

cut away like that to the east as if the mosque had once extended from one pier to the other (*see* dotted line on plan). At that time the entrance to the cavern and to the mosque was through the "stable." Former writers mention a bench of some length on the west side of the cavern. This has disappeared, and the Sheikh told me that it had been quarried away for building stone. At the north end there is a small recess, the bottom of which is a few feet lower than the floor of the cavern. The latter, as I remember it, was an uneven surface of rock, but it is now quite level and is apparently formed of quarry chippings set in lime. The height of the roof from the floor is 32 feet, the various levels are shown on the sections. The apse and mihrab-shaped recesses in the rock walls of the cavern seem remarkable, and in the west wall there is a square niche, that can only be reached by a ladder, which looks as if it might have been a cell.

As some advocates of the new Calvary say that at one time there was a church on this green (rather rocky) hill, of which traces can still be seen, I examined the place and found nothing. A little north of the end of the cave and on the northern slope of the hill there are rude traces of a moderate sized square enclosure which certainly was not a church, and probably belonged to some Moslem tomb.

It appears that the floor of the cavern was levelled in expectation of a visit from the German Emperor, and that the stones for the new walls were quarried inside the cave. The marks of the powder used in blasting are plainly visible.

THE MURISTAN, OR THE SITE OF THE HOSPITAL OF ST. JOHN AT JERUSALEM.

By BAURATH DR. CONRAD SCHICK.

(A)—HISTORICAL NOTES.

IT IS well known that the site of the former Palace and Hospital of the Knights of St. John now bears the name "Muristan," an Arabic expression (derived from the Persian) for a hospital.

Some fifty years ago it was, besides some buildings and ruins round its boundary, an elevated meadow or arable field, quadrangular in form and tolerably level, on an average 480 feet long from west to east, 430 feet broad from north to south, and raised some 25 feet above the streets where shops and arches penetrate into it, indicating that the whole might consist of similar buildings covered with a great mass of earth.

In the year 1867 Sir Charles Warren, on behalf of the Palestine Exploration Fund, made some excavations in the hope

of finding remains of the so-called second wall of the ancient city. He made a trench across the place from south to north on an average 25 feet deep, to the level of the surrounding streets. A report of the work is given in "The Recovery of Jerusalem," London, 1871, p. 269 *seq.* As regards the second wall, the result was negative. In general, the trench was not made deep enough, and no subsequent excavations have been made deeper than were absolutely necessary. In general, the masonry found standing was removed to use the stones again, or if standing on a fitting spot the new buildings were erected upon it. As this has been going on for so many years, it has caused me much trouble and continual watching to note what was found and then removed, in order that I might be enabled finally to make a plan of the whole ancient building, which I have now done, and submit it to the students of ancient Jerusalem. Standing so near eternity, I could not wait to give a more complete work, and have now prepared the necessary plans and sections. These are as accurate as I can make them, knowing that further excavations will complete and correct them where any mistake may have been made.

In 1867 Sir Charles Warren also made several shafts, which are shown in the drawings; one towards the north-west brought him 28 feet deep to a manhole and a stair leading into a number of cisterns. Over them, as is now proved, stood the Church Maria major; the rock is met at these cisterns (see "Recovery of Jerusalem," p. 272), and shown in the sections, Nos. 6 and 10.¹ Three years later, in 1870, the eastern part, or about one-third of the whole place, was given by the Sultan to the King of Prussia, afterwards German Emperor. In consequence this part was subsequently better excavated and examined, and a great deal of the accumulated earth removed, so that I was able to make a more detailed plan of it, which was first sent to the Prussian Government, and then also to Sir Charles Warren, who published it in his portfolio with some sections (Plate L). The northern part of it, or the church with the former convent, is also published in the *Quarterly Statement*, 1872, p. 100, and more fully described in the "Jerusalem" Volume, p. 254 *seq.*

Soon afterwards the Greek Convent began to clear partially their part, east of the so-called Gethsemane Convent, and to erect

¹ The sections and plans referred to but not reproduced are preserved in the office of the Fund.

a row of eight shops, but as they made the new street which it was designed to form, and to call "Crown Prince Frederick Street," too narrow, a new plan was prepared, and the end shops had to be pulled down. This seems to have led the Greek Convent to secure their ground throughout the whole line by building shops along it. Their foundations are not deep, and so neither the lie of the rock nor anything of interest was found.

In building the new Erlöserkirche, the foundation stone of which was laid in October, 1893, new foundations had to be laid throughout, as the old walls rested on *débris*, and not on firm ground. In digging for new and rock foundations it was found that there and in the neighbourhood was once a quarry and the rock was hewn not to a level, but in high steps at different levels, everywhere lying deep under the surface, as I have shown it in the drawings.

As during the last four or five years the Greeks went on clearing their ground, many things were discovered, which I have indicated on the plans and sections. These are:—No. 1. A plan of the whole Muristan with the immediate surroundings, showing things underground; No. 2. A plan of the same extent, showing things above ground (as far as known). Then to show the various levels, &c., there are ten sections, namely:—Nos. 3, 4, 5, 6, 7, from west to east, and Nos. 8, 9, 10, 11, 12, from north to south, marked with the respective letters on the plans.

(B)—OLD HISTORY OF THE MURISTAN.

Of this we know very little, as the real knowledge of the place begins with the Crusading time. That it had an older history is certain. In Nehemiah's description of the rebuilding of the city wall, we may positively expect some reference to it, and the pool of Hezekiah goes back even further. This pool, just west of the place in question, is ascribed to King Hezekiah, the hero in water-works at Jerusalem, and not much can be said against this idea. The ancient city of David and Solomon was situated on the southern hill, and its northern wall was south of the Muristan, which was hence outside that city. Now east of the Church of the Holy Sepulchre, or north-east of the Muristan, is a levelled and high platform with perpendicular sides,¹ as I have pointed out elsewhere. That such a locality was of importance even in the

¹ Not recognisable by one unacquainted with the spot, as all is covered with *débris*, earth, and houses built thereon.

remotest time, and in fortifying the capital town of the Israelite kings had to be taken into consideration, is quite certain, so much so, that Sir Charles Warren even put the celebrated stronghold "Zion" there ("The Temple or the Tomb," London, 1880, p. 33). We may therefore with good reason suppose that in very early times some buildings were erected on it as a kind of detached fortress, and it is quite natural that the space between this and the city wall may have had houses or public buildings erected on it, so that Hezekiah found it good to embrace it with a wall (2 Chron. xxxii, 5), and at the same time to bring the detached fortress into close connection with the main fortifications of the city. This is the first mention of the so-called second wall. In the western part of this new addition to the existing city Hezekiah built a pool to provide this quarter with water. The upper part of the shallow and broad valley there was just a fit place for such a pool, only a dam had to be built or a strong wall, which probably became the "broad wall" mentioned in Neh. iii, 8, xii, 38, a piece of which I saw in 1846, as shown in Section No. 4 (*see also* Section 10).

In Neh. iii, 7, is mentioned the throne or residence (or seat) of the governor, meaning apparently the fortress I have mentioned, and afterwards it is mentioned that one of the apothecaries repaired, *i.e.*, fortified, Jerusalem unto the "broad wall," which, from the configuration of the ground, must have been just at the Muristan (Neh. iii, 8). A hundred and thirty-six years before, at the destruction of Jernusalem by the Chaldeans, this quarter was destroyed, and this was the beginning of the great mass of *débris* and earth there, which it would seem that Nehemiah levelled, and hence the special expression יְעֻזֵּב is used in Neh. iii, 8, but not elsewhere. In our Lord's time this quarter was crowded with buildings, which were destroyed after the Romans had taken the second wall, and this was the second step in causing the accumulation of *débris*, which formed a place for exercising the troops stationed in the neighbouring fortress.¹ After the Church of the Holy Sepulchre had been built by Constantine in its neighbourhood, the place in course of time became the property of European Christians for the lodging of pilgrims, until the time of the Crusades, when the Knights of St. John took up their abode there and made it the centre of their activity. As all this is well known I will not dwell upon its history under the Christians.

¹ That is after the rebuilding of the city by Hadrian.

(C)—EXPLANATION AND DESCRIPTION OF THE PLANS AND SECTIONS.

1. *The Second Wall.*—There have been found in several places remains indicating the existence of an old and thick wall, but not one of these is without doubt, and hence the result is to some degree negative. Still these remains are of great importance, and may, by future excavations, be proved to be traces of the second wall. Beginning in the east, there was found under the flooring of the old church, where now is the Erlöserkirche, an old wall of remarkable thickness running along near the middle of the church (see Plan No. 1), which was at the time considered to be a portion of the second wall. In the official report of the visit of the German Emperor to the Holy Land—"Das deutsche Kaiserpaar im Heiligen Lande," Berlin, 1899, p. 182—it is said:—"It is of great interest that the altar of the new church came to stand just upon the city wall of the time of Christ." And when the Moslem house north-east of the large apse was built some forty years ago, I saw a wall of large stones under ground exposed in digging the foundations, so most likely outside the apse the old wall had a corner and bent there towards the north, as shown in dotted lines on Plan No. 1. At the western part of the church this wall had a breach in it, and on the north and south a mass of masonry, as if there had been there a tower, afterwards utilised for a cistern, and over it the belfry had in the time of the Crusaders been erected. The tower of the new church has also been placed there, but the cistern was done away with. West of the church, when some years ago new foundations were laid for the new shops and buildings along the west side of the Crown Prince Frederick Street, about 10 feet below the surface, as it then was, a thick wall was discovered just between the two new piers, as shown in Section No. 11 and Plan No. 1, and its continuation in No. 10, where the wall came even higher. Further west, in the Gethsemene Convent, are in the same line large stones of a ruinous wall, which certainly went further west; but all is there covered with buildings. In the same line, close to Christian Street and west of it, I saw large stones when the street was improved. They had to be broken and removed. The line drawn further west for 150 feet meets the house projecting northwards into the road, so that the latter makes twice a bending. This house stands on a wall about 60 feet long and 11 feet thick,

all solid and in the very line, so that I consider it to be a piece of the ancient second wall. At its western end, just on the top of the hill, is ancient-looking masonry, and the road bends southwards, running first through a covered archway in a direction towards David's Tower, but going in zigzag¹ for 300 feet to the well-known remains of the second wall found about twelve years ago. If this was really the second wall, Calvary and the Holy Tomb would have been 235 feet outside of it. Whilst I am convinced that these are traces of the second wall, I confess there are no absolute proofs of their being such, and hence objections may be raised against this opinion.

2. *The Churches.*²—The place contained three churches, two of which have been known for a long time, and the third, or remains of it, were found by the excavations of the Greeks a few years ago. The eastern church, the latest built of the three, has now been rebuilt as the German Erlöserkirche, and it is not necessary to describe it here. It was the Maria Latina minor, not major, as it has been hitherto considered.

The second or, as it is now proved, the Maria Latina major, was found 25 metres distant south-west of it, and just over the tanks Sir Charles Warren discovered in the year 1867, and described in "The Recovery of Jerusalem," p. 272. Of the southern (smaller) apse, as well as of the large or middle one, two courses of masonry had been preserved, whereas the northern apse had disappeared, and in its place a cistern mouth was found. There were also a few basements of the former piers still *in situ*, as also some parts of the walls, so that the plan of the church could be restored (*see Plan*). Several very fine large carved capitals were also found, not of pillars but of piers, and the best preserved of these may be still seen. Small marble pillars were on the edges of the apses *in situ*. The workmanship of all this was better than on the first mentioned church. In plan and size both churches were very nearly the same. Some other carved stones were also found, similar to those at the northern entrance of the Erlöserkirche, and at a spot indicating that also this church had an entrance at its north side. Under the northern side aisle cisterns were found, but it was not so under the southern aisle, where there seems to

¹ The old wall goes in a more direct line now under the houses.

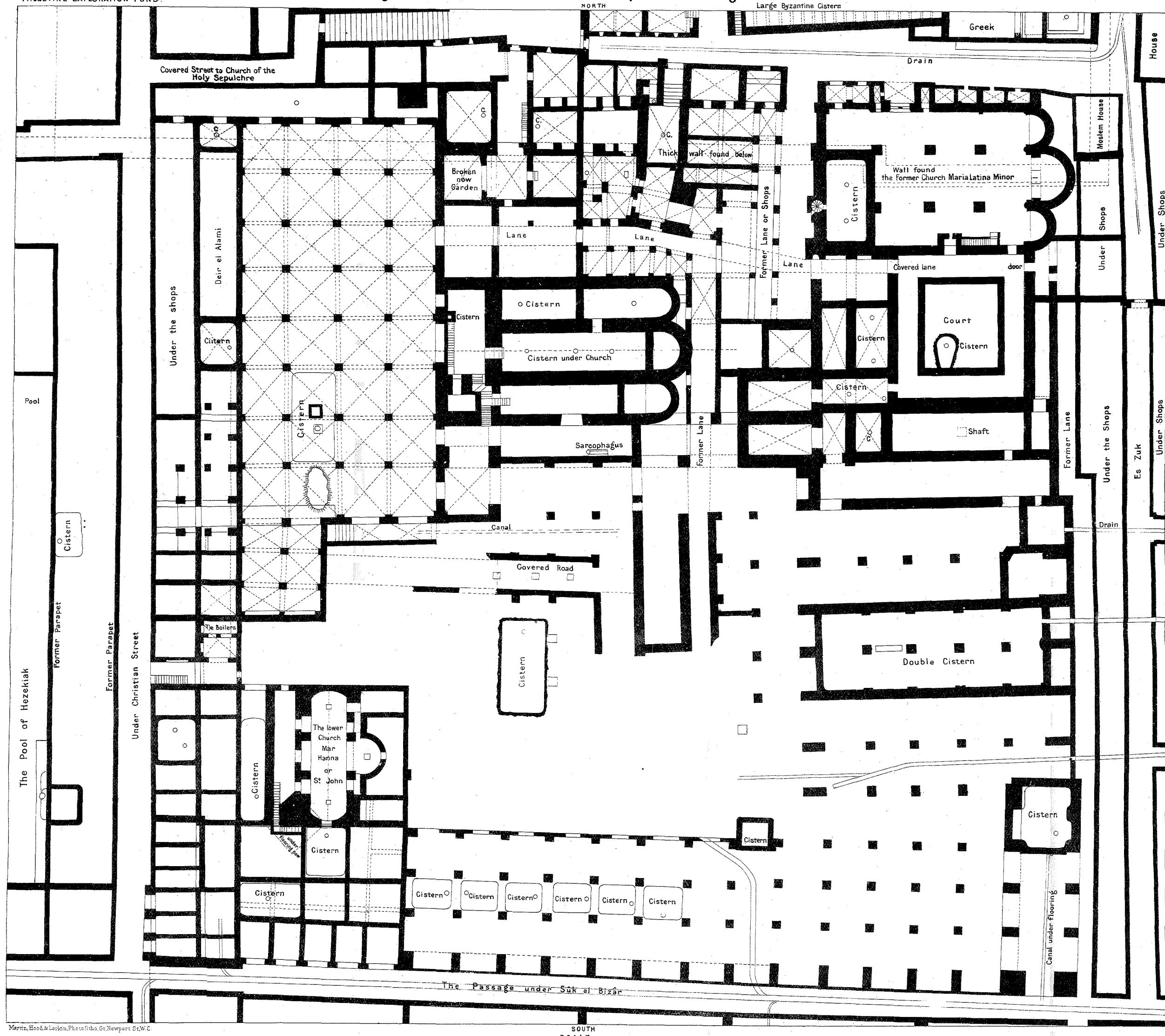
² This account of the churches has been already published in the *Quarterly Statement* for 1901, p. 51. It is reprinted here in order to make Dr. Schick's careful article complete.

have been a crypt in two stories, one above the other. A stair leading down into this crypt has not yet been found. As south of it new foundations were being dug, the workmen came upon a stone sarcophagus, the lid of which is gone, proving that also this part had been a crypt. As the Erlöserkirche and its predecessor had in the south-west corner a bell-tower, so it probably was here, as the very strong piers and the great masonry below (Sir C. Warren's southern little cistern) show.

The third church is the well known Mar Hanna (John the Baptist) in the south-west corner of the place, consisting of a church underground, and over it another church above ground. So it was even in ancient times; it is one of the oldest churches in Jerusalem, much older than the two others mentioned. In the *Quarterly Statement*, 1899, p. 43, is a plan and some sections of the lower church, by Mr. A. C. Dickie, A.R.I.B.A., showing that under its flooring is a kind of crypt. It is clear that once the underground church stood free round about, perhaps with a prolongation towards the west, as the chief entrance door was on the south side. On the side of the present stair at the southern end of the narthex is a triangular-shaped mass of masonry which may have been made by the Crusaders to get a basement for a bell-tower. The church itself was Byzantine, even the upper one, which at a later period was destroyed and again rebuilt. That there were three churches on the place, each with a bell-tower (hence also Mar Hanna had one), is proved by a drawing made about 1150, and published in the "Zeitschrift des Deutschen Palästina-Vereins," 1891, p. 137, showing in one line, beside the hospital, the three churches—Ecclesia St. John, Ecclesia Maria ad Latinam major, and Ecclesia Maria ad Latinam minor, each with a bell-tower.

3. *Monasteries or Convents.*—The Christians had here, even before the Crusades, some settlements for merchandise, the lodging of pilgrims, and accommodation of the sick. In the Crusading period the hospital stood south of the Church of the Holy Sepulchre, and close to it was a convent, which was on the site of the present Gethsemane Convent; most likely also there was one at Mar Hanna, as is the case even now. The history is not quite clear to me, but after the Church Maria major had been built there was another convent close to it, most likely east of the Gethsemane Convent, and when the Maria minor was built

PLAN of Underground of the whole MURISTAN or Hospital of the Knights St John at JERUSALEM.



another convent was established, chiefly for females. This was situated beyond the ancient "lane" and south of the church, and extended southwards to about the double cistern.

4. *The Hospital of St. John.*—This was the name of the whole establishment, but a special part of it formed the real hospital, in its two capacities: First, a house for pilgrims, and second, for lodging and nursing the sick, chiefly strangers or pilgrims. As the Knights of St. John had their origin here, and the Order grew quickly in numbers and influence, they built, near the holy sites, churches, convents, and a palace for their own residence. Being all erected about the same time, the buildings were all according to one plan and style, massive, with square piers, supporting vaults, and arches. The best specimen now to be seen is the row of strong arches in David Street. The whole area of the place formed one building, although consisting of various parts and often divided by narrow lanes, containing some open, but small, courts for light and air. Erected by Europeans not sufficiently experienced, they were not always constructed according to the rules of health, as they were obliged to keep their animals in the building itself. John of Würzburg, about A.D. 1160, says:—"Over against the Church of the Holy Sepulchre on the opposite side (of the way) towards the south is a beautiful church built in honour of John the Baptist, annexed to which is a hospital wherein in various rooms is collected together an enormous multitude of sick people, both men and women, who are tended and restored to health daily at very great expense. When I was there I learned that the whole number of these sick people amounted to two thousand, of whom sometimes in the course of one day and night more than fifty are carried out dead, while many other fresh ones keep continually arriving" (Transl. of Pal. Pilg. Text Soc., p. 44). And a few years later Theodorich says:—"Here on the south side of the church (St. Sepulchre) stands the Church and Hospital of John the Baptist. . . . No one can credibly tell another how beautiful its buildings are, how abundantly it is supplied with rooms and beds and other material for the use of poor and sick people, how rich it is in the means of refreshing the poor, and how devotedly it labours to maintain the needy, unless he has had the opportunity of seeing it with his own eyes. Indeed, we passed through this palace and were unable to discover the number of sick people lying

there, but saw that the beds numbered more than one thousand" (Transl. Pal. Pilg. Text Soc., p. 22).

This palace was in such a good condition in A.D. 1187 that Saladin, after he had taken the city, fixed his residence in it. Afterwards, nearly always, Christian pilgrims found refuge there, even down to the end of the fifteenth century. In A.D. 1322 Sir John Maundeville says:—"Before the Church of the Holy Sepulchre, two hundred paces to the south, is the great Hospital of St. John. . . . In it are one hundred and twenty-four pillars of stone, and in the walls of the house, besides the number aforesaid, there are fifty-four pillars that support the house. From that hospital going towards the east is a very fair church, which is called Our Lady the Great, and after it is another church very near, called Our Lady the Latin" ("Early Travels in Palestine," Bohn, 1848, p. 168).

On Plan No. 1 is shown in the north-west corner a large building recently discovered, nearly full of earth and mire from the neighbouring bath, accumulated during several centuries, and the whole buried under a great mass of earth (as the sections No. 6 and No. 9 will show) with a large heavy tree standing over it. It consists of one large hall with three rows of piers still standing, seven in each row, and with those connected with the walls, and those of the southern prolongation, making forty-eight. The length of this chamber is about 230 feet, and its width about 120 feet, inside measurement; the arches in it are about 18 feet high. There is still *in situ* the base of a pillar, the shaft of which is lying on the pavement close by (see No. 2). To the east the vaulting is broken in, giving now light into the old vaults. Besides the piers in this large hall there are many others, especially in the southern part, east of Mar Hanna, as shown on Plan No. 1. One may have counted, as I have done, one hundred and sixteen, before they were covered up. Several are much stronger than the others to bear upper stories. How many of the latter really had been built no one can say, as apparently the Knights were driven away before the whole design was completed, and a good deal of the finished work was afterwards broken down and destroyed. The residence of the Knights and their stables were certainly in this south-east quarter.

5. *The Cisterns.*—Such a building, containing so many people, required a large supply of water. For this purpose a good many

cisterns, some of them very large, were made in the lower ground, although several may have already existed in the former Jewish city at this place. On Plan No. 1 I have entered all those which are now known and their size, but there are certainly a good many still covered up. In Plan No. 2 the mouths of them are nearly all marked. As shown in the sections, none of the cisterns at this place are cut entirely in the rock, all are for the greater part built, and in some only the lower part is let into the rock. Only one is fully cut into the rock, namely, that on the north, opposite the street, under St. Abraham's Convent (*see* Section No. 10). It does not belong to the Muristan. Also it may be observed that before the Crusades the general level of the surface here was much lower, and buildings standing already there were afterwards made into cisterns by the Crusaders (*see* Sections No. 6 and No. 10).

The large Byzantine cistern at the northern end of Plan No. 1 (Sections No. 7 and No. 11) is outside the ground of the Knights. It is described in the *Quarterly Statement*, 1889, pp. 111 and 210, with plan and sections. At Mar Hanna several cisterns were made in the already existing masonry, when the lower church lost its importance and the level of the surrounding ground was brought up nearly to the height of the present Christian Street, and when the bell-tower to Mar Hanna Church was built by the Crusaders. Opposite the street at the base of the "broad wall" of Nehemiah I could only detect two cisterns (*see* Plan 1), the northern one goes down about 12 feet deeper than the bottom of the pool there, and must be of some age; the other (in the south) is a modern one made when the rest of the broad wall was taken away (in 1847) and a house built there. How deep it goes down I cannot say. The old cistern in the ground of the Erlöserkirche has been abolished, and the one north-east of it under the Russian building is modern. It does not go down to the rock, and is not covered with an arch but with iron rafters (made in 1889). The two in the Gethsemane Convent are above ground, built into already existing masonry. Two old cisterns were closed up when the Crown Prince Frederick Street was made, and are now underground and of no use.

The bath in the western street has no cistern, at least I could detect none. The water is drawn up by buckets from Hezekiah's.

Pool, and conveyed in a channel crossing Christian Street on an arch to the bath.

6. *Underground Passages, Drains, &c.*—The chief underground passage is under David Street. It runs now from the ditch of the castle, where the entrance to it can be seen, eastwards down to the temple area, where Sir Charles Warren excavated it for several hundred feet ("Recovery of Jerusalem," p. 90). At the Muristan (or rather in front of it) I, thirty years ago, excavated it from Christian Street down to the Sûk on account of drains leading into it. One of these drains I discovered in 1876 under what is now the new entrance from David Street to the Crown Prince Frederick Street. It is a very fine one, and most likely originally came down from Mar Hanna. The workmanship of it is Byzantine, not Crusading (see Plan 1 and Section No. 11).

Another common drain never properly finished I came into by the Shaft No. 6, which I made in 1876 (see Plan No. 1 and Section No. 4). It is apparently Crusading, and runs eastwards to the Sûk, where the top slab is broken in, and further excavation was impossible. In the large double cistern there is also an outlet (see Plan No. 1 and Section No. 5). How far it goes eastward I cannot say. East of the bath in Christian Street an inferior drain was recently found. The drains marked under the public streets are modern.

7. *Streets, Roads, and Lanes.*—Of the four streets round the Muristan I need not say anything, except that their levels have by paving, &c., become a little higher than at the time when the Ordnance Survey plan was made in 1864-5. In the Crown Prince Frederick Street is now an entrance to the Erlöserkirche, and this street divides the German property from that of the Greek Convent. It rises towards the south and, including the footpath on both sides, is 23 feet wide. Along its western side the Greek Convent have built the fronts of a row of shops (see Plan No. 2). At its southern part on the eastern side a low wall is built as a fence, and continued eastwards beside the road to the cistern and the so-called Dar Hamdi belonging to the Greek Convent. Some old piers which stood where the Crown Prince Street now runs were removed (see Plan No. 1).

That in ancient times there were lanes between the cluster of buildings is certain, and Plan No. 1 indicates several such. First, in the east of the Muristan buildings a narrow lane went

northwards with slight bendings to St. Maria minor (the Erlöserkirche). East of the newly-found St. Maria major Church a lane ran from the convent in the north to the palace of the Knights in the south. Just south of the hospital great hall was a narrow and partly covered lane, running east and west, and a short distance more south a regular way, 13 feet wide and a good part of it covered by arches. As there is still so much earth in this road, I am not able to give details, nor of the steps which probably were there, as shown in Section No. 5. Most likely this was the access to the old building there, anterior to the Crusades, and ran at the bottom of the shallow valley there. More to the north a lane went not quite straight from the hospital great hall eastwards between the convent on the north and the Church St. Maria major on the south, across the other above-mentioned lanes to the south side of the Church St. Maria minor.

8. *Shops and Magazines.*—The greater part of the Muristan is now surrounded by shops and magazines. The latter are chiefly along David Street, which is on the south. Along the western side in Christian Street there are small shops, and on the opposite side of that street somewhat larger ones. In some places upper rooms or houses are put over the shops on both sides. In the northern street going from west to east there are eight shops, then a mosque with a minaret, and opposite to this the steps and Mar Yakub; then follows the Gethsemane Convent and Church-yard, and beyond it new shops on both sides, beyond which is the Erlöserkirche, and opposite to it the new Greek and Russian houses. On the eastern side the house at the northern corner belongs to a Moslem, then follow 15 shops belonging to the German part of the Muristan, and beyond these many shops in the covered street.

9. *The lie of Rock at the various parts of the Muristan.*—This is shown in the sections, when compared with the plans, and a detailed description is not needed, but only some remarks, viz.:— At some places the rock has been ascertained by excavations, or in some cisterns, at others it is so near the surface that the walls of the buildings without question go down to it. Masses of strong masonry give the impression that they are founded on rock; but as I have seen such standing on earth or débris, so it may be with some of these here. In all cases where I was not certain, I have not shown them in the sections as going

down to the rock, but have marked them with a note of interro-gation.

Other buildings, like the walls of the shops in the Sûk and similar ones, certainly do not go down to the rock. The Erlöser-kirche is now entirely founded on rock, but this is not the case with new buildings, except in a few instances.

In some places I have put the line of the rock by conjecture, as when, knowing it at two points, I have drawn a line between the two. As regards the present street levels, I have been guided by the Ordnance Survey plan, so there can be no great mistakes. At the place where stones were quarried I have marked in the sections with dotted lines the original surface of the rock.

There is one point of importance respecting which I am uncertain. Outside the Muristan on the north, the east side of the great Byzantine cistern under the new Greek building was covered with cement, so I could not ascertain whether it was of masonry entirely or of rock to some height. As 40 feet further east the rock is as deep as the bottom of the cistern, one might suggest that it is so in this eastern end of the cistern itself. But it may be that there was a mass of rock there on which a portion of the city wall may have rested with a face on both sides. And if there is no rock there, one might ask why they did not prolong the cistern eastwards to the rock, coming up to the surface there? Also about 10 or 15 feet to the north, rock is visible on the present surface of the ground. So most likely it may go further south as a projecting ledge.

From all this it will be evident that from Hezekiah's Pool there existed a depression of the ground or shallow valley, sloping down eastwards, that where the Church of the Holy Sepulchre stands the ground was higher, and also that south of David Street the rock was higher than to the north of it. As this valley was not very deep, the second wall may well have been carried over south of the Holy Sepulchre as shown in the Sections No. 10 and No. 11 in dotted lines. Further west the ground where the second wall stood was even higher than the ground north of it, and in the east at the quarry the wall made a bend to the north, and so came again on high ground. The point of the bending seems to me to have been east of the Erlöserkirche, as Plan No. 1 shows. This does not exclude the supposition that there was further west another

one at the rock ledge, and so the wall was here double, which certainly was the case in some places.

10. *The Pool of Hezekiah and the "Broad Wall."*—The latter is mentioned after the second wall had been built by King Hezekiah (2 Chron. xxxii, 5) in Neh. iii, 8, and xii, 38. It was apparently built as a dam on the eastern side of the pool, and as it was over 30 feet thick, and most likely a road ran over on its top, it was called the "broad" wall. It was at the same time a connecting link between the old or first wall in the south and the so-called second wall in the north. In A.D. 1846 there was still standing a piece of it about 70 feet long, built of large stones, and about 15 feet high above the level of Christian Street, on its top, grass was growing, so I have seen it. The next year it was taken down by the Greek Convent, the stones broken into the usual building stones, and a new house built there three stories high (*see Section No. 4*). The ground sank rapidly from it eastwards (one in eight and a half), and also from the heights south and north to levels deeper than the bottom of the pool. Accumulation of débris soon began there, and, as the spot was inside the town, buildings were afterwards erected, and a new surface, of some extent, was created about 2,450 to 2,460 feet above the sea, as the sections show. By further destruction the general level of the surface became higher and higher, so that the Church of the Holy Sepulchre now stands even lower (*see Section No. 9*).

11. *Shafts and Sir Charles Warren's Trench.*—Some of the shafts are marked with numbers on the plans. They are the same as given in Sir C. Warren's portfolio, Plate L, and described in the Jerusalem Volume, p. 257. The trench is described in "The Recovery of Jerusalem," p. 271. All those which are described there I may properly omit here. Now that the earth has been removed, what Sir C. Warren said about the discoveries is proved to be correct. The situation and line of this trench are shown on Plan No. 2. The building this trench met near Crown Prince Frederick Street, which is certainly very old and goes down to the rock, has never, I am sorry to say, been properly excavated, and so we shall never get a full knowledge of what is underground.

12. *Mosques.*—These are naturally more modern, and, as it seems, not so very old. The minaret now standing opposite the Church of the Holy Sepulchre, at the north side of the former

hospital, was, according to Tobler, built in 1417, and Sir John Maundeville, in 1322, does not speak of a mosque there, which he certainly would have done if one had been situated so very near the hospital. It is now a three-storied one, as shown in Section No. 9. The upper one was built during my residence in Jerusalem. The mosque in David Street, just east of the entrance to Crown Prince Frederick Street, is rather an inferior one, and the burying place of a Moslem sheikh. It is used for prayer by the people of the Bizar. This tomb is the reason why the new street has got such a slanting line.

13. *Plans and Sections.*—All these are based on the line 2,425 feet above the sea, as about the deepest point in the whole area, and the highest is 75 feet more, or at the level of 2,500 feet. Hence at the Muristan the deepest point of the valley is only about 57 feet below the bottom of Hezekiah's Pool.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT JERUSALEM IN THE YEAR 1900.

By JAMES GLAISHER, F.R.S.

THE numbers in column 1 of this table show the highest reading of the barometer in each month; of these the highest, as usual, are in the winter, and the lowest in the summer months; the maximum for the year was 27.757 inches, in January, and the next in order 27.566 inches, in November. The highest reading in the preceding 39 years, viz., 1861 to 1899 inclusive, was 27.816 inches, in December, 1879, and the next in order 27.800 inches, in November, 1870.

In column 2 the lowest reading of the barometer in each month is shown; the minimum for the year was 27.043 inches, in February, and next in order 27.163 inches, in March. The lowest reading in the preceding 39 years was 26.860 inches, in March, 1898, and the next in order 26.970 inches, in March, 1896.

The numbers in the 3rd column show the extreme range of readings in each month; the smallest was 0.094 inch, in July, and the next in order was 0.145 inch, in August; the largest was 0.516 inch, in February, and the next in order 0.468 inch, in