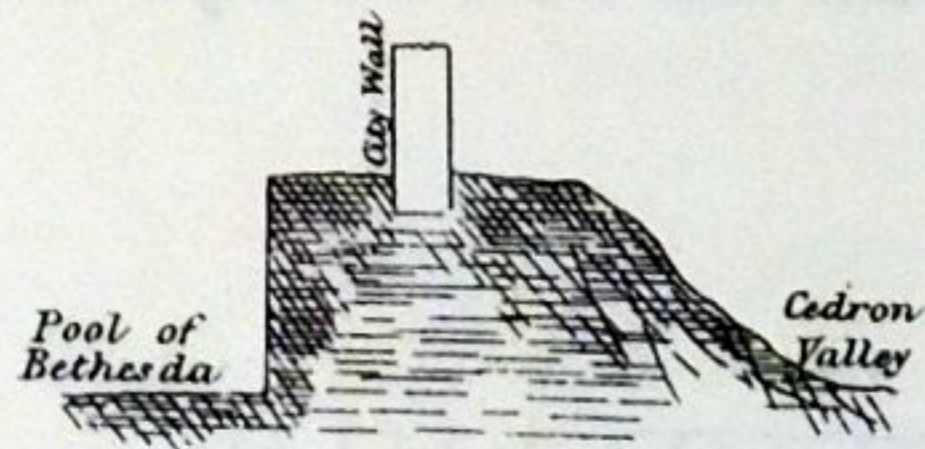
Scale - 25 Feet to 1 Inch
 Feet 25 20 15 10 5 0 2 3 Inches

1

Sketch shewing Escarpment under Serail or Barracks

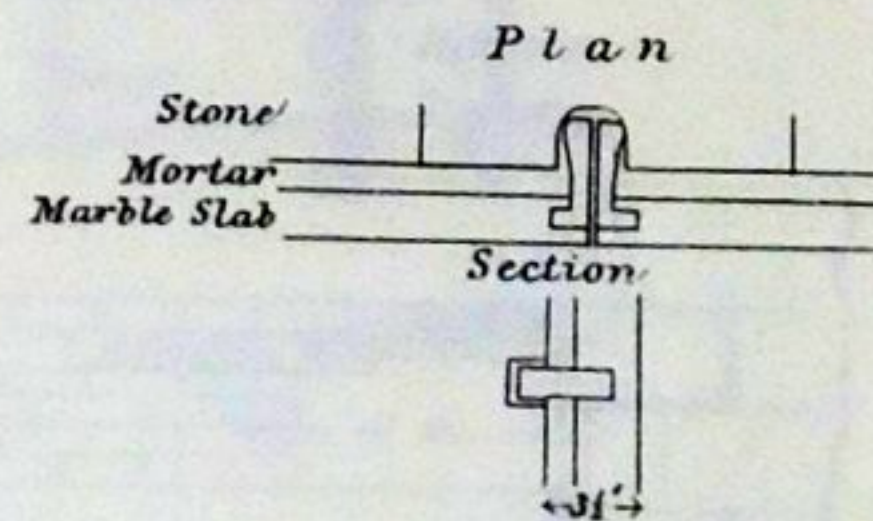


2



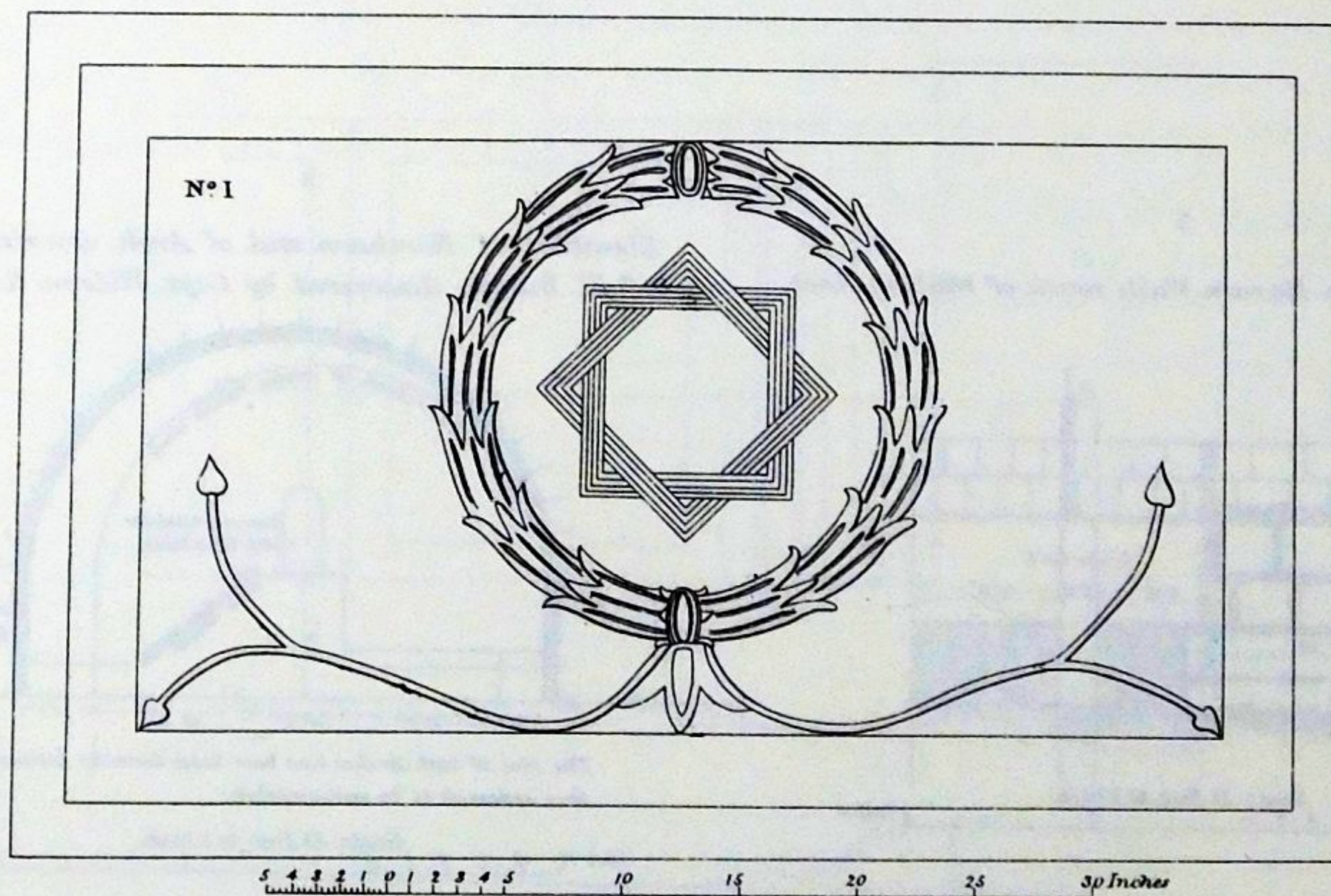
3

Plan and Section shewing method of securing Marble Casing to Mosque



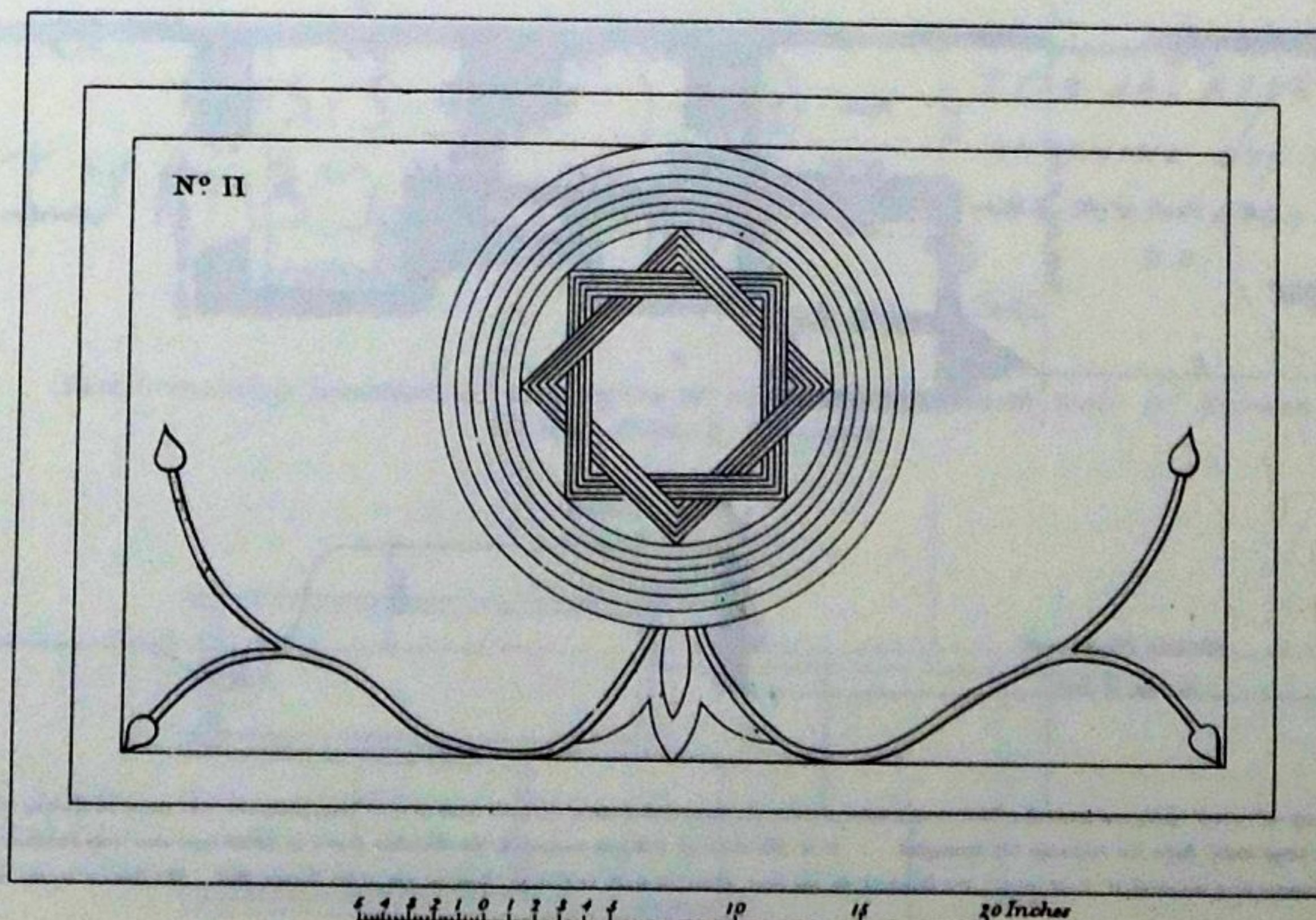
4

Sculptured Slab at foot of Marble Casing of Kubbet-es-Sakhrah (east side)



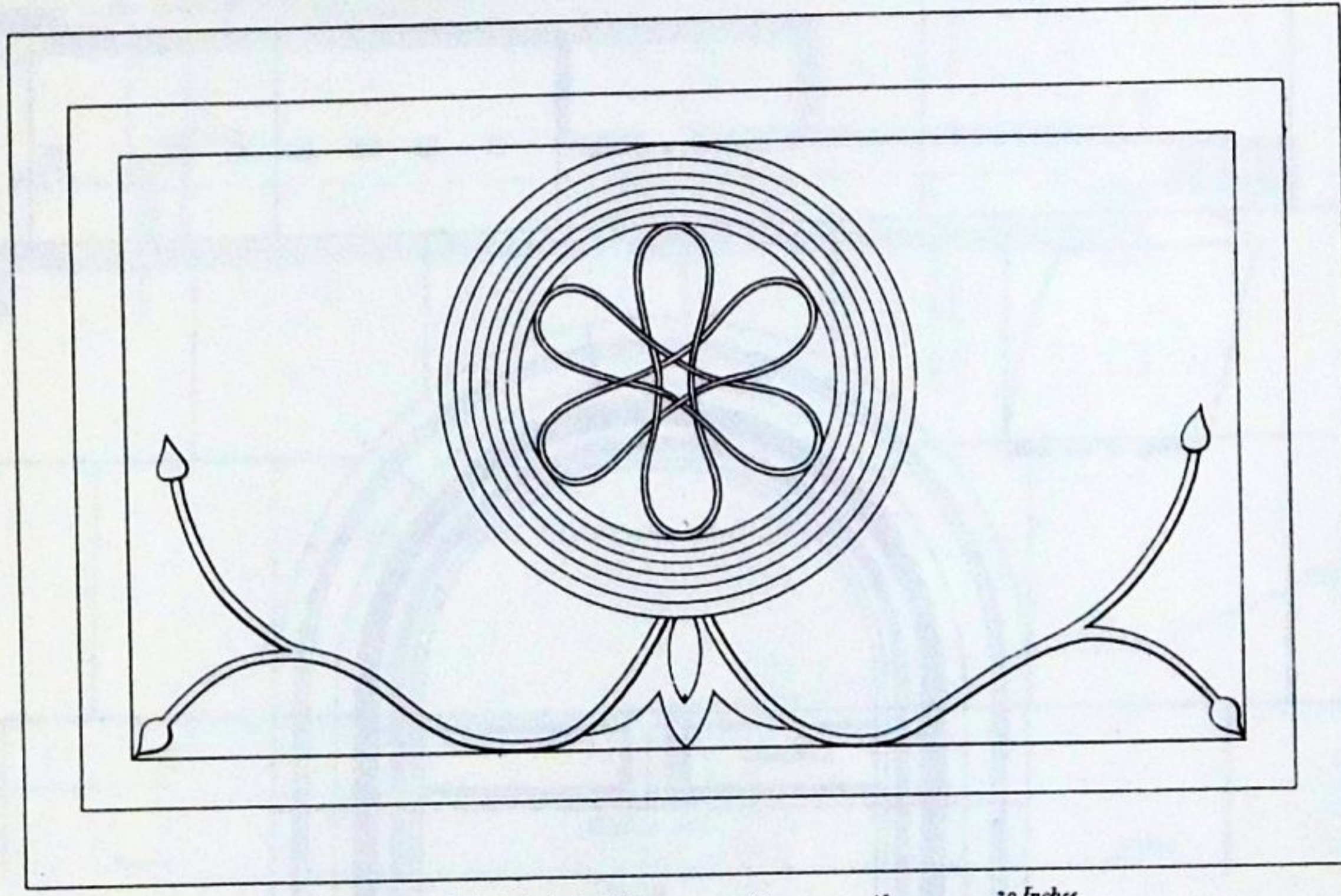
5

Sculptured Slab at foot of Marble Casing of Kubbet-es-Sakhrah (east side)



1

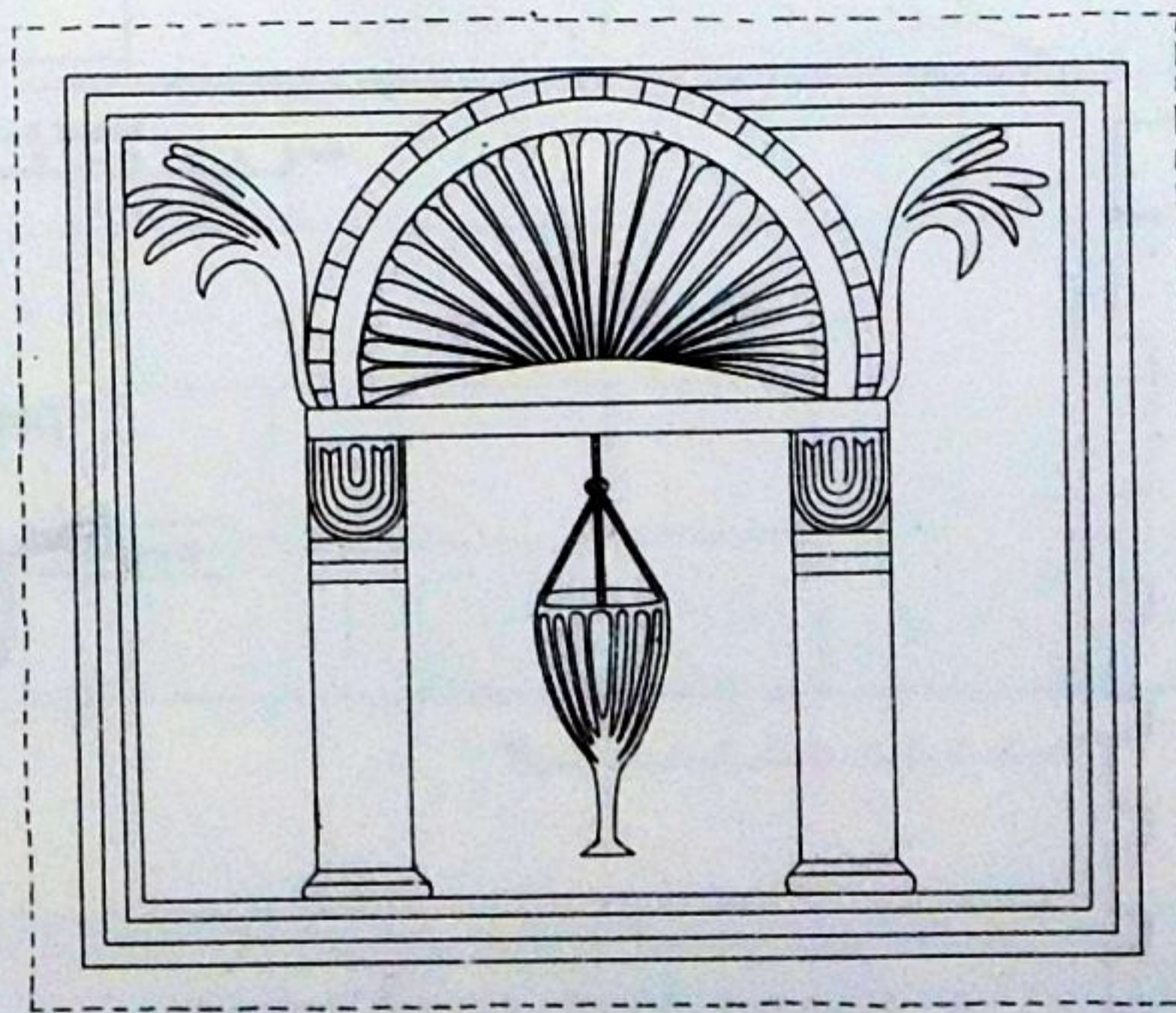
Sculptured slab at foot of marble casing of Kubbet-es-Sakhras (east side).



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Inches

2

Sculptured slab at foot of marble casing of Kubbet-es-Sakhras.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Inches

3

ⲙⲉⲧⲱⲧⲏⲧⲓⲁⲥ ⲙⲁⲣⲓⲁⲥ

4

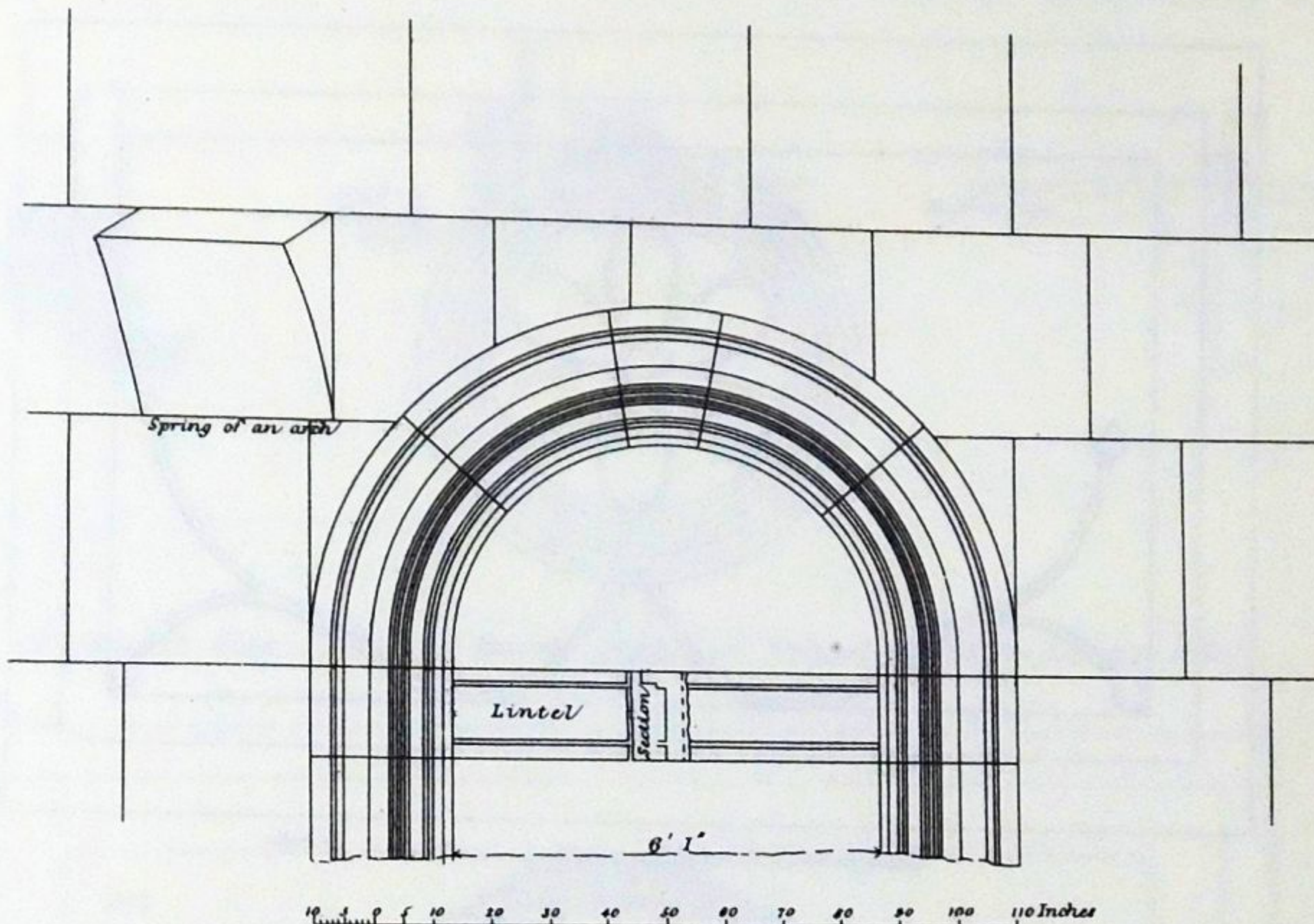
Sculptured slab let in to pavement of the Kubbet-es-Sakhras.



Scale - 2" 6" to 1 Inch
Inches 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

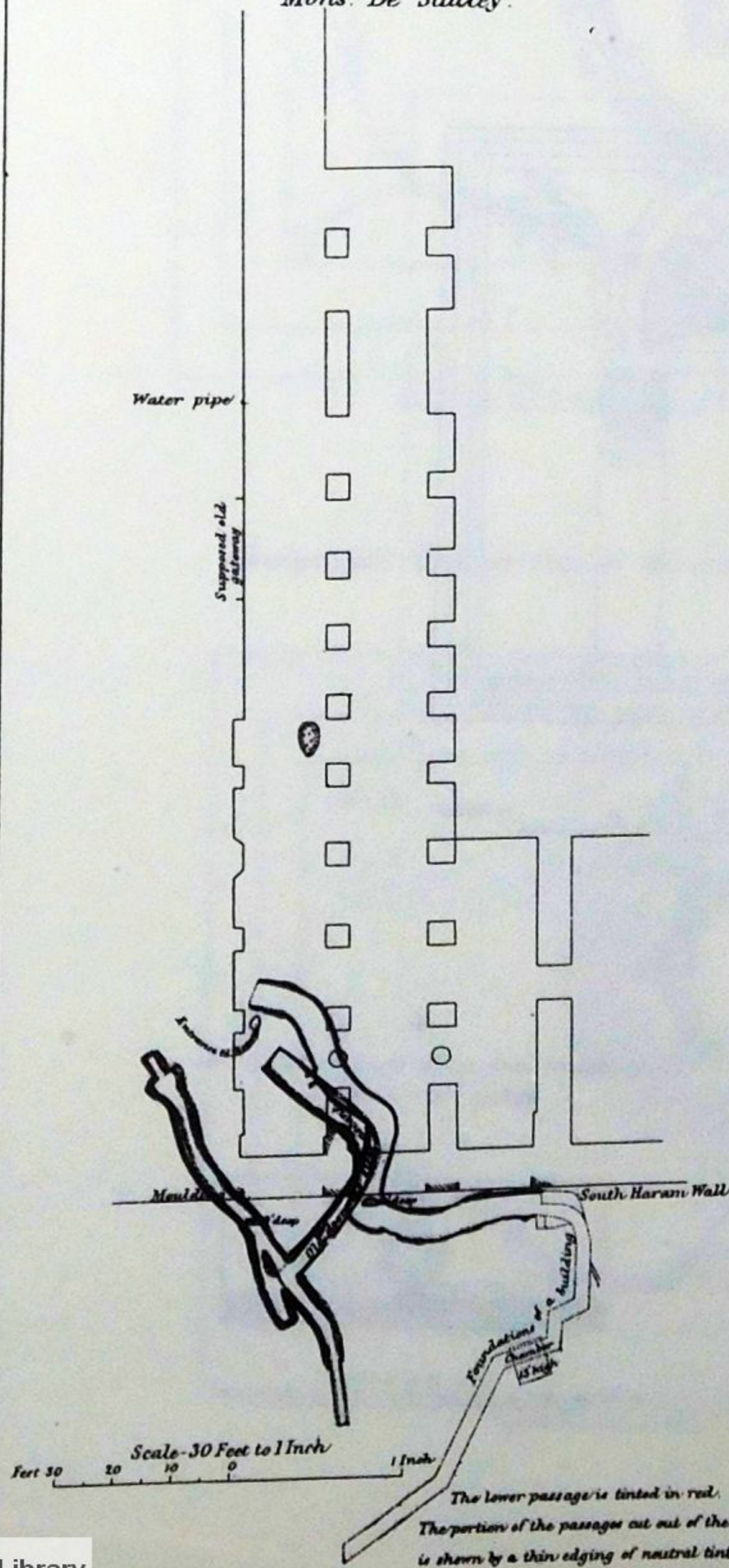
1

Exterior elevation of doorway in south side of Golden Gate.



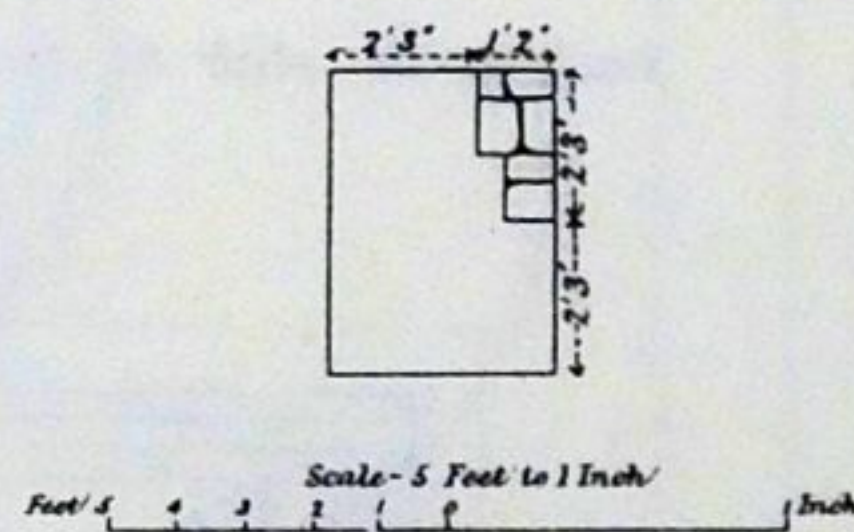
3

Triple Gateway, with west wall of substructures and subterranean passages discovered by Mons. De Sauley.



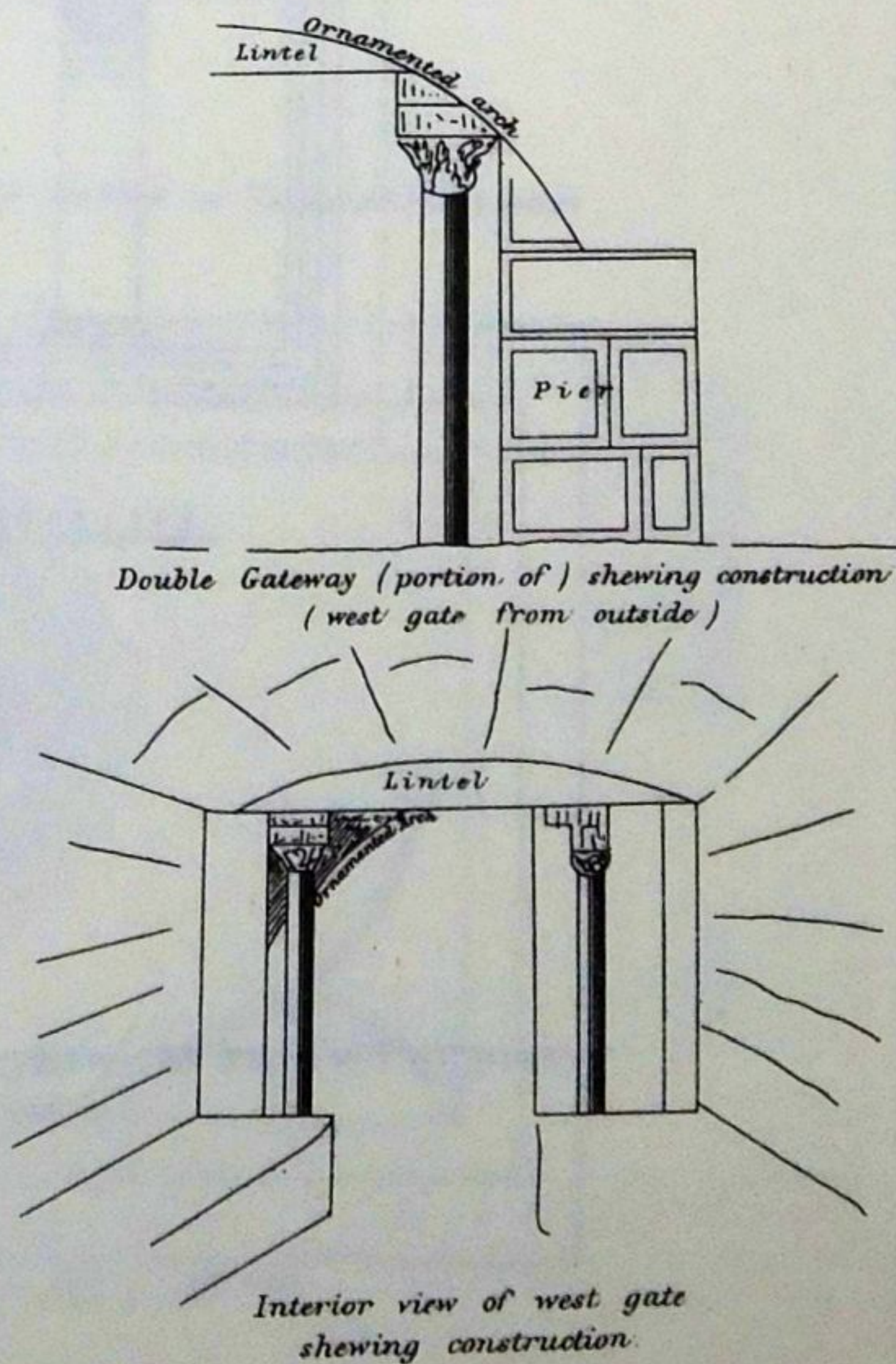
2

Plan of pier formed of an old lintel



4

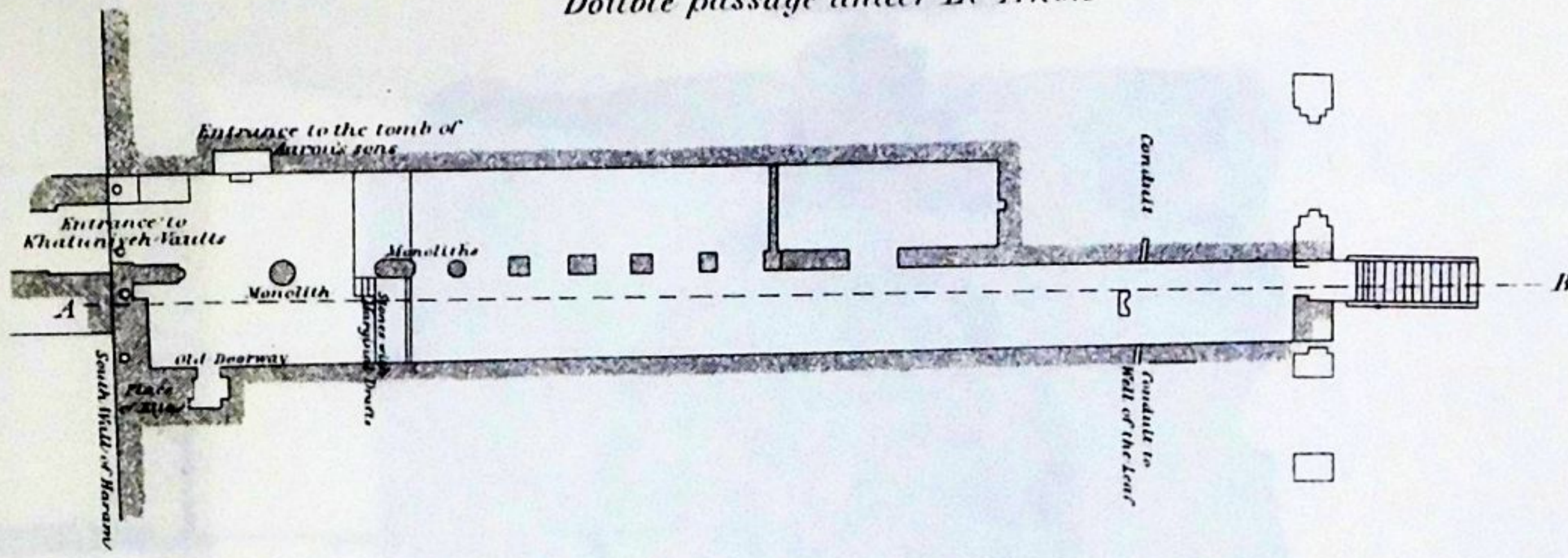
Double Gateway.



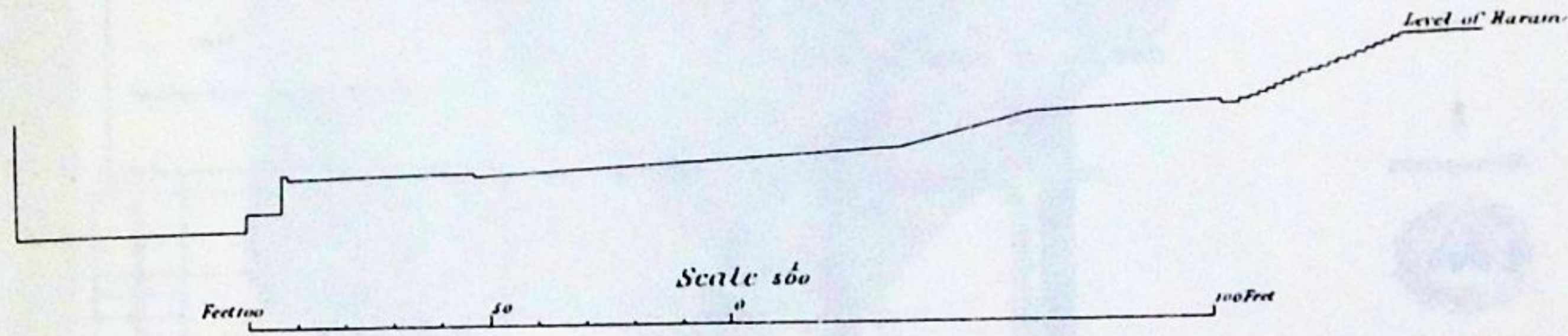
Double Gateway (portion of) shewing construction (west gate from outside)

Interior view of west gate shewing construction.

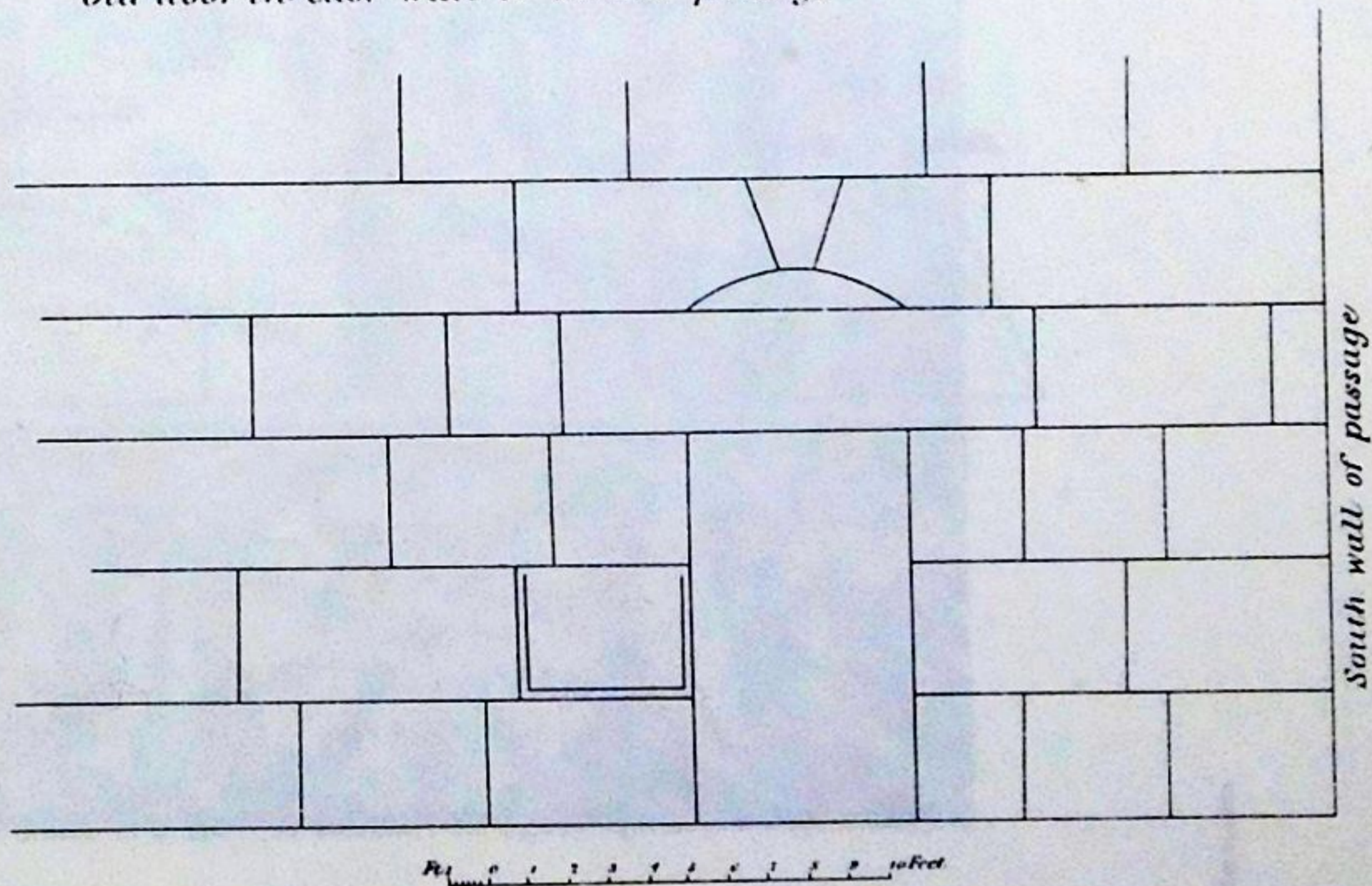
1
Double passage under El Aksa



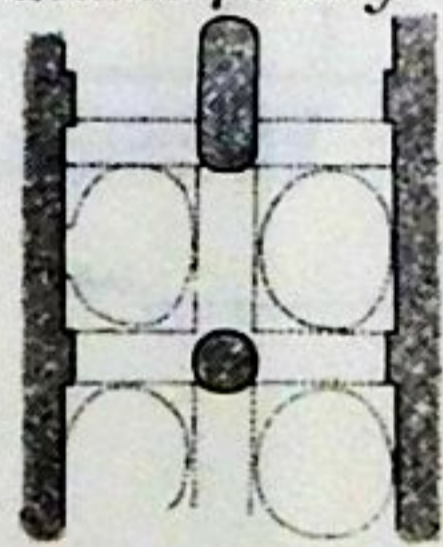
Section of floor on the line A B



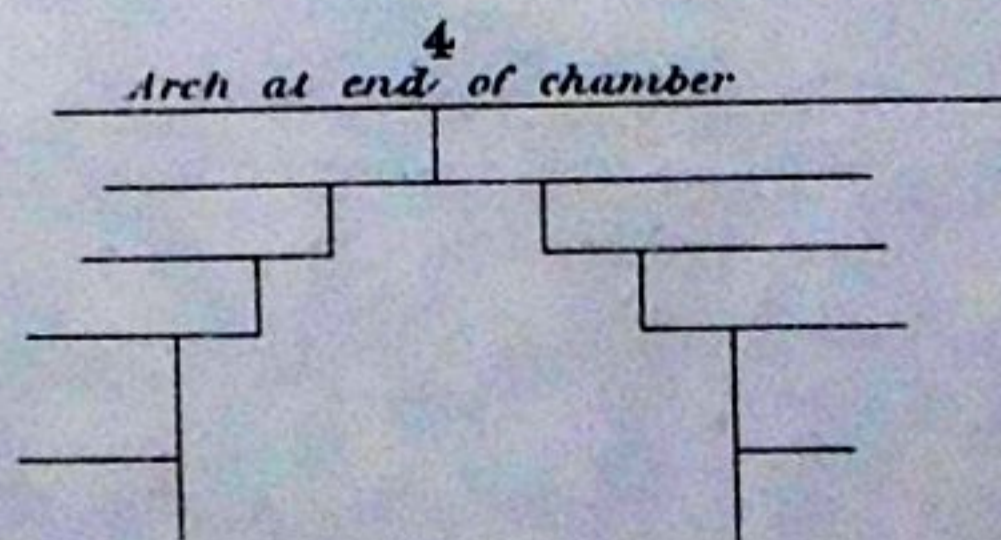
3
Old door in east wall of double passage



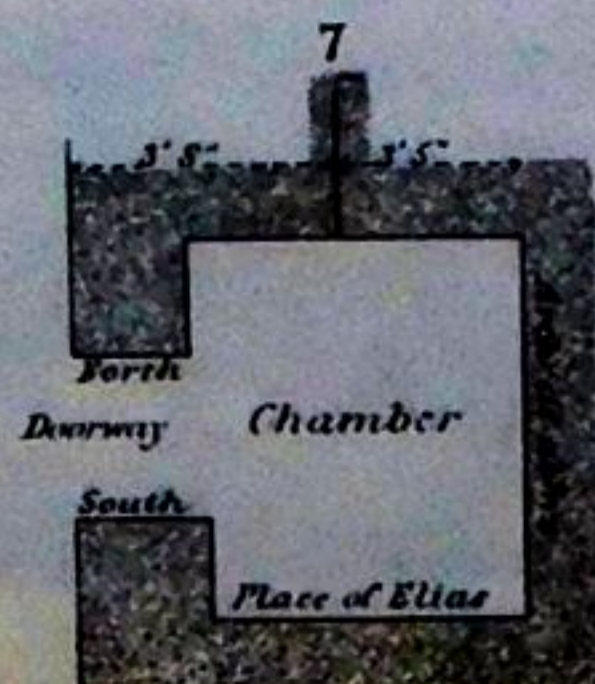
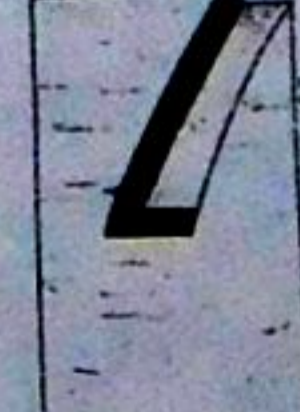
2
Sketch showing arrangement for roof of vestibule in double passage

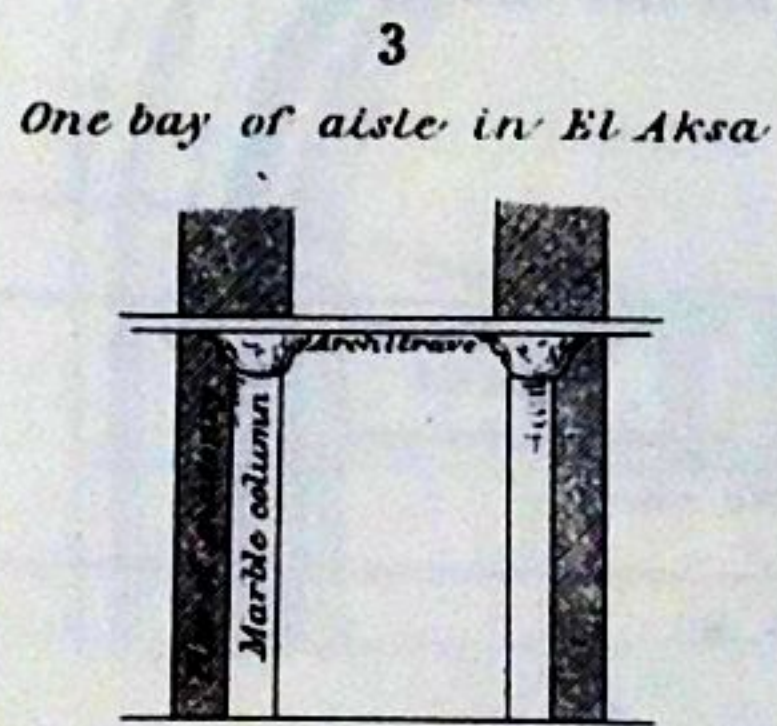


Details of door in double passage

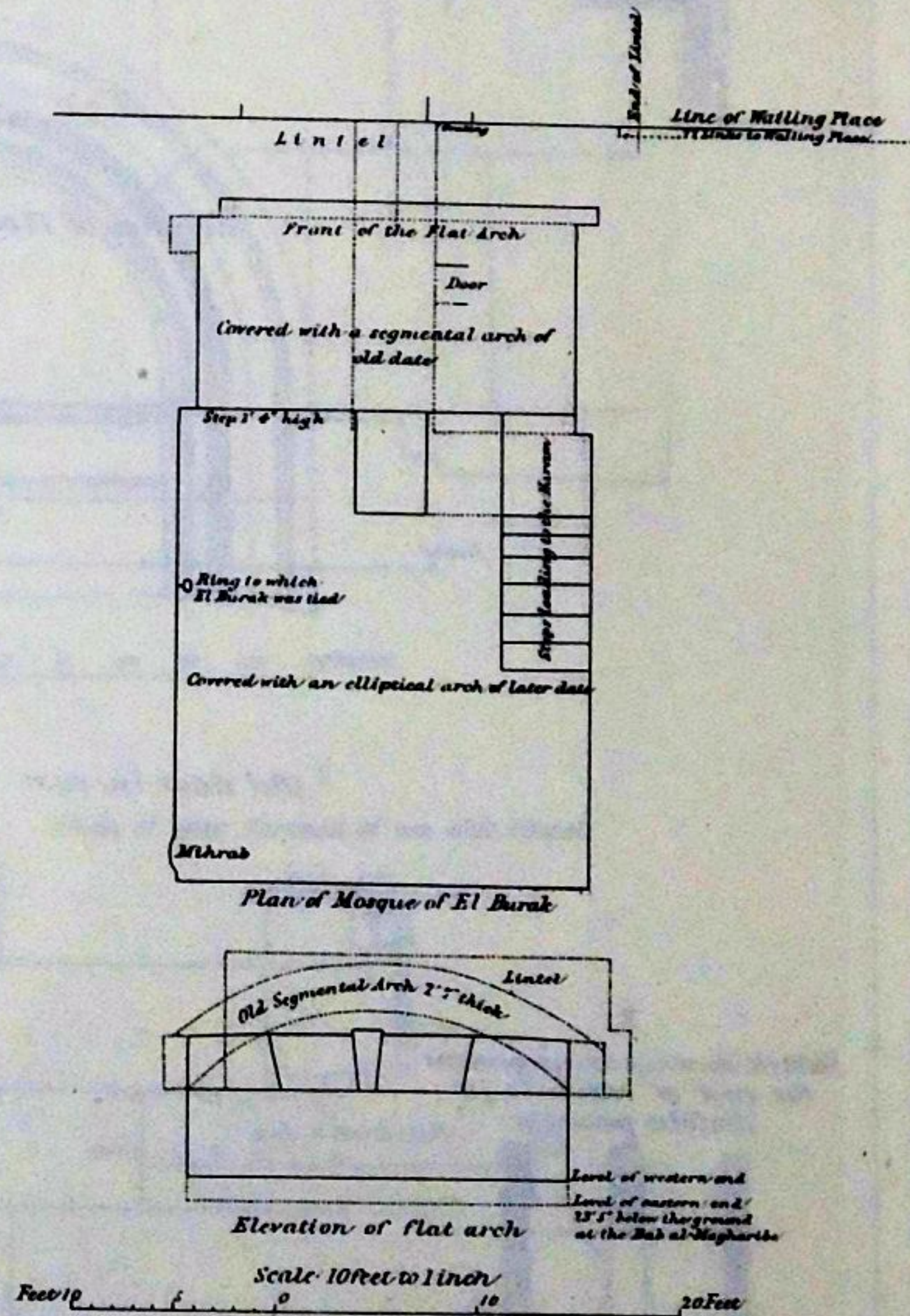


5
Arrangement for closing door. The holes are 4 1/2 deep by 8 inches wide.

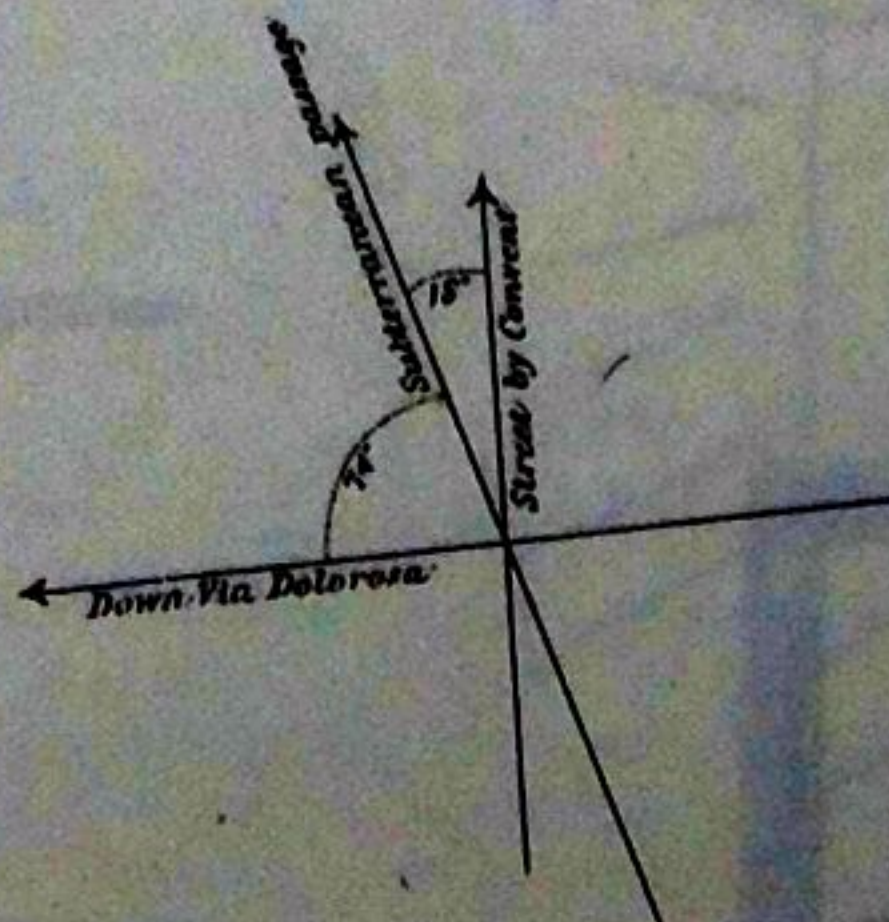
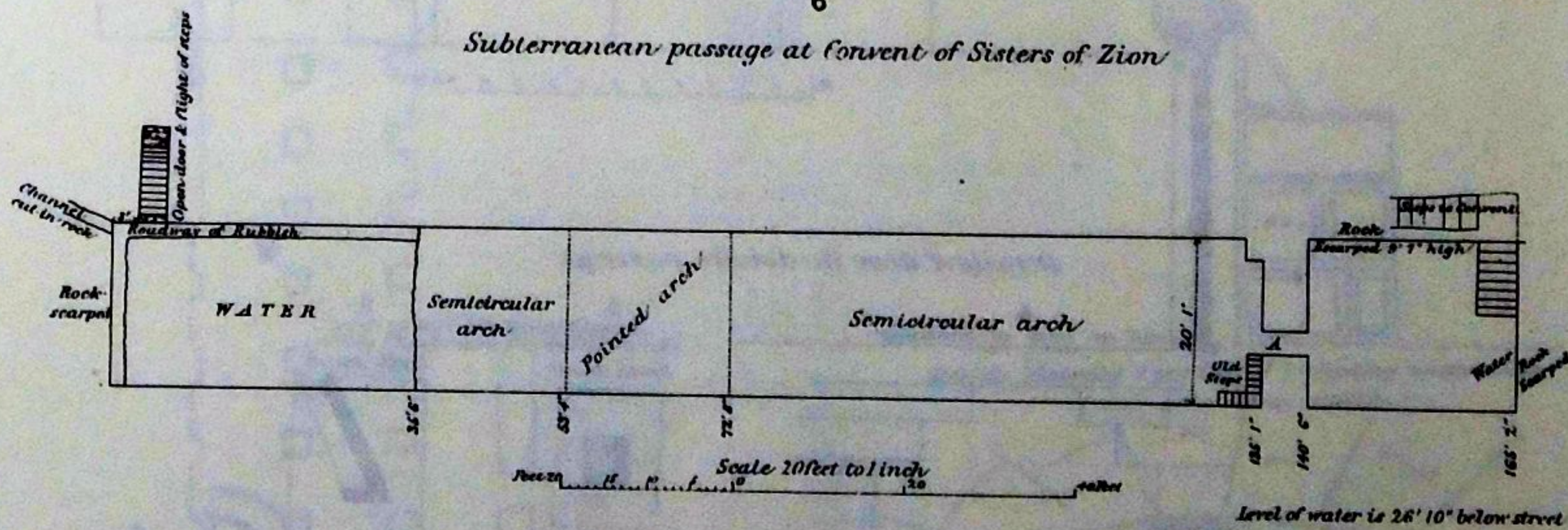




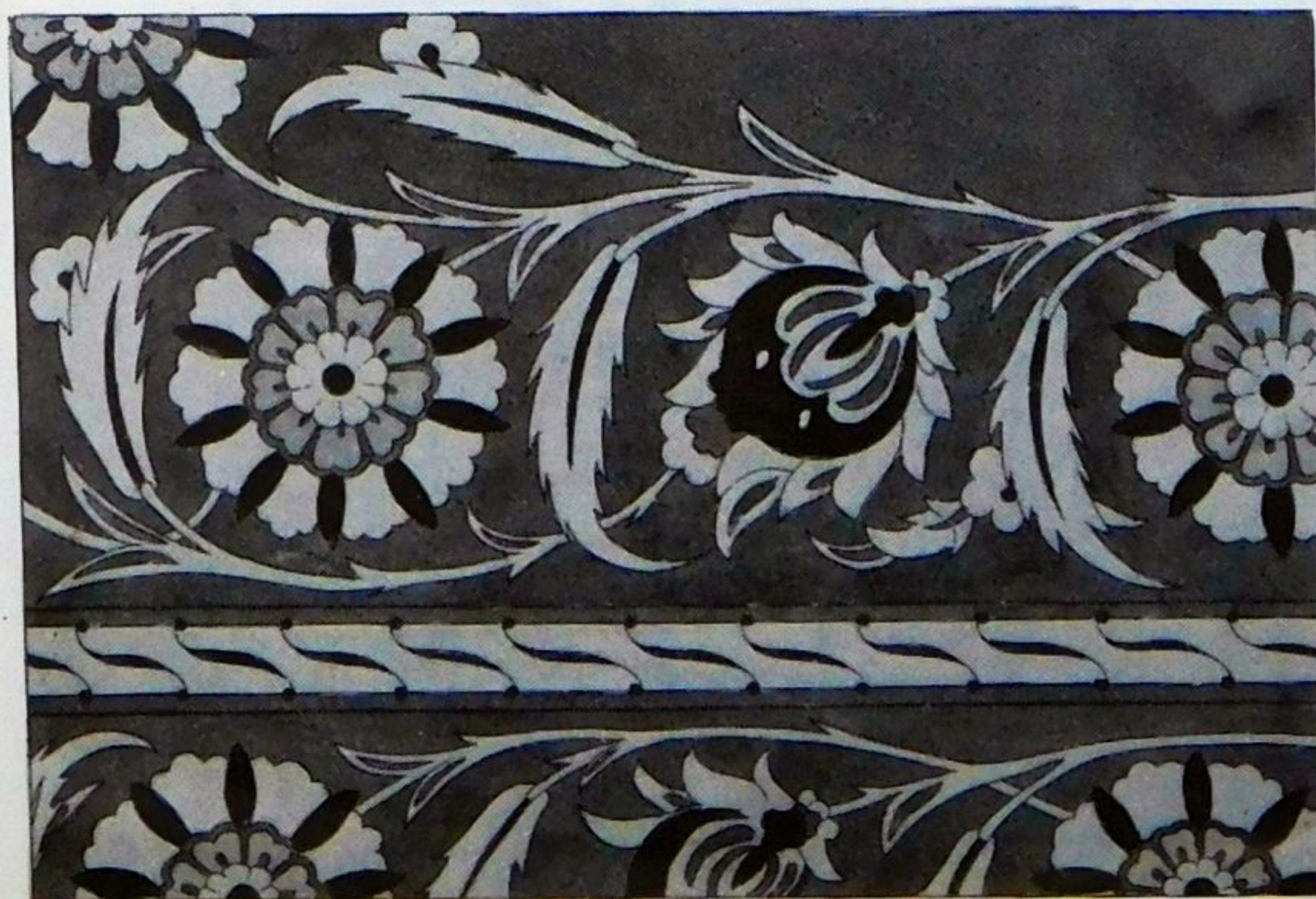
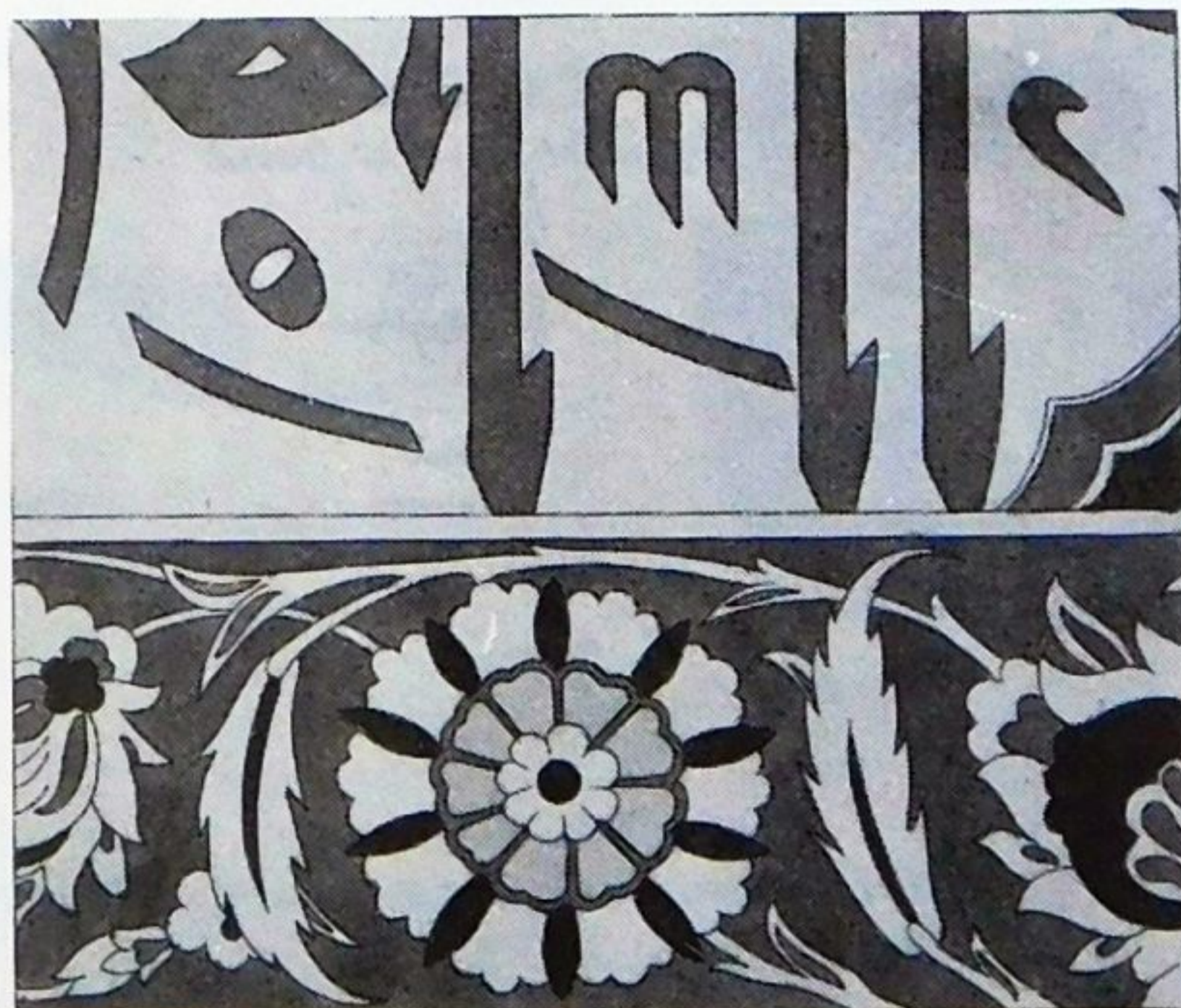
5
Gate of Mahomet



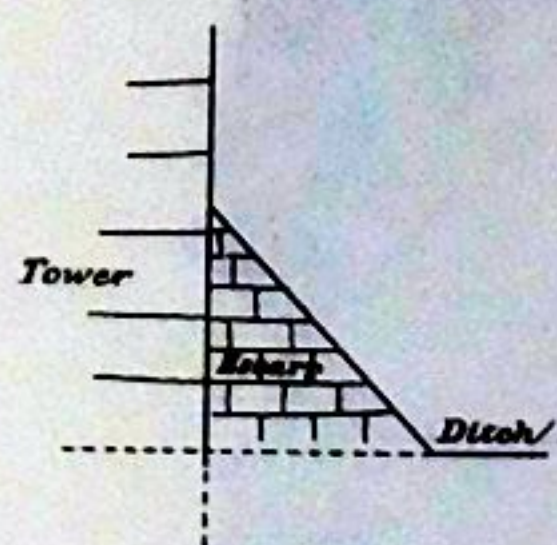
6
Subterranean passage at Convent of Sisters of Zion



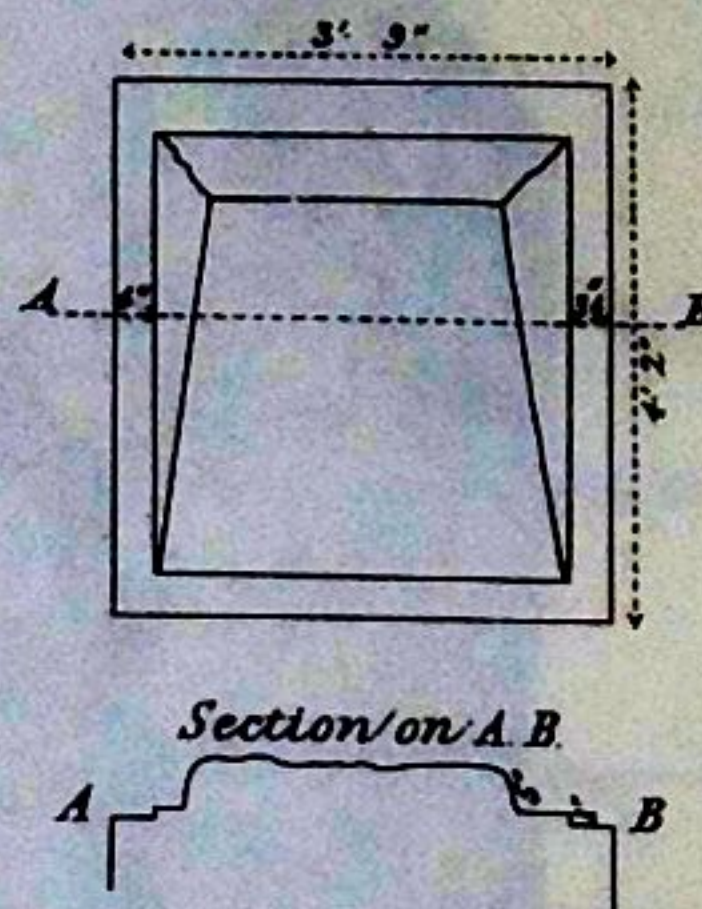
SPECIMENS OF FAYENCE FROM THE 'DOME OF THE ROCK'



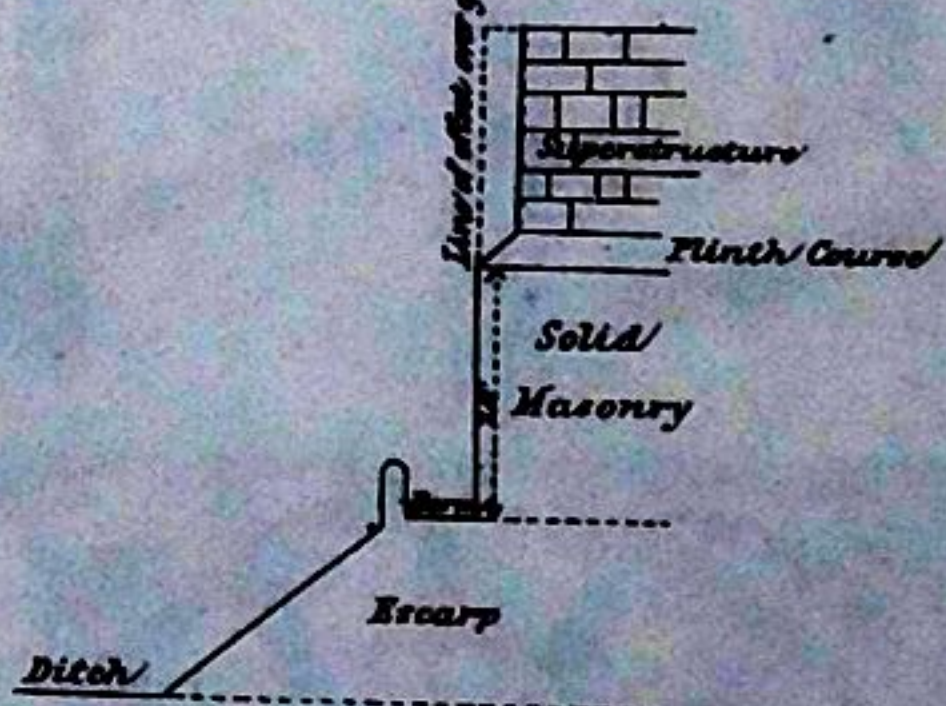
1
Section/shewing straight joint between Escarp & Tower



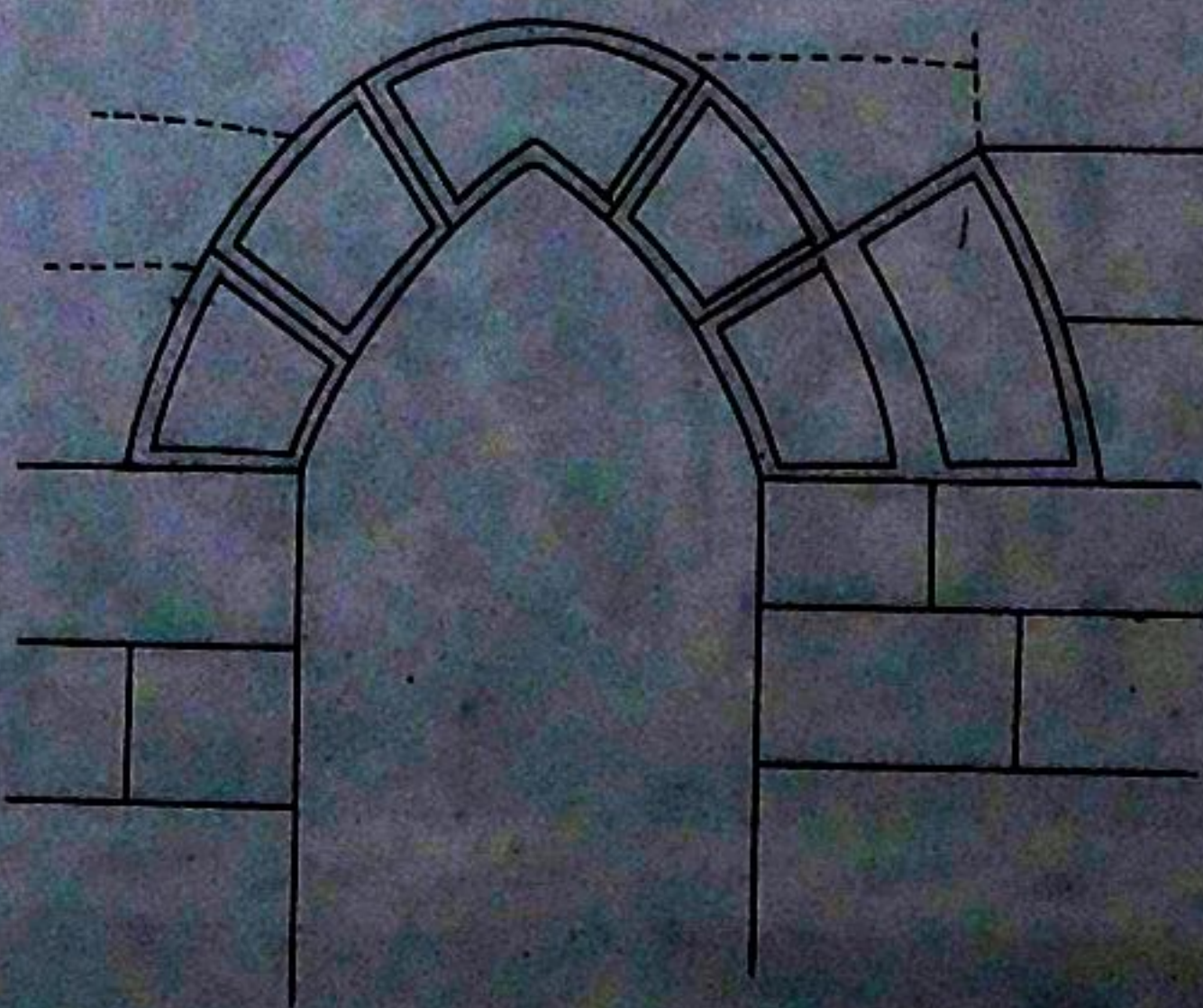
2
Elevation of one stone



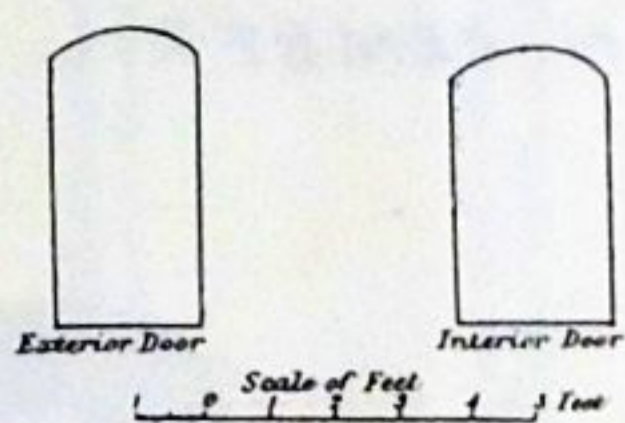
3
Sketch section of 'Tower of David'



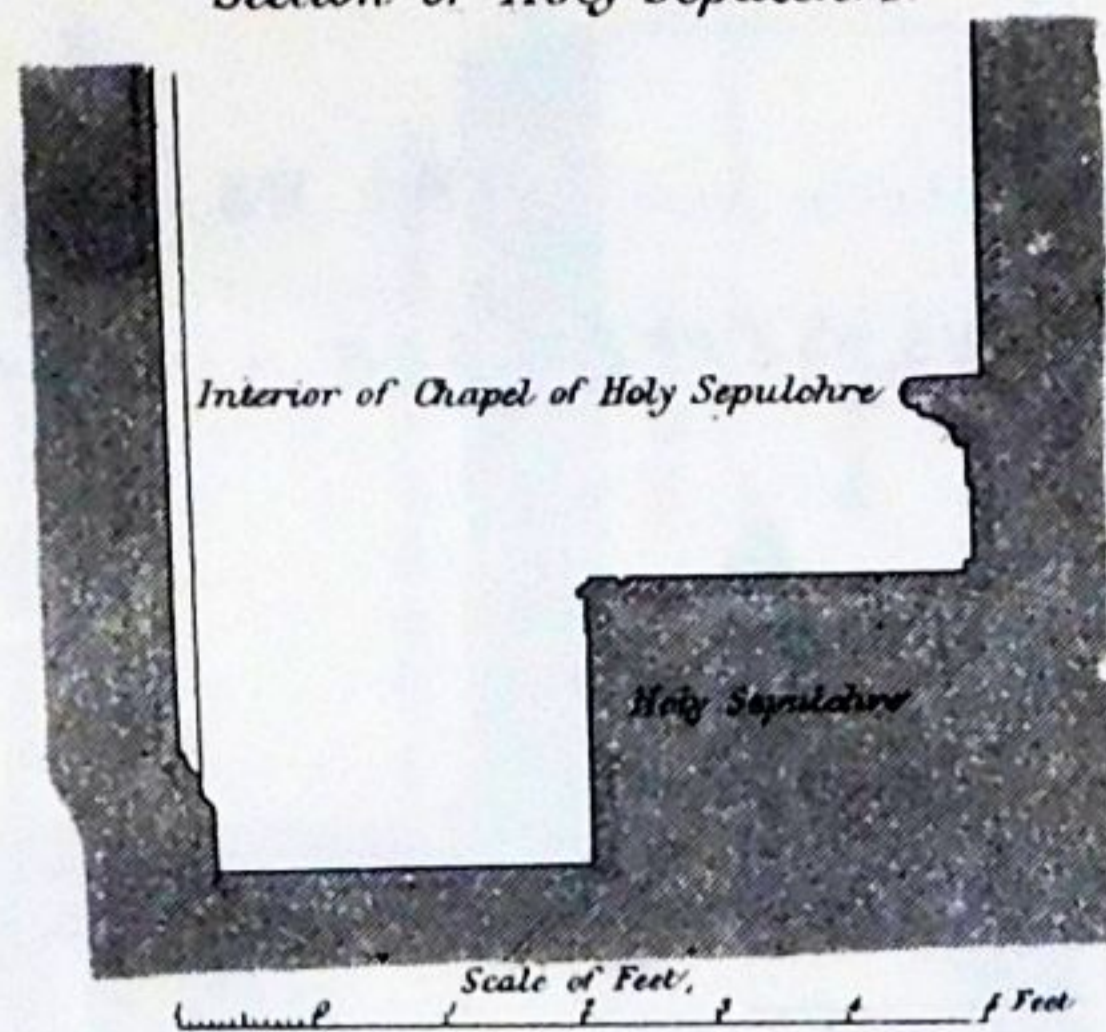
4
Sketch of old doorway in the vaults of the Citadel



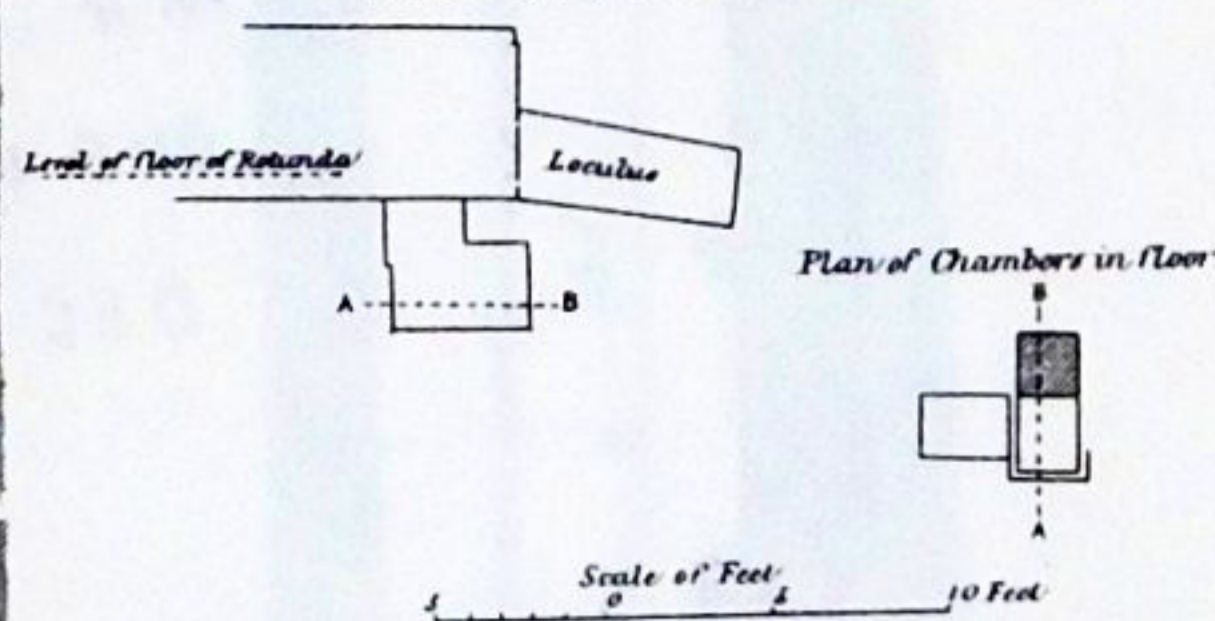
1
Section through entrance to Holy Sepulchre



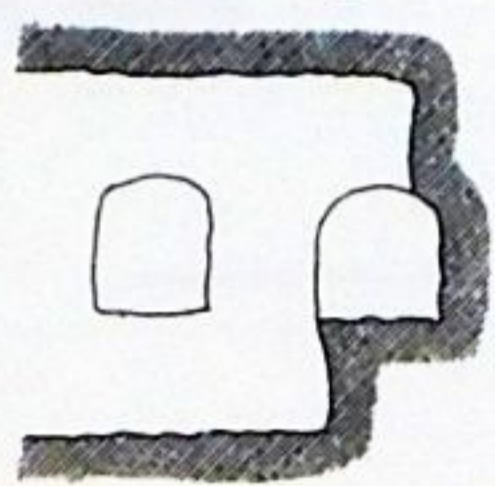
2
Section of Holy Sepulchre



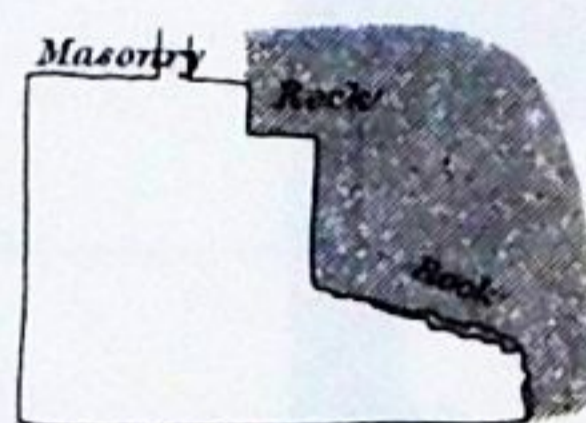
3
Section through tombs of Joseph and Nicodemus.



4
Sketch section through Chamber.



5
Sketch section through Chapel

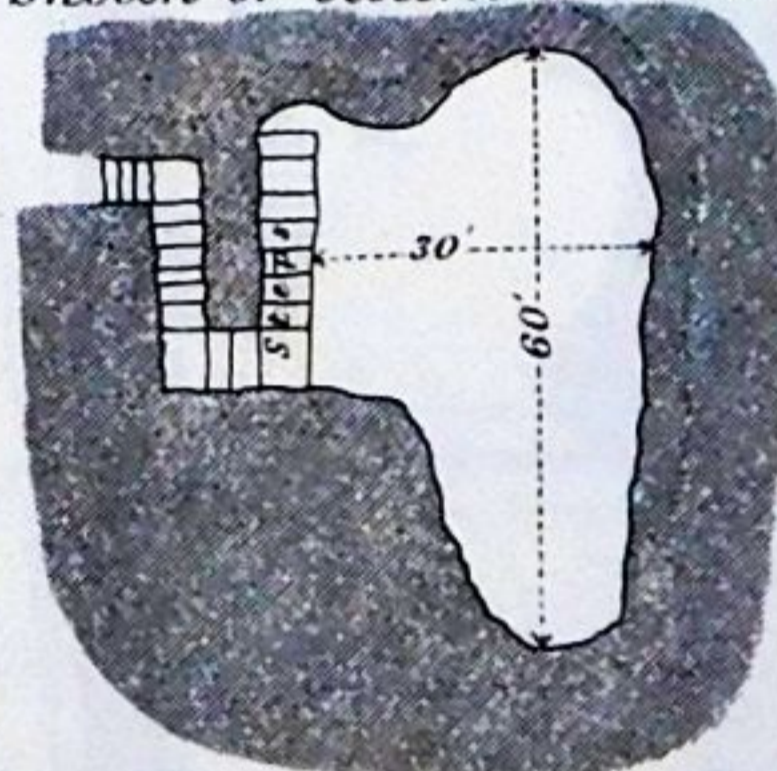


6
Roof of Chapel

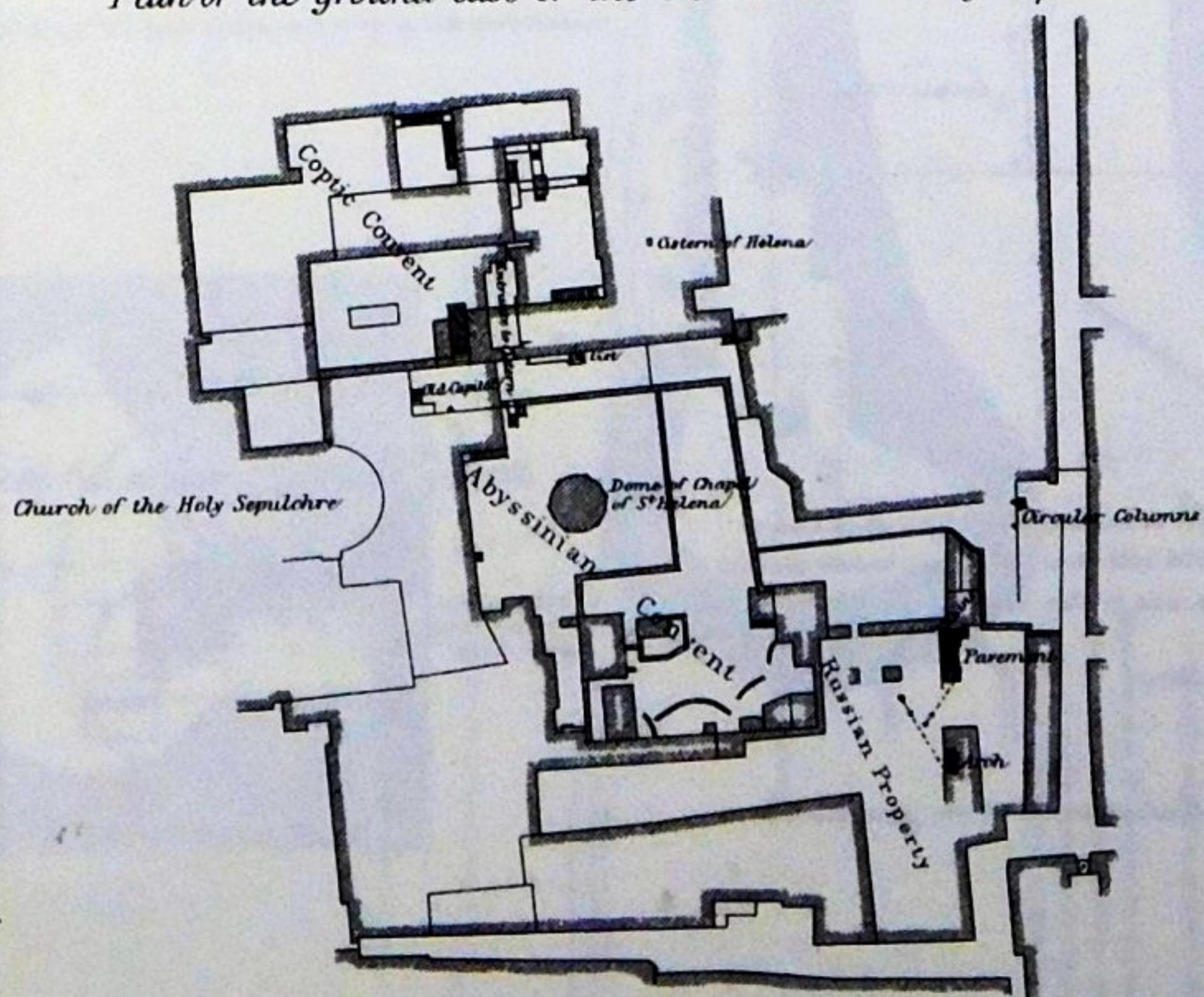


Section

7
Sketch of cistern of Helena



8
Plan of the ground east of the Church of the Holy Sepulchre.



■ Shows Excavations
→ Shows the points from which the Photographs were taken

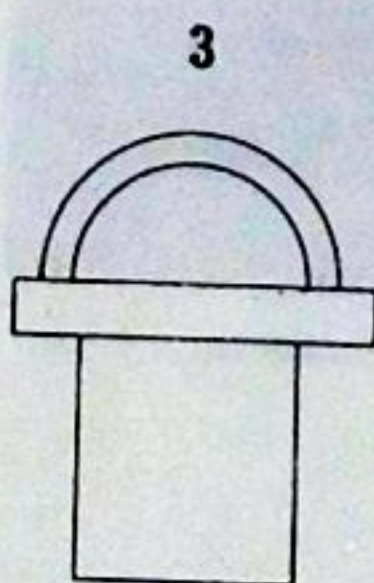
Scale of Feet 100 0 100 200 Feet

....., FEB.....,

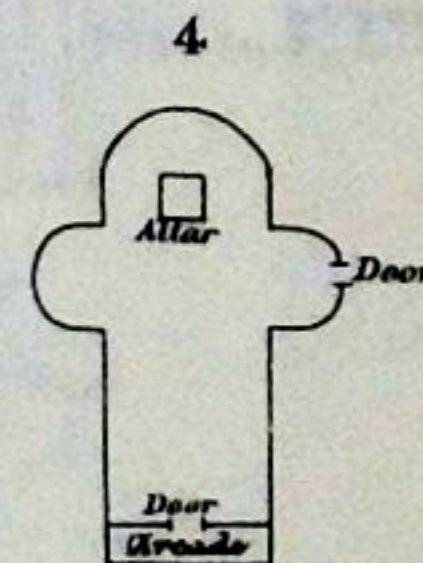
MR....., , IAI VS LIVS, L..., LVNA,
AVGVSTVS, SEPTENBER, BER, NOVEMBER,
DEC.....



Sketch of moulding in Cistern

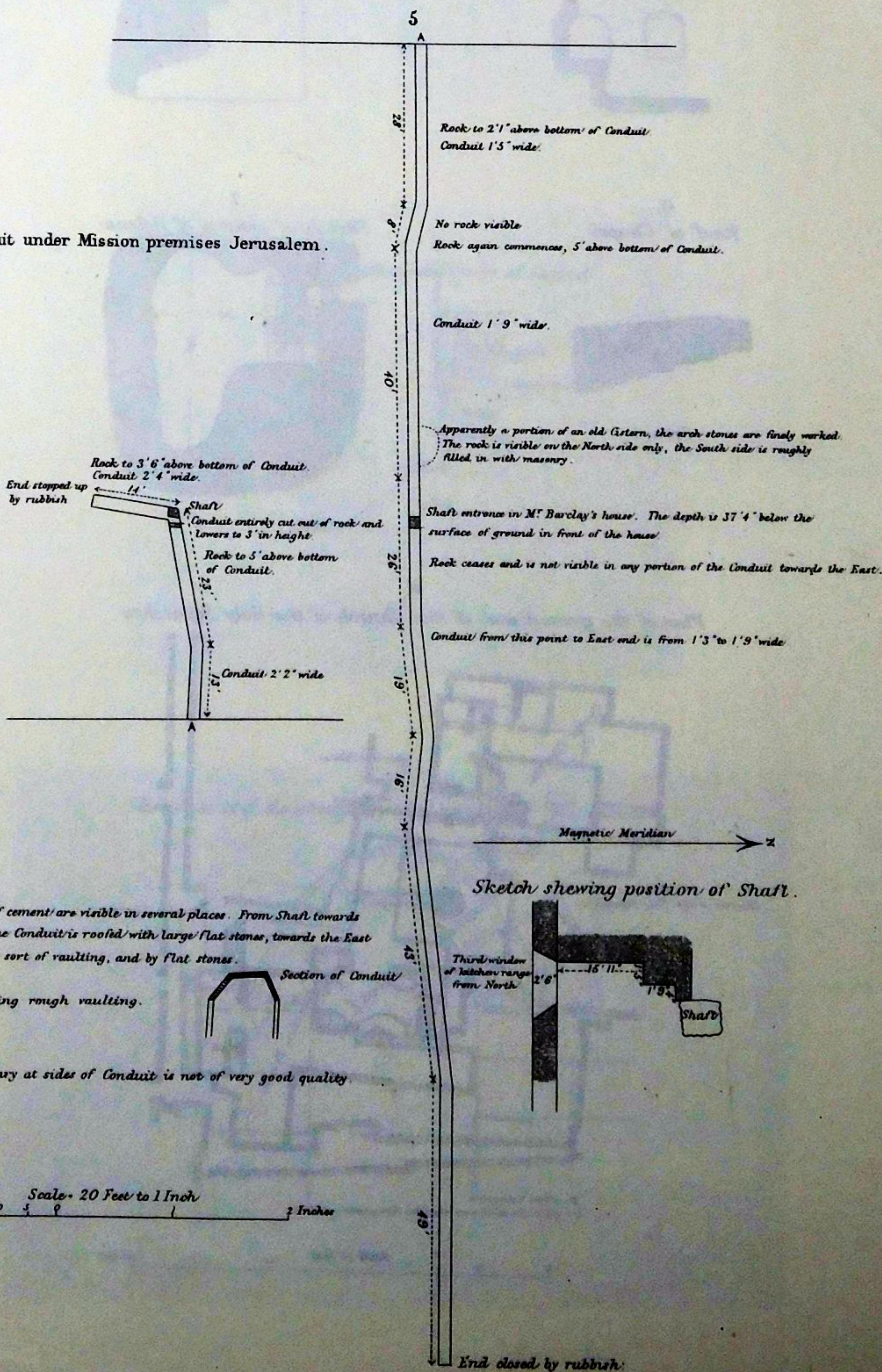


Elevation of Door.



Sketch plan of Church.

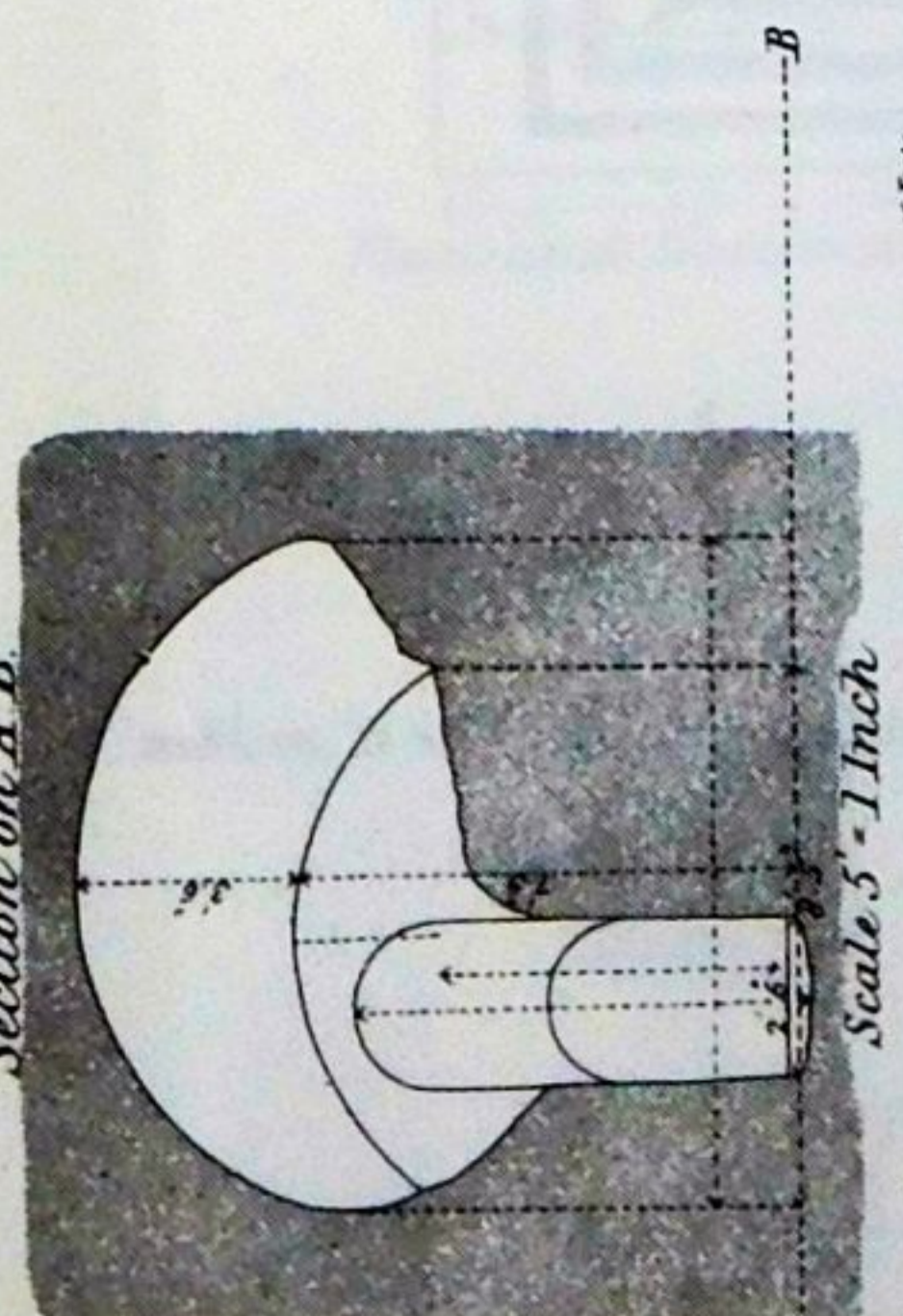
Conduit under Mission premises Jerusalem.



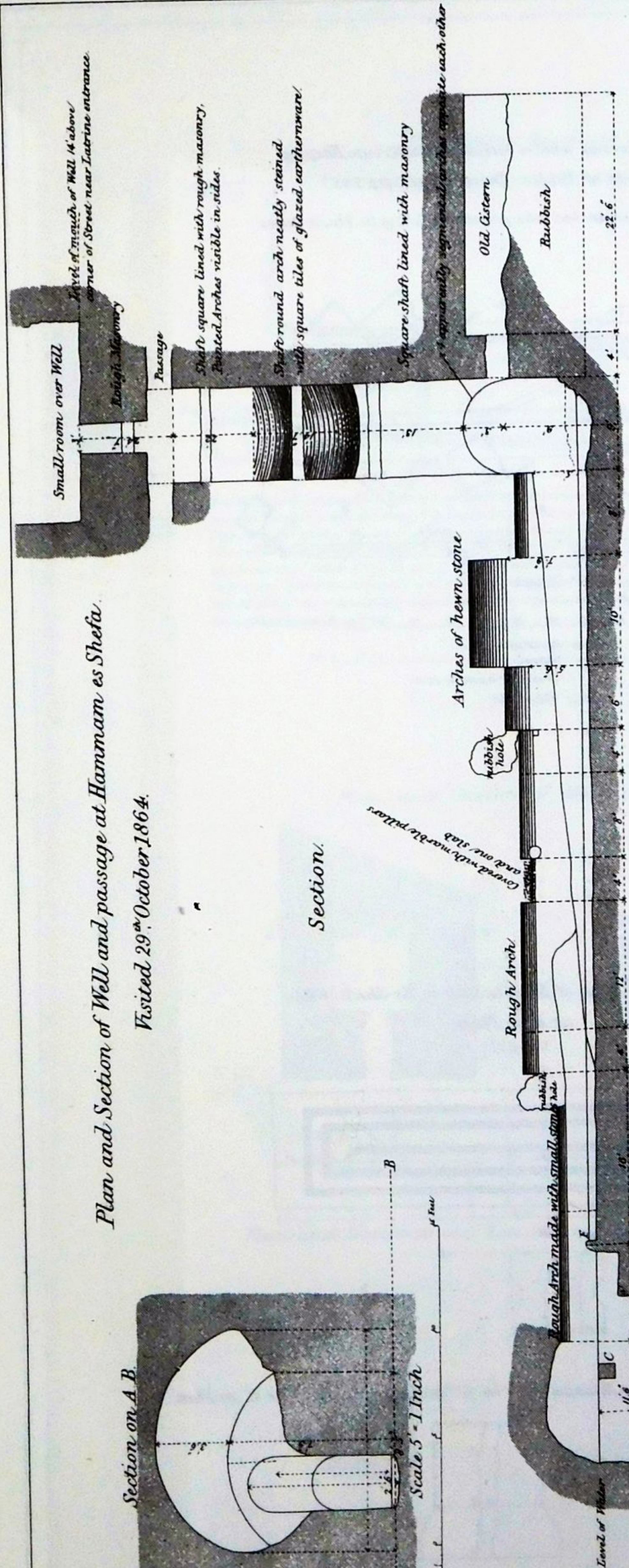
Plan and Section of Well and passage at Hammam es Shefa.

Visited 29th October 1864.

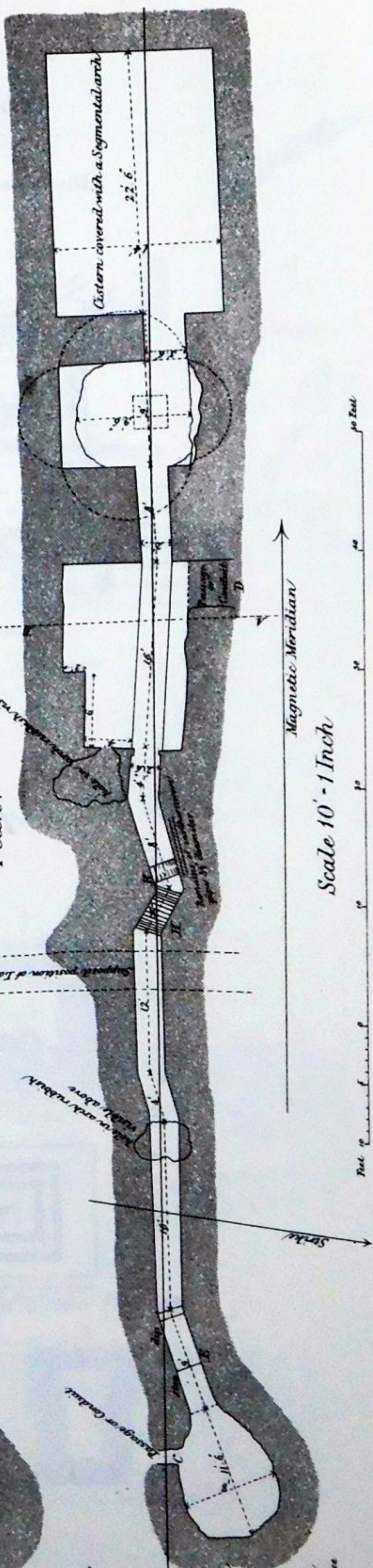
Section on A B.



Section.



Plan.



On descending with the different styles of architecture were very noticeable, the round arch at bottom painted higher up &c. The water has a sweet taste but on testing with minute of silver was found to be a little salt, and to contain a very large quantity of lime.

No leakage except a little near conduit marked D on plan. C, apparently an old conduit now filled up.

The larger arches are built of finely dressed stone. At B the passage is covered with white marble pillars 20' in circumference, and one white marble slab.

At K there is a portion of a large masonry column.

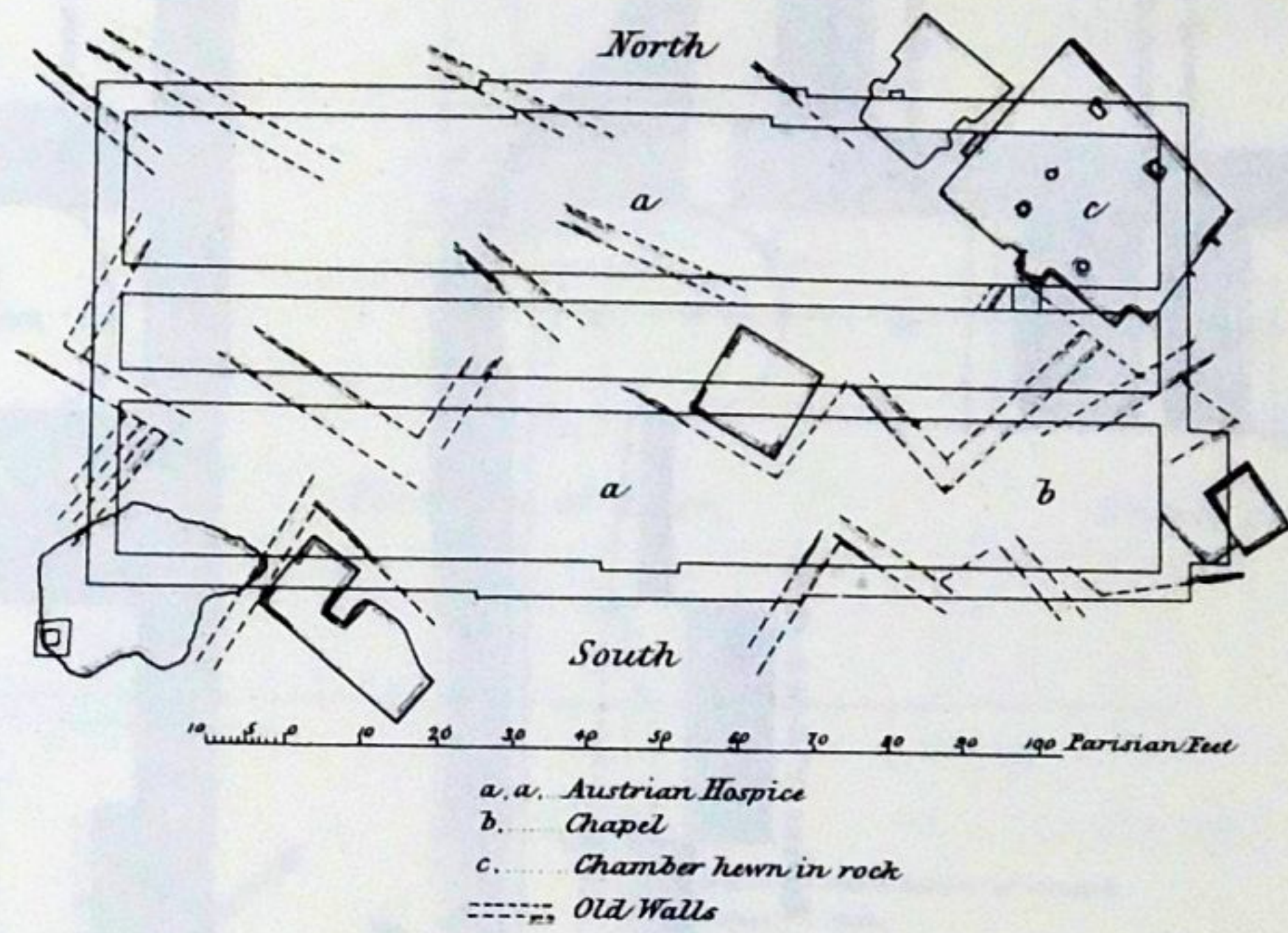
At the bottom of the shaft are four segmental arches placed opposite to each other, as if a building had once stood there. At E there are steps as seen in section 'as if for descent to the spring.

The passage has been cemented throughout, when the water gets low a man descends, and with a bucket raises the water from the well, and pours it over the steps shown at F on section, whence it runs down to the bottom of the shaft.

1

*Ruins discovered whilst building Austrian Hospice
after Plan of Tobler (Dritt: Wand: pp. 245.)*

The remains are shown in red, the present building in black lines.

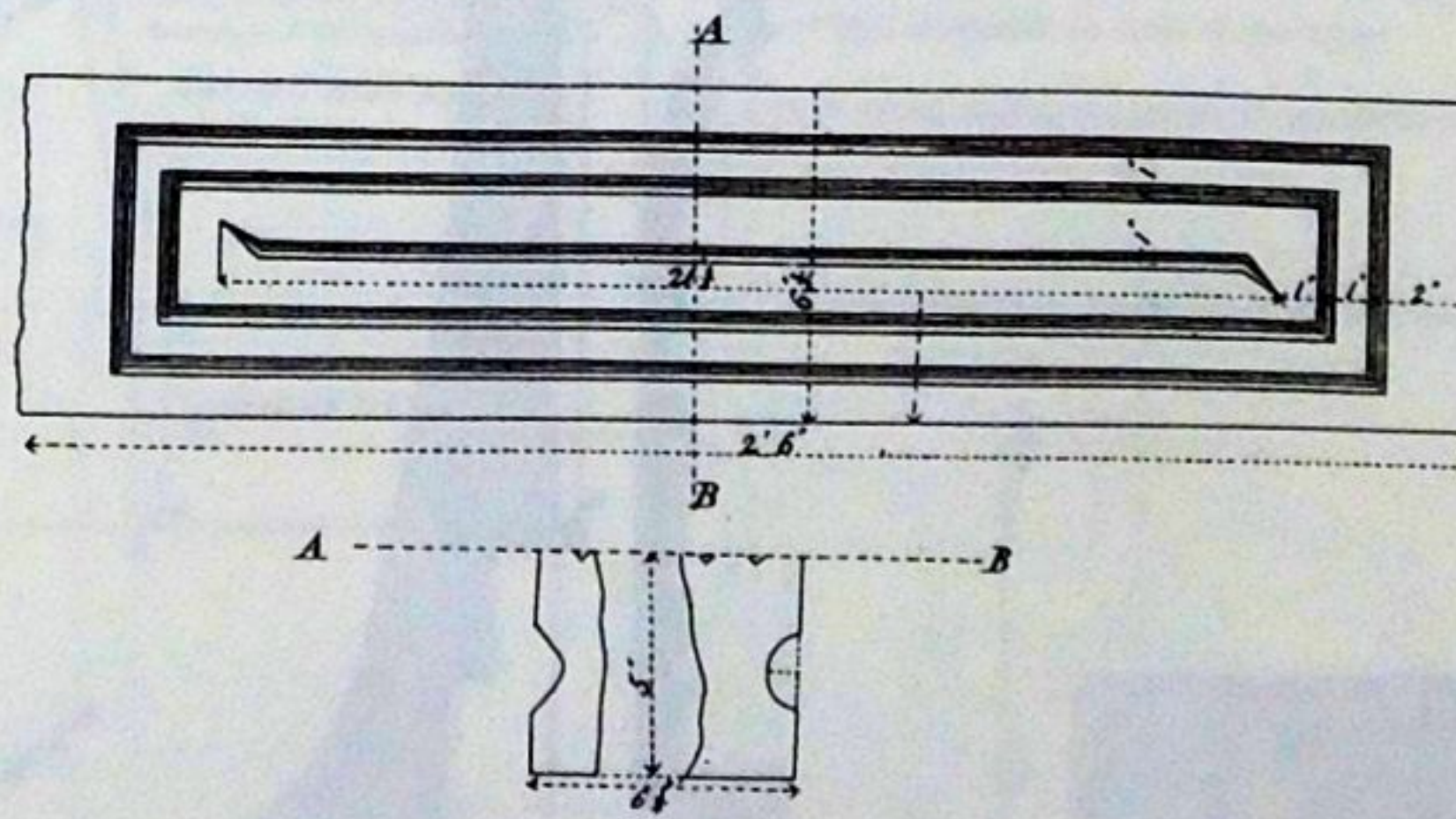


2

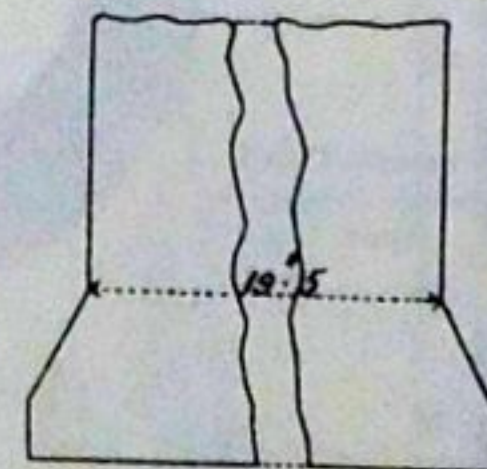
Plan and section of Marble Slab in 'Es-Shefa' Well.

at H on Plan

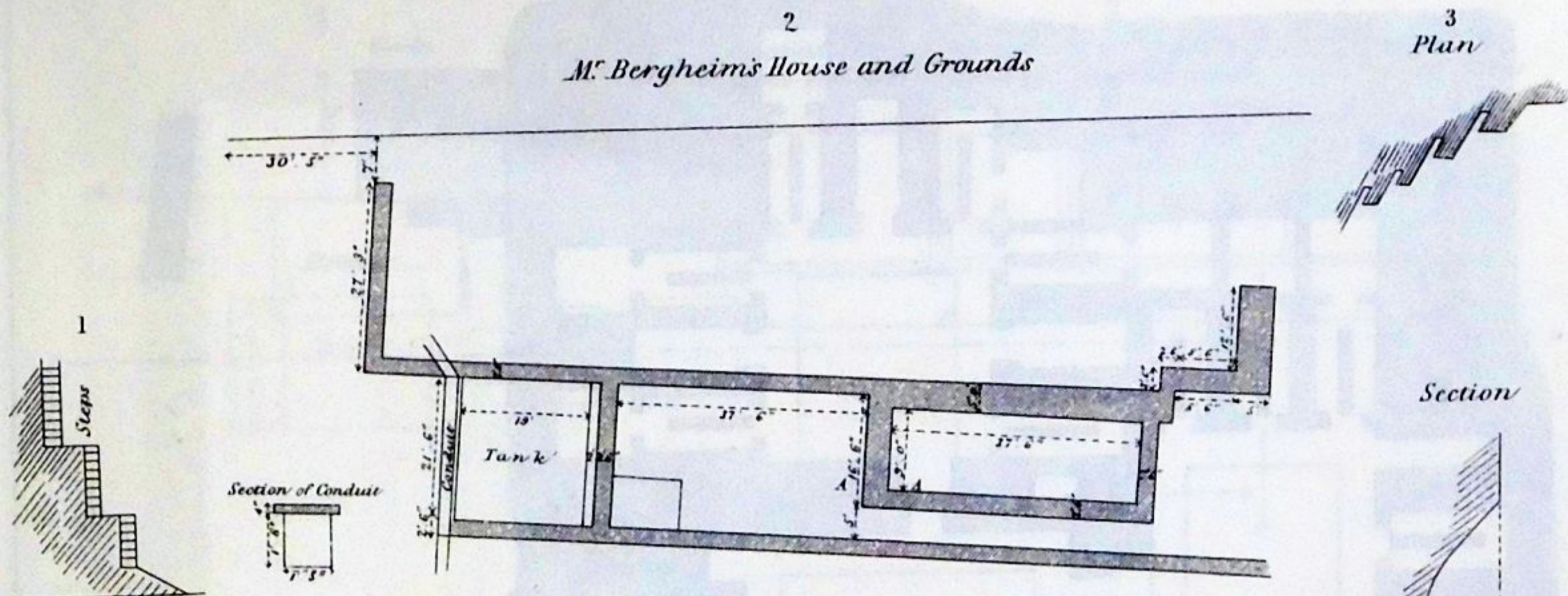
PL. XXII.



Pillar of native stone 'Missae' 5' 11" in Ø in 'Es-Shefa' Well. at K on Plan.



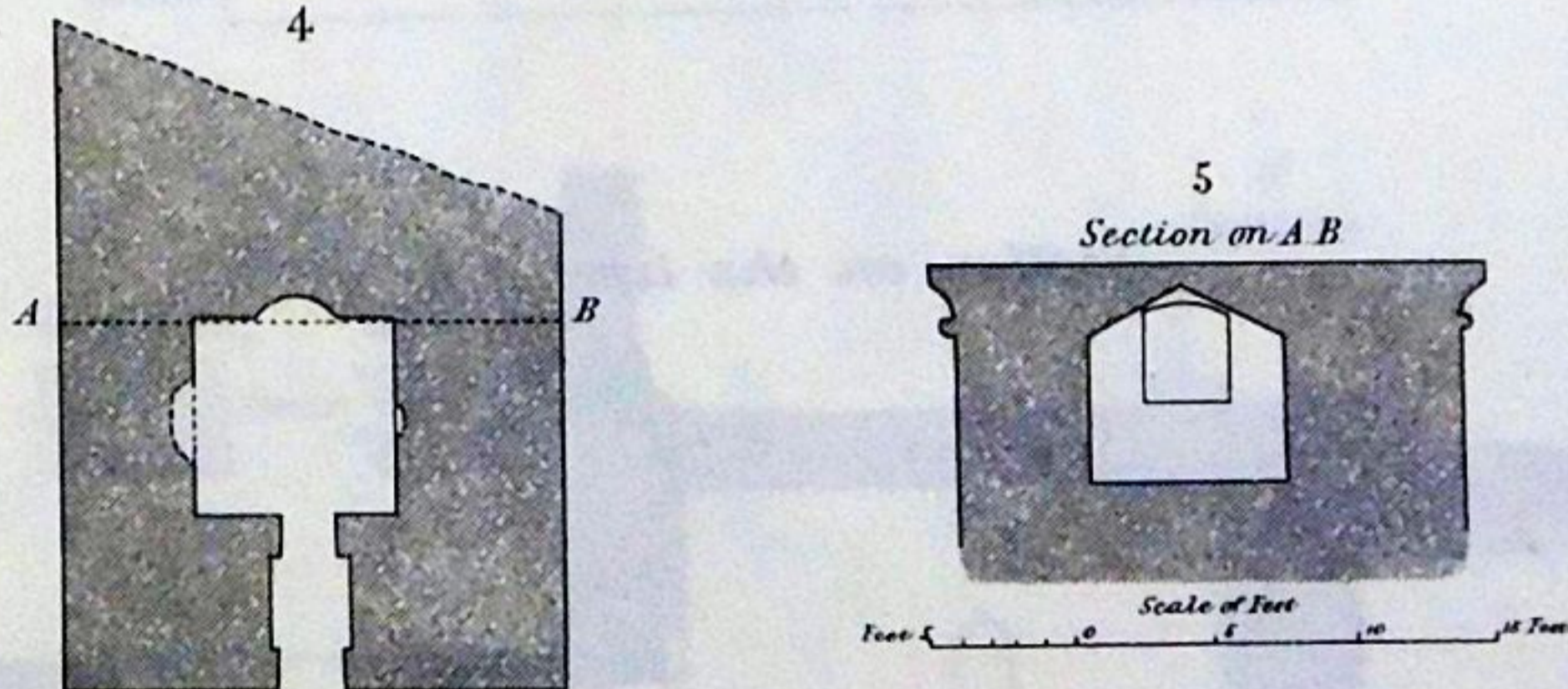
2
M. Bergheim's House and Grounds



Bevelled and unbevelled stones are used promiscuously, and the faces of the bevelled stones are turned inwards which would hardly be the case with a regular and well built building. The Jewish stones have a 2" draft roughly chiselled round the margin. Bevelled stones at A. The conduit is cemented on both sides and at bottom, and covered with flat 4" stones; this was also found in digging the foundations for the Russian Buildings, the cement is of first rate quality. Several coins of the time of the Caliph's were found in digging foundations for M. Bergheim's building adjoining. The conduit filled with soil, seemingly a deposit brought down by water.

Scale 25 Feet to One Inch

4
Plan and Section of Monolith at Siloam

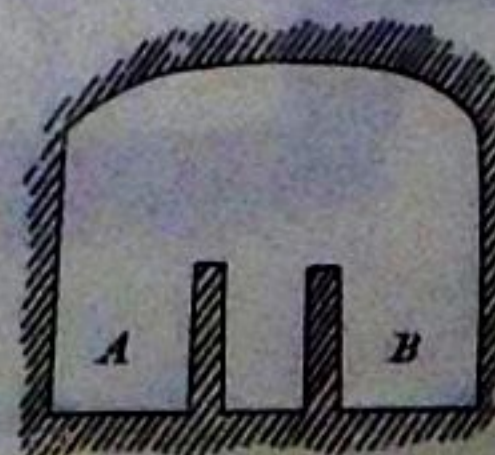


7
Plan and Section of one 'Loculus' in the Tombs of the Prophets

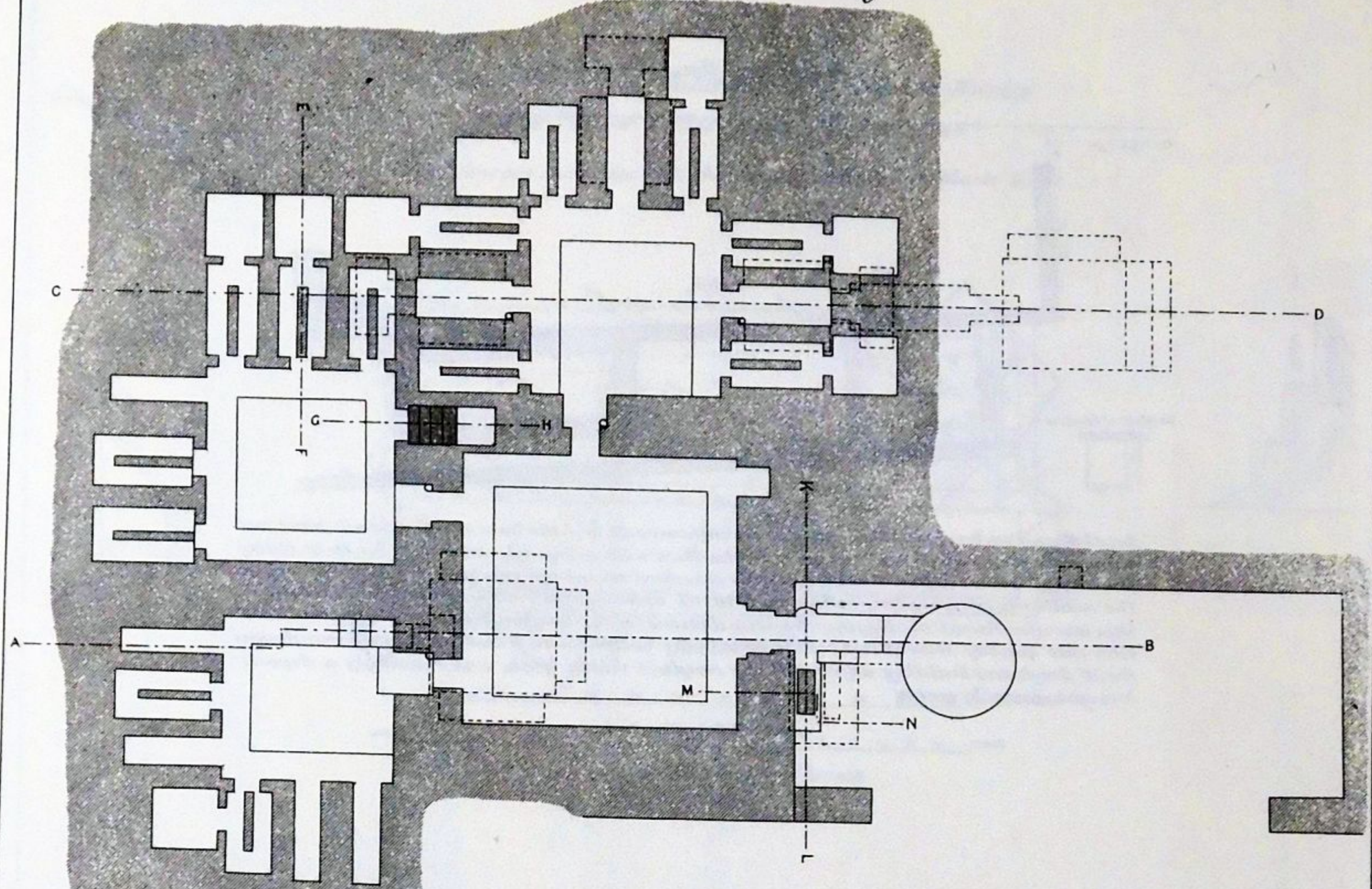


8
+ THC RFIAC
CIWN

9
+++++
+++++
+++++
+++++

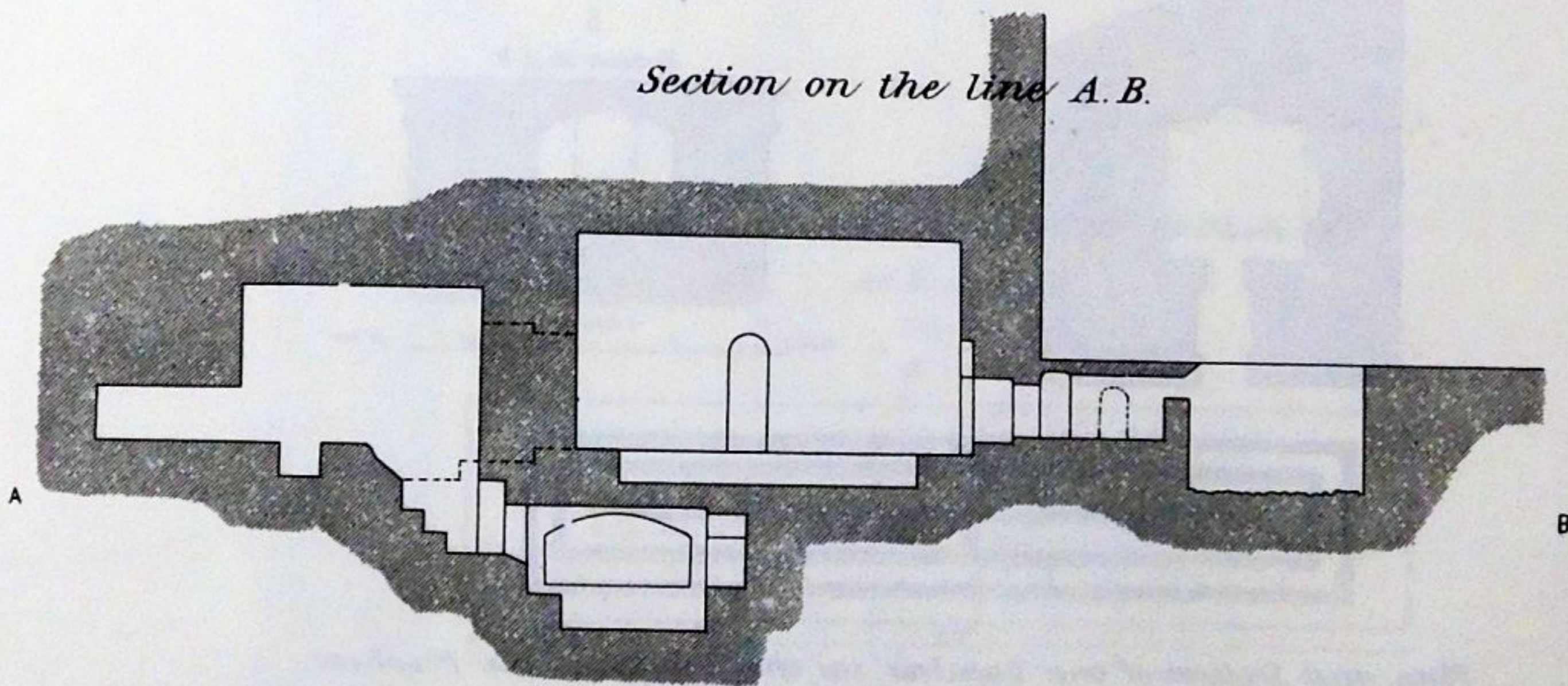


Plan of Tombs of Kings.

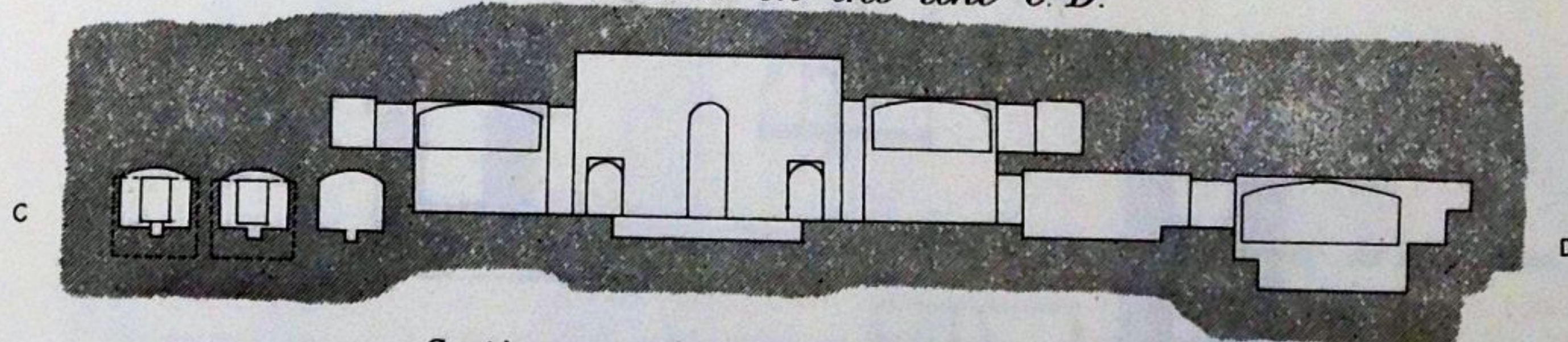


Scale 10 Feet to One Inch.
 Feet 10 8 6 4 2 0 1 2 3 Inches

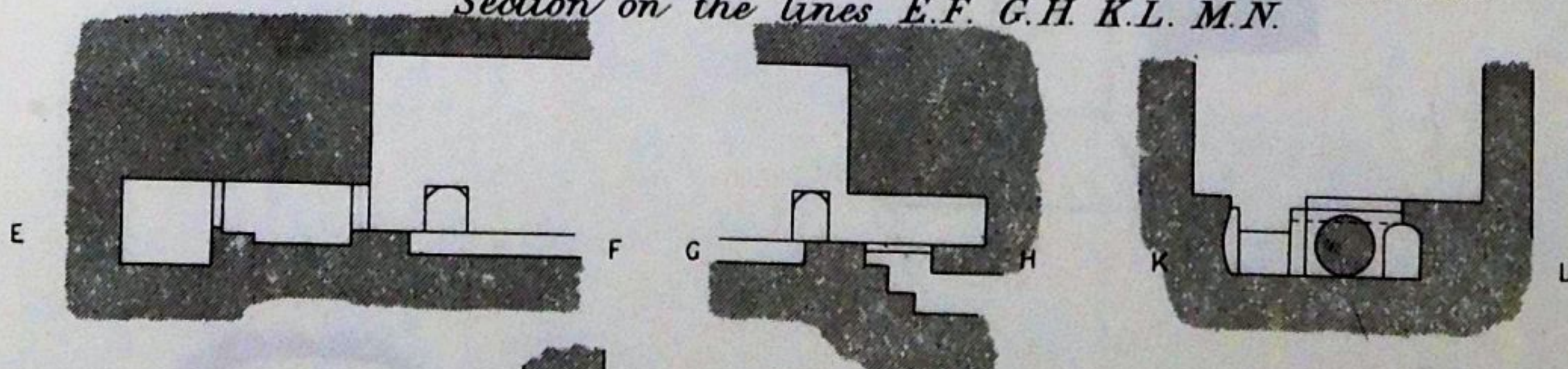
Section on the line A. B.



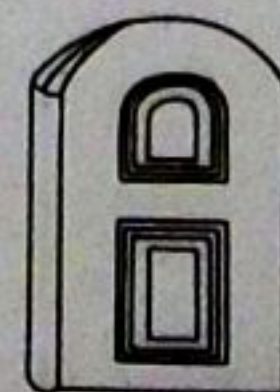
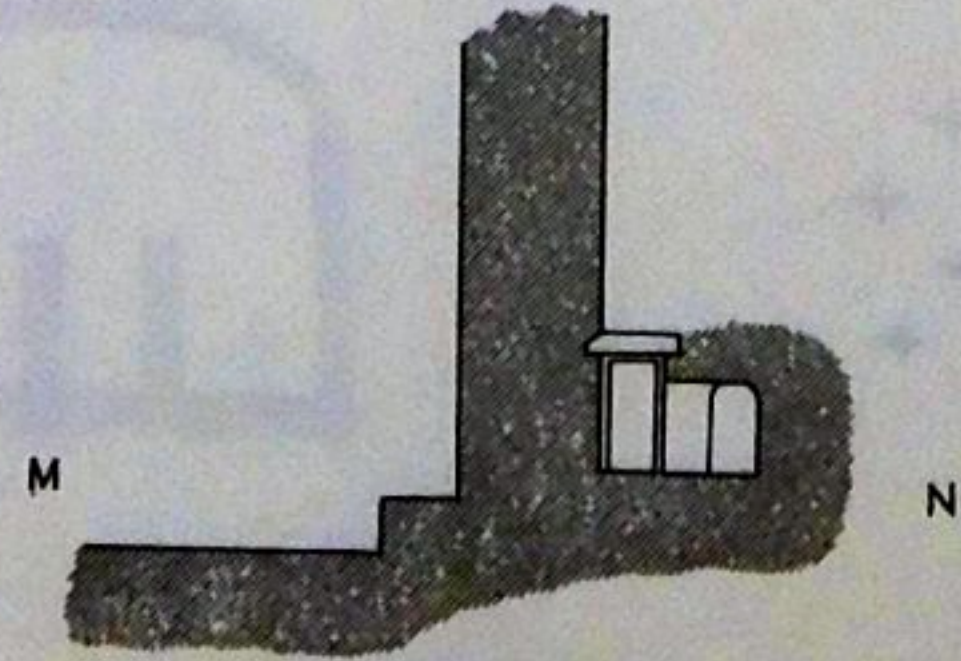
Section on the line C. D.



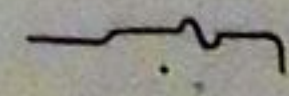
Section on the lines E. F. G. H. K. L. M. N.

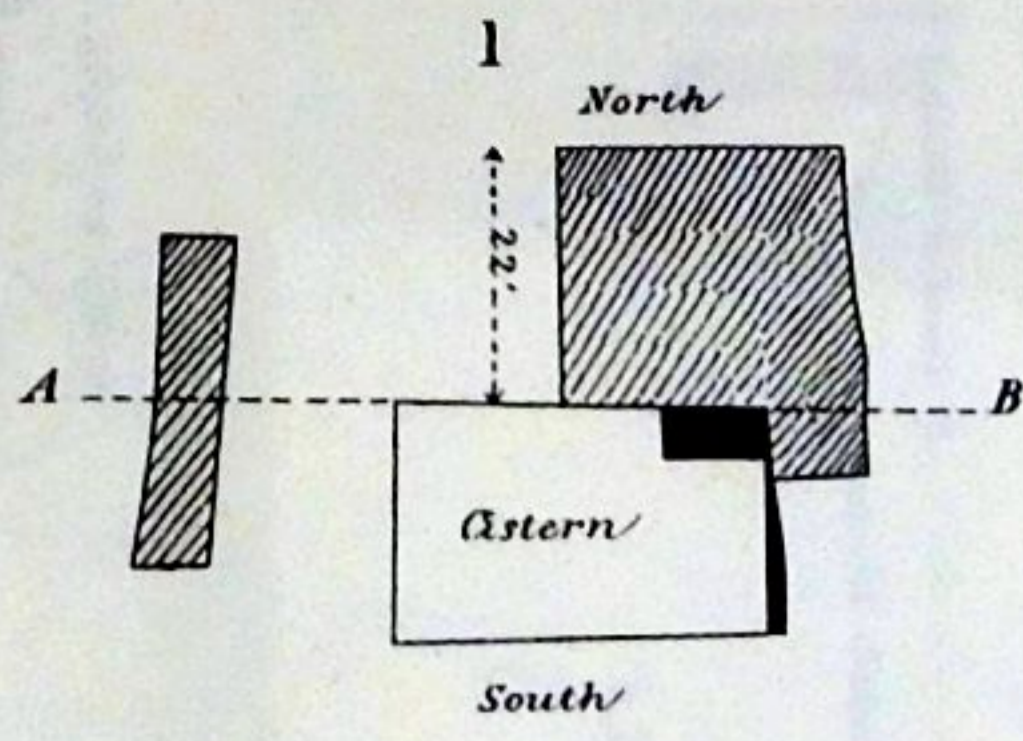


Door of Stone 6 Inches thick.

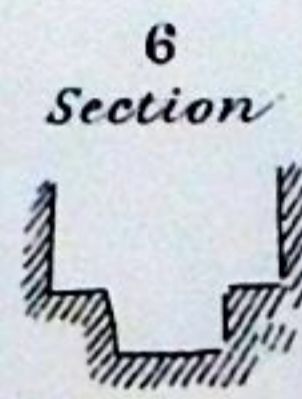
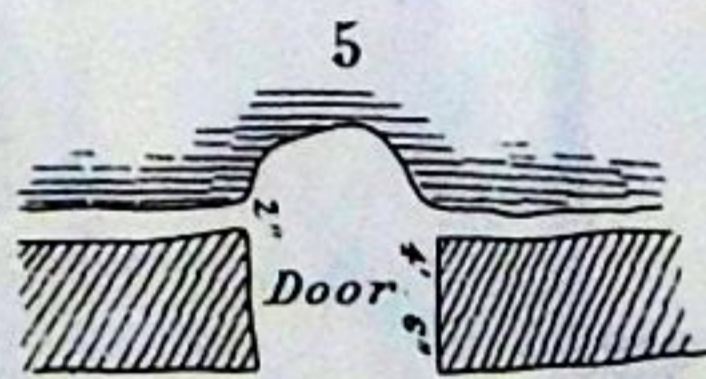
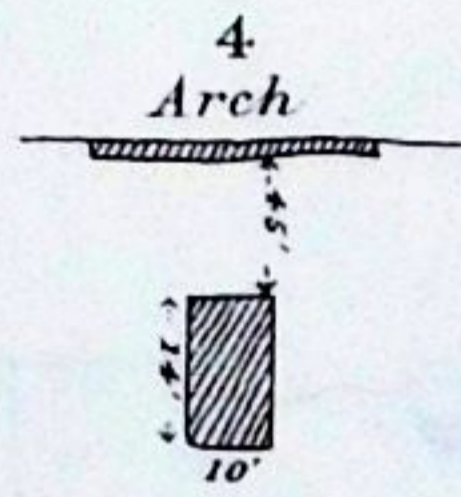
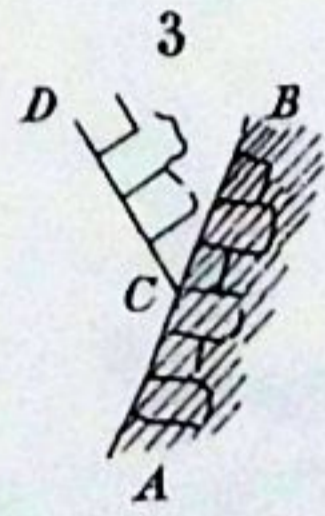
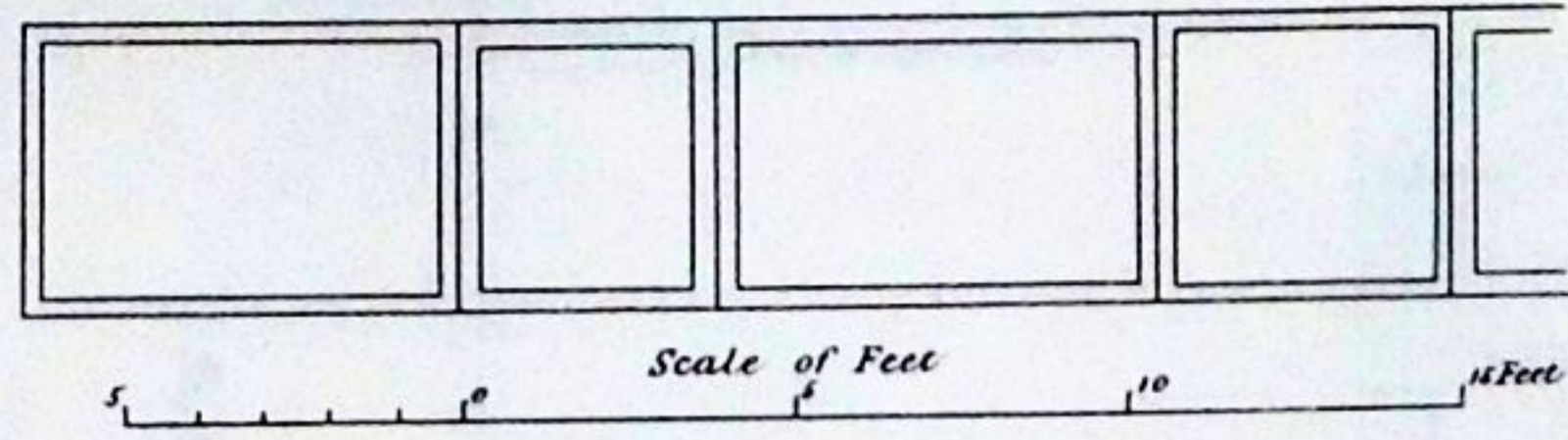


Moulding of Door.

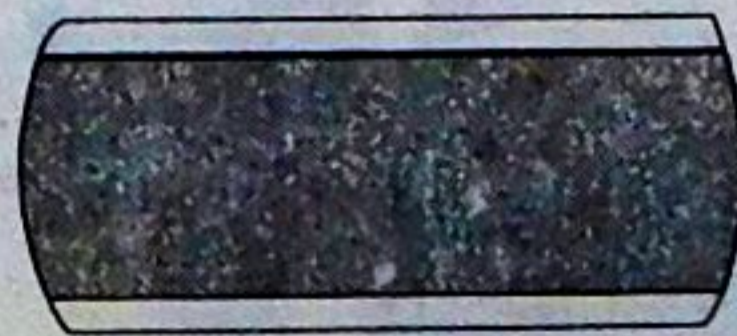




2
Elevation of stones uncovered by Excavation N° III
The faces are left rough, and the beds pinned up with small stones



7
Plan



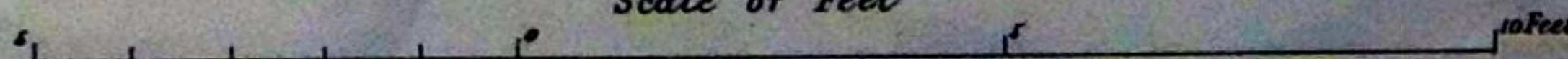
Transverse Section



Longitudinal Section



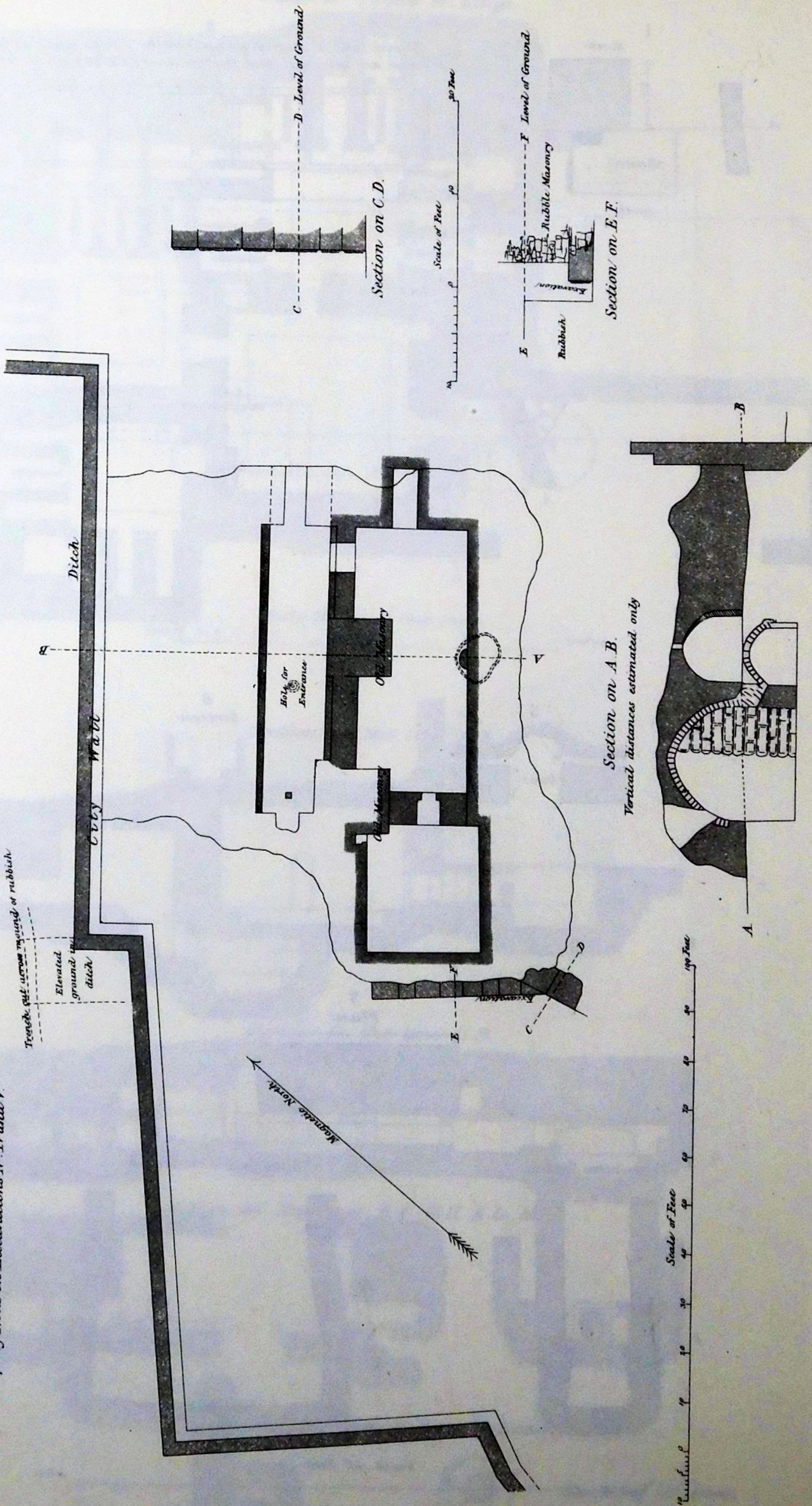
Scale of Feet



To accompany Excavation N° XII.

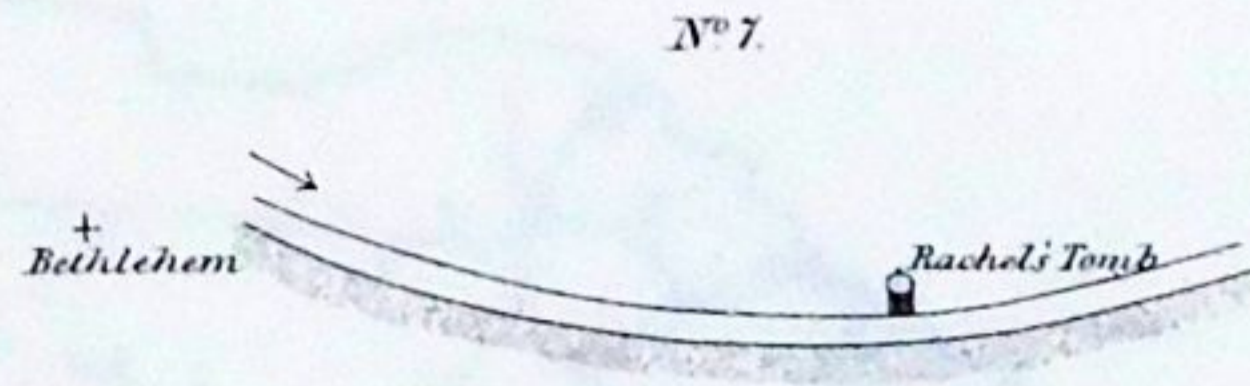
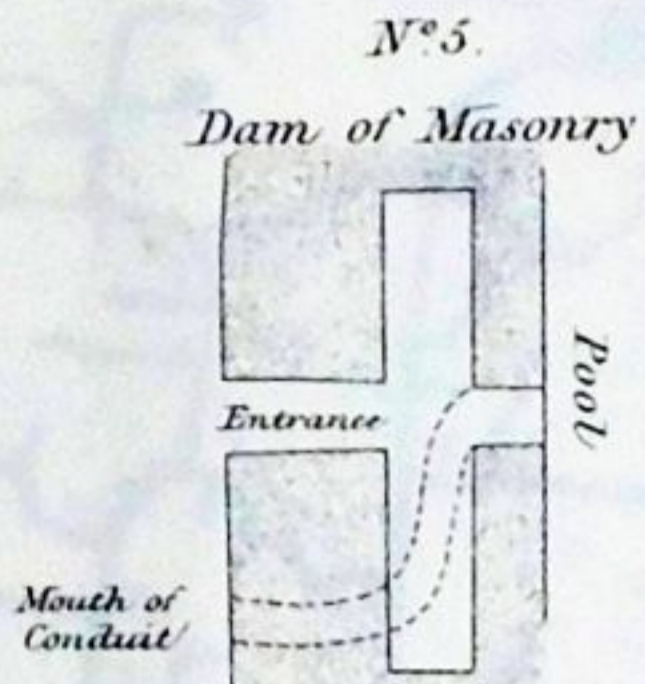
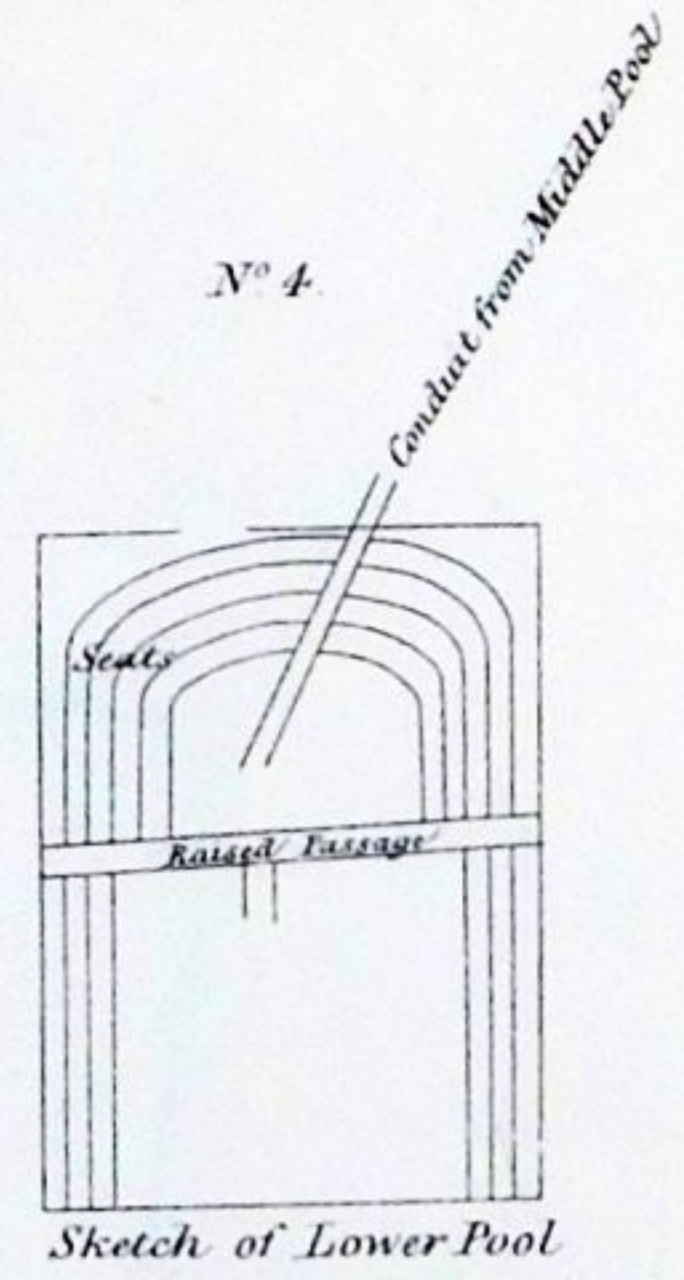
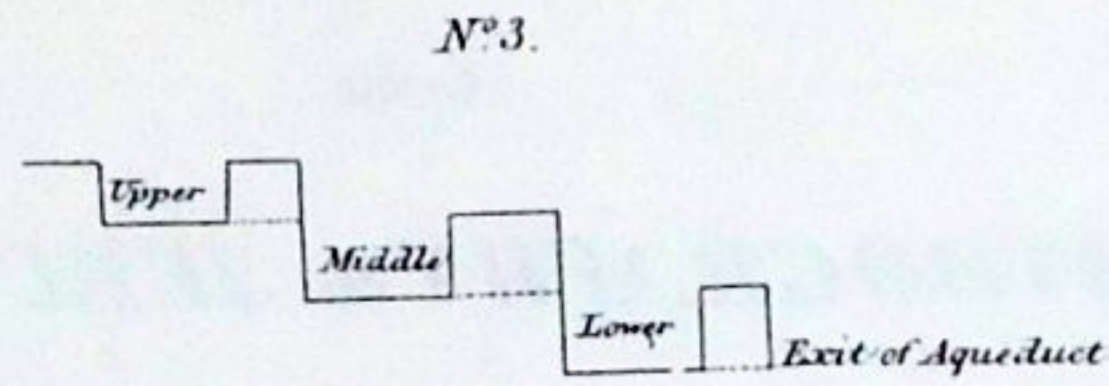
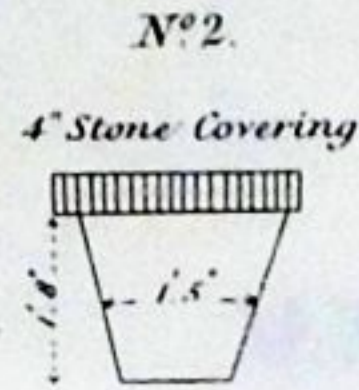
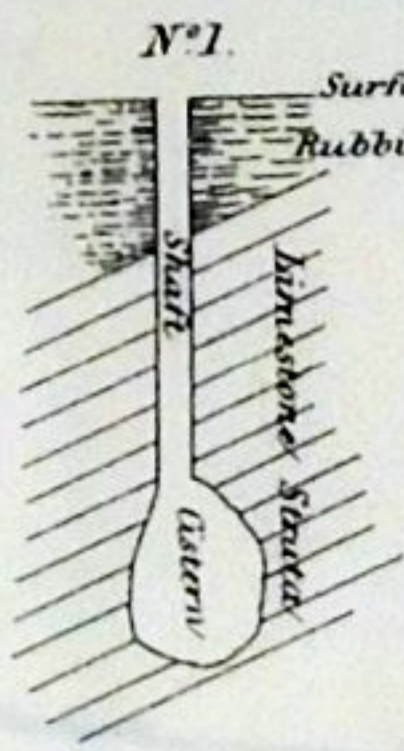
Ruins of Al-Jalud (Goliath's Castle)

To accompany Notes on Excavations N^{os} IV and V.

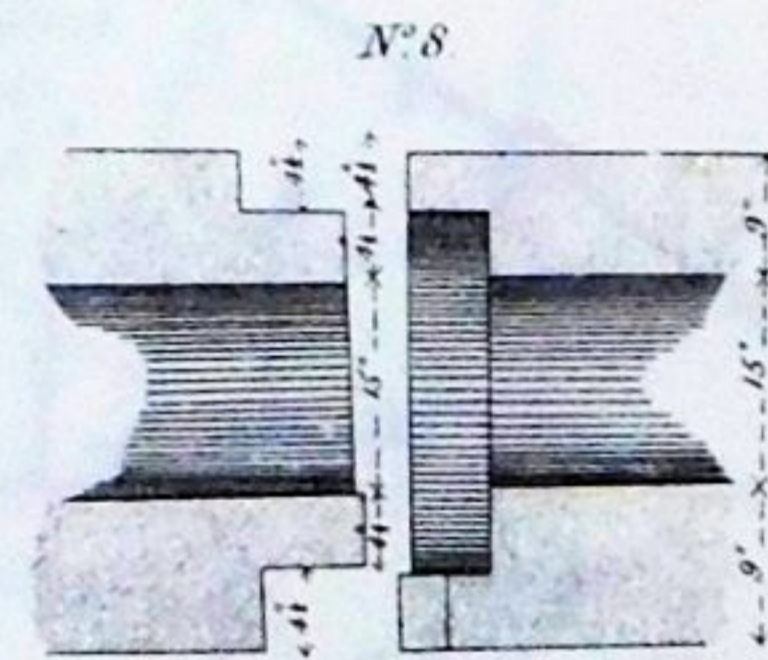
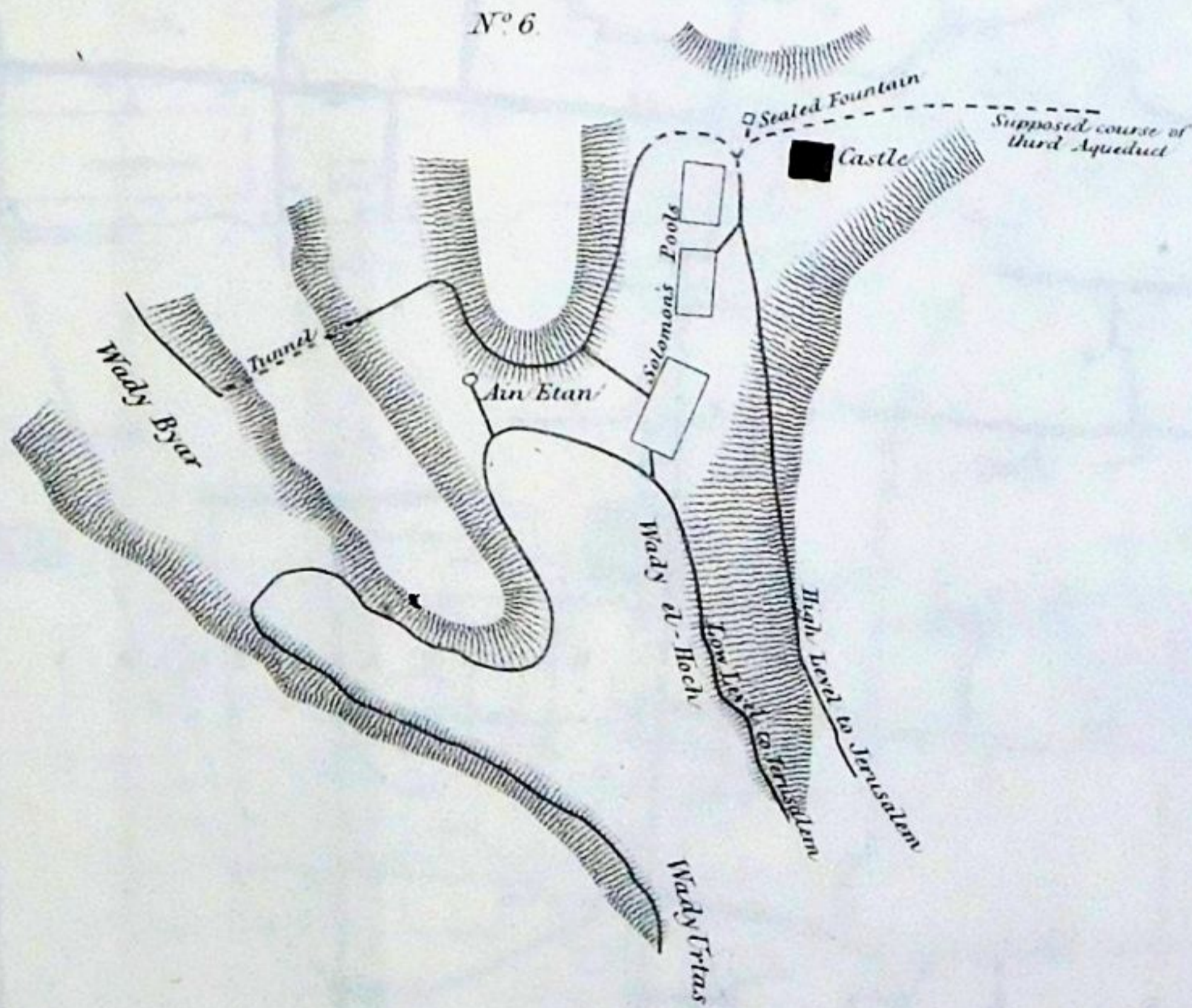


From measurements and drawings made by M. Conrad Schick of Jerusalem.

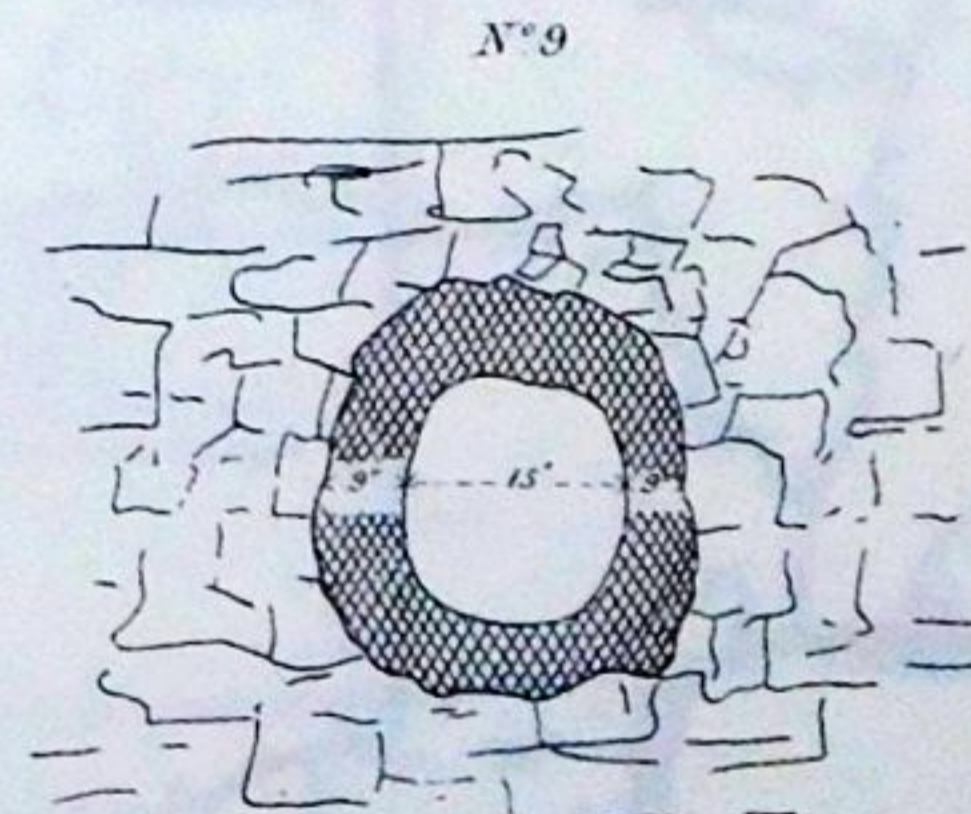
The portion colored red shows the Chambers discovered.



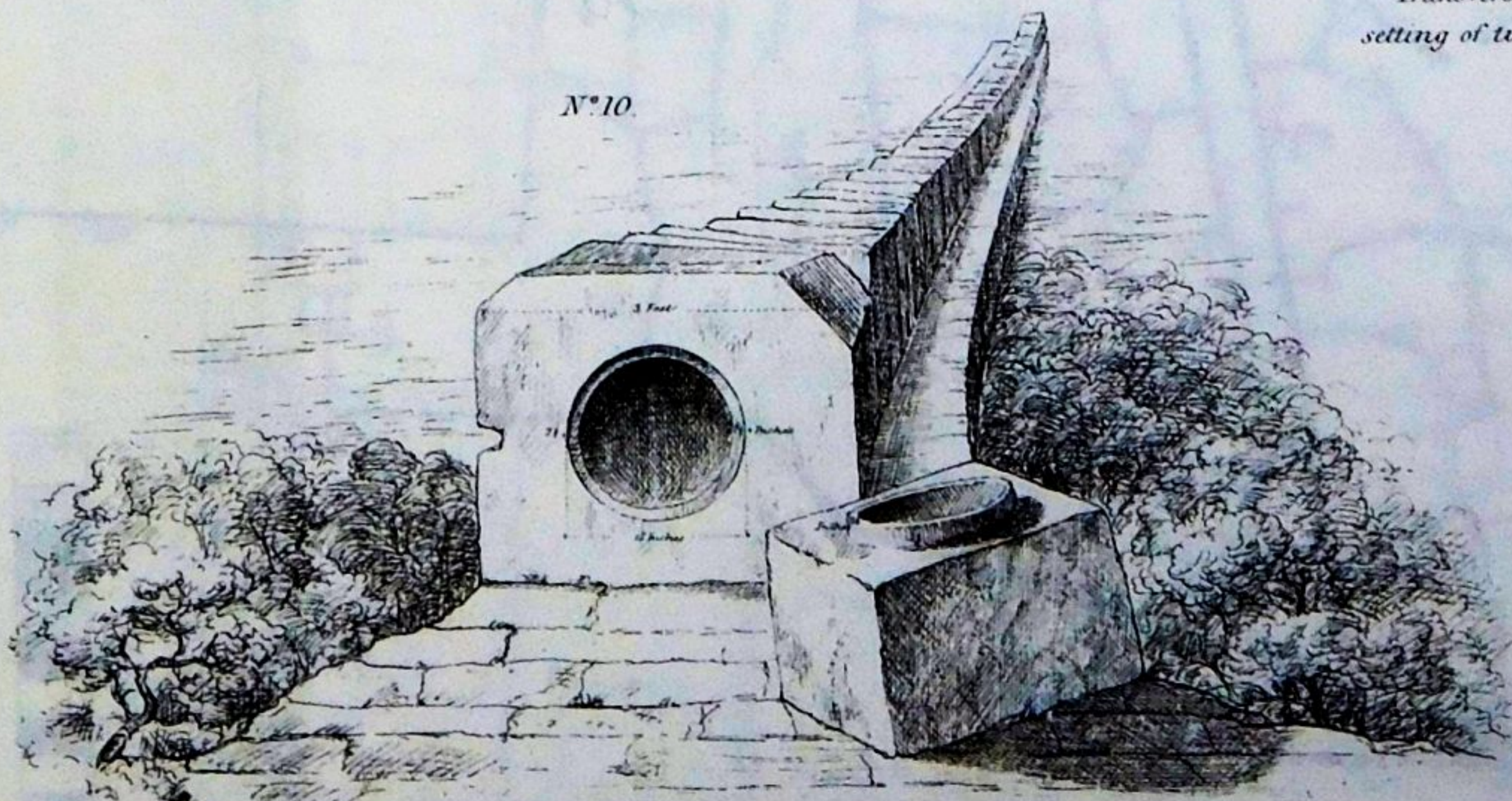
Sketch of Lower Pool



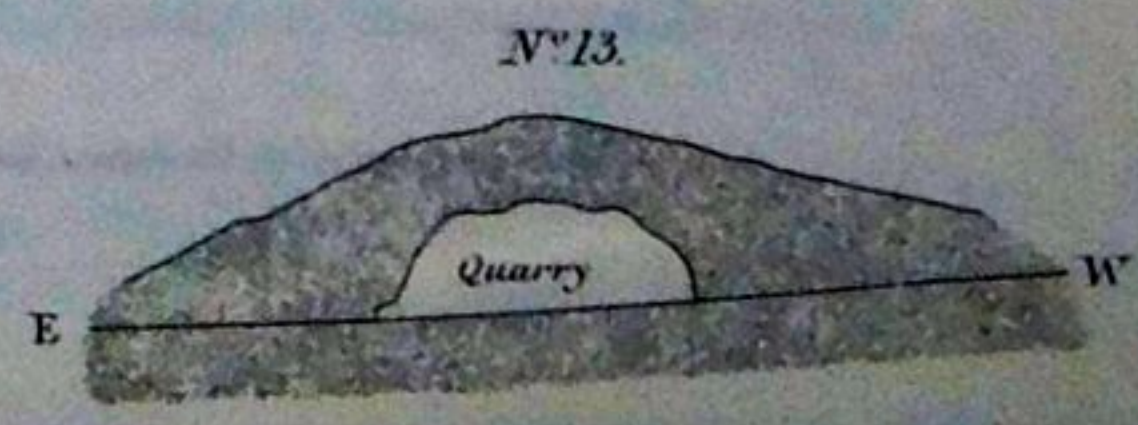
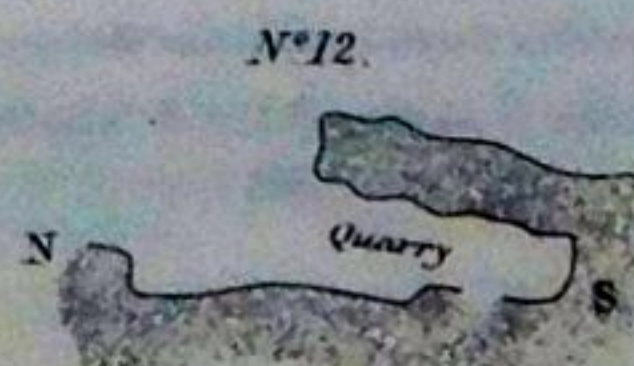
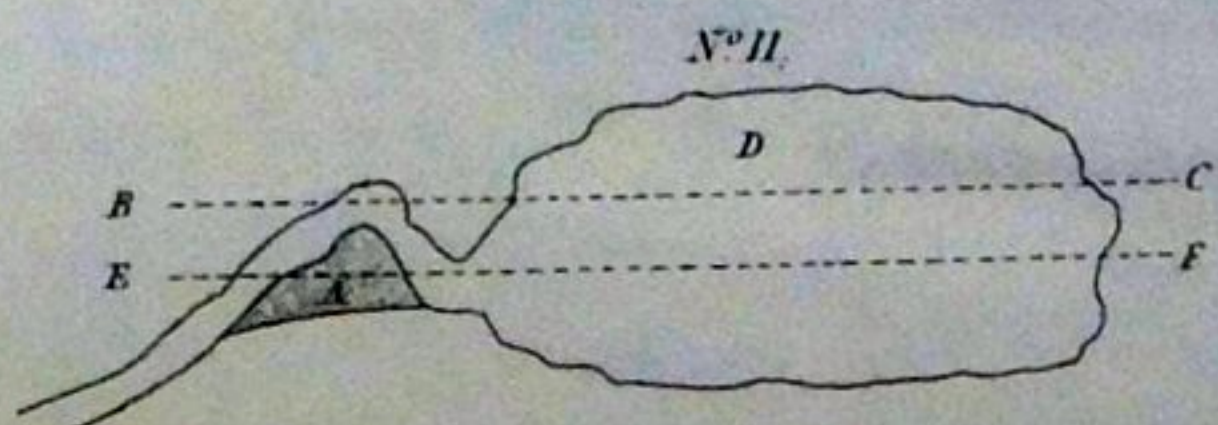
Longitudinal section shewing one of the joints open



Transverse section shewing setting of tube in rubble masonry



Roman Aqueduct at Kalamaki Bay near Pattara, Asia Minor
From a Sketch by Major Elphinstone C.B. VC R.E.



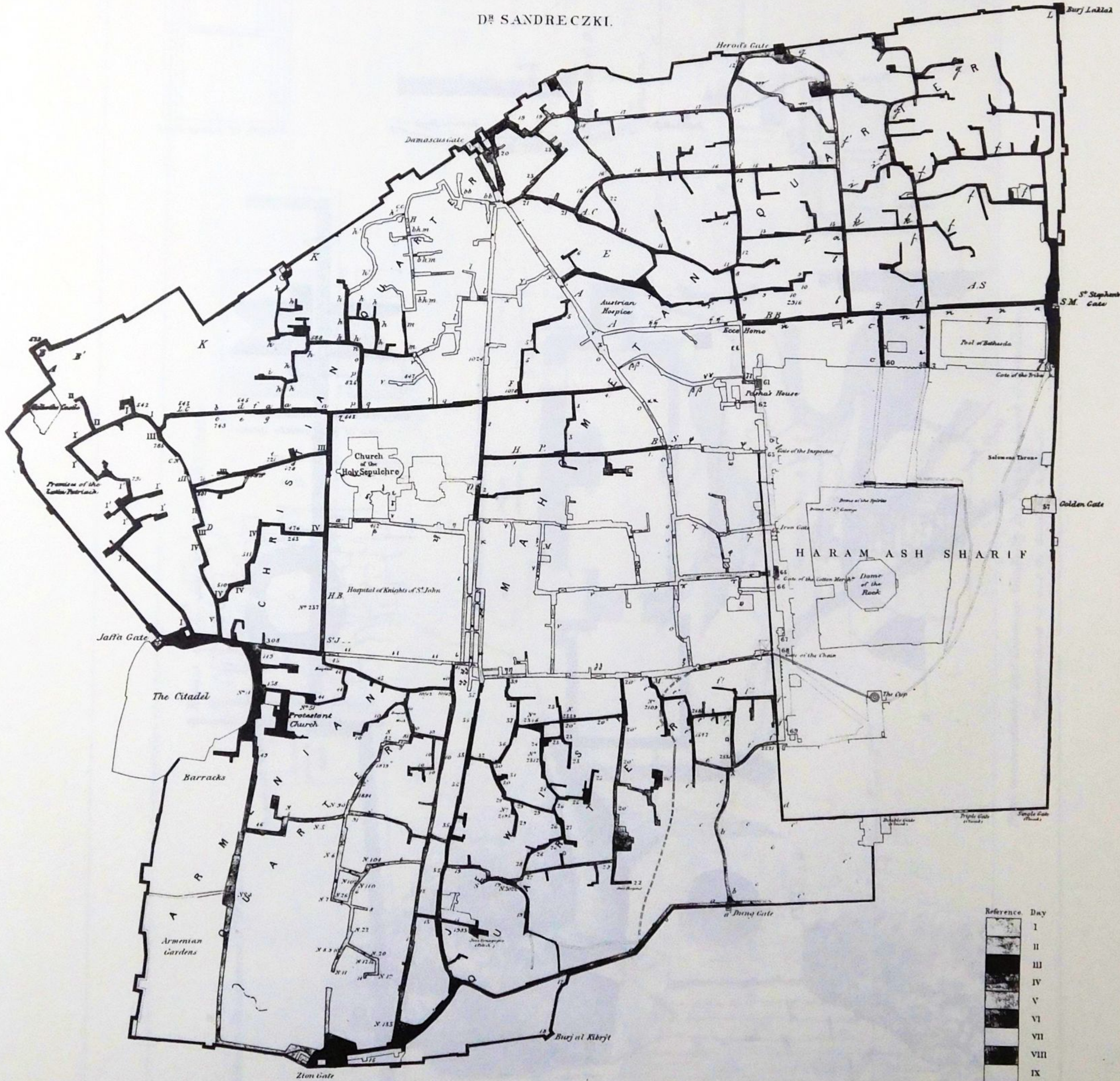
I N D E X

to the

ORTHOGRAPHY OF JERUSALEM

Supplied by

D^r SANDRECZKI.

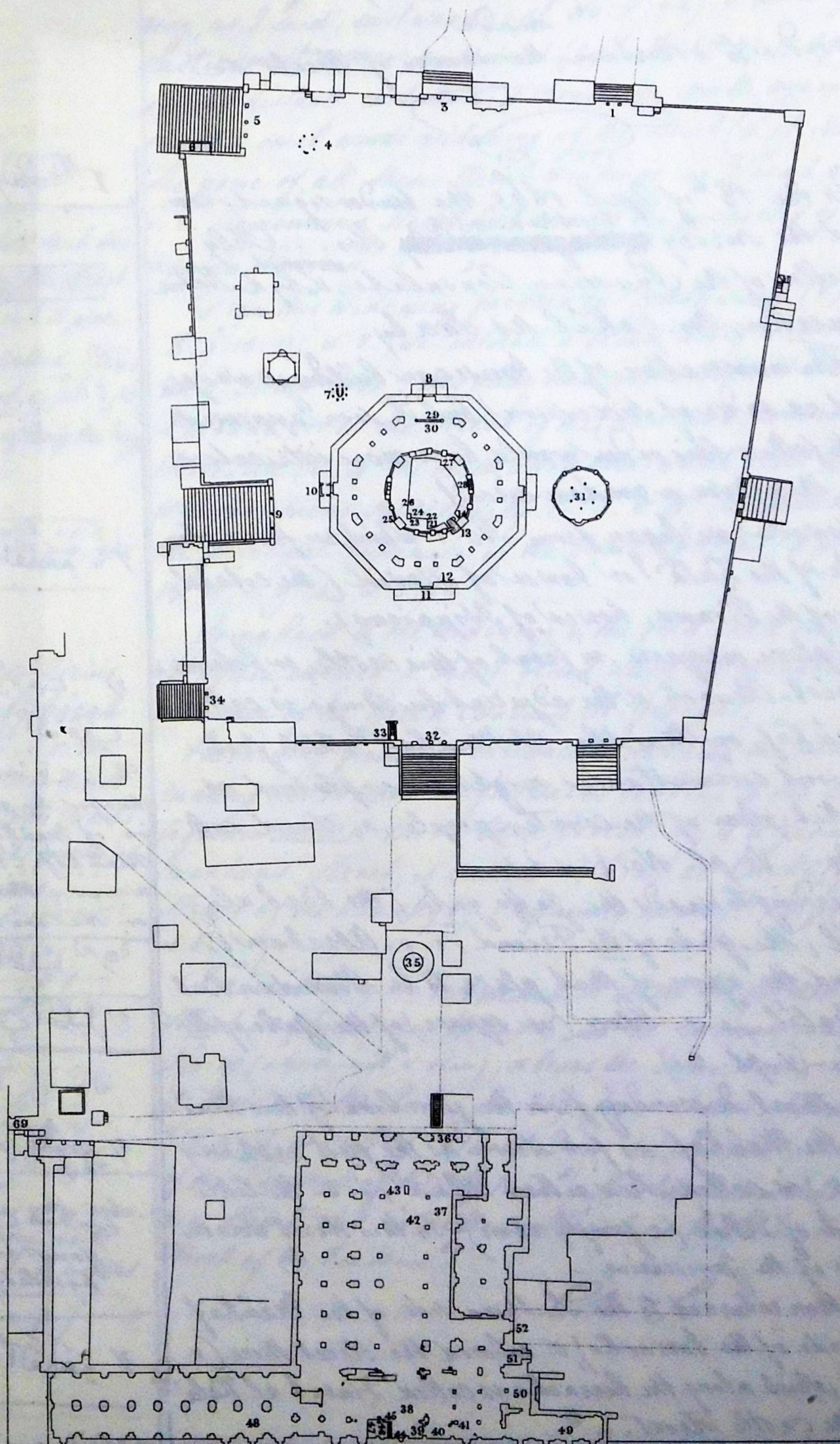


Zincographed at the Ordnance Survey Office Southampton under the superintendence of Capt^r Parsons R.E.F.R.A.S.

Col. Sir H. James R.E.F.R.S. & Director

1867.

INDEX TO THE ORTHOGRAPHY SUPPLIED BY DR SANDRECZKI



N^{os} 15, 16, 17, 18, 19, and 20 refer to plans in the cave under the Dome of the Rock.

To Captain Wilson, Roy. Engin. Jerusalem
 Account of a Survey of the City of
 Jerusalem,
 made
 in order to ascertain the names of streets &c

On the 18th of April 1865 the undersigned com-
 menced the survey ~~together with~~ ^{accompanied} Mr. Ohly,
 Chancellor of the Prussian Consulate, & by a Native
 of Jerusalem, Mr. Yakiub as Sa'ibly.

The numeration of the houses or buildings was pro-
 posed as order of succession, but it soon appeared
 that to follow this order would be a more intricate
 work, than even a random circuit.

However, we began from No: 1. which we found above
 the gate of the "Kala" or tower of David (the citadel,
 castle of the Pisans, tower of Hippicus).

The place or square, in front of this castle, or between
 a Christ-Church & the adjacent buildings is called
 Al Ma'ukaf, or Maidan Al Ma'ukaf, which from
 the present circumstances might be explained as
 a market-place of the country-people, a stand col-
 lectively. - V. pl. No: 1. & i. -

Proceeding towards the Jaffa gate (the Bab al
 Khalil, the gate of the Friend, i. e. Abraham),
 we found the name of that place to be Maidan Bab
 al Khalil, i. e. Place (or square) of the Gate of the
 Friend. - (V. pl. 3.)

The street descending from the junction of this Mai-
 dan & the Ma'ukaf, as far down as the first archway
 (v. pl. 4.) is called Suwaihat 'Alun, i. e. the little
 market of 'Alun (a family name). In this street were the
 barracks of the Janissaries.

We then returned to the Southern side of the Ma'ukaf
 (front-side of the barracks), & entered the Street there (v.
 pl. 2'), which along the barracks is called Harat al Kala,
 i. e. the castle Street. - *

At the end of this Street, where an archway forms
 the entrance to the square in front of the Armenian
 Convent, & at the first turn eastward begins the Armenian
 Quarter.

I. st Day.

1/ باب القلعة

2/ الموقف
 ميدان الموقف

The "ق" may have been
 changed the pronounci-
 ion of Ma'ukaf into
 Ma'ukaf. - Ma'ukaf
 means a standing place
 or station.

3/ باب الخليل

4/ ميدان باب الخليل

5/ سوقة علون

يكيچرى قشلاسى
 Yanytzshary
 Kyshtlasy (Turkish).

6/ حارة القلعة

* Within the house No: 49
 there is a tomb
 or mazar called
 مزار الشيخ الديسي

Quarter. Above the principal gate of the Convent we found No: 4. (v. pl. No: 4. & 2). -

From the just mentioned archway we entered the Street running, as I said, eastward (v. pl. No: 5. & 2), & turning at its easternmost corner southward (v. pl. No: 6. & 7), & again for a short distance eastward, & then to the south again, arrived at a small ~~widening~~ widening of the Street (v. pl. No: 22). The name of all these street-windings is Hârat al Armen, i. e. Armenians' Street (all around the premises of the Armenian Convent⁴).

From this widening farther on southward (v. pl. No: 8. 9. 10. 11. & 5.) we entered a blind alley terminating at a Street Door; this alley was called Hârat Deir az-Zeitûne, i. e. the Street of the (Armenian) Convent of the Olive-tree²; & so the other alley also, which from the same widening turns successively E. S. & W., & terminates at the principal entrance of the same Convent (v. pl. No: 12. 13. 14. - 19. 20. & 5.). -

Going back to the widening & the first turn eastward we again entered a short blind alley, terminating at the entrance of the Greek Convent St. George³.

Returning from that entrance, ~~we~~ ^{we} entered the next Street running northward & afterwards bending to the East, which together with a short lane, descending to it from the Armenians' Street, is called Hârat al Bashyty, the Street of the Bashyty (a family name).⁴ (v. pl. No: 104 & 6. 6.). -

From thence we returned to where the Armenians' Street (2) turns northward, at the corner marked No: 90 (a horse-mill & oven), & bears the same name still, till it bends to the East (No: 82.), from whence, down to No: 81 & 9, it is called Hârat Deir as Suriân⁵, i. e. Street of the Convent of the Syrians⁵. - In old documents this same Street-end is called Hârat ar Byshé, i. e. the Street of the Feather.⁶

Ch. I.

خارطة الأرمين

⁴ We were told that this quarter, or the street round about it, were formerly called Hârat ash Sharaf, خارطة الشرف, the Street of ~~being~~ the high (or honour).

S. p. 4.

خارطة دير الزيتون

3/ Deir Mar Girius
Dirûm fy Hârat
al Armen, i. e. the
Convent of Mar Girius
(belonging) to the Greeks
in the Street (quarter) of
the Armenians -
دير مار جريوس للأروم
في خارطة الأرمين

خارطة البشيطي

خارطة دير السريان

خارطة الريشة

The word has other meanings, but none more appropriate to a Street.

Comp. p. 7

⁵ خارطة البشيطي (with) -
the name is derived from a
place in the vicinity of
al Khalil (Hebron).

We resumed our survey from the Street of the Syrian Courants (No: 81 & 9), & entering the Street running N. along a small mosque or masjid & the English Hospital, on the left side, was called *Hārah al Jawāny* (family name). The same name is given to a blind alley running W. to S. from the N. corner of the hospital. - At the N. extremity of this street, the archway there is called *Kanṭara Mar Toma*, i. e. Bridge of St. Thomas. (V. pl. 10 & 10.)

Returning to the small mosque, we entered a street & archway (bridge) running E., & found that this street as well as an alley in it running S. & W. was likewise called *Hārah al Jawāny*; & coming out from the archway into the long street running N. & S., we found that the part running N. between an archway a little to the S. of the one, from which we had just come out & another at the N. extremity, as well as the S. prolongation of the street as far as the first turns E. & W. still bore the same name. - The N. archway is called the *Kanṭarat al Hawa* or *al Asafī* i. e. the bridge of the air or the sparrows. - The other archway had no particular name. -

Proceeding S. through it to the first turn W. (at the corner is a sesamum-oilmill), we found that this W. lane ascending to an archway, which separates it from the Arminian quarter (v. pl. No: 91. & 9) is called *Hārah al Yahūd* i. e. the Jews' street. (v. pl. 11.), whilst the prolongation (southward) of the long street is called *Ṭarīk Bab Neby Daūd*, i. e. the way of (or to) the gate of the prophet David. (V. pl. 12). - At the second turn (E.) we descended through a nameless short lane (v. pl. 13) to the street running parallel to the former long street, & found that between an archway, a little to the N. of the nameless lane, & the fields, to which this parallel street leads, it is called the *Hārah al Maslakh*, i. e. the street of the shambles, because just opposite (E) the nameless lane there had been in former years (some 10 years ago) the place where beasts were butchered for the market. - (V. pl. 14). A blind alley

II Day
April. 20.

11 جامع مسجد
+ مسجد
2 حارة الجوف

قنطرة مار توما

The correct reading is الجوامع
& in the الجوامع
+ an plur. الجوامع
Subsequently we heard it was called Masjid al Omary
مسجد العمري (2)
المسجد العمري

قنطرة الهوا
+ العصافير

+ The latter name is contested & said to belong to another "bridge" v. pl. 12. Note 1.

حارة اليهود

at the end of which, on the W. side, there is the entrance to the Khan al Amin (خان الامين) No: 133.

طريق باب نبي داود

حارة المسالخ

Bayan al Maj-
 zimin, ~~بيوت المجذومين~~
 some say: Bayan
 al Masakin ~~بيوت المساكين~~
 the houses of the poor ~~(v. pl. 14)~~
~~بيوت المجذومين~~
~~بيوت المساكين~~
~~بيوت المجذومين~~
~~بيوت المساكين~~
 سوق الجمعة - سوق
 النهائيم

برج الكبريتية

حارة الميدان

حارة الشرف
 - الشرفاء

+ Except that of
 ساحة - Saha - Court.
 أحمد بيك
 بنك

running eastward (opposite the nameless lane) & terminat-
 ing in a kind of courtyard has the same name. On the
 W. side of this courtyard is the entrance of a synag-
 ogue of the Jews of Warsaw. (V. pl. 14. & No: 1983). -
 Returning to the principal street (of the Maslakh) we
 proceeded southward to where it bends, between fields or
 waste spaces, towards ^{West on} the gate of Neby Dauid (Zion),
 & where between it & the town-wall lie the hovels &
 houses of the Lepers. ~~(V. pl. 15)~~
 The space, or square, between them, the gate, & the
 premises of the Armenian Convent is called Sukh
 al Juma', or Sukh al Bahaym, i. e. the Friday
 market, or the cattle-market. (V. pl. 16.)
 From the houses of the Lepers we crossed the fields,
 on the rising ground, between those houses & the Jewish
 poor-house E. of them. ^(v. pl. 17) The corner-tower (v. pl. 18) ^{S.}
 is called Burj al Kibrayt, ^{3/1} i. e. Sulphur-tower.
 From the poor-house we again crossed fields, or an
 open space northward, & entering a ^{nameless} lane turning
 westward, ^(v. pl. 19) followed it to where it joins ^{northern} the prolongat-
 ion of the Street 12, passing by the Old Synagogue ^{Spanish} (No:
 2022) & another one a little farther W. (v. S.).
 From the old Synagogue proceeding a few paces N. &
 then entering the first street running Eastward, ^{W.} heard
 it was called Harat al Maidan, ⁴ i. e. the Street of the
 Square (v. pl. 20), from a small nameless square to
 which it leads (v. pl. 21). - At the E. extremity of an al-
 ley running south- & east of that square, ~~lies~~ the
 Jewish Hospital (Rothschild & Abrah. Cohen) (v. pl. 22).
 From the just mentioned Maidan we entered the
 Street at its N. end, which some call Harat al Maidan,
 like the one leading to the square from the W., but which
 together with others forming the same quarter seems to
 have been known in former times under the name
 of Harat ash Sharaf, or ash Shurafa ⁵ (v. pl. 20'), i. e.
 the street of honour, or of the honourable (the gentry)
 An alley running ^{east} southward from it & then branching off
 S. & N. seems to have no particular name.
 Descending this street to ^{near} where it joins the Street of
 the Bab as Silsilé, we entered the first turn up to the
 West

(quarter) ^{By some}
 This street, too, is called *Hāral al Yahūd*; but an old Moslem told us it, ^{too} belonged to the complex of streets, which intersecting the present quarter of the Jews up to the above mentioned "Shambles", joined together the several parts of the ^{quarter} "Quarter of Honour" on the *Hāral ash Sharaf*. (Comp. note + p. 2). On the N. side of this street (v. pl. 20^o No: 2339) there is the tomb of a Waly (Moslem Saint) with an inscription outside, of which I give the following copy:

هذه الحارة حازت شرفاً وابتهاجاً بجوار الصالحين
 (لا) سيمًا هذا الولي الشريف علمي الاصل عين العارفين
 رمة الله عليه دائماً وعلى اسلافه في كل حين

This street comprises (all) honour & joy through the vicinity of the good - chiefly of this holy honourable man, ^{according to his origin} ^(source) ~~the~~ the eye of the Knowing God's mercy upon him for ever, & upon his ancestors at all time (3) - *Oh. J.*

We resumed our survey from the just mentioned tomb, or mausoleum. Ascending from it a few paces, we saw on both sides alleys, which are called *Hōsh*, (or ~~Hāsh~~ *Dār*) *al 'Asaly*, i. e. the enclosure (or ~~the~~ of the house (or complex of buildings) of 'Asaly. (v. pl. 23).

From the one running S. we entered a dark lane running W., & soon came out into a street running N. & S., which, from containing the habitation of the Chief *Madbi*, is called the street of the *Khakham Bashi*. (v. pl. 24. No: 2312.) -

Proceeding southward we entered an alley (the entrance was like a small low gate) running E., at the extremity of which we came out into a small square, terminating, on its N. side, in two small blind alleys. These together are called *Hōsh al Khāmāra*, i. e. The enclosure of the Vintry. ³¹ - In the time of Ibrahim Pasha (of Egypt), we were told, all grapes had to be carried thither. (v. pl. 25.)

Returning to the principal Street we found its further prolongation S., & then W. to where a very small blind alley forms its Western most point, to be called the *Hāral al Kārāin*, i. e. the Street of the Jewish seat of that name. (v. pl. 26), or *Hāral dār al Kārāin*, i. e. the Street of the *Kārāin* Premises.

+ ^{ولي} ^{ولي}, a holy man, beloved of God
 The houses in this street ~~are~~ ^{will} belong to the a family ~~of this name~~ whose name is *al 'Asaly* ^{القسلي} - ~~the~~ the street is also ~~called~~ called *Hāral al 'Asaly*, in part at least, as we shall see. -

+ the excellent one

III a Day.
 April, 21.
 حوش (دائرة القسلي)
 القسلي

~~_____~~
 حوش ختم باشي ² (Turkish)

حوش الخمر ³¹
 a wine-tap is called a *Khāmāra*.

* in arabic
 حارة القارين
 literally of "those reading (the scriptures) only" ^{القارين}

٢٧٥٠

١) حارة كنيسة اليهود

٢) حارة يوسف صادق



٣) سبيل

+ "In Arabic interpreted this term 'those circumstances permit him to go' and it may, in my opinion, be derived from the Arabic 'sabil' for a sacred or holy purpose." V. Kor. Sur. III, 91.

٤) قنطرة القُدور

٥) الحمام - حمام الجبل

٦) مَصْبِيَة

٦) more correct, Kantarat al Asakife قنطرة الاساكفة

٧) حارة سوق اليهود

٨) قنطرة دار غنيم

٩) مزار الشيخ خيدر

١٠) دَرَجُ المَطْبُونَةِ
١١) الطابونة

Opposite to the Dar of the Karaites, in the same street is the new (not-yet finished) synagogue of the Kasiddim (27).

The Southern prolongation of the Karaites' Street, leading to the Spanish synagogues, is called Hara Kanisat al-Yahud, i. e. the street of the church (synagogue) of the Jews. (v. pl. 28).

Returning to the beginning of the Karaites' Street we entered a street running W., which together with an alley branching off to the S. is called the Hara or Hosh Nammer (or Yusuf Sadek Nammer) i. e. The street or complex of (the family) Nammer. (v. pl. 29.) In a corner of the anterior part of the alley we found a (printed) inscription above a street door (v. pl. No: 2195) of the year of the Hijra 1237, which explains the name of the street.

حج البيت لله الحرام الحاج عثمان صادق نمر

And, by God, it is a very precious thing, the pilgrimage to the house of him who is able thereto (v. pl. 29.) (v. Haus) pilgrimaged to the House of God the Haram (the sacred) the pilgrim

In the N.W. prolongation of the same street are two archways, which give it the name of Kantarabein, or Kantar al Hudna, the two- (or the) bridges of the pots. (v. pl. 30). The short alley eastward had no name (31); & the W. end of the street, where it joins the long parallel street, parallel to street 10. & 12, belongs to the complex of the Jews' quarter as Hara al Yahud. (v. pl. 32).

Just opposite the outlet there is a large building which was formerly known under the name of al Hammam, i. e. the Bath, & is a soap-manufactory now, or a Masbane. (v. pl. 33), & the archway there (34) is called Kantarat al Saffiye, i. e. the colors' bridge. - The long street (v. pl. 35) (in its Southern direction as far as the "Shambles" (the Maslak 14) is the Hara al Yahud, or the Suk al Yahud, i. e. the Market of the Jews. -

From street 32 we entered the street running N. which likewise is called Hara al Yahud (v. pl. 36); the archway in it (37) is called Kantara Dar Ghunima, i. e. the bridge of that house or family, & so the small square also to the E. (38) also, on the N. side of which there is the tomb or Magar (a place visited by pilgrims &c.) of Shaikh Haider. (v. No: 2346). The stairs at the N. end of the street (39) are called Daraj at Tabuni (from an oven, in the adjoining street, where they used to bake a certain kind of bread. The oven does no longer exist. -

Having to fill up a gap we proceeded to the end of the long street 10., which from the dyers' work-rooms there is called *Sūq al-Sabbāghīn*, i. e. Dyers' market." (v. pl. 40), the archway at its N. end (41) is called *Kantarat al-Husur*, i. e. Bridge of the mats (the peasants bringing their mats for sale thither).

From the dyers' market we entered the street running W. between the *Kantarat al-Hawā* (v. page 0, 4) & the *Kantara Mān Tōmā* (v. page 3, 3), & found it was called *Hārat al-Jawāny* from the Complex, to which it belongs (v. pl. 10/12).—

The prolongation of this street farther up to the W. (43), is called, as an old Moslem told us, *Hārat ar-Ryḡhē* (v. page 2, 6). When we objected that the street No: 81 to 82, 9 (v. page 2.) was so called, he said that was an error, since that street was called *Hārat ad-dawāyē*!

The first turn to the S. & then W. round the Hospital of the Russian Deaconesses (v. pl. Hosp. & 44.) up to a small square is called the stairs of the *Yakūbiyē*, *Daraj al-Yakūbiyē*, or *Az-zukāk ad-Dāik*, i. e. the narrow lane!—

In the S.W. corner of this just mentioned small square is the entrance to the *Masjed al-Yakūbiyē* or the *Maikh Yakūby*. (N. No: 51).—

From that square the street, passing by the principal entrance of the Premises of Christ Church (on the S. side of the street), leads to the *Maḥaj*, or the Castle (No: 1).—

P. S.

+ (This text, does not correspond with the "reservoir".)

سوق الصباغين

قنطرة الحصر

الضوابة

3) I cannot make out yet the root of this word; the man said it was tantamount to قناة, canal, or بركة, reservoir. +

درج اليعقوبية

الزقاق الضيق

مسجد اليعقوبية
مسجد الشيخ اليعقوب

IV Day
April, 26th.



طريق باب المغاربة

طريق حارة المغاربة
طريق على حارة المغاربة

(Arab-turk) (المختونية) ⁵¹
حكومة الخاتونية
The word Hākūsa is not to be found in the Hamās; it means "small garden."

صبر حارة المغاربة

دار أبو (أبي) سعود

خوش ⁶¹
البراق، the famous & fabulous horse of the prophet (Not Obrāk, nor Obrat). -

دار شيخ المغاربة

مزار النبي الشيخ حسن

We commenced this day's round from the Burj al Hi-
brīk, & following the town-wall entered, near the Jewish
poor-house (17) a way descending along the wall, bet-
ween it & the pretty high ascent that lies on the left
or N. side, with no houses on its declivity. This way is
called *tarik Bab al Maghāribi*, i. e. the way of the gate
of the Western (the Moors). (v. pl. a).

At the end of our descent we arrived at this gate it-
self (a), & taking the way leading northward from it,
between fields covered with thickets of cactus, the
tarik hārat al Maghāribi or *'ala hārat al Maghā-*
ribi, i. e. the way of (or to) the street (quarter) of the
Maghāribi (v. pl. b.) we entered that street or
quarter, where the so called Bridge lay to our right

(E). - The cactus grounds extending from it S. & E.
(v. pl. c.) are called *Hākūrat al Khātūniye*
(probably the ground belonging to the princess's demesne); the
other cactusfields (v. pl. c) simply *Sabr hārat al*
Maghāribi, the cactus of the quarter of the Moors.

The high building, at the base of which the Bridge
~~gate~~ juts out, is called *Dār Abū Saūd*. (v. pl. d.)

Proceeding farther N. in the *hārat al Maghā-*
ribi (v. pl. e) we arrived at a small widening, from
which three streets branched off. - Entering first
the one ascending eastward (v. p. f. No: 2521), a Mos-
lem told us this was the streets belonging to the ^{House} ~~quarter~~
of the *Burāk*, & through it the prophet had passed
on to the temple. - It is terminated by the gate
of the Haram, called *Bab al Maghāribi*. We found

this gate open. - Returning to the above just men-
tioned widening, we entered the ^{other} branch running N. (v.
pl. No: 2531 & f.) wh. terminated in an alley running
W. (v. pl. f'), likewise belonged to *Al Burāk*;
& so the street, also, which running E. & then S. forms
the *'Wailing place'* (v. pl. f''). - In the street No:
2531 f., on its W. side (v. pl. g) lies the house of the
Sheikh of the *Maghāribi*, & within is the tomb
or *Mazar* of the *Waly* or *Saint* Sheikh Hasan. -
The third branch running W. from the above widening,

as well as the parallel street N. of it with its small blind alleys (v. e. & e. No: 2481.) belong to the 'Hārat al Maghāribi'; & this is the case with the street also, into wh. we came next proceeding westward, & which running S. & N. terminates in a blind alley S., whilst from its N. extremity it turns first W. & then again N. & S. forming another blind alley S., & joining the street of the 'Silsile'.

In the street just described (v. pl. e'') & which as I have mentioned is called in all its parts 'Hārat al Maghāribi', we found a masjid (small mosque), which is called Masjid al Shaikh 'Aid' (v. pl. No: 1547.); & in the alley farther to the W. (v. pl. No: 2109), the tomb or Mazār of a Waly called 'Abū Madyan', to whom the complex of the houses there once belonged.

Ch. S.

We commenced from the street nearest to the so called Jaffa gate & ~~running~~ ^{leading} in a N.W. direction to the new palace of the Latin Patriarch. This street or lane is called 'Tarīk hārat al Wa'riyē', or al 'Jawālidī', or al 'Jawālidīyē', i. e. the way of the quarter of the 'Wa'riyē' & c, which names are family names probably taken or borrowed from the denomination of their possessions in the town. (v. pl. I.)

From the said palace turning Eastward we entered that quarter, & followed its windings & alleys along the premises of the Latin patriarchate (W.) & farther N., till a last turn Eastward brought us to the Greek Convent of St. Basilus (v. I & I's 52), where the quarter ends at a turn to the S.

Before we proceeded in that direction, we entered the small lane ^(II) leading to the 'Hārat (al) Jalūd', & passing by it found in the N.W. corner of the walls the tomb (or Mazār) & mosque of ~~the body~~ 'Hamrē' (v. pl. A. & B. 529). The field adjoining is called 'Hākūrat es sith (or sithi) 'Hamrē' (pl. B.)

From the convent of St. Basil we now entered (turning to the S.) the 'Hārat al 'Istambūliyē', the 'Istambūliyē' quarter (pl. III). At the beginning of the street,

حارة المغاربة
مسجد الشيخ
عبد
مزار أبو مدين

Vth Day
April, 27.

طريق حارة
الوعرية - الجوالدة
الجوالدية (الجوالدة)

دار البطريرك
اللاتيني

دير مار باسيلوس

قلعة (أل) جلود
الجنات جالود
Goliath's Castle
(Prephimus)

مزار السيت (سيتي)
قبرة - جامع ستي
السيت قبرة

حاقورة السيت
(سيتي) قبرة

حارة الإشتنبولية

1) دَيْرُ مَارِ تَادْرُوسَ

2) الدَّارُ الْجَدِيدَةُ

3) دَيْرُ مَارِ دِيمِثْرِيُوسَ

4) حَارَةُ الْمَوَارِنَةِ

5) طَرِيقُ الدَّارِ
الْجَدِيدَةِ

+ دَيْرُ رُومِ الْمَلِكِيَّةِ
Melchite

6) دَيْرُ مَارِ جَبْرِيُوسَ
الْقَبِيْطِيَّةِ

7) دَيْرُ الْعَذْرَاءِ
Deir al Adkia

8) خَانَ الْقَبِيْطِ

9) حَارَةُ النَّصَارَى

+ This descent is called
the 'Akhabat al 'Abide
عَقْبَةُ الْاَبِيْدَةِ
i.e. the ascent (or descent)
of St. George, from the
just mentioned Coptic
Convent. -

v. pl. H. 13.

v. pl. S. 7.

Medisozania

on the W. side (v. No: 785) is the entrance to the Greek Convent of St. Theodore, Mar Thaddeus or Tadrus; & in the corner on the same side (v. pl. C. N.) that to the Casa Nuova, or the Dar al Tadidi, the hospice of the Latin Convent.

Proceeding farther S. in the same Hara & passing by the first turn E. we found near it, on the same side the entrance to a lane leading through court-yards (v. pl. 508 & 489) & to a Greek school within. Returning to the Hara (al Istambuliyé), we reached its end at a short turn (W) & found in the corner (W.) the entrance to the Greek convent of St. Demetrius (v. pl. D.).

From this Convent S. & then turning E. N. E. we entered the Hara (or quarter) al Mawazine (anciently so called; there are no Maronites in Jerusalem now) (v. pl. IV). The S. prolongation of the street, & in fact the whole of it from the Maidan Sab al Khalil to the Casa nuova, is now called 'tarik ^{al dar} al Tadidi, the way of the Casa Nuova. -

Following the windings of the Maronite quarter (E. N. E.) we found in the corner No: 510. the entrance to the (new) Convent of the Greek-Catholics (Melchites) & farther on (N) No: 511. the entrance to the Coptic convent of Mar Girius; & then on the N. side of the descent (E.) the entrance of the Greek Convent of the Virgin (nuns), & opposite to it (S.) that of the Khan al Kibt, the Khan of the Copts (v. pl. No: 476. & No: 263.).

Descending into the long street known by the name Hara al Nasara (the Christians' street [quarter]) we concluded this day's work. (v. pl. VI). -

Ch. I.

+ in the S. end of which, on the E. side, we passed by the Hammam al ^{Patriarch} (the Bath of the Patriarch) & by the Greek Convent of St. John the Prodrome, where a small piece of the prophet's head is exhibited as a precious relic. An Arab said it was called Deir Mar Yohanna al Karia, دَيْرُ مَارِ يُوْحَنَّا الْقَارِيَّةِ, i.e. Convent of St. John the Bald. On the opposite side is Hauser's Hotel (v. pl. No: 237.).

We resumed our work from the Latin Convent, or the Convent of the Efranj¹, to which we descended from the quarter of the 'Jawālid' by a short turn (N) under a Kanbara or Bridge. (v. pl. a. ⁵⁴² L.C.). The street running eastward from it down to where the Christians' Street (v. VI) meets it is usually called the street (quarter) or way to the Latin Convent, 'Hāra (or Sikke') Deir al Efranj²: (v. pl. a). -

Proceeding along this street down to the first turn N. we found next to it on the N. side the entrance to the Greek convent of St. George (or Mar Givius) (v. 8), & on the opposite side (v. c.) an illegible Arabic inscription on a stone-tablet. - A little farther on, on the N. side, was the entrance to the Latin Boys' School, & opposite to it that to the Latin Girls' School (v. pl. d, 545. & c.); next to the Boys' School lies the Greek Convent of St. Michel³, & overagainst it the former residence of the Prussian Bishop, belonging to the Greeks & now used by them for the reception of pilgrims of rank.

Entering from thence the turn N. & following its windings, we found that the complex was called the 'Hāra al 'Haddādīn', i.e. the quarter of the smiths. (v. pl. h.)

A small open place at the end of the first alley to the W. (v. i.) is called 'Hōsh dar 'Istefān⁵, & another small square farther N. ~~was~~ has no other name but that of Saha (area) or court (v. h'). -

Proceeding through a lane running W. of that court we came out, at its N. termination (v. k) into the fields (K.) between the inhabited parts & the wall, & found they were called 'Hākurat al Bayāde'⁷, the field of the whiteness. -

Returning to the just mentioned Saha (h') & entering at No. 588 a street running E., we found it, too, belonged to the Smiths' quarter, as well as another street running N., & a lane with a couple of blind alleys, branching off from it eastward & then turning S., till it meets the prolongation of the street, which we had entered at 588. - ~~Then~~ Following this prolongation to the first turn N. (v. pl. m.), we found that at this turn there began the quarter of the Bab al 'Amūd (the Column - Damascus - gate) or of the Tabā' Bab al 'Amūd⁸ (the followers of the ~~the~~ ^{the} Bab al 'Amūd.

VIth Day
April. 29th

1) دَيْرُ الْأَفْرَنْجِ

2) حَارَةُ (سِكَّة) دَيْرِ الْأَفْرَنْجِ



دَيْرُ مَارِ جَائِيلِ

4) حَارَةُ الْحَدَّادِينَ

5) حَوْشُ دَارِ إِسْتِفَانِ

6) سَاخَةٌ

7) حَاكُورَةُ الْبَيَاضَةِ

8) حَارَةُ بَابِ الْعَمُودِ

9) حَارَةُ تَبَعَةِ بَابِ الْعَمُودِ

v. p. 13.

note.

v. p. 14.

+ The ...

شَيْخُ ...

11 عَقْبَةُ الْبَطِيخِ

21 حَاوِيَةُ النَّصَارَى
(بَلَدِ رُومِ)

31 دَيْرُ مَارِ يُوْحَنَّا أَفْتِيْمِيُوسِ

41 دَيْرُ السَّيِّدَةِ

51 خَطُّ الْخَانِ كَاهِ

(the well known foundation
of Salah ad din.)

61 عَقْبَةُ
سَكَّةِ دَيْرِ الرَّومِ
الْكَبِيرِ

i.e. way (or descent) of
the Great Convent of the
Greeks.

71 دَارُ بَطْرِكِ الرَّومِ

81 دَيْرُ مَارِ نِيْقُولَا

The street running farther eastward from this turn (m) bears the name 'Akabat al Bab al Ka', i.e. the Melon ascent, ^{descent} from the Khanqah at its beginning (v. l.).

Returning W. from m. to the first turn S. (v. pl. 22), 24 we were told it belonged to the Greek Hārat an Naṣāra together with the street from m. to n. -

On the W. side of this street (n) the first entrance is that of the Greek Convent of Mar Yohanna Euthymius (Eftymos) (v. pl. o.); & a little farther on, on the same side lies the Greek Convent of the Lady (Deir as Sayidi) (v. pl. p. No: 825). -

From this street we entered the prolongation of the street of the Latin Convent (a), descending E. This (v. pl. qj.) was called by some Hārat an Naṣāra (Greek); by others Hārat Bab al 'Umūd, & moreover Khot al Khanqah, i.e. the way of the Khanqah, from the building known by this name, lying on the S. side of the street a little to the E. of the point where the Christians' Street (VI) meets this street (qj). v. pl. 2. No: 643. -

Entering the Christians' Street (VI), & proceeding to the first turn W (W.S.W), we found it belonged to the Hārat al Istambūliye (III) (v. p. 9. note 7), but was usually called the way of the Great Greek Convent, Sikke ^{or Akaba} Deir ar Rum al Kabir, which lies on the S. side (v. s, No: 478). On the opposite side lies the palace (house) of the Greek Patriarch (v. pl. t, No: 721), & a little farther W. from this (pl. N. n) the Greek Convent of St. Nicola, 81, where we terminated this day's circuit. -

Ch. S. -

We resumed our work at the *Kanbara* (Bridge), built over the street, or *Khot al Khangah* (v. 9) by the side of its second turn on the left (N.) (v. v. 9). This *Kanbara* is called *Kanbaras al 'Asâfir*, "the Bridge of the Sparrows". - Ascending from this point the street v. we were told it belonged to the (Greek) Christian quarter, but was called from the just mentioned *Kanbara*, the *Sikkat al 'Asâfir*; ² or we might also call it *'Akabat al 'Asâfir*, as it is considerably acclivous. - The alley in it (v. 847) had no particular name.

Arriving at the *Kanbara* l., where the above mentioned *'Akabat al Basikh* begins (v. p. 12, note 11), we followed the windings of this descent (E. N. E.) (v. pl. l.) till we reached the long street leading to the Damascus gate, or *Bâb al 'Amud* (or *ash-Shâm*), & therefore called the way of the *Bâb al 'Amud* (from the point, as we were told, where a turn eastward leads to the ^{French} ~~Consulate~~ ^{Consulate}). (*Hotel of Damascus*, 1024). v. pl. w.

Entering the street just opposite to the Melon-Descent, (v. pl. x.), we found it was called *'Akabat ash Sheikh Sa'id* i. e. the (as-)descent of *Sheikh Sa'id*, a saint or *Waly*, whose tomb lies in ~~the~~ or rather behind, the corner y. - Descending (N. E.) we came out into the long street ^{leading} running from the Austrian Hospice to the Damascus gate, & therefore likewise called the way of the *Bâb al 'Amud* (v. note 4, & pl. w.), from the S. E. corner of the Austrian hospice, or from the opposite building (which had formerly been a Bath (*Hammâm as Sultan*)), & is now a Convent or Church of the Roman Catholic Armenians. - Beyond this *Hammâm* begins the *Wad* (or valley). (*Wadu*)

Following this street (N. W.) to its junction with the other street of the same name (w.), we found that the small widening there was called *Suk Bâb al 'Amud*, or *Suk as Sammânin*, i. e. the Market of the butter-men (v. pl. aa). - *as Sammânin*.

Entering from thence the lane running W. & following its windings & branches, we found that up to where it turns S. E., it belongs to the *Wâra Bâb al 'Amud* (v. pl. bb). From that point farther S. to its termination it seems doubtful, whether it belongs to this quarter, or to that of the Smiths,

VIIth Day
May, 3rd, 1865.

قنطرة العَصَافِير
v. p. 3, note 4.

سَكَّةُ الْعَصَافِيرِ

عَقْبَةُ الْبَطِيخِ

سَكَّةُ بَابِ الْعَمُودِ
Consulate

عَقْبَةُ الشَّيْخِ سَعْدٍ

Some seem to call it
al 'Akabat al Hasire
العَقْبَةُ الْقَصِيرَةُ
The short (as-)descent

حَمَّامُ السُّلْطَانِ

الْوَادِي

سُوقُ بَابِ الْعَمُودِ
سُوقُ السَّمَانِيْنَ
السَّمَانَةُ
or

حَارَّةُ بَابِ الْعَمُودِ

(v. pl. m.)
 the Haddadin (v. p. 11. note 4. & 8); but the branch
 it sends forth (W. S. W.) from the same point (cc.),
 seems to belong to the latter (v. pl. h').

The House of industry, belonging to the London Society
 for the propagation of the Gospel among the Jews, lies
 a little to the S. of point cc. on both sides of the street. (v.
 pl. 24. - 25.)

A thunder storm prevented our proceeding to an-
 other quarter.

O. S.

VIIIth Day.
 May, 6th 1865.

عقبة الست
 عقبة التكية
 (تلك) - (تلك)
 عقبة الملكة ثلاثة
 or عقبة

دار عمر افندي
 النقيب
 عقبة دار فليد الصباغ

خان الكثرية

طريق السراي
 طريق الآلام
 Via dolorum

قناطر أخضر
 vel. for the diminut. form
 خضر (Little Khidra)

The ascent D. S. on the W.
 side of the Khan ez Zeit street, S.
 of the street leading to the Russ. Consul
 is called 'Akaba Deir as Sultan
 (Coptic دير السيدة) or from the
 Russian premises here, all Moscovite,
 الشكوية

We started this time from the Russian Consulate,
 (v. pl. S.), on the hospice of the Russian Knights of St.
 John near it (v. pl. H.). The street running down east-
 ward is called 'Akabat as sitt', 'Akabat al takiyeh',
 or 'Akabat al Malike' 'Helane', i. e. the descent of the
 lady, or of the Convent, or of the Queen ~~Helena~~
 (the so-called hospital of St. Helena) - v. (pl. 1.).

~~This lane~~ street is also called
~~of the Consulate~~ running N. (v. pl. 2.)
 it ~~comes~~ from the Dar (house) of Omar Efendi
 an 'Nakib' (i. e. the administrator), & the descent E. of the
 Russian Consulate running N. 'Akaba Dar Khalil as Salbagh. 5)
 Returning to the Southern prolongation of the
 Damascus street (w), we found that the name of this
 prolongation from the street leading to the French Con-
 sulate (F.) up to the gate of the Suk's (markets) to
 be 'Khan ez Zeit', i. e. Oil-Khan. (v. pl. 2.)

From this street entering the Eastern prolongation
 of the Khangah street (or the descent of the Khanpara
 al 'Asafim (v. q.), we were told it was called 'Tarik
 as Sarai', the way of the Seraglio (the Via dolorosa
 & translated into Arabic (but not used by the Arabs -
 'Tarik al Alam').

From this street we descended the lane, at the S. W.
 corner of which lies the French Consulate (F. No. 107).
 This lane & the Khanparas (bridges) in it (5') are called
 'Kana'ir El Khidra' (family name).

This lane joins, at its N. end, the Damascus street
 (w.), & opposite to it lies the Austrian Hospice (A.).
 Proceeding a short distance N. W. we ascended a street
 running N. W. & N. of that hospice. This street (v. pl.
 6.), on the N. side of which lies the English Consulate (E.)

is called 'Akhabal al Kasilé', i.e. the descent of the grazing place. The meaning of Kasil or Kasilé is: Barley before it shoots into ears, or when it is green, & used for green food. - Before the Austrian Hospice was built on the ground bordered by that street, people used to sow barley there, & ^{then} tether their horses in spring-time for grazing. - At its E. extremity it forms a widening, & the lane running eastward from that (v. pl. 7) is called, as we were told, 'Zokak al Bus', the lane of the Kiss. Why so, I could not ascertain, although our informant, too, derived the Bus from hissing, & not from Bus ^{بوس}, evil, adversity. - Its E. extremity (7) runs along the backside of the Convent & school of the 'Sœurs de Lion'.

عَقَبَةُ الْقَصِيلَةِ 1

زُقَاقُ الْبُوسِ 2

Entering the street running from the 'Ecce homo' N. up to the next transversal street (v. pl. 8.), we found it was called 'Akhabal (al) Hindiye', or 'Akhabal Ibn al Hindiye', i.e. the descent of the Hindoo (lady) or of the Son of the Hindoo (lady). ^{or of the house Hindiye} The cul-de-sac opposite to the 'Zokak al Bus' (7) is called 'Hosh Bahin' or 'Hosh Bezbeze' (5) (which word means a vehement propulsion &c. & the spluttering of water, when it comes forth from the ground on a sudden. - The eastern extremity of the alley borders the backside of the Church of the flagellation (v. 10.), or of the 'Dar or Dein al Hab', i.e. the house (or the Convent) of the Prison, as the Natives call it.

عَقَبَةُ الْهِنْدِيَّةِ 3
عَقَبَةُ ابْنِ الْهِنْدِيَّةِ
عَقَبَةُ كَارِيهِ الْهِنْدِيَّةِ

حَوْشُ بَكِيرٍ 4
حَوْشُ بَرْبَزَةٍ 5.1

Returning to Street '8', & ascending till we reached the first turns W. & E., we were told that the street running W. was called 'Tariq Sheikh Rihan', the way of Sheikh Rihan' (v. pl. 11) & 'Khol Bal al Amud' also, the way of the Column gate. - The alley opposite had no name.

طَرِيقُ الشَّيْخِ رِيحَانَ 7
رِيحَانِ 8
خَطُّ بَابِ الْعَمُودِ 8

Ascending the street running N. (a continuation of street '8', we were told it was called 'Tariq Bab az Zahriyeh', up to its N. extremity near that Bab or gate (the so called gate of Herod) (v. pl. 12). Another one of my informants, ^{more correctly} said 'Bab az Zahire', the gate of the blooming, flourishing (gemm.) ^(but it would be best explained by السَّابِقَةُ = campus resurrectionis). The first turn to the Eastward (v. pl. 13.) belongs to the 'Hara (market) Bab Hytha' (v. Survey of the Haram No. 2)

طَرِيقُ بَابِ الزَّهْرِيَّةِ 9
gate of splendor, from a turbe outside (v. c. 2) - باب الزَّاهِرَةِ 10

حَارَةُ بَابِ حِطَّةٍ 11

10. or rather on
 No. Over the door of
 of the first house of the
 Street, 13, N. side was
 neatly sculptured the
 sentence *توكلت على الله*
I trusted in God.
 جامع منارة الحمراء

4 طريق باب العمود
 على التوروية
 probably so called from the
 order of Dervishes founded
 by Maulana Takkal ad
 din, ar Rumi.
 مولانا جلال الدين الرومي
 5 عقبة التوروية
 4 خارة السعدية

57 عقبة هندية

6 الفانخورا

71 مزار الشيخ لولو
 (Lulu = pearl)

The descent
 running from the pottery
 S. E. to S. W. has no pe-
 culiar name; but be-
 longs to the Harat as
 Sa'adiyeh. (v. pl. 29.)

or alley
 The next turn westward is called 'Jami' Menarat al
 'Hamra', i. e. Mosque of the red Minaret, a ruined
 mosque, whose Minaret still standing looks grey
 rather than red; however, we saw (a few) red free stones
 alternating with white-ones, in the lower part, near
 the entrance.

The next ~~turn~~ ^{street} from this eastward (v. pl. 15) belonged
 we were told to the Quarter of Bab 'Ayta, & the street
 opposite running westward (v. pl. 16), is called 'Tarik
 Bab al 'Amud ala 'l Mawlawiye', i. e. the way of the
 Column (Damascus) Gate, by ~~the~~ (mosque of) Mawlawiye.
 Its Western end or descent (v. pl. 16') is called
 'Akabat al Mawlawiye'.

The Northern half of Street, 12, which I have mark-
 ed with 12', belongs to the 'Hara (or quarter) ex-
 tending to westward as far down as the Damascus
 gate & called Harat as Sa'adiye (or Sa'adiye).

Entering from it the street running westward next
 to the town-wall (v. pl. 17), ~~mentioned~~ mentioned
 quarter, we found it had no peculiar name. From
 it we came out upon a kind of square, likewise with-
 out a peculiar name. The descent running S. E. from
 it was called by our informants 'Akaba Hindiye'.

Descending from the square towards the Bab al 'Amud
 we were told that the place marked with 19. is call-
 ed al Fakhura (?) Pottery (?). #

Turning round southward into the Damascus gate,
 street we passed by the the Magar of Sheikh Lulu
 (v. 20), & proceeding to the Suk (aa) entered the first
 street running N. E., which is another of the ways
 to the Damascus gate (سكة باب العمود) (v. 21), or the pro-
 longation of the above (ii) mentioned 'Tarik ash Sheikh
 'Rihan.

at the first turn N. we reached the S. end of the above
 (16') mentioned 'Akabat al Mawlawiye', at the S. E.
 corner of which lies the Austrian Consulate (A.C.).
 Proceeding farther eastward to the second turn (N. W.)-
 (v. 22) we were told this, too, was called 'Akabat al Maw-
 lawiye'.

Ch. J.

We commenced this day's work from the "Muristan",¹ on the Area of the Knights of St. John. - This name Muristan (Hospital) seems to belong more exclusively to the N. E. corner, about the ruins of the church of Maria de Latina & the hospital. -

The small mosque on the N. Side (without the enclosure) is called "Jami' al 'Omari".² -

Returning to Street VI we entered, at the first turn E., the short descent leading to the Church of the Sepulchre on the resurrection (Kanisa al Kiamé³). This descent or "Kantara" is called the "Kantarat al Kiamé".⁴ v. pl. a

Going round the front-court of the Church we passed on the S. side, by the entrance of the Greek Convent of Gethsemane v. pl. (b.). - On the E. side we came first to the Greek Convent of Abuna Ibrahim (our father Abraham)⁵ (v. pl. 8.). Near to it lies the ^{Romanian} church of St. John, Kanisa Mar Yohanna v. pl. 8; & in the N. E. corner the Coptic church of the Convent of the Angel (Deir al Malak)⁸ (v. pl. 5.). On the N. side, near the portal, is the Kanise' Maryam al Masriye', the Church of Mary the Egyptian⁹ (v. pl. 8); & on the W. side, near the belfry, the Church of St. James Kanise' Mar Yakub (Greek),¹⁰ v. pl. 5.

Leaving the Court at its S. E. corner we entered the lane running E., which from having been, some ten years ago still, the street of the tanners' work-shops, is still called ad Dabagha, or Harat ad dabbaghin.¹¹ (v. pl. 7).

On the S. side of the lane, where it widens, is the N. Portal of the Area of the Knights of St. John. (v. pl. 2).

The first turn S. is the way leading to the Butchers' Market, Suk al Lakhamin (v. pl. 1.)¹² -

Turning N. for a few paces, & then E., we arrived at the end of the Street called Khan az zeit (v. pag. 14, note 6.), & at the entrance to the Market of the Grocers or Spicers, Suk al Attarin.¹³ (v. pl. 8.)

The market extending along the S. half of the just mentioned grocers' market, on its E. side, is partly called the gold (silver) smiths' market (N. half, pl. 2) Suk as Sayyagh (Sayyagh, Sawwagh)¹⁴, partly (S. half, pl. 2) the Merchants' Market, Suk al Khamwajab.¹⁵ The short distance betw. its S. end & the Kantarat al Kiamé belongs to it (v. pag. 7, note 2. p. 41).

Entering the street running E. from the S. extremity of the Khan az Zeit street, or quarter, we were told

IXth Day.
May, 9th, 1865.

مُرِسْتَان = بيمارستان
(Arab. pers.) = hospital.

2) جامع العمري
" كنيسة القيامة

3) كنيسة القيامة
4) قنطرة القيامة

دير جثسيماني

6) دير ابونا ابراهيم
7) دير ابينا ابراهيم

8) كنيسة مار يوحنا

9) دير الملاك (ملك)

10) كنيسة مريم المصرية

11) كنيسة مار يعقوب

12) الدباغة
حارة الدباغين

13) سوق اللحامين

14) سوق العطارين

15) سوق الصياغ
السقواغ

16) سوق الخواجات

خارطة باب السلسلة

+ Loue said it was the way to the Wady

خط طريق على الوادي

خط الشيخ محمد

خط القرمي

on simply (i.e. of the Crimea)

حمام العين

قنطرة دار جاش كاتب

سوق القطنين

حمام الشفاء

المظهرة

ممشا خانه (Turk. arab.)

باب الحديد

باب علي الدين

مدرسة الشيخ

بديتر only for the diminut. form little moon

سبيل الحرام

(Sabil = path of good work)

مسجد بيرام چاوش (Turk.) arabized شايوش

it was one of the streets belonging to the Hara Bab as silsile' (gate of the chain, v. Haram Survey No: 68), & had no distinguishing name. This quarter extends eastward down to the so called Wady between the street we had just entered (N.) & the Silsile' Street (S.) (v. pl. v.)

Taking the first turn S. we found it was called the ~~Silsile'~~ ash Sheikh Mohammed al ~~Kirami~~ from the tomb of that holy man there (v. pl. 3 & M.) or 'Whot al Kirami.

Descending the street, running from that street southward, into the Wady (valley) (v. o.), we entered the latter near the Hammam al 'Ain', the Bath of the Spring.

(v. pl. II.). The Wady Street runs up from here southward to where it joins the Silsile' Street, at which point lies the house of the Bash 'Khatib' (chief clerk or secretary), forming a Hanbara or Bridge. (v. pl. 3) -

From the Hammam al 'Ain turning ~~to~~ eastward we entered the Suk al 'Kattanin' (Cotton-sellers' market, quondam), which leads to the Bab, or gate, of the same name (v. Haram Survey, No: 65) (v. pl. 5)

About half-way between the two extremities of this Suk, on its S. side lies the Hammam ash Shafa', the Bath of the healing (v. pl. 2), & a small alley read to it running S. leads to the place called al Mashara' (Latinia) (v. Haram Survey, No: 66). v. pl. v.

Taking a lane opposite the Hammam ash Shafa', running northward & without a distinguishing name (except that of a way leading to that of the Iron Gate: we reached through it (v. p.) the passage of the Bab al 'Hadid' (Iron Gate, v. Har. Surv. No: 64 & pl. X. - The alleys in it had no peculiar name. -

Returning to the Wady Street, we entered the next turn to eastward, or the passage of the Bab 'Ali ed-din' (v. Har. Surv. No: 63) & pl. 4. On the S. side of this passage, nearer to the Haram, is the ^{Madrasa} Madrasa of the Sheikh 'Abd' (v. pl. w.)

Returning to the Wady Street we passed at the N. W. corner of the just mentioned passage by ~~the~~ a (now dry) fountain, called the Sabil al 'Haram', & built according to an inscription by Sultan Sulaiman (I) the Son of Selim (I). v. pl. ~~the~~ S.

Just opposite is a Masjed, called the Masjed of Beiram (?). ~~The~~ Tshau'sh (apparitor) said to have been one of the apparitors, or attendants, of Mohammed v. pl. 13.

Proceeding farther on (N.W.) we passed by the Military Hospital (v. pl. aa) & taking the next turn eastward found it ~~it~~ was called Daraj as Sarai (Stairs of the Soraglio" (v. pl. BB). Opposite the entrance of the Soraglio (on Pasha's house) lies the Mzbekiye, i.e. the place where ^{Muslim} pilgrims from Talawy have their residence. (v. pl. 88.)

Proceeding to the End of the ascent, the Bab al Ghawarine (v. Har. Surv. No: 61 & pl. 88) we entered the lane leading to it, or the Sikke' Bab al Gawarine (pl. 82) at the N. End of which (the Ecco homo arch, we turned westward, into the street leading down to the Austrian hospice, or the Wad (Wady) & called Tarik as Sarai al Kadim (55), now transformed into barracks (v. pl. BB). -

Returning to the Silsile' Street (leading to the Bab as silsile' (v. Har. Surv. No: 68.) & ascending from the house of the Bash Katib (v. pag. 18, note 4.) westward, we ~~came after the second~~ ^{saw} before we reached the first turn S., a school, & entering the courtyard in front of it, two tombs, the inscriptions of which I copied, (v. pl. 82.) They had no reference to the name of the street. The one on the S. side is the tomb of Husam ad din⁵¹, who died in the year of the Hijre' 644; the other on the N. side is that of Bada ad din al Barke Khan⁶¹, who died in the y. of the H. 678. - From it the place is called Al Barke Khan. - Next to this school (W.) lies a ruined mosque (v. pl. M.) which is called Jami' al Magharibe' al Kadim⁷¹.

After the next turn S. the street is called the Suk ad dallalin⁸¹ (Market of the broken or fripperies) v. pl. 88; & farther on, beyond the next turn N (v), it is called Suk al Khadhra or al Khadhrawat⁹¹ (i.e. the Greens' Market) v. pl. 89.

The corner South of the Merchants' Market (v. pag. 17, note 15¹⁰¹) is called Al Bashure' ¹⁰¹ or Suk al Bashure' v. pl. 89., & so also the Coffee shop in it.

The street ascending from these vaulted markets westward up to the Suwaikal Allin (v. pag. 1, note 5.) is called Suk al Bizar¹¹¹ (Market of seeds or grains) ¹¹¹ ^{Oh. Land}

درج السراي

الأزبكية
من أربك (Mzbekiye)

يهودا الإنسان

طريق السراي
القديم

حسام الدين

بدر الدين
البركخان

جامع المغاربة
القديم

سوق الدالين

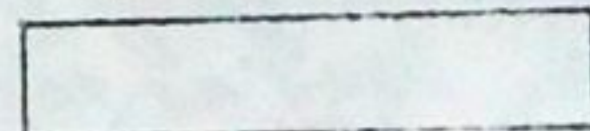
سوق الخضراوات
الخضرة

سوق الباشورة

قهوة الباشورة

سوق البذار
the ذ is pronounced like ز. -

Xth Day.
May, 13, 1865.



طريق الحبس
طريق سراي
بيلاطس

طريق باب سیتی
(سیتنا) مریم
سکة دیر العدس

مسجد المجاهدين
مقبرة

خارة باب حفة

بركة اسرائيل

حمام سیتی مریم

الصلاجية
الصلاجية (2)

باب سیتی (سیتنا)
مریم

برج القلق

Commencing from the "Ecce Homo" arch & pro-
ceeding Eastward in the above mentioned street of the old
Sraglio (v. pag. 19, note 4) which is also called Tarik al
Habs, or Tarik Sarai Pilatus² (by the Christians), i.e. the
way of the Prison, or of the palace of Pilatus, & moreover
Tarik Bab Sitti (or Sittina) Maryam,³ i.e. the way
of the gate of My (or Our) Lady Mary. (v. pl. n).

The first turn N. is called Sikhe Deir al Adas,
(way of the Lentil Convent (lately bought, or repurchased by the
Greeks; it seems to have been a Phorba Khane (شورباخانه
(Turk. شورباخانه = Soup-house). v. pl. b. n. a.

The next turn S. is the passage of the Bab al Ahm
(v. Har. Surv. No: 3, & pl. c.).

Just opposite to the entrance of this passage lies the
Masjed (a small Makbara ~~of the Mujahidin~~) of the Mujah-
hidin⁵, i.e. the chapel (small mosque) & Cemetery
of them that fought against the Infidels (the Knights
of the Crescent), v. pl. d.

The next turn S. is the passage of Bab Hytta,
v. Haram Surv. No: 2. & pl. r; and from the
opposite turn N. begins the Hara Bab Hytta
on the quarter of that gate (v. pl. f.), of wh. this is the
principal street.

Passing on towards the Gate of My Lady Mary (St.
Stephen's G.) we had on our right (S.) the Birket
Israel (the pool (or piscina) of Israel⁷) v. pl. j.

& farther on, on our left (N) the Hansman Sitti
Maryam, the Bath of My Lady Mary⁸, & behind this,
(N) the Premises of the St. Anne, or the Salahiye,
now belonging to the Emperor Napoleon, v. pl. A.S.

The next turn S. is the way to the Bab al As-
bat (v. Har. Surv. N: 58. - v. pl. y.

From the Gate of Sitti (or Sittina) Maryam,
(v. Pl. S.M.) which we had now reached, we turned
northward along the town-wall. The lanes running
from this side westward to the principal street
of the Hytta Quarter, belong all to that quarter
& have no distinguishing name. The tower forming
the N.E. Angle of the town is called Burj Laklak
(or al Laklak), i.e. the Stork (s) tower, v. pl. L.

Turning westward from that tower we entered the *Hāra* (or quarter) of the *Bab as zāhiré* (or as *sāhiré*) v. pag. 15, note 9. 10.) pl. g, & taking the first turn Southward leading to the principal street of the *Hytta* quarter, we passed, on the W. side, by a ruined building, which is called *Al Māmūniyé*, & said to have been a church (now a pottery, *Ta Khūra*, like the place mentioned pag. 16, note 6.), v. pl. f. — The street, on ascent, turning westward (pl. i) is called *'Akabat Abū Waly*.

+ but belonging to the *Bab as sāhiré* quarter —

1) *الأمونية*
the place of him, in whom we put trust.

A short turn to eastward brought us into the principal street of *Bāb Hytta*, & ascending the next turn to westward, which is called *'Akabat ash Shaikh Hassan*, the ascent (descent) of the *Shaikh Hassan*, we came to the *Deir al 'Adas* (pag. 20, note 4), from whence turning northward again, & then entering the street turning westward (v. pl. (Indigo) 13.), we found there the tomb or *Mazār* of the *Shaikh Bostāmy* (v. L.)

عقبه الشيخ حسن

Returning to the *Deir al 'Adas* street, & going up to where the quarter of the *Bab as sāhiré* begins (v. f' or backside of the *Māmūniyé*), we took a street running N.W. from that point, & belonging to the *Hāra* or quarter *As Saādiyé* (v. pag. 16, note 4.) pl. m. & there terminated our survey. — Ch. S.

4) *مزار الشيخ بستامی*
?

And now, in conclusion, I beg to state that, far from considering this survey to be complete, I can but call it an attempt to make the best of about twenty leisure-hours, in that line of research. — It was on purpose to do the work free of all influence that I entirely refrained from being guided by previous attempts in the same line (for instance the plan of Mr. Van de Velde. 1858); & not having had at hand the work of *Mujir ad din*, I was unable to recur to that authority for vouchers; & thus only read this account to a learned Muslim Sheikh, whose remarks are to be seen in my corrections.

To assist you in your arduous & highly interesting undertaking, as much as was in my power, was my sincere desire, & will I trust conciliate to me your indulgence. —

I am, Dear Capt. Wilson, Yours
very faithfully
Ch. Sandars

Jerusalem, May 15th, 1865.

No: 13.	Bab al Maghira, i. e. the gate of the cave or grotto (under the rock). -	بَابُ الْمَغَارَةِ ¹
No: 14.	Lissân as Sakhra ² , the tongue of the rock (a tongue-like protruding point of the rock above the entrance of the cave inside). -	لِسَانُ الصَّخْرَةِ ²
No: 15.	Mihrab Suleiman. ³	مِحْرَابُ سُلَيْمَانَ ³
No: 16.	Mahall ras an naby (Mohammed) (a slight cavity in the ceiling of the cave). -	مَحَلُّ رَأْسِ النَّبِيِّ ⁴
No: 17.	Makâm al Khidr ⁵ , the (standing) place of Elias &c. as above.	مَقَامُ الْخَضِرِ ⁵
No: 18.	Makâm al Khalil, ⁶ the (standing) place of the Friend, i. e. Abraham.	مَقَامُ الْخَلِيلِ ⁶
No: 19.	Mihrab Dâud, ⁷ the Mihrab of David.	مِحْرَابُ دَاوُدَ ⁷
No: 20.	Bîr al Arwah, ⁸ the well of the Spirits,	بَيْرُ الْأَرْوَاحِ ⁸
No: 21.	Rumman an naby Dâud masnu' bi yadîhi ⁹ , the pomegranate of the prophet David made by his own hand.	رُمَّانُ النَّبِيِّ دَاوُدَ مَصْنُوعٌ بِيَدِهِ ⁹
No: 22.	Sinjak 'Omar, ¹⁰ the banner of 'Omar.	سِنْجَقُ عُمَرَ ¹⁰
No: 23.	Kadam Mohammed, ¹¹ the foot (print) of Mohammed.	قَدَمُ مُحَمَّدٍ ¹¹
No: 24.	Sarj al Burâk, ¹² the saddle of the Burâk. (Mohammed's fabulous horse).	سَرْجُ الْبُرَاقِ ¹²
No: 25.	Turs sayidna Hamza ¹³ , the buckler of our Lord Hamza (the prophet's uncle). -	تُرْسُ سَيِّدِنَا حَمْزَةَ ¹³
No: 26.	Kaff sayidna Jabra'il ¹⁴ , the hand (print) of our Lord Gabriel.	كَفُّ سَيِّدِنَا جِبْرَائِيلَ ¹⁴
No: 27.	Kiblat al Âmbiâ' ¹⁵ , the prayer (standing) place of the prophets.	قِبْلَةُ الْأَنْبِيَاءِ ¹⁵
No: 28.	Kadam sayidna Idris ¹⁶ , the foot (print) of our Lord Idris (Edris), i. e. Enoch.	قَدَمُ سَيِّدِنَا إِدْرِيسَ ¹⁶
No: 29.	Balâta al Janna ¹⁷ , the flagstone of the paradise on Kabr Suleiman (sepulchre of Solomon).	بَلَاطَةُ الْجَنَّةِ ¹⁷
No: 30.	Taklid saif 'Ali, ¹⁸ the imitation of 'Ali's sword. Our guide, on being asked the meaning of taklid in this case, said it means mithl (مِثْل), i. e. similitude. -	قَبْرُ سُلَيْمَانَ ¹⁸ تَقْلِيدُ سَيْفِ عَلِيٍّ ¹⁹

- No: 31. Mahkamat an Naby Daūd¹, the tribunal of the prophet David.
- No: 32. Mawāzīn al 'Kās², (Balances of the Cup v. No: 35).
- No: 33. Minbar as Saif³, (the Summer pulpit).
- No: 34. Mawāzīn al Mahkama⁴ (Balances of the tribunal or court of justice). -
- No: 35. Al 'Kās⁵, the cup, i. e. the fountain or jet d'eau, fed with the water conducted from Atlas.
- No: 36. Bāb al Ākṣa al Kadīm⁶ (the guide made it femin. Kadīma), the gate of the old Ākṣa. - (No: 36)
- No: 37. Al Mihrāb⁷ (below).
- No: 38. Kubūr Awlād Harūn⁸, the tombs of the children of Aaron, v. No: 43.
- No: 39. Abwāb al Harām al Kadīm⁹, the gates of the old Harām.
- No: 40. Mihrāb Sulaiman¹⁰, Solomon's Mihrāb.
- No: 41. Mahām al Khidhr¹¹, the (standing) place of Elias &c as above.
- No: 42. Al Kiblat al Kadīma fi' l Ākṣa al Kadīm(i)¹², the old Kibla in the old Ākṣa. Here also our guide used the femin. of the adjec. & it occurred to me, that they supply (mentally) another word, perhaps بَقْعَة (place generally).
- No: 43. Kubūr Awlād Harūn, v. No: 38.
- No: 44. Mihrāb al Imām al Shafi'ī¹³, the Mihrāb of the Shafi'ite Imam.
- No: 45. Minbar Omar¹⁴, Omar's pulpit.
- No: 46. Kadam 'Alisa¹⁵, the foot (print) of Jesus.
- No: 47. Mihrāb Musa¹⁶, the Mihrāb of Moses.
- No: 48. Our guide called that place Al Bakāat al Baidha¹⁷ (the white corner, or track, or place), & knew nothing of the name given by Catherine viz. Mosque of Abu Bakr, & another Muslim told me there was no such mosque. - This suggested to me the above idea (No: 42). -
- No: 49. Jāmi'a Omar¹⁸, the mosque of Omar, -
- No: 50. Jāmi'a al Arbā'in¹⁹, the Mosque of the Forty (properly Shuhūd (شُحُود) martyrs; yet I could not ascertain the tradition. -

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مَحْكَمَةُ النَّبِيِّ دَاوُدَ

٤
مَوَازِينُ الْكَاسِ
٣
مِنْبَرُ السَّيْفِ

٤
مَوَازِينُ الْمَحْكَمَةِ

٥
الْكَاسُ

٦
بَابُ الْأَقْصَى
الْقَدِيمِ (ع)

٧
مِحْرَابٌ

٨
قُبُورُ أَوْلَادِ هَارُونَ

٩
أَبْوَابُ الْحَرَامِ الْقَدِيمِ

١٠
مِحْرَابُ سُلَيْمَانَ

١١
مَقَامُ الْخِضْرِ

١٢
الْقِبْلَةُ الْقَدِيمَةُ فِي
الْأَقْصَى الْقَدِيمِ (ع)

١٣
مِحْرَابُ الْإِمَامِ
الشَّافِعِيِّ

١٤
مِنْبَرُ عُمَرَ

١٥
قَدَمُ عِيسَى

١٦
مِحْرَابُ مُوسَى

١٧
الْبَقْعَةُ الْبَيْضَاءُ

١٨
جَامِعُ عُمَرَ

١٩
جَامِعُ الْأَرْبَعِينَ

No: 51.	Mihrâb Yahya wa Zakariya ¹¹ , the Mihrâb of John & Zachariah.	مِحْرَابُ يَحْيَى وَ زَكَرِيَّا
No: 52.	Bab al Khidr ¹² , the gate of Elias or	بَابُ الْخَضِرِ
No: 53.	Ab Masjed al Qadim ¹³ , the old (small) mosque, the old temple.	الْمَسْجِدُ الْقَدِيمُ
No: 54.	Sarin Sayidna 'Alisa ¹⁴ , the couch (cradle, bed) of our Lord Jesus.	سَرِيرُ سَيِّدِنَا عِيسَى
No: 54.	Mihrâb Maryam ¹⁵ , the Mihrâb of (the Virg.) Maria.	مِحْرَابُ مَرْيَمَ
No: 55.	Makâm al Hawariyîn ¹⁶ , the place of the disciples (of Christ). -	مَقَامُ الْحَوَارِيِّينَ
No: 56.	Makâm Yahya wa Zakariya ¹⁷ , the place of John & Zachariah.	مَقَامُ يَحْيَى وَ زَكَرِيَّا
No: 57.	Bab al Taûbê ¹⁸ (the gate of conversion or penitence); or Bab al Dâheriye ¹⁹ (the gate of the Eternal? (neuter). A Moslem scholar told me it must be written Bab al Dâheriye ¹⁹ , having reference to Dîbars & his 'asâkir (عَسَاكِر), i. e. armies. - (Golden Gate).	بَابُ التَّوْبَةِ بَابُ الدَّهْرِيَّةِ بَابُ الظَّاهِرِيَّةِ
No: 58.	Bab al Asbâ' ²⁰ , the gate of the Tribes (Israelitic)	بَابُ الْأَسْبَاطِ
No: 59.	Bab Hytha v. No: 2. Our guide added no article to the Hytha.	
No: 60.	Bab al 'Atm v. No: 3.	
No: 61.	Bab al Ghawânimé ¹² (by others Ghawâriné ¹³ & Bab al Dawidâ' ¹⁴ , of which the first may have reference to booty brought in there, the second seems to the inhabitants of the Ghôr (غُور), & the third means the Gate of the Secretary.	بَابُ الْغَوَانِمَةِ بَابُ الْغَوَارِنَةِ بَابُ الدَّوِيدَارِ
No: 62.	Bab as Sarai ¹⁵ , the gate of the seraglio.	بَابُ السَّرَايِ
No: 63.	Bab an Nâzir (Nâdhir) v. No: 5. The above mentioned Moslem Scholar knew nothing of that gate or name, nor of the tradition connected with it. - He called it Bab 'Ali ad dîn & al Nosfri.	
No: 64.	Bab al Hadid ¹⁷ , the iron gate.	بَابُ الْحَدِيدِ
No: 65.	Bab al Kattânîn ¹⁶ , the gate of the Cotton-sellers.	بَابُ الْقَطَّانِينَ
No: 66.	Bab al Makhara ¹⁹ , the gate of the Lavacrum (here = to sanctuary latrina (the place of the water-closets). -	بَابُ الْمَطَهْرَةِ
No: 67.	Bab as Salâm ²⁰ , the gate of peace.	بَابُ السَّلَامِ
No: 68.	Bab as Silsile ²¹ , the gate of the chain.	بَابُ السِّلْسِلَةِ
No: 69.	Bab al Maghâribi ²² , the gate of the Western (Africans)	بَابُ الْمَغَارِبَةِ

Jerusalem, May 6th 1865. A. Sandreotti.