

OBSERVATIONS TO ASCERTAIN THE RISE AND FALL OF
LAKE OF TIBERIAS.

				1904.	1905.	1906.	1907.
				ft. ins.	ft. ins.	ft. ins.	ft. ins.
Jan.	1	Level of Lake below mark on wall		5 5	4 5	5 0	4 8 $\frac{1}{2}$
"	15	"	"	5 2	4 3	4 8	4 2
Feb.	1	"	"	4 8	3 11	4 1	3 8
"	15	"	"	4 6	3 6	3 9	3 4 $\frac{1}{2}$
March	1	"	"	4 3	2 9	3 5 $\frac{1}{2}$	3 0
"	15	"	"	4 0	2 9	3 1	2 8
April	1	"	"	3 9	2 11	2 9	2 5
"	15	"	"	3 5	3 2	2 6	2 7
May	1	"	"	3 5	3 6	2 8	2 10
"	15	"	"	3 7	4 1	2 11	3 0
June	1	"	"	3 11	4 5	3 1	3 2 $\frac{1}{2}$
"	15	"	"	4 0	4 8	3 3	3 3
July	1	"	"	4 5	4 10	3 3 $\frac{1}{2}$	3 8
"	15	"	"	4 8	5 0	3 4 $\frac{1}{2}$	3 11
Aug.	1	"	"	5 2	5 2 $\frac{1}{2}$	3 6 $\frac{1}{2}$	4 1 $\frac{1}{2}$
"	15	"	"	...	5 6	3 8	4 5
Sept.	1	"	"	5 8	5 7	3 11 $\frac{1}{2}$	4 7
"	15	"	"	...	5 7 $\frac{1}{2}$	4 1	4 8 $\frac{1}{4}$
Oct.	1	"	"	6 0	5 9	4 3 $\frac{1}{2}$	4 9
"	15	"	"	6 0	5 10	4 5 $\frac{1}{2}$	4 9
Nov.	1	"	"	5 9	5 8	4 7	4 8
"	15	"	"	5 6	5 5 $\frac{1}{2}$	4 9	4 8
Dec.	1	"	"	5 3	5 4	4 11	4 5
"	15	"	"	4 11	5 2	4 9 $\frac{1}{2}$	4 1

REVIEW.

Ancient Jerusalem. By Selah Merrill, for sixteen years American Consul in Jerusalem. New York, London, etc: Fleming H. Revell Company, 1908.

The long expected work of Dr. Merrill is a large, handsome volume of 419 pages, clearly printed and lavishly illustrated with 48 photographs,

and no fewer than 55 plans, depicting not only the various sites in their relations to each other, and the courses of walls, aqueducts, and streets, but the movements of troops, the division of factions during the siege, and the distances across which the human voice is audible. The photographs are among the best, and certainly are the most numerous ever published in a volume by an expert on the subject. All who have to work in the city will be specially grateful for the many representations of walls ancient and modern, and different styles of stone dressing and masonry. The plans are reckoned in the paging. When these, the list of contents, and the index are subtracted, there remain nearly 340 pages of letterpress. Dr. Merrill is one of the very oldest workers alive in the field, and, since Dr. Schick's death, has almost no rival among experts on the subject, either in length of residence in Jerusalem, or in the constancy of the vigilance with which he has observed the life of the city and its surroundings, or followed the excavations and discoveries within it. His occasional papers in the *Quarterly Statement* and *The Biblical World*, and the great generosity with which, through many years, he has communicated his intimate knowledge, both to specialists and to tourists, have long created an eager anticipation of the day when his manifold official services (the benefits of which others, besides his countrymen, most gratefully acknowledge) should allow him to put the stores of his experience into public form.

Before coming to his topographical arguments, which constitute the bulk of the volume, we must record that it contains other information, such as only one, long resident in the city, with the private and public opportunities that Dr. Merrill's post has afforded to him, could furnish on the common life of the population. We may instance the notes on the milk, butter and cheese supplies, the description of the present lines and centres of traffic; the contrast between the combustibility of ancient Jerusalem and the infrequency of conflagrations at the present day; and the statement of a remarkable stream down the Valley of Hinnom after the excessive rainfall of Dec. 1905. The long last chapter on Rock and Quarries contains an account of the best quarries, ancient and modern (those of Neby Samwil are especially interesting; while the tradition that the great stones of the Temple were taken from those near the Damascus Gate is shown to be "pure fiction"), with descriptions of the varying qualities of the rock in them. Dr. Merrill argues for the persistence of one Hebrew style of masonry down to the time of Hadrian; and in particular for the absence of evidence of Greek influence. It is (he says) an "indisputable fact" that "the stone-work of Herod is precisely similar to the early examples of Phoenician work." Characteristics of Hebrew stones he believes to be their massiveness, and a boss and margin dressing of a peculiar form. On p. 384 illustrations (not drawn to scale) are given of various forms of stone dressing. Fig. 12 "represents the general form of Hebrew stones . . . The characteristics are peculiar and marked ;

no other people ever succeeded in imitating perfectly the Jewish bevel." On Fig. 15: "in their best work in re-cutting old stones, the Crusaders made a perfectly smooth face, as Fig. 16 in section would show; while the Hebrews made a broad, deep margin, leaving a rough full face." Of Fig. 13, a long, low stone: "such a stone could not have been made by a Hebrew, and cannot belong to the Hebrew period; it requires no great skill to discover that it was fashioned by some Italian hand." But although massiveness and a broad margin were thus characteristic of Hebrew stones, one or the other might be wanting. For example, there is no draft on Fig. 14, and a sentence on p. 383 tells us that Herodian stones were "prepared sometimes with and sometimes without the bevel or marginal draft." Again, p. 385: "it was only after Hadrian had banished the Jews that Hebrew influence ceased. . . . From Titus to Hadrian all stonework would therefore be Jewish in style and character, although we have no right to expect to find in this period the massive blocks which were conspicuous in the periods of the nation's great prosperity."

With Dr. Merrill's convictions of the unmistakable characteristics of Hebrew stones it is interesting to contrast Mr. Dickie's disbelief in our ability to define the date of a building by its dressing (*Quarterly Statement*, 1897, p. 61). As to the statement that the Hebrew style lasted untouched by foreign influences to the time of Hadrian, we must remember that (on the evidence of Josephus himself) Herod introduced Greek styles into at least the outer courts of the Temple; that Greek mouldings and ornament have been recognised in the Arak el-Emir buildings and the tombs in the Kidron Valley; and that Sir Charles Wilson (*Golgotha*, p. 123) says that Greek influence is "very apparent" on the platform of the so-called "David's Tower," which is generally regarded as the platform of Herod's Tower, Phasaël.

As to the topography, Dr. Merrill's method is to start with the arrival of Titus before Jerusalem, and work backwards. The first three chapters trace the approach of Titus himself, that of the Tenth Legion, and Titus' plan of operations. Then comes one on the Third, or Agrippa's, Wall, and others on Psephinus, the Camps of Titus, the First Wall, Bethso, Herod's three Towers, the Hills of Jerusalem, the Xystus, "the Kidron," and Herod's Palace. Three follow on the factions and the division of the city among them; others on various landmarks during the siege, on the partial burning of "the New City," methods of siege, the wall of circumvallation, the use of timber in building, and then two on the Second Wall. After several others on historical subjects, we have one on the Permanence of Eligible Sites; one of needful emphasis on the distinction between building and re-building; and then several on, respectively, Antonia, Acra, Ophel, Jerusalem a Mountain Fortress (with consideration of the Millo), the Site and Building of the Temple, Royal Burial Places, Gihon and Maktesh. Chapter XXXIX is entitled "Basilica,"

and in Chapter XL there is an account and estimate of both the work and the topographical data of Nehemiah.

We have space to do little more than enumerate some of Dr. Merrill's principal results. As is well known, he is among those who trace the Third Wall far to the north of the present north wall, so as to fix the Tower of Psephinus (at its north-west corner) at the Russian Administrative Buildings, and so as to include in the wall the ancient remains to the east of those buildings. But he brings it back to the old city on a different line from Robinson. Robinson ran the Third Wall on to the north-east corner of the present walls. Dr. Merrill brings it south farther to the west, and on the other side of the hollow or ravine contributory to the Kidron, which Sir Charles Wilson has called St. Anne's Ravine. The present east city wall running north from the Temple area "shows plainly its composite and modern origin" (p. 51), "the new work in both wall and towers [at the north-east corner] belongs to the Christian-Arab period, *i.e.* before A.D. 1243." The trench outside may be that attributed both by Christian and Arab writers to Saladin, but in any case the principal stonework belongs to that period (p. 398 *f*). Thus Dr. Merrill holds that the present north-east corner of the city "was no part of Jerusalem in ancient times." Bezetha lay wholly to the west of the contributory ravine. It is significant that in his argument for the above course of the Third Wall, Dr. Merrill finds it necessary to change the "Royal Spelaia" or caverns, past which Josephus describes the wall as running, to "Royal Mnemaia" or monuments, for he considers the epithet "Royal" as inappropriate to caverns and holds them to have been the monuments of King Alexander, which he places to the north of the present Church of St. Stephen, with the Fuller's "Monument" (according to Josephus, near the north-east corner of the wall) to the east of them, and Helena's monument immediately to the north of the "Tombs of the Kings."

Dr. Merrill places the gate Gennath, the starting place of the Second Wall, immediately north-east of the present citadel, and traces the course of the wall northwards along the 120 feet of ancient wall, discovered and described by himself in 1885, and now under the eastern wall of the Grand New Hotel. This line he prefers to a line lying more to the east along the Muristan, on which "similar remains of Jewish work have been found," for these he believes "did not belong to any city wall" (p. 157) and he assigns them to "the Maccabees in fencing off the Acra from the Lower Market Place" (p. 298). He also refuses the claims of the remains in the Russian church east of the Holy Sepulchre to be a gate in the Second Wall; they are neither "an outside nor an inside gate of the gate of the city" (pp. 298, 302). By zig-zags his plan carries the Second Wall northwards till it breaks the line of the present north wall close by the Bab Abd ul-Hamid. Thence he traces it north-east, outside, but in rough parallel to, the present

north wall, as far as a point about 200 feet east of the Damascus Gate. From here he takes the Second Wall east-south-east and south-east to Antonia: "the ground rises here and the wall would rise with it" suitably to Josephus' words, that the wall "went up to Antonia" (p. 162). But this last supposed stretch, precisely that on which no ancient remains are found, is, besides, open to the serious military difficulty that the first part of it, at least, leaves higher ground outside the wall. The point at which Titus attacked the Second Wall, "the central tower," on its northern section, is placed by Dr. Merrill in a dip or depression some 400 feet west of the Damascus Gate, which along with the absence of Jewish stones in the present wall (he suggests) illustrates the statement of Josephus that here the Second Wall "was low" and "was not joined;" the latter phrase being explained by Dr. Merrill as "not joined to itself" that is "hastily repaired and put into as good condition as possible before the siege began" (pp. 159, 165). We may add that Dr. Merrill agrees with the usually accepted site of Antonia, at the north-west corner of the Haram area; that he considers it to have been the probable residence of the Procurators (p. 191); and that he demurs to Schürer's argument that the Roman garrison of Jerusalem consisted only of one cohort (*τάγμα* in *Wars*, V. v. 8, meaning a cohort and not a legion), for he argues this would have been too small a force to keep the turbulent city in order. The present Turkish garrison for a much more peaceable population consists of from 600 to 800 men "while in the district there are not far from 1600 soldiers constantly on duty" (p. 217). He also thinks that when 480 men were detached to escort Paul that would have left only 120 in Jerusalem, and that it is "beyond reason to consider such a thing as even possible" (*ibid*). But on the other side these facts are to be noted. Till Vespasian's advance the Romans employed only auxiliary troops in Judaea. A cohort consisted of from 500 to 1000 men, and had *besides* about 500 cavalry attached to it. Only 200 infantry escorted Paul and were absent only one night from Jerusalem. In Acts xxi, 31, the commander of the garrison is distinctly called *χιλιάρχος τῆς σκεπῆς*, while even Josephus calls him no more than a Phrouriarth. The Romans had other troops at Caesarea.

As for the first of the three walls of Josephus, Dr. Merrill traces its northern stretch on the universally accepted line from the west wall of the Temple enclosure to the present citadel, and from this, southwards, continues it on the equally accepted line above Hinnom as far as Maudslay's scarp, where he places Bethso (identified by him with Bethzur of 1 Macc. vi, 26) (see Ch. VII and VIII). But here he thinks it turned east (apparently along the line of ancient wall uncovered by Dr. Bliss) and then north-east to Burj el-Kibrit from which it followed pretty much the line of the present south wall of the city towards the point of its attachment to the south wall of the Haram area (Dr. Merrill's plan does not represent the actual attachment as he conceives it). Such a course

he believes suits the line traced for the wall by Josephus (*Wars*, V, iv, 2) and particularly the data of the latter in reference to the wall's relation to Siloam (pp. 61-65); and also to have a possible relation to the aqueduct on the south side of the modern Sion—"they seem to follow each other as though it were by design" (p. 63). Thus Dr. Merrill leaves a large part of the South-western Hill and all the Eastern Hill south of the Haram area outside the south city wall, both at the time of the siege and through the previous history. But it is difficult to see how such a course, not round the edge of the South-western Hill but across the middle of the long back of it, suits the statement of Josephus that a single wall in this quarter sufficed for the defence of the city, because it ran "above impassable ravines" (c.f. the testimony of Tacitus and other writers). There is no ravine immediately outside the course, which Dr. Merrill suggests, after it turns eastwards from Maudslay's scarp, nor again where it crosses the Eastern Hill. Besides, such a course would leave outside the wall "the place called Ophlas," which during the siege Josephus describes as under the command of John; and however ambiguous the data of Josephus may be in *Wars*, V, iv, 2, concerning the wall's relation to Siloam, he distinctly says elsewhere (*Wars*, V, vi, 1) that Simon held "the fountain." Moreover, there is the line of wall, or walls, uncovered by Dr. Bliss all the way round the South-western Hill above Hinnom, from Maudslay's scarp to the mouth of the Tyropoeon, which suits so many of the above data of Josephus. Dr. Merrill, however—who does not mention this discovery, but only says that "some writers represent a wall running down from Bishop Gobat's school towards Siloam"—objects *first* that this does not suit Josephus' statement of the relation of the First Wall to Siloam (which indeed is a difficult point), and *second* that the descent of a wall from the school to Siloam would mean a drop of 400 feet in 1200. Still, other great walls are known which descend as rapidly. The line of this one is above an "impassable ravine" (as Josephus describes the First Wall to have run), and above all Dr. Bliss has actually laid bare not only one but two walls (of different dates), with several formidable towers, along this direction.

There is only room to add that Dr. Merrill holds that "the names Zion, City of David, Fort, Castle, Stronghold, all refer to identically the same place;" that the Acra of the Greek period occupied the same site (pp. 242-247, etc.), that is, immediately to the east of the Church of the Holy Sepulchre; and that it is possible to locate the residence of Solomon with considerable certainty, on "the north end of the spur, south of the Temple area" on the Level 2279 east and west and below the northern level of 2379. "The distance from the extreme points north and south is 550 feet. Dividing this we have 275 feet each way, north and south, to which the distance east and west happens to correspond" (p. 251). He takes the Upper Pool of Gihon as the Birket Mamilla, the present aqueduct from it into the city as the "nahal" that ran through

“the midst of the city” (so he amends 2 Chron. xxxii, 4, and he has the “LXX” on his side); the Lower Pool is Hezekiah’s to which he brought the “water straight down to the west side of the city of David” (pp. 261-289). He takes the Valley Gate as at or near the Jaffa Gate and there also the Dragon Fountain, and (separately) the Serpent’s Pool, both called perhaps from their forms, and he accounts for Nehemiah’s placing of the House of David and City of David on the Ophel ridge by the migration of names (pp. 338-366).

But no summary can do justice to the wealth of detail in the letterpress, the vividness of the many plans of this volume, or the arduous labour that lies behind it all.

G. A. SMITH.

NOTES AND QUERIES.

(1) *Garlic*.—In Numbers xi, 5, the Israelites lament that they cannot, on their way to the “Promised Land,” enjoy the leeks and the garlic which were so plentiful in Egypt. The word used for garlic, *shûm*, which re-appears in the Arabic *thûm*, and is connected with Assyrian *shumu*, is quite distinct from the Egyptian plant name which was “*khidjana*.” Our knowledge of the ancient Egyptian flora has so much increased recently, as the hieroglyphics are more correctly translated, that it was to be anticipated that some proof of the common use of garlic in Egypt in Mosaic times would be furnished by the ancient Egyptian records. M. Victor Loret, the chief student of old Egyptian botany, has now published his researches regarding garlic, and proves that it was not merely mentioned in the Egyptian papyri, but that specimens of the plant itself have been preserved in a tomb at Thebes. The garlic found there was tied in a bundle, and has been examined by several botanists and declared to be the true *allium sativum*, being almost identical with garlic now grown in the Western Oasis of Egypt, but differing slightly from the modern cultivated garlic of the Nile Valley. A specimen of the Theban garlic may be seen in the Berlin Museum. M. Loret discovered the ancient Egyptian name of garlic by tracing the word in the old Coptic version of the book of Numbers. By this means he found that a plant named