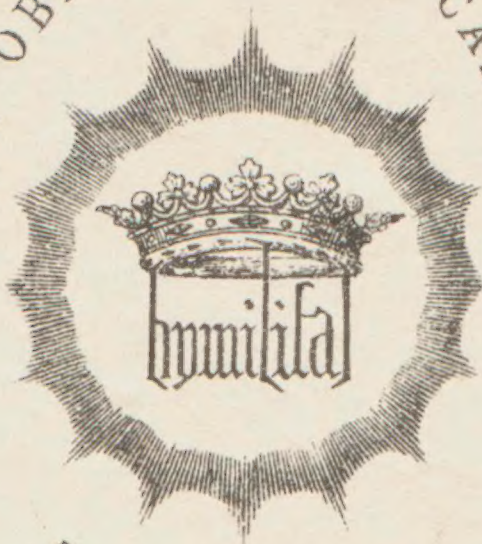


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Quarterly Statement

FOR 1885.

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THE
PALESTINE EXPLORATION FUND

LAST YEAR AND THIS.

WHEN, in the autumn of the year 1883, the Committee resolved upon sending out a Geological Expedition, a list was opened for donations to be directed specially to this purpose. It was found, however, that very few donors and subscribers desired that their money should be set aside for a special purpose, and the general funds of the Society were, as had always been done in the Survey, employed for this work. The general instructions for the Expedition were drawn up for the Committee, after consultation with Professor Hull, by Sir Charles Wilson. Professor Hull, as has already been told in the *Quarterly Statement*, carried the Expedition to a successful termination. His scientific results are as yet only partly published; in his forthcoming book (ready January 1st, 1885), called "Mount Seir," he will give such of them as are capable of being presented in a popular form. They will be fully and completely set forth in the scientific memoirs which he is preparing for the Committee. The results of the Expedition are, it may be stated, extremely satisfactory from the geological point of view. Not less satisfactory are they from the geographical point of view. Major Kitchener, who accompanied the party, was able, with the assistance of Mr. George Armstrong, to execute for the first time a reconnaissance survey of the Wâdy Arabah, which has since been laid down upon sheets by Mr. Armstrong, and is now ready for publication. At the same time Mr. J. Chichester Hart, who accompanied the party as a volunteer, has been doing good work in the natural history of this little known region. We have been so fortunate as to secure the publication of Mr. Hart's observations and discoveries in the *Quarterly Statement*. The first instalment will appear in April.

Other important geographical work has been done for Palestine during the last year—(1) in the publication by Colonel Sir Charles Wilson of the late Mr. F. W. Holland's notes of his last journey; (2) of Sir Charles Wilson's paper on Recent Biblical Research in Asia Minor and Syria; (3) of Mr. Laurence Oliphant's paper on the Khurbets of Carmel; (4) of Mr. Oliphant's Notes on the Jaulân; and (5) of various papers by Captain Conder.

The topographical work of the year, which forms so large and important a feature of the *Quarterly Statement*, includes papers by Captain Conder, Mr. H. G. Tomkins, Mr. W. F. Birch, Mr. S. Flecker, Mr. Mearns, Herr Conrad Schick, Dr. Clay Trumbull, Mr. Kennion, and Mr. Baker Greene. The archæological work of the year includes four very remarkable papers by M. C. Clermont-Ganneau.

We are thus able to look back upon the past year with considerable satisfaction. Though the Firman for continuing the Eastern Survey is still denied us, we have been able unexpectedly to secure the survey of a large and very important part of the Holy Land: we have cleared up many geological problems, and we have made a considerable addition to the archæology and topography of the country.

We have also, at length, completed the great work of the Society in publishing the last two volumes which finish the "Survey of Western Palestine." The work has been in hand for four years; now that it is completed we can look upon it as the permanent record of the greatest geographical and descriptive enterprise ever undertaken for the elucidation of the Bible, and as a work which should form part of every great library.

Since Mr. Armstrong's return he has remained in the service of the Committee, and has been occupied, first, in laying down the geographical work of the Expedition, which is now ready for publication, and next, in preparing a Map of the whole of Palestine, which will contain all our own survey work hitherto done, with the French and other work, as far north as Beyrout, and will be joined on to the Society's already published reduced Map of Western Palestine. It will be in sheets, so that any one sheet can be withdrawn and a new one substituted on the arrival of new matter. He is now engaged upon laying down on this map the Old and New Testament names, boundaries, &c. It is intended, in short, to produce a map, which can be subsequently altered and improved, which shall cover both sides of the Jordan. This map will contain the modern names, with those of the Old and New Testaments. It will be published either as a Map of Modern Palestine East and West of the Jordan, or as a map showing the Old Testament names with the modern names, or as showing the New Testament names with the modern, or as a map showing all three. It has already been announced that subscribers to the already issued Old and New Testament maps will be enabled to exchange simply on payment of the difference in price and the carriage.

A great many photographs were taken in the Wâdy Arabah by Dr. Gordon Hull. Some of these have not, unfortunately, come out well. A selection, however, will be made of the best, and a descriptive catalogue written for them, and they will be issued as soon as possible.

As regards the work for the year 1885. There is little hope that the Firman for the Survey of Eastern Palestine will be granted in the present posture of things. If it were granted it would for the moment be useless, because all the Royal Engineer officers who have worked for the Fund are now on active service—Colonel Sir Charles Wilson, Major Kitchener, and Captain Mantell in Egypt; General Sir Charles Warren and Captain

Conder in South Africa—and there would be little chance of getting any other officer's services in this period of uncertainty. At the same time we have strong grounds for hoping to make from time to time very substantial additions to the geography of certain little known districts from other sources.

We shall also perhaps be able to undertake certain investigations in Jerusalem, and perhaps elsewhere, as occasion may offer.

It has been suggested that this time of inaction from field work may be utilised for a very important object included in our original prospectus, but as yet hardly touched, viz., the scientific collection of manners, customs, legends, traditions, superstitions, and religious and ritualistic survivals. The Committee are at present considering a scheme having this in view which has been submitted to them.

As regards publishing next year, we have made the following important arrangements:—

(1) "Mount Seir."

This volume has been written for the Committee by Professor Hull. It is now (Christmas, 1884) on the point of publication. It contains a popular account of the journey, and especially of that country, now known as the Wâdy Arabah, which was the special scene of his labours. A geological map and a geographical map accompany the work, with many other illustrations. The published price will be 10s. 6d.

(2) A new edition of Captain Conder's popular and delightful work, "Tent Work in Palestine," in crown 8vo., at 7s. 6d.

(3) A new and cheap edition of "Heth and Moab," uniform with the above, at 7s. 6d.

These two works will be ready by the end of January.

(4) "Our Work in Palestine." This little book, which ended with the commencement of the Survey, has been out of print for some time. It is proposed, as soon as time can be found, to bring out a new edition, carrying on the popular history of the Society's work to the present date.

(5) We propose to publish in the *Quarterly Statement* for 1885, the following important papers:—

(a) A Translation by Dr. Chaplin of a Hebrew Treatise by Maimonides upon the Temple.

(β) The Natural History Results of the Wâdy Arabah Expedition, by J. Chichester Hart.

(γ) A Supplement by Canon Tristram to his "Flora and Fauna."

(δ) A Paper by Sir Charles Warren on the Arabs of the Sinai Desert.

(ε) Topographical papers by Rev. W. F. Birch, Captain Conder, Mr. Boscawen, and other writers.

(ι) Certain geographical papers now in preparation, the results of observations made by a private traveller.

There remain in the hands of the Committee for publication :—

- I. The Geological Memoirs by Professor Hull, F.G.S. We shall be able to report upon these when they are completed.
- II. The Memoirs and Plans of the interrupted Survey of Eastern Palestine.

The Memoirs of the 500 square miles executed by Captain Conder are much fuller than those of the country west of the Jordan, because they deal with a district much less known, and fuller, if possible, of interest. Thus, though the area surveyed occupies little more than that covered by a single sheet, on the scale of one inch to the mile, the Memoirs are copious enough to fill a whole volume equal in size to one of those published on the "Survey of Western Palestine," while there are 400 drawings and plans and illustrations, besides a series of photographs.

The Committee have not yet decided on the form of publication of these Memoirs. They may possibly be published, as in the case of the "Survey of Western Palestine," by special subscription.

- III. The drawings made for M. Clermont-Ganneau in the year 1874-5 by M. Lecomte.

Many causes have combined to prevent the publication of these most exquisite and valuable drawings. They were executed for the Committee by M. Lecomte, who accompanied M. Clermont-Ganneau to Palestine in the years 1874-5. They are between six and seven hundred in number, and are almost wholly of architectural and archaeological interest. Since they were placed in the hands of the Committee, nine years ago, M. Clermont-Ganneau has been engaged in Constantinople, in Palestine, and in Paris, for the French Foreign Office. He has also held the post of Professor of Semitic Archæology at the Sorbonne. He is now, however, able to promise the necessary explanatory letterpress as soon as it is wanted. The cost of publishing this work in a worthy form will be about £1,500. Perhaps proposals will be issued for a subscription work in the spring.

IV. The copies of the "Survey of Western Palestine" which remain have been placed in the hands of Mr. Alexander P. Watt, of 34, Paternoster Row, who has been appointed by the Society their agent for the sale. They will be issued by him to libraries, &c., in order of application. *Subscribers and those who already possess the work are requested to note that no reduction will be made, either now or at any other time, in the price of this great work.* On the other hand, the Committee reserve to themselves the right of raising the price of the last copies.

In conclusion, the friends of the Society are earnestly requested to consider that the work is always actively going on; that funds are always needed; that the real and invaluable work which has been already done must be taken as an earnest of what will be done, and that their continued assistance is asked in support of an enterprise which gives results, solid, enduring, and for all time.

NOTES.

The income of the Society, from September 26th to December 12th, 1884, inclusive, from all sources, was £656 9s. 3d. On December 16th the balance in the Banks was £205 9s. 6d.

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

- (1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects :—
 - The Survey of Western Palestine, as illustrating Bible History.
 - Palestine East of the Jordan.
 - The Jerusalem Excavations.
 - A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."
 - (2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—
 - The Survey of Western Palestine.
 - Jerusalem.
 - The Hittites.
 - The Moabite Stone and other monuments.
 - (3) The Rev. James Niel, formerly Incumbent of Christ Church, Jerusalem.
-

ADDENDA TO THE FLORA OF PALESTINE.

I HAVE just received, through the kindness of M. William Barbey, of Valleyres, Vaud, Switzerland, a copy of his splendid illustrated work, "Herborisations au Levant," 4to., Lausanne, 1882, containing the results of a botanical expedition to the East, made by himself and his brother in 1880. I much regret that I had not the good fortune to see the volume before the "Fauna and Flora of Palestine" went to press. MM. Barbey only give the results of their own and Dr. Lortet's expeditions, but even so their catalogue comprises 38 species of phanerogamic plants, 13 of them grasses, which escaped my observation, and which must be added to the 3,012 species in my volume. In order that our catalogue may be as complete as possible, I trust you will afford space in the *Quarterly Statement* for these addenda. They are as follows:—

- Papaveraceæ.* 1. *Glauzium grandiflorum.* Boiss. Diagn., Ser. II, v. p. 15.—Valley of the Kedron. Not hitherto observed in Palestine or Syria.
- Crucifera.* 2. *Sinapis pubescens.* L. Mant. 95.—Beersheba.
- Rosellaceæ.* *Rosula decursiva.* Forsk., a.g. p. 67. Included by me as *R. propinqua*, var. *eremophila.* F. and F., p. 231.
3. *Caylasea canescens.* L. Syst. 368, var. *foliosa*, Müll.—Marsaba : between Jerusalem and Jericho.
- Violariæ.* 4. *Viola occulta.* Lehm., Ind. S. Hamb., 1829.—Near Samaria.
- Sileneæ.* 5. *Silene apetala.* Willd., Sp. II, 307.—In cultivated ground. Valley of Achor.
6. *Silene canopica.* Del., Ill. Fl. Eg., No. 442.—Beersheba.
7. *Silene oxydonta.* Barbey, spec. nov., Herbor. au Levant, p. 121. Pl. XI.—Plain of Esdraelon.
- Alsineæ.* 8. *Spergularia diandra.* Guss., Prodr. Sic., I, p. 515.—Kedron Valley ; between Jerusalem and Jericho ; by Dead Sea ; Esdraelon.
- Malvaceæ.* 9. *Malva aegyptia.* L. Sp. 981.—Southern Desert. Accidentally omitted in F. and F.
- Leguminosæ.* 10. *Trigonella aleppica.* Boiss., Flor. Or., II, 79.—Valley of the Kedron ; Jenin.
11. *Trifolium ballatum.* Boiss., Flor. Or., II, 138.—Fields near Beyrout.
12. *Glycyrrhiza glabra.* L. Sp. 1048, vars. *typica* and *violacea.*—Jordan Valley ; Wâdy Semakh.
13. *Astragalus trimestris.* L. 1073.—Philistia ; Beersheba.

14. *Astragalus camelorum*. Barbey, spec. nov., Herbor. au Levant, p. 131, Pl. III.—Southern Desert.
15. *Lathyrus setifolius*. L. Sp. 1031.—Southern Philistia.
- Compositæ. 16. *Cynara sibthorpiana*. Boiss. Diagn., Ser. I, x, p. 94.—Jericho.
- Convolvulacæ. 17. *Calystegia soldanella*. L. Sp. 266.—Sea-shore at Sidon.
- Scrophulariacæ. 18. *Celsia glandalosa* Bouché, Linn., V, Lit. 12.—Valley of the Dog River.
- Labiatae. 19. *Sideritis taurica*. M. B., Taur. Cauc., II, 43.—On rocks in the Dog River Valley.
- Salsolacæ. 20. *Salsola canescens*. D. C., Prodr., p. 208.—Accidentally omitted in F. and F. Found by us on Lebanon. By MM. Barbey at Marsaba.
- Euphorbiacæ. 21. *Euphorbia parvula*. Del., Eg., p. 290.—In the Southern Desert.
- Salicineæ. 22. *Salix triandra*. L. Sp. 1442.—Achzib. Not before noticed in Syria.
- Iridacæ. *Iris lorteti*. Barbey, spec. nov., Herbor. au Levant, p. 178, Pl. VII.—This superb Iris, one of the two species mentioned by me (F. and F., p. 423) as found in the woods of Galilee, has been described and beautifully figured in a full-sized coloured plate by MM. Barbey. It was found by Dr. Lortet in the same place where I collected it, near Kulat Hunin, above the waters of Merom.
- Liliacæ. 23. *Bellevalia sessiliflora*. Viv. Fl., Lib. 21, t. vii, f. 5.—Southern Desert.
24. *Muscari holzmanni*. Held., Att. Con. Fir., 228.—Achzib and Beyrout.
- MM. Barbey also mention two undescribed species of *Leopoldia* or *Muscari*—one from the southern desert, the other from the northern coast.
- Orchideæ. 25. *Serapias lingua*. L. Sp. 1344.—Near the Dog River.
- Gramineæ. 26. *Andropogon rubescens*. Vis., Reg. Bot. Zeit., 1829, p. 3.—Near Ras en Nakurah.
27. *Alopecurus pratensis*. L. Sp. 88.—On the coast.
28. *Cynosurus callitrichus*. Barbey, spec. nov., Herbor. au Levant, p. 165, Pl. X.—Near Hebron and Jerusalem.
29. *Echinaria capitata*. L. Sp. 1488.—General.
30. *Lepturus incurvatus*. L. Sp. 1490.—Near Beyrout.
31. *Bromus rubens*. L. Sp. 114.—Dry places, throughout Southern Palestine.
32. *Lolium rigidum*. Gaud. Helv., I, p. 355.—Various places on the coast.
33. *Sphenopus gouani*. Trin., Fund. Agr., p. 135 = *S. divaricatus* Rehb.—The Ghôr.
34. *Festuca interrupta*. Desf. Atl. I, p. 89.—Waste places, Esdraclon.

35. *Catapodium loliaceum* (Huds. Angl., 43).—On the coast.
 36. *Avena barbata*. Brot., Flora Lus., I, 108.—In the desert and in waste places. This is the unidentified *Avena* of F. and F., p. 444, No. 56, from Moab.
 37. *Trisetum parviflorum*. Pers. Syn., I, 97.—Waste places in Judæa.
 38. *Deschampsia media*. Ræm. et Schultz., S. II, 687.—On the coast near Achzib.

I may also here observe that I have identified the *Phleum*, No. 13, Fauna and Flora, as *P. græcum*. Boiss. Flor. Or., V, p. 481.

Also *Pennisetum*, No. 19, p. 442, F. and F. as *P. ciliare* (L. Mant. 302). *Aristida*, No. 35, p. 443, F. and F., as *A. pumila*. Decaisne, Ann. Sc. Nat., Ser. II, 85.

Gastridium, No. 23, p. 442, F. and F., as *G. scabrum*. Presl., Cyp. Sic., p. 21.

Polypogon, Nos. 50 and 51, p. 444, F. and F., as *P. maritimum*, Willd. Nov. Act., III, p. 443; and *P. littorale*, Smith, Comp. Brit., 13.

Avena, No. 56, p. 444, F. and F., should be *Gaudinia fragilis* (L. Sp. 119).

Bromus, No. 110, p. 445, is *B. fasciculatus*. Presl., Cyp. Sic., 39.

Dactylis, No. 93, p. 447, F. and F., is *D. hispanica*. Roth.; cf. Flor. Or., V, p. 596.

I wish also to correct the following identifications of grasses in the "Fauna and Flora":—

Phalaris canariensis, p. 441, No. 5, should be *P. brachystachya*, Link in Schrad. Journ. 1, 3, as pointed out by Boissier, Flor. Or., V, p. 471.

For *Milium syriacum*, Boiss. No. 119, p. 448, read *M. vernale*, M. B. Taur. Cauc., I, 53, var. *montianum*, Cosson.

For *Melica boissieri*, Reut, No. 83, p. 446, read *M. ciliata* (L. Sp. 97), and erase Nos. 75 and 80, *Briza bipennata* and *Melica minuta*. The former species is identical with No. 87, F. and F., *Eragrostis cynosuroides*.

The long-expected completion of M. Boissier's most exhaustive and accurate work, "Flora Orientalis," of which the concluding part has only just reached me, enables me to revise my catalogue of grasses by the decision of the first living authority on the subject. And I am sure that all practical botanists will deal leniently with omissions and oversights, as well as with the necessity for the corrections enumerated above; well knowing the difficulties of deciding on the often unsatisfactory or mutilated specimens before us, of this most perplexing of all botanical families.

M. Boissier's work enables me to add one species to the *Conifere* of Palestine, viz., *Abies cilicica*, Ant. and Ky., Æst. Woch., 18, 53, p. 409. It is the only *Abies* found in the country, and which I now well remember to have seen near Elden on Lebanon, one of the localities given by Boissier.

Ephedra fragilis, F. and F., p. 452, ought to stand as *E. campylopoda*, C. A. Mey. Eph., 73. The two species have been generally confounded. The distinctions are pointed out by Boissier, *op. cit.*, pp. 714, 715.

I have but one fern to add to my catalogue, the common Adders' tongue, *Ophioglossum vulgatum* (L. Sp. 1518), found near Zebdany. But the number of grasses added to our list by M. Boissier amounts to no fewer than 47, bringing up the whole number of Palestinian *Gramineæ* to 216. I subjoin the names, with the localities given :—

1. *Panicum sanguinale*. L. Sp. 14.—General.
2. *Panicum crus-galli*. L. Sp. 83.—General in fields.
3. *Panicum colonum*. L. Sp. 84.—Coast near Sidon.
4. *Panicum eruciforme*. Sibth. Prodr., I, p. 40.—Ehden on Lebanon.
5. *Panicum numidianum*. Lam. Enc., IV, 749.—Near Beyrout.
6. *Setaria verticillata*. L. Sp. 82.—Near the coast.
7. *Andropogon ischæmum*. L. Sp. 1483.—Lebanon.
8. *Hemarthria fasciculata*. Desf. Atl., I, p. 110, t. 36.—Near Sidon and Beyrout.
9. *Phalaris nodosa*. L. Syst., 38.—Coast and Lebanon.
10. *Heleochoa acutiglumis*. Spec. nov., Boiss., Flor. Or., V, p. 476.—Hadith, Lebanon.
11. *Phleum alpinum*. L. Sp. 88, var. *commutatum*, Gaud.—Snow-line of Lebanon.
12. *Phleum bæmeri*. Wib., Fl. Wett., p. 125.—Hadith, Lebanon.
13. *Alopecurus gerardi*. Vill. Dauph., II., 66.—Subalpine Lebanon.
14. *Aristida sieberiana*. Trin. in Spring., N. Ent., II, 71.—Near Jerusalem.
15. *Aristida forskahlei*. Tausch., p. 506.—Sands near Beyrout.
16. *Aristella bromoides*. L. Mant., I, 30.—Lebanon above Sidon ; Antilebanon above Rascheya.
17. *Agrostis verticillata*. Vill. Dauph., II, 74.—In wet places, general.
18. *Agrostis alba*. L. Sp. 93, var. *scabriglumis*.—Brumman on Lebanon.
19. *Gastridium lendigerum*. L. Sp. 91.—Sidon.
20. *Corynephorus articulatus*. Desf., Fl. Atl., I, 70, Pl. XIII.—Sands, Gaza, Beyrout.
21. *Holcus lanatus*. L. Sp. 1485.—Lebanon.
22. *Holcus annuus*. Salz., Fl. Ting. exs.—Pine forests, Lebanon.
23. *Ventenata blanchei*. Boiss., spec. nov. Flor. Or., V, p. 539.—Cedar grove, Lebanon.
24. *Dactyloctenium ægyptiacum*. L. Sp. 106.—Coast near Sidon.
25. *Cynosurus elegans*. Desf., Atl. I, 82, Pl. XVII.—Hasrun, Lebanon.
26. *Eragrostis poæoides*. P. de B. Agr., 71.—Fields, general.
27. *Eragrostis megastachya*. Link., Hort. Ber., I, 187.—Coast.
28. *Briza spicata*. Sibth., Fl. Græc., I, 61.—Lebanon and Antilebanon.
29. *Poa diversifolia*. Boiss., Bull. S. Fr., 1857, p. 306.—Dimas, Lebanon.
30. *Poa trivialis*. L. Sp. 99.—The coast.
31. *Poa persica*. Trin. in C. A. Mey, Enum., p. 18, var. *alpina*.—Top of Lebanon.
32. *Molinia cærulea*. L. Sp. 95.—Upper Lebanon.
33. *Glyceria plicata*. Fries, Nov. Mant., III, 176.—In standing water.

34. *Festuca ovina*, var. *pinifolia*. Hackel in litt., Flor. Or., V, 617.—
Higher Lebanon.
35. *Scelopora maritima*. L. Sp. 128.—Coast near Sidon.
36. *Bromus flabellatus*. Hack., Boiss., Flor. Or., V, 648.—Near Jeru-
salem.
37. *Bromus alopecurus*. Poir. Voy., II, 100.—Galilee and the coast.
38. *Bromus squarrosus*.—L. Sp. 112.—Lebanon.
39. *Bromus brachystachys*. Hornung. Fl., XVI, 2, p. 418.—By the
Jordan.
40. *Brachypodium pinnatum*. L. Sp. 115.—Lower Lebanon.
41. *Agropyrum panormitanum*. Parl. Pl., var. Sic. II, p. 20.—Hermon.
42. *Agropyrum repens*. L. Sp. 128.—Lebanon.
43. *Agropyrum elongatum*. Hort., Gr. Austr., II, 15.—Near Beyrout.
44. *Ægilops bicornis*. Forsk., Descr., 26.—Sandy places, coast.
45. *Psilurus nardoides*. Trin. Fund., I, 73.—Coast and interior.
46. *Hordeum secalinum*. Schreb. Spic., 148.—The Lejah.
47. *Elymus delileanus*. Schultz. Mant., 2, 424.—Central Palestine.

H. B. TRISTRAM.

Durham, 26th November, 1884.

A DOLMEN IN THE TALMUD.

“RABBI ISHMAEL said, ‘Three stones beside each other at the side of the image of Markulim are forbidden, but two are allowed. But the wise say when they are within his view they are forbidden, but when they are not within his view they are allowed.’” (Mishnah Aboda Zarah, iv, l.)

This passage from the tract treating of “Strange Worship” refers to the idolatry of the second and third centuries A.D., before the establishment of Christianity by Constantine. R. Ishmael was a contemporary of Akiba (circa 135 A.D.). From the Babylonian Talmud (Baba Metzia 25 b) we learn that these three stones near the “Menhir of Mercury” (for Markulim was Mercury or Hermes, the god of the pillar) were arranged two side by side and the third laid flat across. From another passage (T. B. Beracoth 57 b) we gather that such symbols, viz., an “image” (צורה) or Hermes with a trilithon in front of it, were commonly to be found.

From the Midrash on Proverbs xxvi, 8, we also gather that the cultus of Markulim (or Mercury) consisted in throwing a stone at his image, and it is well known that this practice was connected in Greece with the cultus of Hermes or Mercury.

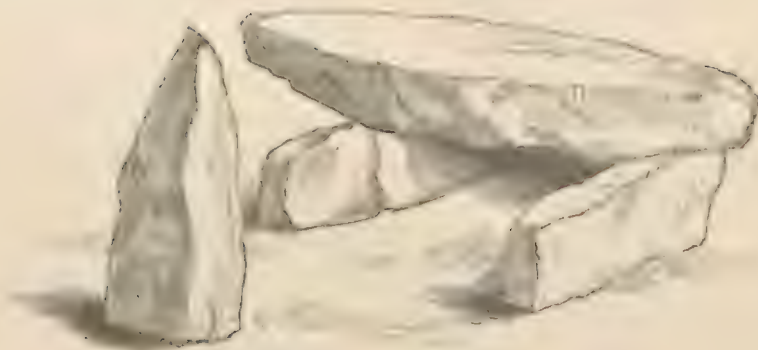
This trilithon was evidently a dolmen similar to the dolmen tables still erected by the Arabs in Moab, and its connection with a menhir recalls the “Sentinel Stones” which are found in Brittany, Scandinavia, and England, standing in front of a dolmen or trilithon.

MARKULIM ON MOUNT GILBOA.



Monument on Mount Gilboa discovered by Captain Conder in 1872. ("Memoirs," Vol. II, p. 119.)

MARKULIM IN SWEDEN.



The Dolmen and Sentinel Stone of Ornst. (Fergusson's "Rude Stone Monuments," p. 306.)



I feel little doubt that the curious monument which we discovered on Mount Gilboa near the village of Deir Ghazaleh in 1872, is one of the Markulim of the Talmud. It was, I believe, the first rude stone monument discovered west of Jordan (not including Phœnicia). The standing stone is 6 inches thick, 2 feet wide, 3½ feet high. I found it very firmly fixed. It was impossible to move it, and it is probably sunk to some considerable distance in the ground. The trilithon or dolmen has a table-stone 6 feet 9 inches long. The other stones form an enclosure such as often encircles dolmens in every land. The enclosure with a central stone is also a kind of monument found in Moab, as I have shown in my reports and memoirs. All these facts tell strongly in favour of the contention, which is supported by Lubbock, Forbes, Leslie, and other competent authorities, that rude stone monuments in all lands are intimately connected with the religious ideas of early tribes. This subject I have endeavoured to treat in "Heth and Moab," but a great many confirmatory facts have come to my knowledge since I completed that volume.

Idolatry was of course the general practice in Syria when the Mishnah was written, and in the tract above quoted we find mention of the sun, moon, planets, mountains, Zodiacal signs, trees, and stones, as objects of idolatry; also the sacred baths or springs of Venus, and the serpent or dragon. One other passage is of interest in connection with rude stone monuments.

"In Zidon, at the tree where they worshipped, they found beneath it a heap) or cairn, גל, said R. Simon to them, examine the heap.' And they examined it, and found in it an image (צורה). He said to them, as the object of worship is the image, we shall allow the tree to you." (Mishna Aboda Zara, iii, 2.)

In this case the menhir had been covered up in a cairn made of the stones thrown at it as an act of worship. The meaning of this custom has been made plain by archaeologists, and each stone thrown is witness of a visit paid to the spot. The larger therefore the cairn the greater the veneration shown.

From another passage it appears (iv, 2) that offerings used to be placed on the head of Markulim or on the top of the menhir. In Brittany, and in Scotland and in India alike, menhirs may still be seen which form the nucleus of the cairn which surrounds them. This practice is probably also noticed in the Bible (Genesis xxxi, 45-48), but I have not met with any explanation of the cultus in the dictionaries and commentaries.

The arrangement of the trilithon and menhir, especially when the latter is surrounded by an enclosure as is the case in the Gilboa example, may be considered to represent the prehistoric prototype of such temples as were afterwards erected in Phœnicia or Greece, with a rude stone instead of a statue, and a pair of pillars standing in front of the fane, and supporting only a single block of stone. The relative position of the pillar and the trilithon appears sometimes to have had a relation to the sunrise or sunset, but this though observed by the modern Arabs is not an invariable rule.

In connection with this subject, a few words may be added as to hollows in dolmens and menhirs. The cup hollows have been described (see "Heth and Moab") in Moabite monuments. In Finland such hollows are made in stones, and connected with a charm against diseases, which are conjured into them. In Scotland the same hollows were used for libations of milk. Milk was poured through a hole in a menhir in the western isles off the Scottish coast. Another menhir in Aberdeenshire had a hollow in the top in which rain water accumulates, which the ignorant suppose to spring from the stone, and a cross-shaped stone, called Water Cross, was said to bring down rain when placed upright.

Visiting recently the well known Kits Coty House dolmen, near Maidstone, to see if there were any cup hollows in its table stone (which is slanted just like the table of a Moabite dolmen), I found the side stones pitted with deep hollows, some of which it is impossible to suppose to have been natural erosions. About a quarter of a mile south of Kits Coty House there is a ruined circle of fallen stones (sandstone from the neighbourhood, as is Kits Coty House also). The farm people believe that these stones cannot be counted, a legend which is I believe not peculiar to this circle alone. I found in some of the stones of this circle (which are 7 to 8 feet long) holes like those in the Cotty House, but still more plainly cut with the object of holding something. Perhaps, as in so many other cases, libations of blood or milk, honey, or water, were once poured on these holy stones, or small offerings placed in the stone itself, by those who regarded these monuments as sacred. The offering was placed on the top of the stone in the case of Markulim as above noted. One of the best examples of such holes in side stones is noticed by Fergusson, in the famous covered dolmen at Gavr Innis in Brittany.

There is another circle at Addington Park, near Maidstone, which I have not yet been able to visit, which has a curious outlying cairn on the east or north-east. We may compare the circle and gigantic cairn of Wady Jideid in Moab.

C. R. C.

THE ARAMAIC ALPHABET.

In my paper on Hebrew inscriptions, published in the *Quarterly Statement*, October, 1883, I have mentioned the inscription at 'Arak el Emir. This we both copied and photographed, and my original copy made on the spot differs in the first letter from that of previous writers. According to Levy, it has the form of a rude *Teth* open at the top.



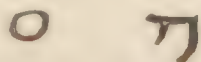
According to my copy it is round like an O, and could only read as an *Ain*.

π ʔ ʔ ʔ ʔ ʔ

I did not when copying the text reflect on the importance of this difference, but the photograph, though taken rather at an angle, appears to support the copy, and de Vogüé reads this letter as agreeing also with my view.

The importance of this difference lies in the fact that the inscription appears as a whole to be Aramaic rather than Phœnician; but that the first letter if it be an *Ain* cannot be Aramaic, but must belong to some alphabet allied to the Moabite Stone, according to the received views. The Aramaic alphabets, whence square Hebrew developed, are peculiarly marked by the open loops of the letters, especially of the *Ain*. In order to satisfy the learned world, a squeeze (which would require a ladder), or a new photograph of very large size, may become necessary; but it seems strange that such a difference of copy should occur in so very distinct and well preserved a text, and I incline to believe that my copy, made without any reference to the reading of the text, is correct.

Now the inscriptions from Medeba seem to present us with exactly the same problem, and their genuineness is rendered the more probable, as some of their most suspicious forms have (as Dr. Taylor kindly points out to me) been found also in unquestionably genuine texts from Arabia. In No. 2 of the Medeba texts we find two letters almost identical with two in the 'Arâk el Emîr text, namely,



The first of these is small, like the *Ain* of the South Semitic Alphabets, the second appears to be an Aramaic letter.

Now almost the only great problem concerning the alphabet which remains to be solved, is that of the connection of the South and North Semitic Alphabets. The link may perhaps exist, not in Arabia, but in Moab, and the Medeba texts may serve to point it out. It seems that, contrary to expectation, forms of the Aramaic may occur with Phœnician or South Semitic forms in the same inscription. The 'Arak el Emîr text in all probability dates as early as 176 B.C., and presents the same confusion of two alphabets, generally believed to be distinct. We have, it is true, not very much to guide us in drawing conclusions, but the Moabite texts here noticed may perhaps induce paleographical authorities to extend their researches in a new direction in treating the relations of the various branches of the earliest alphabet, that of the Phœnicians. I should note in conclusion that Mr. Doughty has brought home squeezes of some Sinaitic and Aramaic inscriptions from the neighbourhood of Mecca which may perhaps cast light on this question.

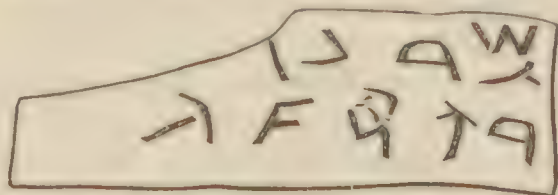
C. R. C.

INSCRIPTIONS.

It may be convenient to give a *résumé* of the epigraphic results of the Survey of Palestine, which have been more numerous and important than might perhaps be supposed, without collecting those scattered through the pages of the Memoirs.

HEBREW.

1. The inscription on a tomb in the Jordan Valley, which appears to be perhaps as old as the Siloam text, was discovered by me in 1874. (Memoirs, vol. ii, p. 396.) It is here given for comparison.



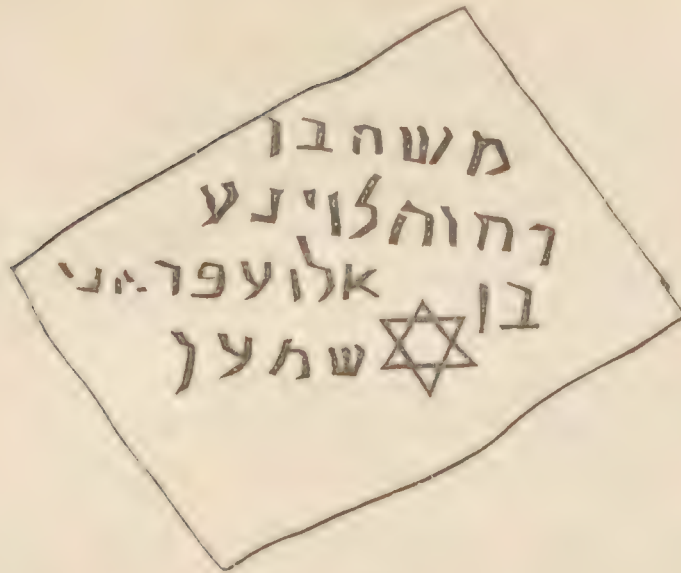
2. The curious text from Umm ez Zeinât, which reads, perhaps, Eleazar Bar Azariah, was copied by me after being discovered by Sergeant Armstrong in 1873. (Memoirs, vol. ii, p. 71.) As regards this it might perhaps be suggested that we have here the tomb of Rabbi Eleazar ben Azariah, who died 83 A.D. He was one of the Tanaim (Mishnah Beracoth, iii. 7), a disciple of R. Jonathan ben Zaccai, who died 73 A.D. Both were priests. R. Eleazar appears to have succeeded Gamahil the younger at Jamnia. (*Cf. Pirke*, Aboth iii, 17.) The discovery of these ancient Hebrew texts during the Survey may be considered an important addition, especially as the zeal of M. Clermont-Ganneau has only added the Gezer text and the yet unpublished Phœnician text from Silwân.

3. The square Hebrew inscription from a tomb at 'Ain Sinia was copied by C. F. T. Drake in 1872. (Memoirs, vol. ii, p. 302.) It appears to read, Moses bar Eleazar bar Zechariah the priest. This may be ascribed to the Herodian period with confidence.

The well-known inscription at Kefr Birim is also noticed in the Memoirs, vol. i, p. 233, and that at Nebratim, vol. i, p. 244, and at el Jish, vol. i, p. 225.

4. Some Jewish graffiti at Neby Samwil are of interest. They cannot be older than 1157 A.D., but they are not recent, because they have been plastered over, and the plaster is old and has fallen off. The most important is here given from the voussoir of a pointed arch with mediæval mason's marks (the shield of David) and diagonal tooling. It appears to read, Moses Ben Nahum Levi . . . Ben Aloazer . . . Shemon. This may be of value for comparison with the graffiti on the osteophagi from the Mount of Olives described by M. Clermont-Ganneau. The form of the *Shin* is much later than that on some of these osteophagi. The same may be said of the *Ain*, *Mim*, and *Lamed*, but the *Zain* seems to have a peculiar early form, if rightly read, and the *Alaph* is also peculiar.

INSCRIPTIONS.



Among the Jerusalem inscriptions which I have collected together for the Jerusalem Volume of the *Memoirs* will be found mentioned the six well-known Hebrew texts, namely, the Beni Hezir Tomb, and the tomb found by De Vogüé; the sarcophagus of Queen Sara, and the stele found by De Sauley with the letters copied at the Torph Gate by Sir Charles Wilson, and the Phœnician letters on the Temple wall; as also the Siloam text, the fragment of a text from Keŕr Silwán, and the two supposed letters on the so-called "Egyptian Tomb" in the Kedron Valley. These, with the three Phœnician texts of Urm el 'Amin (*Memoirs*, vol. i, p. 183), and the coffin of Eshmunazar, the Gezer Stones, and the Pillar of Anwás, make a total of nineteen Hebrew and Phœnician texts known in Palestine. The Moabite Stone and the 'Arák el Emír text East of Jordan must be added to these. The graffiti are not counted, nor the numerous Jewish tombstones at Taffa. (*Memoirs*, vol. ii, p. 277.)

GREEK.

These are extremely numerous in Palestine, the majority being Christian, and subsequent to the fourth century. The most valuable is the stele of Herod's Temple found by M. Clermont-Ganneau. The following are the new ones found by the surveyors within the Survey.

5. The inscription of the Cathedral of Tyre, mentioned, but not given, *Memoirs*, vol. i, p. 73. I copied it in 1881.

ΡΟΝΤΗΝ
ΟΠΟΜΗ
Ο . . ΟΙ . . Ν
ΚΡΗΤΗΣ

See Appendix, vol. iii, p. 428.

6. Greek text at Deir Dugheiya, which was found first by Renan, in honour of John the Baptist and St. George. (*Memoirs*, vol. i, p. 115.) It appears to have been rediscovered in 1877.

7. Greek Christian text of Siddikîm. (Memoirs, vol. i, p. 138.) It contains the name of St. Procopius and the Deacon Eusebius. From the contraction of the word Deacon it might be thought—as also from the Jerusalem crosses above the text—to be of Crusading origin.
8. Marble slab from Masûb. A funerary text, probably not earlier than the 12th century. (Memoirs, vol. i, p. 168.)
9. Greek Christian text from Marûn. (Memoirs, vol. i, p. 251.) On p. 260 is given another, which had been already copied by Renan.
10. Inscription on an early Christian tomb at Shefa 'Amr. (Memoirs, vol. i, p. 341.)
11. Inscription at 'Abûd, also found by Sir C. W. Wilson in 1866. (Memoirs, vol. ii, p. 303.) “Memorial of the Holy——.”
12. Medieval text, “Memorial of George,” at el Hats. (Memoirs, vol. ii, p. 321.)
13. Inscription on font at Khûrbet Kilkh. It was found by Sergeant Black, but had, I believe, been already copied by M. Clermont-Ganneau. (Memoirs, vol. ii, p. 336.)
14. Inscription almost illegible, copied by C. F. T. Drake at 'Akrabel. (Memoirs, vol. ii, p. 388.)
15. A few letters from another stone at the same place.
16. Inscription at Mejdal Yaba. “The Church of St. Cerycus” (an early convent), or perhaps of the “Holy Herald”—that is, probably, of John the Baptist. (Memoirs, vol. ii, p. 361.)
17. El Mujhâr, a Greek Christian text. It was copied by M. Clermont-Ganneau in 1874, of which fact we were not aware. (Memoirs, vol. ii, p. 427.)
18. Dedication by Martin the Deacon. This also was copied by M. Clermont-Ganneau. (Memoirs, vol. ii, p. 134.)
19. Deir el Kelt. Greek and Arabic text over the door, and a number of mediæval Greek texts on the pictures. (Memoirs, vol. iii, pp. 193-197.) The texts at Koruntîl and Kasr Hajlah were already known. (See Memoirs, vol. iii, pp. 203, 204, 215, 216.) The latter have since been entirely destroyed.
20. A few letters at Ascalon.
21. Deir el Belak, Greek Christian. (See Memoirs, vol. iii, p. 218.)
22. Another from the same place. (Memoirs, vol. iii.)
23. Meidân ez Zeid. (Memoirs, vol. iii, p. 250.) A Greek funerary text.
24. A second found in 1877 on the same race course near Gaza. It is not given in the Memoirs. It is Christian, beginning, “The earth is the Lord's and the fulness thereof,” and records the facing of some building with stone by the Deacon Alexander. It is probably not older than the fifth century. (See *Quarterly Statement*, 1878, p. 199.)
25. Sheikh Rashed. (Memoirs, vol. iii, p. 253.) A mediæval Greek Christian text in two lines.
26. Greek text in the Hebron Haram (Memoirs, vol. iii, p. 340); this is additional to one already known.
27. Khoreisa. Greek Christian text. “This is the gate of the Lord,

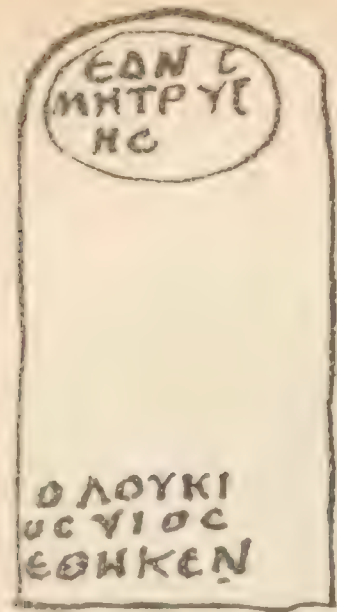


Fig. 1.

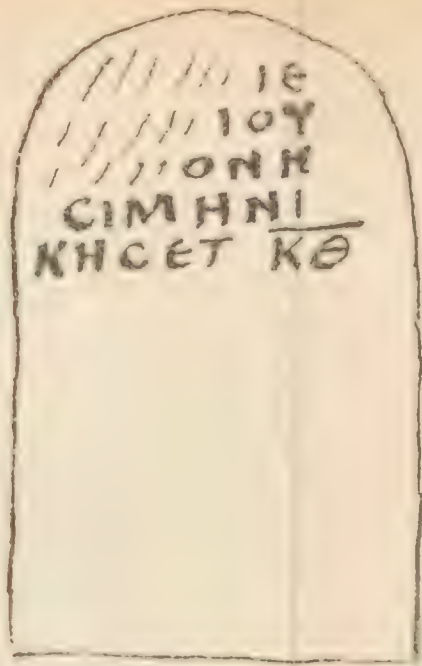


Fig. 3.

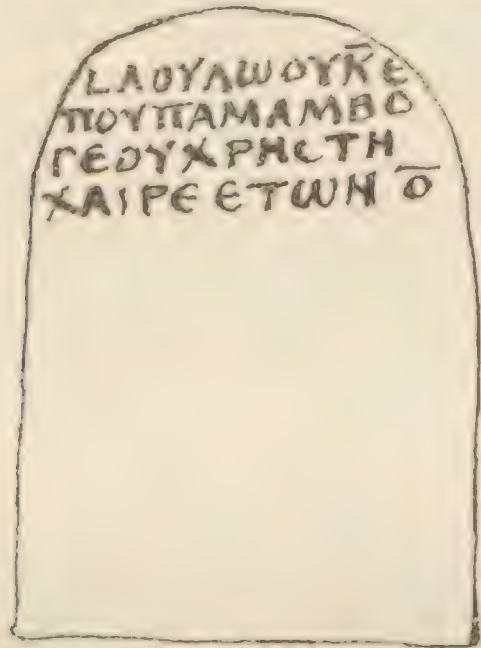


Fig. 2.

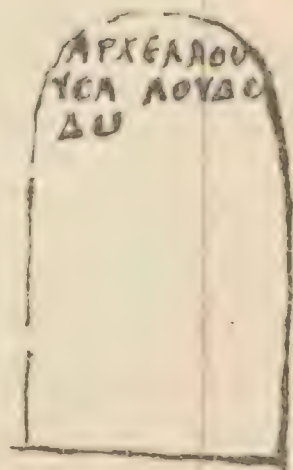
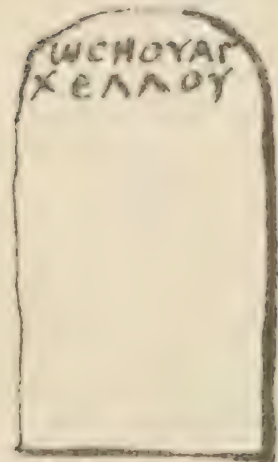
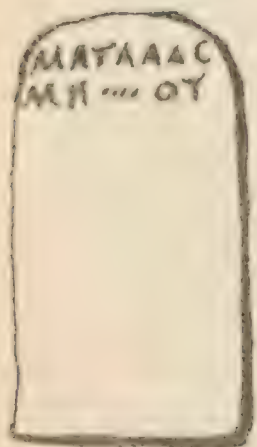


Fig. 4.



Fig. 5.

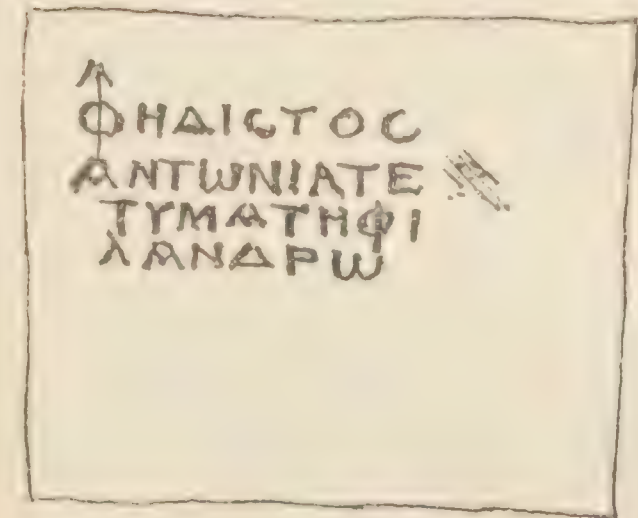


Fig. 6.

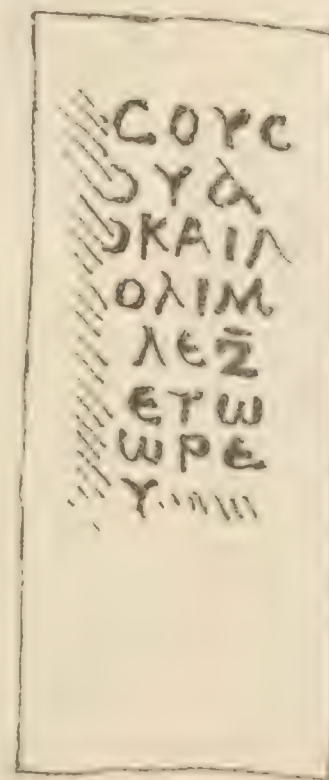


Fig. 7.



Fig. 8.

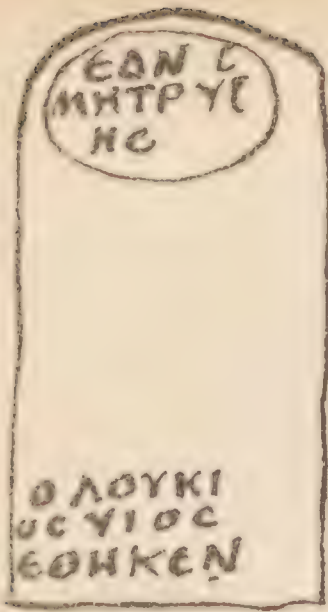


FIG. 1.

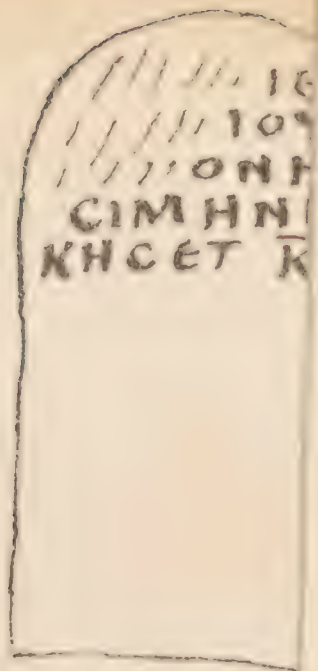


FIG. 3.

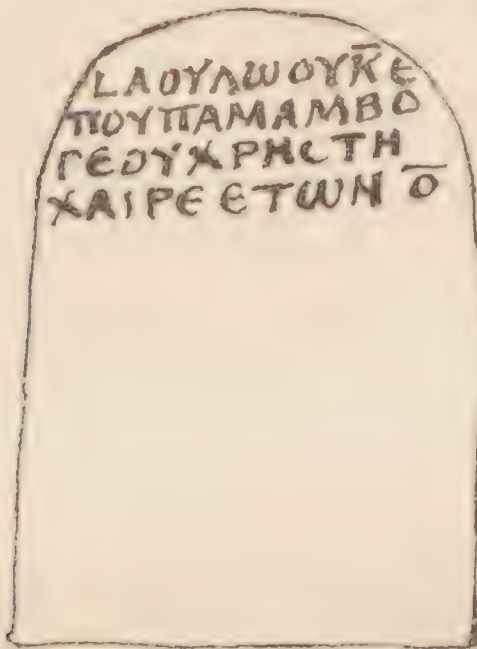


FIG. 2.

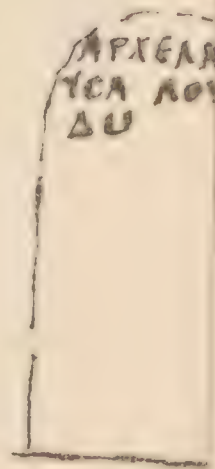
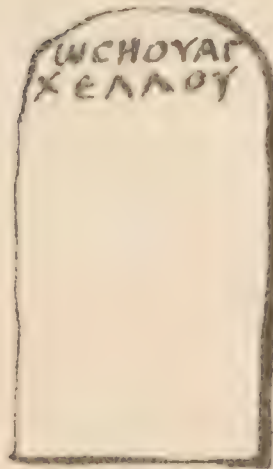
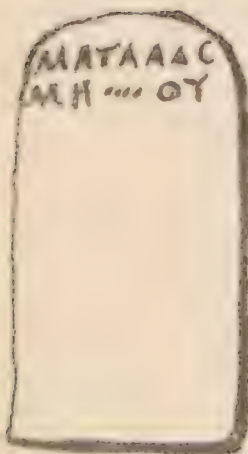


FIG. 4.

the righteous shall enter in thereat." It is probably of the Byzantine period. (Memoirs, vol. iii, p. 357.)

28. Masada ; a painted text in a cave, the word Kuriokos, "of the Lord." (Memoirs, vol. iii, p. 421.)

29. Umm el Buruk, East of Jordan ; a tablet with the name of Antonias Rufus in Greek. This has yet to be published.

30. 'Ammân. Greek text in the wall of the Cathedral, with the name of Gordiana. To be published in the Memoirs.

31. Jerusalem. A Greek Christian text from the north wall, which has not been previously published, so far as I have been able to ascertain.

32. A text from those of Jerâsh appears to be new (see the account of the Royal visit, *Quarterly Statement*, 1882, p. 219); but see also April, 1883, p. 108, and September, 1870, p. 389, where Canon Girdleston gives a yet longer text in hexameter.

ROMAN AND LATIN.

33. Milestone north of Jerusalem. (Memoirs, vol. iii, p. 55.)

34. Milestone at Fukeikîs near Hebron. (Memoirs, vol. iii, p. 328.)

35. Milestone near 'Ammân. To be published in the new Memoir.

36. A fine Gothic tombstone found near the Zion scarp by H. Maudslay. Noticed in the Jerusalem Volume of the Memoirs.

NABATHEAN.

36-37-38-39. Four texts from Medeba, found by Latin missionaries, and copied by me in "Jerusalem." As regards these texts, I find that Colonel Sir C. Warren has published another from Umm er-Rasis in the *Quarterly Statement*, 1870, p. 327, which is very valuable for comparison.

C. R. C.

GREEK INSCRIPTIONS.

Those represented in the accompanying plate (figs. 1-8) were copied in 1873 by Rev. W. Wright and myself, in the village and at the tomb of Sûk Wâdy Brarda (the ancient Abila), on the Abana River. Though mentioned in the Memoirs (Special Papers, p. 113), they have not been published. They are in the collection made by Waddington.

There is a fourth tablet uninscribed to the right. These are over a sunk tomb north of the river.

Abila existed as a town in 60 B.C. The Roman inscriptions here date about 250 A.D. The forms of Greek letters are uncial; but these forms are found at Jerâsh probably as early as the second century A.D. They became common in the fourth and fifth centuries; all the inscriptions here are funerary.

C. R. C.

SIN AND SAD.

According to the students of literary Arabic the distinction of these two letters is most carefully preserved in speaking, and they are never confused. Nevertheless, even in the dictionaries, a few words may be found which are occasionally written with either.

In our recent survey we found the native scribe, who was intelligent and well-instructed, sometimes unable to distinguish the two letters in the pronunciation by the Bedawin of local names: such as Wady Sir and the ruin of Sîr, and it is commonly said in Syria that the nomadic tribes make no distinction between *Sîn* and *Sad*. Even among the teachers of Nahu or correct speech there is a difficulty, for when hard pressed they are obliged to admit that a deeper vowel sound accompanies the *Sad* than that belonging to the *Sîn*. Thus even to the present day we have a survival of the syllabary from which the distinction of some Semitic letters originates; and this is but one example of the importance of studying the local peasant dialect of Syria, which is very different in many respects from the polite Arabic of literature, preserving as it does archaisms which are of the highest value for archæological purposes.

C. R. C.

DISTRICTS IN PALESTINE.

The hills north of Jerusalem are divided into various government districts, bearing ethnic names, viz. :—

<i>Beni 'Amir</i>	....	....	....	Sons of Omar.
<i>Beni Hârith</i>	....	....	....	Sons of Aretas.
<i>Beni Murreh</i>	....	....	....	Sons of bitterness.
<i>Beni Salim</i>	....	....	....	Sons of peace.
<i>Beni Zeid</i> ....	....	....	....	Sons of increase.
<i>Beni Hamâr</i>	....	....	....	Sons of the ass.
<i>Beni Sab</i> ....	....	....	....	Sons of stubbornness.
<i>Beni Hasan</i>	....	....	....	Sons of beauty.
<i>Beni Mâlik</i>	....	....	....	Sons of royalty.

These are not pastoral or nomadic, but agricultural districts, with a settled population of Fellahin. There are no Arabs in these districts, and historically the nomadic tribes seem never to have held them. I have never seen any explanation of these names, nor does their origin seem to be known in Palestine. M. Clermont-Ganneau has indicated the interest of the names, but has not explained their origin. Professor Palmer in revising my nomenclature has added the word Arabs to the title, apparently thinking that they applied to existing tribes in Palestine, but the districts are entirely free from nomadic tribes, nor are any existing Arab clans west of Jordan called by these names.

If, however, we turn to the map of Arabia in the days of Muhammed and of Omar, we find the following tribes represented:—

Beni 'Amir, a tribe of the Nejed near Yemana, or again south-east of Medina.

Beni Hârith, a tribe of Yemen north-east of Sana.

Beni Murreh, both east of Medina, and south of the Jauf Oasis.

Beni Suleim, east of Medina.

Beni Mâlik, a division of the Beni Temîm, who lived near Yemâna.

It was with the aid of these and other tribes that the famous Khaled defeated the Romans on the Hieromax in 634 A.D. ; and under Omar they swept over Palestine soon after.

It seems therefore probable that in these local names we have a trace of Omar's Conquest of Syria, and that the hills of Judea and Samaria were regularly portioned out among his followers. The noble families of Jerusalem still claim to have "come over with the conqueror" at this time. We have thus only another instance of the survival in Syria of early Moslem divisions, and the division of the Keis and Yemeni factions, which dates back to the early days of Islam, is still hardly extinct, and is well remembered in Southern Palestine.

This identification of the tribes presents a curious and interesting historic parallel to the division of Canaan by Joshua among the triumphant tribes who (as in Omar's time) entered Palestine from beyond Jordan.

C. R. C.

THE SAMARITAN TEMPLE.

Is there any satisfactory proof that the Samaritans ever erected a temple? Josephus speaks of Sanballat's Temple (2 "Antiq.," viii, 27), but gives no account of it, and his Sanballat cannot be the Sanballat of the Bible if he lived in the days of Alexander the Great. In the New Testament only the mountain is noticed (John iv, 20); and Epiphanius in the fifth century speaks of the Samaritans as worshipping in a circle open to the air—such an enclosure as they still use. The Samaritan literature is all very late, and makes Joshua erect a temple which Sanballat only restored. The twelve (or ten) stones which the Samaritans point out as part of their temple are probably terraced walls of Justinian's fortress. On the whole it seems to me probable that they never had anything more than at present, viz., a sacred rock with a well-marked cup hollow in its surface—probably their altar, and enclosures with dry stone walls, where they congregated on the holy mountain.

C. R. C.

LOT'S WIFE.

TRAVELLERS believed Lot's wife to be still visible in his own days near the Dead Sea, "still showing her feminine nature" and apparently not quite a stone. Antoninus Martyr in describing his visit to the locality is careful to controvert the idea that the statue had been diminished by being licked by animals. It must have been to some stone or rock (apparently west of the Dead Sea that these writers refer. Sir John Maundeville still saw the statue "at the right side" of the Dead Sea. It seems possibly to the peculiar crag now called Kurnet Sahsul Hameid, "the peak whence Hameid (an Arab boy) slipped down," that they all refer. It is a crag somewhat like a human figure, jutting out of the cliffs near Kumrân, not far from the Hajr el Asbah.

C. R. C.

EN ROGEL.

It is pretty generally allowed, I believe, that the real site of En Rogel is the present Virgin's Fountain opposite Zohcleth, and not, as the Crusaders thought, the Bir Eyüb, which is too far south, and not a spring at all.

The usual translation of En Rogel is "Fuller's Spring," but "Spring of the Foot" has recently been suggested. I would suggest that both are equally unsatisfactory. In Arabic Rijlah means a water channel (*locus ubi aqua fluit*, Freytag), perhaps derived from *rijl* "foot," because such channels are made with the foot by the peasantry. There is an 'Ain Rajeileh or modern En Rogel near the west margin of Sheet XVIII of the Survey.

If En Rogel mean "Spring of the Channel," and if it be—as can be shown on quite independent considerations—the present Virgin's Fountain, the name is evidently derived from the famous rock-cut channel leading from the back of the cave in which the spring rises.

C. R. C.

AIN TABGHAH.

It seems to have escaped notice that this place is mentioned in the Tahaud, which is important, as showing the name to be ancient, and thus perhaps presenting a strong argument against the idea that this spring is the one which Josephus intends in speaking of the Fountain of Capharnaum.

The site, as is well known, is between Tell Hûm and Minieh, and fine springs are here dammed up in a reservoir, while several curious round

water-towers (including 'Ain Eyûb) exist immediately to the east. The name means the "Dyer's Spring." (See the notice in the "Princes' Tour in the Holy Land.")

In the Talmud (Tal. Jer. Ekha, ii, 2, v Midrash) a certain Migdol Tzeboya is mentioned, and according to Neubauer was on the Sea of Galilee (Geog. Tal., p. 218), this name meaning "tower of the dyers." (מִגְדֹּל זַבְעִיָּא) is identical with the Arabic Tâbjhah. Twenty-four weavers' shops stood at this place. Perhaps this may explain the curious water-towers found both at 'Ain Tâbjhah and near Mejdal. They may have been used as wells in which to steep the stuffs while being dyed, and this explains the name "Tower of Dyers." They clearly were not connected with aqueducts, though a short mill lade led from the great reservoir on the spot, which is probably only about a century old, and built by the Zeidân family.

C. R. C.

KADESH BARNEA.

A SCHOLARLY work by Dr. H. Clay Trumbull has just been published in America respecting the site of this city. I hope I shall not be considered contentious if I take exception to the conclusions of the author, though supported with much care and candour, and shared by many explorers and scholars who have preceded him. There is much that is most valuable in the book, but when we find that Seir and Mount Hor are moved to the west of the Arabah, and that 'Ain Kadis is shown much further east than on preceding plans, it seems that permanent harm might result from leaving it to be supposed that the question of Kadesh was finally settled.

Taking the questions which I would wish to raise as they occur in the book, I would first note:—

Page 93, *Seir* = *Es Seer*. This looks well in its English garb, but we must ask first what is the spelling of the Arabic. The Hebrew is שַׁעִיר, of which the proper Arabic equivalent is *Shar*, a word in use with same meaning as the Hebrew, viz., "shaggy." In spite of the authorities quoted it seems that *Seer*, or *Sir*, or *Sirr* is the common Arabic geographical term found all over Palestine meaning a "route" or "highway," unless it be spelt with *Sad*, in which case it means a sheepfold, or if it be really *Sirr* it means "gravelly." Until it be shown to contain the guttural of the Hebrew, it cannot be considered to represent *Seir*, especially as it should begin with *Shin*, not with *Sin* or *Sad*. The distinction made between a Country of *Seir* and Mount *Seir* (p. 85) does not seem to be well founded, though necessary to the theory which would find a *Seir* at *Seer* independent of Mount *Seir*, the rugged chain east of the Arabah. *Kasr es Sir* (p. 94) would mean probably "the sheepfold tower," and as is so often the case among the Bedawîn, the region round

may probably have been named from this ruin. (Compare Sheet XV of Survey of Palestine.)

Page 101, *Edom*. It is no doubt the case that Idumæa was a name applied to the country even as far north as Hebron about the Christian era, but the name Edom or "red" must surely have applied to the red sandstone country, and not to the white chalk plateau of the Tih.

Page 124, *Rekem*. I fail to find anything to support the view that there were two Rekems, one at Petra, one at 'Ain Kadîs. All the authorities agree that Petra was called Rekem, and the Jews appear most clearly to have believed that Kadesh Barnea was at or near Petra. The second Rekem seems only necessary to the theory of 'Ain Kadîs being Kadesh Barnea.

Page 127, *Hor ha Har*. No reference is given in note, and it seems to me very clear that the references in Numbers xxxiv, 7, 8, are to a Mount Hor in the Lebanon, not to the mountain in Edom. I have tried to show elsewhere that we should probably read Hor ha Khar, "Mountain of the Phœnicians," the change of ה and ח being very slight.

Page 130, *Hor*. Dr. Trumbull says that Josephus does not suggest a particle of evidence in favour of his assertion that Mount Hor was near Petra. I would venture to suggest that he does not agree as to where Jerusalem was, or even as to Sinai. The Mount Hor now shown is that which Josephus believed in, and probably it was as well known as Sinai or any other famous mountain (Carmel, Tabor, Hermon, etc.) which are undoubted, though we have little but tradition in some cases to rely on. Dr. Trumbull accepts the usual Sinai, but the site of that mountain does not rest on any more secure basis than does the traditional site of Mount Hor—both are too famous ever to have been lost. In the case of Mount Hor we have in fact that "consent of tradition" (Jewish, Christian, and Moslem) which, as I tried to show in "Tent Work," is generally indicative of continuous preservation of an ancient site. The position in the border of Edom is quite in accordance with the usual understanding of the desert geography, and the new proposed situation at Jebel Madurah seems far too arbitrary to upset the consensus of tradition and opinion in the matter.

Dr. Trumbull supposes Madurah to be a form of Moseroth (מוסרת), remarking that D and S are convertible in Eastern speech. I do not think this is the case. The soft T and the soft S (*Te* and *Sin*) are convertible, and so are the soft D or Dh and Z (*Dhal*, *Dal*, *Zain*), but I do not recall any instance where D and S are convertible. Dr. Trumbull is surprised (p. 228) that I should suggest Madurah to be the same as Adar, which he appears to consider (p. 280) to be spelt with the guttural *Ad*. In Joshua (xv, 3), however, it is spelt אדר, which is distinct from the Eder (עדר) of another passage (xv, 21). The *Min* being a servile letter, Madurah if spelt מדרה, which one is led to suppose is the case from Robinson's transliteration, might well be the same as Adar. The site of Eder may perhaps be at the ruin 'Adar, near Gaza.

"Kadessa" (p. 136). It would be worth while to examine this vicinity

carefully, in order to find whether the name Kadessa, reported by Berton, really exists, or was only manufactured for his benefit. No effort seems lately to have been made to discover this.

Page 170, *et seq.* Judging from the Arabic, the word Rekem would seem to mean "variegated," perhaps from the bright colours of the Petra sandstones. (See Freytag, Lex.) The word Kerm (p. 174), spelt with the *Kofh*, generally means a tree stump.

Page 211, "Zephath." The radical meaning of this name in Hebrew and Arabic is the same, "to be clear," "bright," "conspicuous," "shining." The identity of Zephath and Sufah can hardly be doubted by any who consider the roots whence the two words originate. The suggestion of Sebeita or Sebata for Zephath has always seemed to me to argue a want of scholarship on the part of Rowlands. The Arabic name seems to be from the root Sebt, "rest," which has not a single letter in common with the root whence Zephath originates. Philologically at least (and I think geographically as well) Robinson's suggestion is preferable to that of Rowlands, because it is radically sound, and the other radically unsound. There was a Zephathah near Mareshah (2 Chron., xiv, 10), which as I have before pointed out survives at the ruin Safieh, a word from the same root as Safah.

Page 212, "Hagar's Well" at Moilabhi, depends on a tradition of the Beit Hajar. We ought to be informed how this latter name is spelt, whether with *He* or with the guttural. In the latter case it would simply mean "House of Stone," while Moilabhi is probably a vulgar Bedawi pronunciation like other words with a supernumerary *Wau*, and means "salt." If a tradition of Hagar does here exist, it is not free from suspicion of monkish origin, and the same may be said of 'Ain Kadis, for not only have Christian remains been found in this desert, with Arab traditions of Christian settlements, but we also know from Jerome and from Antoninus Martyr of hermitages and monasteries in various parts of the Tih.

"Hezron," page 228. Dr. Trumbull has omitted to notice what appears to me to be a strong argument, which, as far as I know, I was the first to suggest in the identification of Hezron. He does not himself find this name anywhere in the desert, yet all good maps show the Hadirch hill west of Wady el Yemen. The proper Arabic equivalent of Hazor הזר is Hadirch (حصير), which has the same meaning, "enclosure;" and the Arabic *Did* is one of the two proper equivalents of the Hebrew *Tzadi*. It is strange that Dr. Trumbull should have been quite silent as to this suggestion, which if it be correct settles the Kadesh Barnea question for ever. As to the meaning of Hazor and Hazerim, we found in 1881 that the word Mahder (radically the same) is applied by the Arabs beyond Jordan to the ancient stone circles in at least one case; perhaps such circles exist at Jebel Hadirch. The thorn enclosures would be called Sir (see p. 281), and the Hazors seem probably to have been old cromlechs or circles, funereal or of religious use.

Page 276. *Havy*, usually rendered "winds," will be found to be

derived from a word meaning a gorge or precipice, which fits well in the case of Kaukab el Hawa, and in other instances.

Page 278. The opinion of Levy and other epigraphic authorities is generally supposed to have settled the date of the Sinaitic inscriptions as not earlier than the 4th century.

Page 283. 'Ain el Qadayrât appears to be spelt with a *Dad* by mistake. There is no such root in common Arabic, and the root meaning "omnipotence," is spelt with a *Dal*.

Page 289. The suggestion of 'Ain Qasaymeh for Kaisam (קיסם) is free from philological objection, but Dr. Trumbull should consider Neubauer's curious explanation of the Targum, reading Kaisam for Azmon. The suggestion Qadayrat for Adar is objectionable, because Adar is spelt with *Alph* and *Dal*, while according to Dr. Trumbull Qadayrat is spelt with a *Dad*; in which case the Hebrew would be not אדר, but קצר. All these suggestions seem to be far too vague to carry conviction; and Qasaymeh probably means "division," or "halving," as the Arabs say. There seems no real reason for rejecting the Arab legend of a Christian boundary at this point (see p. 291), as the district once had a Christian population. The word Azmon is most likely to survive in Arabic in the form 'Atmeh.

As regards the Exodus route, there is little in Dr. Trumbull's careful paper which will be new to readers of Brugsch, Tomkins, &c. The question of the wall *Shur*, and of the *Yam Suph*, is treated with great clearness and force, and leads to conclusions which will intine be generally accepted.

It is to be regretted, however, that sufficient notice has not been taken of the facts (both geological and engineering), which leave it indisputable that the level of the Red Sea has been changing, and that the Isthmus of Suez has been growing broader within historic times. The existence of a Nile branch down Wady Tameilûb, which is important in this connection, is also not noticed. As to Brugsch's idea (p. 327 *et seq.*), that Khetam חֶתָּם and Etham אֵתָם are the same, I can only say I agree with Professor Robertson Smith in regarding this as very doubtful. It seems far more probable that the Atuma of the story of Sancha is Etham, and not as generally supposed Edom. The Egyptian sign \ominus may be read as *D*, but is most often *T*.

Page 331. "The fortress of Kanaan has not been identified." This seems to be written before Dr. Trumbull had seen my paper on the subject, as my suggestion of Kana'an, a large ruin near Hebron, met with hearty acceptance from Mr. Tomkins.

Special attention should be called to the deduction from Exod. x, 19, which Mr. Trumbull brings forward as showing the direction of the *Yam Suph*. The rationalistic explanation of the pillar of cloud and of fire which seems suggested on p. 397 is also very interesting.

The map requires a word of notice, for it is not clear why 'Ain Kadis is there shown much further east in longitude than is the case on Palmer's map or Holland's map. The result of moving Mount Seir and Mount Hor westwards, and Kadis east, is to bring them much nearer together, but

the site of 'Ain Kadis is still too far west to suit the requirements of the case. Generally speaking, one feels that the evidence has been rather twisted in favour of 'Ain Kadis, though Dr. Trumbull has striven to be impartial and candid.

The omission of any notice of Hadireh, and several minor errors above pointed out, seems to spoil the completeness of the work.

Robinson's site at 'Ain Weibeh is conjectural. Perhaps Kadesh may yet be found in the vicinity of Jebel Madurah, where Berton claims to have found the name. The name Wady Fikreh, or the "cloven valley," at this place might have some connection with the rock cloven at Kadesh. It has been established that an 'Ain Kadis does really exist further west, but it is not established that this is the site of En Mishpat. It may be either a monkish site, for the monks were not careful as to the biblical requirement of their sites; or it may indicate that the name Kadesh applied to a large tract, but the Scripture narrative seems clearly to point to a site for Kadesh Barnea close to the Arabah.

The excursus on Set, though interesting, is not novel, and it seems hardly worth while to have revived the suggestion that Set was connected with the Assyrian word Sed, and the Hebrew Shedim, meaning "powerful." Set is more probably connected with Thoth, as meaning a "pillar" or "stone," for both Set and Thoth were pillar gods and gods of darkness, night, and the moon, and the determinative accompanying the name Set in hieroglyphics is a stone.

The route of the Exodus as laid down by Dr. Trumbull seems to be a mean between three views—those of Brugsch and the traditional, together with that resulting from the latest observations and discoveries. Surely however the wanderings are as meaningless as they well could be, extending from Ism'ailieh to Tell Hir, and back again west of the Bitter Lakes, to cross the sea at Suez. The view which seems destined to survive is that which discards the old traditional Baal Zephon at Jebel Attakah, and makes the crossing to have occurred near Ism'ailieh. Bir Mejdal, East of El Jesr, is a relic of the name Migdol, and the name of Baal Zephon may perhaps survive in Birket Balah. The old sites near Suez rest on no sound basis, and the fact that the head of the Gulf of Suez was once much further north is now fairly well established.

C. R. C.

ROUND MOUNT CARMEL.

Haifa, 29th November.

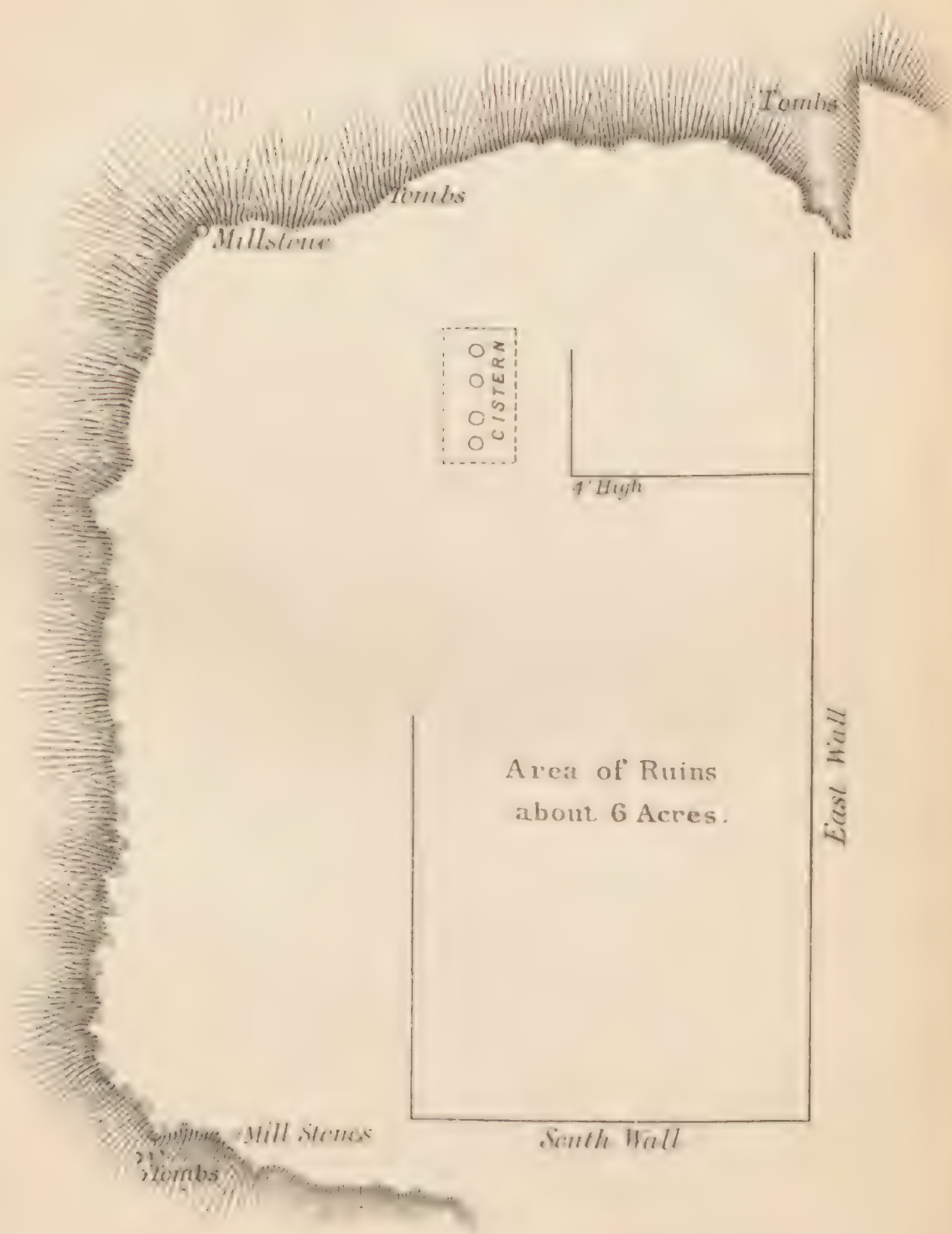
THE confusion which the Crusading nomenclature has introduced into the identification of sites, is nowhere, as Captain Conder has shown, more curiously illustrated than in Haifa and its neighbourhood.

The tradition, first suggested by William of Tyre, that Porphyriou was identical with Haifa, is still firmly clung to by the monks of Carmel, and both Reland and Sepp identify the ruins in the neighbourhood of that town with Porphyriou, basing their arguments, however, upon other than Crusading tradition: the latter admitting that while one Porphyriou

may be eight miles north of Sidon at Khan Yun's, there must have been another near the point of Carmel on the authority of the Onomasticon, which places here a town called Chilzon, which he maintains is the Hebrew name for Murex, the shell which produces the purple dye, and which is found here in considerable quantities. Hence the name Porphyriion. But on analogous grounds the town might rather have occupied the site of the ruins of Haifa el Atikah, where the coast is strewn with such a profusion of fragments of porphyry carvings as are not to be found elsewhere—an hypothesis scarcely sufficient in itself to warrant the identification of a site. The fact that there was a Bishop of Porphyriion who was under the Metropolitan of Caesarea, only adds to the difficulty, which is not elucidated by any of the itineraries of the pilgrims or ancient travellers, as none of these give the distances between Acre, Caesarea, and the intervening towns with sufficient accuracy to enable us to identify the places they mention. Thus it happens that there are the ruins of five towns within a short distance of one another on this coast, none of which have been identified with absolute certainty. These are, first, the ruins of Haifa el Atikah, distant a mile and a half from modern Haifa, which may itself be the site of an ancient city; second, those at Tel el Semak, distant two miles from Haifa el Atikah; third, those of Kefr es Sâmîr, distant two miles and a half from Tel el Semak; fourth, those of Khurbet el Kenisch, distant two miles and a half from Kefr es Sâmîr; and fifth, those of Athlit, the *Castra Peregrinorum* of the Crusaders, distant three miles and a half from Khurbet el Kenisch. That one of these is Sycaminum, and another Calamon, is pretty certain, and the conclusion generally arrived at is, that the ruin at Tel el Semak is the former, and that at Kefr es Sâmîr the latter. It was in the hope that I might find something at Tel el Semak that might throw light on the subject, that I examined the neighbourhood somewhat minutely, and in the course of my explorations stumbled upon a ruin which turned out to be Khurbet Temmaneh,¹ which Guerion vaguely mentions as being somewhere in this vicinity. Attracted by a flight of rock-cut steps near which are some tombs to the left of the road, I scrambled up the steep hill-side through the bushes for about 300 yards, where, at an elevation of 200 feet above the level of the sea, I came upon a comparatively level plateau, about 6 acres in extent, covered with the traces of an ancient town. Fragments of columns and capitals and pieces of carved marble were strewn about in profusion; the rocks in the neighbourhood were honeycombed with tombs: two of the best of these contained six loculi, each in a perfect state of preservation, the entrances to several others were closed; there were traces of rock-cut chambers, two large millstones, and the foundations of walls which may possibly have been those of a fort. This Khurbet lies due east of the mound of Tel el Semak, from which it is distant about 400 yards, and may have formed an upper town to the lower city of Sycaminum. The ruin is bounded on the east side by a wall running nearly due north and south, 112 yards in length, from which at right angles runs a wall 40 yards long, terminating in an angle where it stands to a height of 4 feet from the ground.

¹ On the map Tinâny.

KH. TEMMANEH OR TINÂNY.



Here it turns north for 12 yards. It is composed of rubble from which the ashlar has been removed, and is from 3 to 4 feet in thickness; the wall bounding the ruin on the south is 65 yards long, commencing from the south corner of the east wall, and the south wall is 70 yards long, terminating apparently near a large cistern with four circular apertures. I had myself let down into this, and found it to be hewn out of the rock, 70 feet in length, 20 feet in breadth, and 12 feet in height; but the floor was covered with an unknown depth of *débris*. The sides had been cemented, the cement still remaining in parts in a very perfect state of preservation, and the roof was supported by three columns hewn from the living rock, 4 feet square. The annexed plan will give some idea of the ruin. I could find no traces of a wall on the north side, but I think it probable that a little excavation would lay them bare. Near the east wall I picked up a fragment of marble on which had been carved the word "Allah," and two or three other letters indicated that it was the commencement of an old Arabic inscription, though the characters were not Cufic.

I take this opportunity of adding a few notes of objects of interest which have come under my observation in the course of my rides in this neighbourhood. At Kefr Lam (Sheet 7, I *z*) the fellahin have, since the visit of the officers of the Palestine Survey, opened an ancient well, which furnishes them with a good supply of water. It is 35 feet deep, and approached by a flight of steps, partly hewn out of the solid rock and partly artificial: the sides of the well, the mouth of which is about 30 feet square, are also partly of masonry and partly of hewn rock. In the neighbourhood are two rock-hewn chambers, or they may possibly have been cisterns; the largest was 15 feet square, and spanned in the centre by a single stone 15 feet long and 2 feet broad by 2 deep. Cut in the rock at intervals of about 8 inches were two rows of holes, which may have been used for supporting rafters. The fellahin also pointed out to me two stone vaults, 40 feet long by 12 feet broad and 7 feet high. The roofs consisted of massive blocks of stone, which were supported in the case of each vault by five arches, each arch hewn from a single block of stone 4 feet in breadth, thus leaving a comparatively narrow interval between each arch, and forming a chamber of a very peculiar construction. At Zimmûrin (Sheet 8, K *j*) the Jews, who are settled there in a colony, have in the course of their operations also brought to light a curious chamber, 10 feet by 8 feet and 10 feet deep; on three sides it is hewn out of the living rock; on the longest side have been cut four rows of eighteen holes, each hole being 6 inches square and about 6 inches deep at the base, but standing upwards; on the shorter sides there are four rows of ten holes, each row being about 3 inches above the one below it. Whether these entered into the construction of the roof of the chamber or served some religious purpose for which the room may have been originally designed, I am unable to conjecture.¹ At El Makura, a

¹ The survey party came across a number of those rock-hewn chambers along the ridge running parallel to and near the coast line having square pigeon holes in rows of about the same dimensions; some chambers had steps leading down, others not.—G.A.

Khurbet near Ijzim (Sheet S, Jj) I found the largest rock-hewn cistern which I have yet observed in this part of the country. It measured 98 feet long by 40 feet in width. The bottom was so full of undergrowth that it is impossible to conjecture the real depth, but it was doubtless capable of containing an abundant supply of water. Should the country ever be repopulated, many of these ancient cisterns could be utilised. I was myself fortunate enough to discover a bell-shaped cistern at Dâlieh, which only required cleaning out and re-cementing, in a position which has since enabled me to turn it to good account; in excavating near it I came upon the foundations of an old house, apparently of Byzantine times, which have since served me for the foundations of a new one, and unearthed twelve large iron rings, 3 inches in diameter, with iron staples 4 inches long attached—probably used for fastening horses, some coins of the time of Constantine, some carved cornices and drafted stones, and a great quantity of fragments of glass, stems of vases, and rims of drinking goblets, and heaps of broken pottery, while the neighbouring field is abundantly strewn with tesserae, giving evidence that the former occupier must have been a man of means, and that more excavation may bring further evidences of it to light. In the course of my rides over Carmel I have observed erections² which I do not see mentioned in the Survey. The most perfect of these lies about half-way between Dâlieh and the Mahrakah, a little off the road to the left, concealed in the thick brushwood. It is a pile of stones 14 feet square by 12 feet high, the stones averaging 3 feet in length by 2 feet in breadth and 1 foot in thickness. They have been carefully cut, and laid so as to form a perfect square, but without cement. I have since come upon five or six similar erections, generally in very remote and unfrequented spots, and the natives can give me no tradition in regard to them.³

At Khurbet Keramis, near Umm es Zeinat (Sheet S, Kj), I found two underground vaults, each 20 feet long by 10 feet broad and 5 feet high; but they were much filled with rubbish, also foundations, and drafted stones. Standing in close proximity to each other were what at first appeared to be the base of four gigantic columns, as they stood 4 feet high from the ground and were about 6 feet in diameter; from the square hole in the centre of each they appear to have been the lower halves of mills.

A mile and a half, a little to the east of south, of Dâlieh er Rukah (Sheet S, Kk) I found a Khurbet Umm Edd Foof *أص المنوف* where there were tombs, cisterns, millstones, and the usual foundations and heaps of stone.

At Rushmia, which is situated on Mount Carmel, at an elevation of about 700 feet above the sea, distant an hour's ride from Haifa, and described in the Memoirs, I am engaged with a friend in making

¹ Marked on the map Bkt = Birket.

² Probably old watch towers (vineyard?), which are found on many of the spurs of Carmel; also in the wooded country to the south of Umm el Fahur. They vary in dimensions, but generally measure 12 to 15 feet square of dry stone masonry. Those in a fair state of preservation are usually found in the thickets of copse wood.—G.A. See Mr. Drake's Reports, *Quarterly Statement*, 1873, p. 31.

³ Usually called El Muntâr (watch tower).

an excavation at the well of Elias, with a view of seeing whether the spring affords a sufficient amount of water to furnish a supply for the town of Haifa, in view of the change contemplated by the Government of moving the seat of the Mutessariflik from Acre to this place. The water enters the well through an apparently natural tunnel, but has no outlet from the well itself, which thus becomes a sort of backwater, the native tradition being that the spring is much further up, and is in fact the source of a small rivulet, which, after an underground course, reappears in the gardens below Haifa, and forms there a small lagoon. We first endeavoured to strike this stream about 20 yards below the well, down the wady, but, beyond finding some cut stones at a considerable depth, made no discovery. We then dug in the immediate neighbourhood of the well, and came upon the roof of an artificial tunnel; on opening this we found it completely filled with the soil, which had silted into it, and at a depth of 7 feet from the surface came upon the stone floor in which a channel had been cut for the water. As the water in the well was, however, now 4 inches lower than this channel, we have had to take it up. We followed this tunnel for 10 yards: the roof was arched and the sides built of stone, both hewn and unhewn, but without cement. Altogether, we cleared a channel 30 yards long and 8 feet deep, into which we let the water; but the operation of following up the channel, by which it reaches the well, and in which it somewhere loses a good deal of its volume, is not yet sufficiently completed to enable us to decide whether it will be worth conveying to Haifa, a distance of over three miles.

LAURENCE OLIPHANT.

BETH HABBECHEREH, OR THE CHOSEN HOUSE.

CHAPTER I.

1. IT was an affirmative command¹ to make a house for the Lord suitable for offering in it the offerings, and celebrating the feasts thereat, three times in a year, as is said, "and let them make me a Sanctuary" (Exod. xxv, 8). The Tabernacle made by Moses our master has already been described in *the Book of the Law*. It was temporary as is said "for ye are not as yet come," &c. (Deut. xii, 9).

2. After the *children of Israel* entered the *promised land*,² they placed the tabernacle at Gilgal for fourteen years, whilst they subdued and divided *the land*. And thence they came to Shiloh and built there a house of stones, and spread the curtains of the Tabernacle over it, and it was not roofed there. The Tabernacle of Shiloh stood 369 years, and after the death of Eli it was destroyed, and they came to Nob, and there built a Sanctuary. After the death of Samuel *this* was destroyed, and they came

¹ מצות עשה. The Rabbis enumerate 613 commandments, of which 248 are מצות עשה, *præcepta affirmantia*, and 365 מצות לא תעשה, *præcepta prohibentia*.

² "Three commands were given to Israel on their entrance into the land: to set up a king over them; to cut off the seed of Amalek; and to build the chosen house."—Sanhederim 20 b.

to Gideon and built there a Sanctuary, and from Gibeon they came to the eternal house, and the days of Nob and Gibeon were 57 years.

3. After the Sanctuary was built at Jerusalem, all the other places were unlawful for building in them a house for the Lord and offering in them offerings (Deut. xii, 11, 14). And no other was called a house for all generations, except that at Jerusalem only and on Mount Moriah,³ of which it is said, "then David said, this is the house of the Lord God, and this is the altar of the burnt offering of Israel" (1 Chron. xxii, 1), and he said "this is my rest for ever." (Psalm cxxxii, 14.)

4. The building which Solomon built has been already described in the *book of Kings*, and the building to be built in the future, although it is written in *Ezekiel*, is not fully described and explained. The men of the second house (which they built in the days of Ezra) built it like the building of Solomon, and after the appearance of the things⁴ explained in *Ezekiel*.

5. And these are the things which were fundamental in the building of the house.⁵ They made in it a holy *place*, and a holy of holies, and there was in front of the holy *place* a certain place which was called the porch, and these three were called **הֵיכָל**, *hekhal*, the Temple.⁶ And they made

³ Zevachim xiv, 4. "Before the Tabernacle was erected the high places were permitted, and the priestly functions were performed by the first-born of families. After the erection of the Tabernacle the high places were forbidden, and the priestly functions were performed by the priests; the most holy offerings were eaten within the hangings, the less holy in all the camp of Israel. 5. When they came to Gilgal and made the high places lawful; the most holy offerings were eaten within the hangings, the less holy in any place. 6. When they came to Shiloh high places were forbidden. There was no roof to the Tabernacle there, but a house of stones below and curtains above. And this was the 'rest.' (Deut. xii, 9.) The most holy offerings were eaten within the hangings, and the less holy and the second tithes in any place from which *Shiloh* could be seen. 7. When they came to Nob and Gibeon, they permitted the high places; the most holy offerings were eaten within the hangings, and the less holy in all the cities of Israel. 8. And when they came to Jerusalem, high places were forbidden, and were never afterwards permitted, and this was the 'inheritance.' (Deut. xii, 9.) The most holy offerings were eaten within the hangings (*i.e.*, the wall of the court), and the less holy and the second tithes within the wall" (of Jerusalem—*Rashi*). The *Ganara* adds (*Zev. 118 b.*): "The Rabbis teach that the days of the Tabernacle of the congregation in the wilderness were forty years, less one; the days of the Tabernacle of the congregation at Gilgal fourteen; seven whilst they were subduing, and seven whilst they were dividing, *the land*, the days of the Tabernacle of the congregation at Nob and Gibeon fifty-seven. It remained at Shiloh three hundred and seventy years less one."

⁴ Or "in some things like."

⁵ *Cf.* Middoth ii, 5; iii, 1; iv, 2.

⁶ **הֵיכָל**, *Hekhal*—*ναός* in its wider sense, as in Josephus, B. J. V, v, 3. It were to be wished that the precision of nomenclature here aimed at by our author had always been observed. But this is far from being the case. The

another outer boundary surrounding the temple distant from it like the hangings of the court of the *Tabernacle* which was in the wilderness, and all that was surrounded by this boundary,⁷ which corresponded⁸ to the court of the Tabernacle of the congregation was what was called the court, and the whole was called the Sanctuary.⁹

6. And they made vessels¹⁰ for the Sanctuary, an altar for burnt sacrifices and other offerings, and a sloping ascent by which they went up to the altar, and its place was in front of the porch, a little¹¹ to the south; also a laver with its base, to sanctify¹² from it the hands and feet of the priests for the service, and its place was between the porch and the altar, a little to the south, so that it was on the left of a person entering the Sanctuary; also they made an altar for incense, and a candlestick and a table, which three were inside the holy *place*, in front of the holy of holies.

7. The candlestick stood on the south, to the left of a person entering, and the table on which was the shewbread to the right, and both of them on the outer side of the Holy of Holies, and the altar of incense stood between them both a little to the outside.¹³ And they made within¹⁴ the court boundaries marking the limits of Israel and of the Priests¹⁵ and they built there houses for the other requirements of the Sanctuary, and each of these houses was called a chamber.¹⁶

8. When they built the Temple and the court, they built of large stones, and if they did not find stones, they built of bricks.¹⁷ And they

Talmud repeatedly speaks of the porch and the temple אֵלוֹם וְהֵיכָל (Yoma 12 a, Megillah 23 a), and Maimonides himself has elsewhere distinguished between the הֵיכָל and the Holy of Holies (*infra*, vii, 22).

⁷ Exodus xxxviii, 9.

⁸ כַּעֲיֵן "like the appearance of."

⁹ Cf. Middoth ii, 3; iv, v, for the contents of thi paragraph. The concluding sentence "and the whole was called the Sanctuary," מִקְדָּשׁ, *mikdash*, is an inference from such passages as Middoth i, 1.

¹⁰ Pots, pans, shovels, tongs, instruments of music, &c. The word *Kelim*, כְּלִים has a very wide signification. Cf. Exodus xxvii, 19.

¹¹ Literally "drawn to the South."

¹² To wash.

¹³ Literally "the altar of incense drawn from between them both towards the outside." In Yoma, 33 b, it is said "we are taught that the table was on the north two cubits and a half from the wall, and the candlestick on the south two cubits and a half from the wall. The altar was between and stood in the middle drawn towards the outside," *i.e.*, towards the porch.

¹⁴ Literally "in the midst or inside."

¹⁵ Middoth ii, 6.

¹⁶ לִשְׁבָּה *liskah*. Middoth i, 1, 5, 6; v, 4, and in very many other places in the Talmud.

¹⁷ The opinion that bricks were employed in the construction of the Temple appears to be derived from a passage in Mechilta (מִצְבַּח אֲדָמָה, page 74, Friedmann's edition, Vienna 1870), where, commenting on Exodus xx, 25, it is argued "thou wilt make me an altar of stone" is a permission, not a duty; and what but this does it teach? that if it is desired to make an altar of stone, let it

did not cut the stones of the building in the mountain of the house, but they cut and fitted them outside, and afterwards brought them in for the building, as it is said "great stones, costly stones, *and* hewed stones, to lay the foundation of the house" (1 Kings v, 17) and, "neither hammer nor axe, nor any tool of iron was heard in the house while it was in building"¹⁸ (1 Kings, vi, 7).

be made of stone; if of bricks, let it be made of bricks. And if this power of election was permitted in the case of the altar (which was peculiarly sacred), *fortiori* it might be permitted in reference to everything else (כל הכלים, *every vessel*) in the Sanctuary. Yet it is to be observed that the opinion here expressed in reference to the passage "thou wilt make me an altar of stone" was not regarded as authoritative. (*Vide infra*, i, 13.)

¹⁸ Mechilta, p. 74. The rabbinical writers appear always to assume that in the building of the second temple, as in the building of the first, the stones were not cut and dressed on the spot. The great pillar lying within the Russian compound at Jerusalem, which not improbably was intended for Herod's cloisters, has its upper surface partially dressed, and the discovery of a flaw appears to have caused it to be abandoned before completion. Another pillar of about the same size, smoothed on as much of the surface as could be reached before the stone was separated from the rock, was discovered a few years ago about 200 yards south-west from the same spot, and it hence appears probable that the great stones of the later temple were dressed in the quarry. The pillar of smaller size which may be seen still joined to the rock on the north of the old road to Lifta, although cut into shape, has not been smoothed.

In Sotah, 48 b, is the following passage bearing upon this subject: "After the Holy House was destroyed the worm Shamir ceased." &c. (Mishna ix, 12). The Rabbis teach that it was by means of the Shamir that Solomon built the Holy House, as is said, "and the house when it was in building was built of perfect stone from the quarry" (*unbehauene Steine des Steinbruchs*—Gesenius) (1 Kings vi, 7). The words are to be interpreted literally. The words of Rabbi Judah Rabbi Nehemiah said to him. Is it possible to say so, when it has been said, all these stones were "costly stones, &c., sawed with a saw?" (1 Kings vii, 9), and if so, how are we taught to say that there "was not heard in the house the sound of hammer, &c., while it was in building?" (1 Kings vi, 7). Because they prepared the stones outside, and brought them in. (*Cf.* Mechilta, ch. מזבח אדמה.)

Rab said, "the words of R. Judah appear to refer to the stones of the Sanctuary, and the words of R. Nehemiah to the stones of his (Solomon's) house. And in reference to the opinion expressed by R. Nehemiah, for what purpose did the Shamir come? It was required for this, as we are taught, that those stones (*the stones of the breast-plate*), were not written with ink, because it is said "like the engravings of a signet" (Exodus xxxix, 14). And they did not engrave them with a chisel, because it is said "in their fulness" (inclosings A. V.) (Exodus xxxix, 13), but they wrote upon them with ink and showed the worm to them from the outside, and they became opened by themselves just as a fig becomes opened in the hot days, and there was no loss of substance; like a plain which becomes channeled in the days of the great rains without loss. The Rabbis teach that the Shamir was a creature like a barley corn, and was created in the six days of the Creation, and there was no hard thing that could stand before it. How did they preserve it? They wrapped it in a mass (literally

9. And they did not build in it any projection of wood, but either of stones, or of bricks and lime; and in all the court they made no porches (*exhedræ*) of wood, but either of stones or of bricks.¹⁹

10. And they paved the whole court with costly stones, and if a stone was dislodged, notwithstanding that it remained in its place, it was profane so long as it moved, and it was unlawful for the officiating priest to stand upon it at the time of the service until it was fixed in the earth.²⁰

11. And it was a command to strengthen in the best manner possible (sponge) of wool, and put it into a leaden casket filled with barley bran." This worm is said by R. David to have been brought by an eagle from Paradise (Buxtorf. Lex. Talm. שמיר).

¹⁹ This is founded upon Deut. xvi, 21, which by the Talmudists is held to prohibit the placing any wooden erection near the altar (Tamid 28 *b*). Two difficulties arise out of this passage, namely, 1, that there was in the south side of the court a chamber of wood (Midd. v, 4), and 2, that there was, according to Middoth, our author, and other writers, a wooden balcony surrounding the inside of the court of the women. The first is met by supposing that the chamber in the court was not constructed of wood, but was for the storing of (picked) wood (Midd. ii, 5) for the altar; and in reference to the second, it is suggested, 1, that the expression "near unto the altar of the Lord" was applicable only to that portion of the temple which was inside of the gate Nicanor, and 2, that the balconies for the women were only temporary, being put up for the rejoicings at the Feast of Tabernacles which took place in the *beth hashshaarah* which was in the court of the women. (Suceah v, 1; Piske Toseph. ad Midd.) The beams of cedar wood which passed between the front of the temple and the porch, and the cedar roofs of the little pillars by the slaughtering place, were not considered to be projections. For the *exhedræ* in the court, see Tamid i, 3, where it is related that the priests and their overseer, when they passed out of Moked into the court early in the morning, divided into two companies, the one going by the *exhedra* towards the east, and the others going by the *exhedra* towards the west." The Gamara explains that these *exhedra* were of masonry. Once in seven years, on the first day of the Feast of Tabernacles, a pulpit of wood was erected in the court of the women, from which the king read portions of the law (Sotah vii, 8).

²⁰ Zevachim ii, 1, 24 *a*. A priest (whilst receiving the blood) might not sit nor stand upon any vessel, or upon a beast, or upon the foot of a fellow-priest. If he chose to stand upon one leg whilst performing his service he was at liberty to do so, but not when he had no service to perform. In connection with the stones of the pavement the student of the Mishnas will remember the story in Shekalim vi, 2: "It happened that as a priest was engaged in his duties he noticed that *one part of* the pavement was changed in appearance from the rest. He came and told his companions, but before he could finish the account he died, and they knew that there the ark was certainly hidden." This priest had a blemish, and was employed in picking wood for the altar (Midd. ii, 5), and it was in consequence of this tradition that the families of Gamaliel and Hananiah were accustomed to make obeisance towards the chamber of wood in the court of the women.

the building, and to raise it as high as the means of the congregation permitted, as is said (Ezra, ix, 9) "to set up the house of our God." And they adorned and beautified it according to their power, and if they were able to overlay it with gold²¹ and to magnify the work of it, so, that was a good deed!²²

12. They did not build the Sanctuary by night, as is said (Numb. ix, 15), "on the day that the tabernacle was reared up," by day they reared it up, not by night.²³ And they were employed in building from the rising of the morning until the stars came out.²⁴ And all were obliged to assist in the building, both by their own individual exertions and by their means, men and women, as in the Sanctuary in the wilderness.²⁵ They did not intermit the instruction of children in the schools for the building,²⁶ nor did the building of the Sanctuary annul a feast day.

13. They made the altar of stone²⁷ masonry only, and that which is said in the Law, "an altar of earth thou shalt make unto me" (Exod. xx, 24), *means* that it should be joined to the earth, that they should not build it either upon arches, or over cavities,²⁸ and that which is said, "if thou wilt make me an altar of stone" (Exod. xx, 25), tradition teaches that this is not a permission but an obligation.²⁹

²¹ Solomon overlaid the whole house, the altar, the doors, the cherubim, and the floor of the house with gold. (1 Kings vi, 22, 28, 30, 32.)

²² מצוה. Literally "a *commandment*," a good deed prescribed by the law.

²³ Shevuoth 15 b.

²⁴ Nehemiah iv, 21.

²⁵ Exodus xxxv, 22, 25; xxxvi, 8.

²⁶ Shabbath 119 b. "They did not intermit the instruction of children in the schools, even for the building of the Sanctuary."

Shevuoth 15 b. The work of building the Sanctuary being of less importance than keeping a feast-day was intermitted until the feast-day was over.

²⁷ Some copies wrongly read here אבנים גזית, *hewn stones*.

²⁸ Mechilta 73 a. Rabbi Ishmael said, "an altar of earth thou shalt make unto me -- an altar joined to the earth thou shalt make unto me, thou shalt not build it upon arches or upon pillars." The compilers of the Gemara adopted this opinion (Zevachim 58 a, and 61 b), and Maimonides has followed the Gemara.

²⁹ Mechilta 73 b. "Rabbi Ishmael said every 'if' in the Law is a permission, not an obligation, except three:—

1. Leviticus ii, 14. "And if thou offer an offering of thy first-fruits," this is an obligation. "If thou sayest is it obligation or only a permission?" we are taught to say "thou shalt offer for the meat-offering of thy first-fruits" (Exod. ii, 14 b), which is an obligation, not a permission.

2. Exodus xxii, 25. "If thou lend money to any of my people," &c., this is an obligation, and if thou sayest "is it an obligation or only a permission?" we are taught to say "thou shalt surely lend him" (Deut. xv, 8), which is an obligation, not a permission.

3. Exodus xx, 25. "If thou wilt make me an altar of stone;" this is an obligation, and if thou sayest "is it an obligation or only a permission?" we are taught to say "thou shalt build of whole stones" (Deut. xxvii, 6), which is an obligation, not a permission. (Cf. note 1, page 29.)

14. Every stone which had a flaw in it sufficient to arrest the finger nail, like the knife for slaughtering,³⁰ i.e., that was unlawful for the sloping ascent and for the altar,³¹ as is said "thou shalt build the altar of the Lord thy God of whole stones" (Deut. xxvii, 6). And whence did they bring the stones of the altar? From virgin earth,³² they dug until they came to a place in which it was evident there had been no work or building, and they brought out the stones from it, or from the great sea,³³ and built with them. And the stones of the temple, and of the courts were also perfect stones.³⁴

³⁰ Few Jewish observances have been held to be of greater importance than the use of a very sharp knife for slaughtering. Whoever slaughtered without first causing his knife to be examined before a rabbi was liable to excommunication (Cholin 18 *a*). One of several methods of examining the knife is by drawing its edge over the finger nail (*ibid.* 17 *b*, where the subject is discussed at length). "And what constituted a flaw in the altar?" As much *unevenness of surface* as arrested the finger-nail. They repeat, what constituted a flaw in the altar? R. Simeon ben Jochai said as much as a handbreadth. R. Eleazer ben Jacob said as much as an olive. There is here no contradiction. This (the opinions of R. Simeon and R. Jacob) refers to the lime, and that (the opinion first expressed) to the stones (Cholin 18 *a*).

³¹ That the same rule applied to the sloping ascent as to the altar appears from Middoth iii, 4.

³² "The virginity of the earth," מן בתולת הקרקע, Middoth iii, 4.

³³ In the Tosefoth to Cholin (18 *a*) it is enquired how they built the altar of smooth stones since they were not permitted to use an iron instrument for smoothing them, and the *shamir* could not make them so smooth that the finger-nail would not be arrested in passing over them, and says that the meaning of the passage in Zevachim (54 *a*) is that they built of small stones in which was no flaw, like the stones of a torrent, נחל. The notion that stones were brought from "the great sea" appears to depend upon the interpretation of the word מפולמות (Zevachim 54 *a*), which is from a root signifying *fresh, moist*. "Bohu, בהו (A.V., *void*, Genesis i, 2), means those recent stones which were sunk in the abyss, and from which the waters flowed" (Chagigah 12 *a*); and the gloss says, מפולמות (the word in question), has the meaning of moist or recent, ליחלוח.

³⁴ Maimonides does not mean here by the expression אבנים שלימות "perfect stones," that the stones of the temple and courts were not hewn, but that they were highly finished. (*Cf.* Tamid 26 *b*, and the gloss; also Sotah 48 *b*, quoted above, and Mechilta 74.)

"He that did not see the Sanctuary, with its buildings, never saw beautiful building. Which building was it? Abai said, and some say that R. Khasdai said that was the building of Herod. Of what did he build it? Rabba said באבני שישה ומרמרא, of different kinds of marble. Some say באבני שישה ומרמרא כוחלי ומרמרא of coloured marble and white marble. One lip projected and one lip receded in order that it might receive the lime (plaster). He thought to overlay it with gold, *but* the Rabbis said to him let it be, it is very beautiful so, for its appearance is like the waves of the sea" (Succah 51 *b*; Baba Bathra 4 *a*). The gloss of Rashi adds "שישה, *shisha*, coloured marble, neither white nor

15. Stones of the temple and courts which became broken or cut were unlawful, and they could not be redeemed, but wherelaid by and preserved.³⁵ Every stone which iron had touched, even though it was not cut, became unlawful for the building of the altar, and the building of the sloping ascent,³⁶ as is said "for if thou lift up thy tool upon it thou hast polluted it" (Exod. xx, 25), and whoever should build a stone which iron had touched into the altar was beaten, as is said "thou shalt not build it of hewn stone" (Exod. xx, 25); and whoever built in a stone with a flaw transgressed an affirmative command.³⁷

16. A stone which became broken or touched by iron after being built into the altar or the sloping ascent was unlawful, and the rest were lawful. They whitened the altar twice a year at Passover, and at the Feast of Tabernacles. And when they whitened it, they whitened it with a cloth, and not with an iron trowel, lest it should touch a stone and defile.³⁸

17. They did not make stairs to the altar, as is said "neither shalt thou go up by steps unto mine altar" (Exod. xx, 26), but they built a kind of mound on the south of the altar diminishing and descending from the top of the altar to the ground, and this is what was called *Kebesh*,³⁹ and whoever ascended by steps to the altar was beaten. And whoever should pull down a stone from the altar or from any part of the temple, or from between the porch and the altar with the view of injuring it was beaten, as is said "Ye shall overthrow their altars," &c., and "ye shall not do so unto the Lord your God"⁴⁰ (Deut. xii, 3, 4).

black, but a kind of yellow, ירוק, called in the barbarian tongue *bis*. כַּרְמֵל, *marmora*, white marble. כּוּחַלָּא, *Kochala*, marble coloured, as if stained. "One lip projected," one row of stones went in and one went out. "Like the waves of the sea," because the stones differed in appearance one from another, and the eye in contemplating them moved to and fro, and they appeared like those waves of the sea which are moved and agitated."

³⁵ That is, they could not be sold or used for any other purpose (Tosefia Megillah, ch. 2).

³⁶ Middoth iii, 4.

³⁷ Deuteronomy xxvii, 6. "Thou shalt build the altar of the Lord thy God of whole stones."

³⁸ Middoth iii, 4. It happened once at the Feast of Tabernacles that the officiating priest poured the water upon his leg, and the people pelted him with their lemons ("and with stones," gloss) and caused a flaw in the horn of the altar, which they stopped up with a mass of salt (Succah 48 b; Zevach. 62 a).

³⁹ Middoth iii, 4; Zevachim 62 b. "The Kebesh was on the south of the altar."

⁴⁰ Sifre, page 87. Friedmann's edition, Vienna, 1864. Whence do we learn that to take away a stone from the Temple, or from the altar, or from the courts is a transgression of a negative commandment? The doctrine is to say "ye shall overthrow their altars," and "ye shall not do so unto the Lord your God" (Deut. xii, 3, 4). Why Maimonides has here mentioned the space between the porch and the altar instead of the courts, does not appear. In the corresponding passage in his treatise, יְסוּדֵי הַתְּוֵרָה, 6, 7, he has "from the altar, or from the Temple, or from the rest of the court."

18. The candlestick and its vessels, the table of *sheabread* and its vessels, and the altar of incense and all the vessels of service, they made of metal only. And if they were made of wood, or bone, or stone, or of glass, they were unlawful.⁴¹

19. If the congregation קהל was poor, they made them even of tin, and if they became rich, they made them of gold, even the basins, and the flesh hooks, and the shovels of the altar of burnt-offering. And if the community had the power, they made the measures of gold. Even the gates of the court they covered with gold if they were able.⁴²

20. All the vessels of the Sanctuary were made expressly for sacred use, and such as were made for ordinary purposes could not be used for sacred purposes. Sacred vessels which had not yet been used for sacred purposes might be used for ordinary purposes, but after they had been used for sacred purposes, it was unlawful to use them for ordinary purposes. Stones and beams cut for a synagogue could not be employed for a building in the mountain of the house.⁴³

CHAPTER II.

1. THE position of the altar was determined with great care,¹ nor did they ever change it from its place, as is said, "this is the altar of the burnt offering for Israel" (1 Chron. xxii, 1). And in the sanctuary Isaac our father was bound, as is said, "and get thee into the land of Moriah" (Gen. xxii, 2), and it is said in the Chronicles (2 iii, 1), "then Solomon began to build the house of the Lord at Jerusalem in Mount Moriah, where the Lord appeared unto David his father, in the place that David had prepared in the threshing floor of Ornan the Jebusite."

2. And it is a constant tradition² that the place in which David and Solomon built the altar in the threshing-floor of Araunah is the place in which Abraham built the altar and bound upon it Isaac. And it is the place in which Noah built when he went out of the ark, and

⁴¹ The question of what material it was lawful to make the candlestick is discussed in Menachoth 28 b. The prevailing opinion of the Rabbis was that if made of wood, or of bone, or of glass, it was unlawful.

⁴² "Because they saw the flesh-hooks were of iron they covered them with tin; when they became rich they made them of silver; and when they again became rich they made them of gold" (Menachoth 28 b; Avodah Zarah 43 a; Rosh Hashshanah 24 b). "Monbaz (Monobasus) the king made all the handles of the vessels of the Day of Atonement of gold, and Helena, his mother, made the candlestick of gold which was at the door of the temple" (Yoma iii, 10). That the gates of the court were covered with gold is related in Middoth ii, 3.

⁴³ The authority for this paragraph is Tosefta Megillah e, 2. But in the Tosefta there is no mention of stones, &c., prepared for a synagogue; the passage runs, "stones and beams cut for an ordinary building," &c.

¹ "Three prophets came up with them from the captivity . . . one testified to them respecting the place of the altar" (Zevachim 62 a).

² מוסורת ביד הכל. A tradition by the hand of all.

it is the altar upon which Cain and Abel offered, and there [כֶּהֱנִי] the first Adam offered an offering³ after he was created, and from there he was created. The wise men have said that Adam was created from the place of his redemption.⁴

3. The measures of the altar were carefully studied and its form was known traditionally. And the altar which the sons of the captivity built they made like the appearance of the altar which is to be built in the future, and nothing is to be added to its measure nor diminished from it!⁵

4. And three prophets came up with them from the captivity; one testified to them respecting the place of the altar, one testified to them respecting its measures, and one testified to them that they should offer upon that altar all the offerings, even though there was no house there.⁶

5. The altar which Moses made, and *that* which Solomon made, and *that* which the children of the captivity made, and *that* which is to be made in the future all are ten cubits high, each one of them, and that which is written in the Law, "and the height thereof *shall be* three

³ Pirke R. Eliezer, ch. 31; Yalkut Simeon, וִירָא אֱלֹהִים, 101. The latter does not mention Adam but only Cain, Abel, and Noah.

⁴ "And the Lord God formed man of the dust of the ground" (Genesis ii, 7). "Rabbi Judah ben Pazy said the Holy One, blessed be He, took one spoonful, מִלֵּא תְרוּוד אֶהָד, from the place of the altar and created from it the first Adam" (Jerus. Nazir 56 a, 2 (19 a)). תְרוּוד has been used as synonymous with לֵוֹן, the famous incorruptible bone from which the body is to be rehabilitated at the Resurrection (Buxtorf Lex. Talm. 2646).

"The learned Rabbins of the Jews
Write there's a bone, which they call *leuz*,
I' th' rump of man, of such a virtue,
No force in nature can do hurt to;
And therefore at the last great day,
All th' other members shall, they say,
Spring out of this, as from a seed
All sorts of vegetals proceed;
From whence the learned sons of art
Os sacrum justly stile that part."—*Hudibras*, iii, 2.

⁵ Cf. Menachoth 97 and 98.

⁶ Zevachim 62 a. "Three prophets came up with them from the captivity; one who testified to them respecting the altar, and one who testified to them respecting the place of the altar, and one who testified to them that they should offer *offerings* even though there was no house . . . Rabbi Eliezer ben Yacob said three prophets came up with them from the captivity, one who testified to them respecting the altar and the place of the altar, and one who testified to them that they should offer *offerings*, even though there was no house, and one who testified to them respecting the law, that it should be written in the Assyrian character [*i.e.* square Hebrew]." These prophets were Haggai, Zechariah, and Malachi (Rashi).

cubits" (Exod. xxvii, 1), *refers to* the place of the pile [fire] only.⁷ And the altar which the children of the captivity made, and also that which is to be built in the future, the measure of its length and of its breadth *is* two and thirty cubits by two and thirty cubits.⁸

6. Of the ten cubits in the height of the altar some were of five handbreadths and some of six handbreadths, and all the rest of the cubits of the building were of six handbreadths, and the height of the whole altar was fifty-eight handbreadths.⁹

7. And thus was its measure and its form. It rose five handbreadths and receded five; this was the foundation. The breadth was now thirty

⁷ Zevachim 59 *b*. The doctrine is that the words "and three cubits the height thereof" [Exod. xxxviii, 1], are to be taken literally. The words of Rabbi Judah. Rabbi Jose said "it is said here 'foursquare,' and it is said there 'foursquare' [Exod. xxxvii, 25, in reference to the altar of incense], as there its height was twice its length, so here twice its length." Rabbi Judah said to him, "and is it not said 'and the court an hundred cubits' [Exod. xxvii, 18; xxxviii, 9], and 'the height five cubits,' &c. [Exod. xxxviii, 18]. Possibly the priest standing upon the top of the altar performing his service all the people could see him from without." Rabbi Jose said to him, "and is it not said 'and the hangings of the court, and the curtain of the door of the court, which is by the tabernacle and by the altar' [Numb. iii, 26], as the tabernacle *was* ten cubits [Exod. xxvi, 16], so also the altar was ten cubits, and it is said 'the hangings of one side fifteen cubits' (Exod. xxvii, 14), and what is the meaning of what we are taught to say 'five cubits?' from the border of the altar upward; and what is the meaning of what we are taught to say 'and three cubits its height?' from the border of the circuit בבבב upward." Kashi adds this comment. "from the border of the altar upward: upward from the altar its height was five cubits. From the border of the circuit upward: to the place of the horns [three cubits] and downward from it six cubits, and the height of the horn a cubit," which make up the ten. For the height of Solomon's "altar of brass" see 2 Chronicles iv, 1; for that of the altar to be built in the future, Ezekiel xliii, 14, 15.

⁸ Middoth iii, 1. In Ezekiel xliii, 16, it is said "and the altar *shall be* twelve cubits long, twelve broad, square in the four squares thereof," and the Talmudists in reference to this passage say "it might be that it was only twelve by twelve, but when he said 'in the four squares thereof' it is understood that from the middle he measured twelve cubits to each side." (Menachoth 97 *b*; Zevachim 59 *b*; *cf.* Lightfoot 1131). This measurement refers to the upper part of the altar (אֲרִיֵּל, Ariel), and if correct, the lower part, or foundation, would of course be of the dimensions given in the text, namely thirty-two cubits by thirty-two.

⁹ Menachoth 97 *a*. "It is taught there (Kelim xvii, 9), that Rabbi Meyer said all the cubits of the Sanctuary were medium cubits, except those of the golden altar, and the horn, and the circuit, and the foundation. Rabbi Judah said the cubit of the building was six handbreadths, and that of the vessels five." Rashi explains that the horn, circuit, and foundation are those of the altar of burnt-offering, and that the medium cubit was of six handbreadths. The question of the number of handbreadths in the various parts of the altar is then discussed at length. "The altar, how many *handbreadths* had it? Fifty-eight" (*ibid.* 98 *a*). The handbreadth was four fingerbreadths.

cubits and two handbreadths by thirty cubits and two handbreadths. It rose thirty handbreadths and receded five handbreadths, this was the circuit. It rose eighteen handbreadths, this was the place of the pile. Its breadth was now twenty-eight cubits and four handbreadths by twenty-eight cubits and four handbreadths.¹⁰ It rose eighteen handbreadths, and there receded at the corner of the eighteen¹¹ *handbreadths* a square hollow structure at each of the four corners,¹² and the place of the horns was a cubit on this *side* and a cubit on that side all round, and also the place of the feet of the priests a cubit all round, so that the breadth of the place of the pile *was* twenty-four cubits and four handbreadths by twenty-four cubits and four handbreadths.

8. The height of each horn was five handbreadths, and the square of each horn a cubit by a cubit, and the four horns were hollow within,¹³ and the height of the place of the pile was eighteen handbreadths, so that half the height of the altar from the end סוף of the circuit downward¹⁴ was twenty-nine handbreadths.¹⁵

9. A red line encircled the middle of the altar (six handbreadths below the end of the circuit) to divide between the upper and the lower bloods,¹⁶ and its height from the earth to the place of the pile was nine cubits less a handbreadth.¹⁷

¹⁰ Menachoth 97 *b*; *cf.* Midd. iii, 1. The difference between the measurements given in the Gemara of Menachoth and those given in Middoth arises from the difference in the length of the cubits. The compilers of the Gemara appear to have held that the measurements of Middoth were not intended to be minutely accurate.

¹¹ From the circuit upwards to the place of the pile being three cubits, and all the cubits of the height except those of the foundation and horn being cubits of six handbreadths, it follows that from the circuit to the place of the pile was eighteen handbreadths.

¹² Zevachim 54 *b*.

¹³ Zevachim 54 *b*.

¹⁴ The circuit seems to have been reckoned as being one cubit of five handbreadths broad and one cubit of six handbreadths high, and hence the expression "from the end of the circuit downward."

¹⁵ Menachoth 98 *a*. "The middle of the altar, how many *handbreadths* was it high? Twenty-nine. From the horns to the circuit, how many *handbreadths*? Twenty-three. How many less than to the middle of the altar? Six. Hence in Zevachim 65 *a*, and Menachoth 97 *b* and 98 *a* it is said that if the priest standing upon the circuit sprinkled the (lower) blood one cubit below his feet it was lawful.

¹⁶ Middoth iii, 1; Menachoth 97 *b*. "The blood of a sin offering of a bird was sprinkled below, and that of a sin offering of a beast above. The blood of a burnt offering of a bird was sprinkled above, and that of a burnt offering of a beast below." (Kinim i, 1; *cf.* Zevach. ii, 1; vi, 2; and vii, 2.) In Zevachim 10 *b* and 53 *a*, it is said "the upper blood was put above the red line, the lower blood below the red line." Rabbi Eleazer, son of Rabbi Simeon, held that the blood of a sin offering of a beast might be put only on the body of the horn or corner, על גופה של קרן.

¹⁷ The height of the altar from the ground to the pile was eight cubits of six

10. The foundation of the altar did not surround its four sides like the circuit, but the foundation extended along the whole of the north and west sides, and took up on the south one cubit, and on the east one cubit, and the south-eastern corner had no foundation.¹⁸

handbreadths each, and one cubit (the lower) of five handbreadths, so that it fell one handbreadth short of nine medium cubits. The tenth cubit was the horn.

¹⁸ "And the foundation extended all along on the north and all along on the west sides of the altar, and took up on the south one cubit and on the east one cubit" (Midd. iii, 1). "And there was no foundation to the south-eastern corner. What was the reason? Rabbi Eleazer said because it was not in the portion of the ravener [*i.e.*, Benjamin: "Benjamin shall ravine as a wolf," Gen. xlix, 27], as said Rab Samuel son of Rab Isaak, the altar took up of the portion of Judah a cubit. Rabbi Levi son of Khama said, Rabbi Khama son of Rabbi Khaninah said, a strip [רצוץ a strap] went out from the portion of Judah and entered the portion of Benjamin, and Benjamin the righteous was grieved thereat, every day desiring to take it, as is said "he fretted thereat every day" (Deut. xxxiii, 12; A.V. "the Lord shall cover him all the day long") wherefore Benjamin the righteous was judged worthy to become the dwelling-place of the Holy One, blessed be He, as is said "and he shall dwell between his shoulders" (Deut. xxxiii, 12). (Zevach. 53 b, 118 b; Yoma 12 a; Megillah 26 a.) "What was in the portion of Judah? The mountain of the house, the chambers, and the courts. What was in the portion of Benjamin? The porch, the Temple, and the Holy of Holies, and a strip went out," &c. (Yoma and Megillah, *loc. cit.*) Rashi explains (Zevach. 53 b) that the eastern part of the mountain of the house, including the entrance, is here meant, that the chambers were those in the *chel*, and that all the court of the women, and the twenty-two cubits of the place for the tread of the priests and of Israel were called the courts. "Thus," he continues, "the portion of Judah was on the east of the altar and by its side, and the altar took up of his portion a cubit on the east. With the exception of the cubit of the north-eastern corner, all *this side* was in the portion of Judah, which cubit was distant from the corner a cubit. And the strip went out at the south of the altar and entered the portion of Benjamin, for from the place of the tread of the priests and upward was the portion of Benjamin at the south of the altar, and the altar took up of it a cubit, and this was the cubit. עָהָה כְּנִיסַת בָּהּ, in which would have been the receding of the foundation had there been a foundation there, as Mar said (Midd. iii, 1), 'it ascended a cubit and receded a cubit, this was the foundation.'" Some confusion has arisen in reference to this curious point in consequence of the passage in Middoth iii, 1, וְאוֹכֵל בְּדֶרֶם אִמָּה, having been translated "but on the south it wanted one cubit, and on the east one cubit" (Lightfoot 1131), instead of "on the south it took up (or included) one cubit," &c. Rashi (Zevach. 54 a) says, "at the south-eastern corner it [*i.e.*, the foundation] extended along the eastern side a cubit and no more," and again, in allusion to the projection of the sloping ascent towards the foundation on the south, "towards the place where the receding of the foundation was adapted to be, but it was not there." Another note of Rashi's may be added here, "they made a kind of small projection opposite that (the south-eastern) corner to receive the blood of the burnt

11. At the south-western corner were two apertures, like two small nostrils, and these are what were called *shetev*, שֵׁתֵּן, canals, and by them the bloods descended and became mixed at that corner in the cesspool, and went out to the Valley of Kedron.¹⁹

offerings of birds, that it might not fall upon the ground, and this was called קִיר הַמִּזְבֵּה, the side of the altar (Levit. v, 9), but it was not called the foundation." This side of the altar is mentioned in Menachoth 98 *b* and Zevachim 65 *a* (see the note of Bartenora on Kinim i, 1). The space between horn and horn is called by the Talmudists כְּרִכּוּב, *Kirkkob*. The Gemara, in Zevachim 62 *a*, enquires "what was the *Kirkkob* [A.V. "compass," Exod. xxvii, 5, xxxviii, 4]? Rabbi said it was the ornamented band, בִּינֵךְ. Rabbi Jose, son of Rabbi Judah, said it was the circuit, סוּבֵב What was the *Kirkkob*? Between horn and horn, the place of the path for the feet of the priests a cubit, because the priests were accustomed to go between horn and horn, therefore it is said the place of the path for the feet of the priests a cubit (Middoth iii, 1), and it is written "a brazen grate of network under the compass thereof beneath unto the midst of it" (Exod. xxxviii, 4). Rab Nachman bar Isaac said there were two, one for ornament, and one for the priests that they should not slip off." The gloss of Rashi explains that upon the top of the altar there was "a kind of deep channel, חֲרוּץ עֲמוּךְ, between the place of the pile and the edge of the altar all round and surrounding the place of the pile, and the breadth of the channel was two cubits, one cubit that part which was between the horns, and one cubit that which formed the path for the priests," and a few lines above this passage he says "and there was a slight eminence around it at the edge of the altar." In reference to the network of brass, the same commentator says "the grate of the network of brass which they put under the compass of the altar below as far as its middle surrounded the altar from its middle upward. It was clothed and as it were surrounded with a grating which was made with many holes, נִקְבִים נִקְבִים, like a sieve or fishing net, and it reached upward as far as to below the compass *Kirkkob*" There were two surroundings to the altar which Moses made, one for ornament, and one for the priests that they should not slip off. The latter extended round the side, קִיר, from the point where it was six cubits high [*i.e.*, the circuit] That for ornament was the "circuit," סוּבֵב, and the "ornamented band," בִּינֵךְ, about which Rabbi and R. Jose bar Jehudah disputed, and below that circuit they put the grating, and its breadth reached downward to the middle of the altar, and it was a sign to distinguish between the upper and the lower bloods, as is said in Zevachim 53 *a* "And one for the priests that they should not slip off;" "and above on the top of the altar the depression surrounded it like a kind of depressed channel, a slight thing the edge of which might form a little parapet so that the priests should not slip." In reference to the statement that the priests could go between horn and horn he remarks, "the true path for the feet of the priests was inside the space between horn and horn, between the horn and the pile."

¹⁹ Middoth iii, 2; cf. Yoma v, 6, and Meilah iii, 3. These holes were distinct from the two basins or funnels of silver or lime each with a perforated nozzle for the drink offerings. These latter appear to have been on the south-western part of the altar, since the priest went up by the sloping ascent and

12. Below in the pavement at that corner was a place a cubit by a cubit, and a slab of marble with a ring fixed to it, by which they went down to the canal and cleansed it.²⁰

13. And a sloping ascent²¹ was built to the south of the altar, its length thirty-two cubits by a breadth of sixteen cubits, and it took up upon the ground thirty cubits by the side of the altar, and there was an extension from it a cubit over the foundation, and a cubit over the circuit,²² and a small space separated between the sloping ascent and the altar sufficient for the pieces of the sacrifices to be put upon the altar by throwing.²³ And the height of the sloping ascent was nine cubits less a sixth to opposite the pile.²⁴

14. And two small inclines proceeded from it by which they went to the foundation and the circuit, and they were separated from the altar

turned to the left to reach them. The western one was for the water, the eastern one for the wine, and the latter had a larger hole than the other because the wine being thicker than the water took longer to run through. It is uncertain whether they were of silver or of lime blackened to look like silver. The libamina poured into these vessels ran down upon "the roof of the altar, and thence through a hole in the altar to the canals of the altar which were hollow and very deep" (Succah iv, 9, and 48 *b*; *cf.* Bartenora *in loc.*; and also Midd. iii, 2), where the hole in the altar is said to have been four cubits from its southern side, and the cavity beneath also to have extended thus far.

²⁰ Middoth iii, 3; *cf.* Meilah iii, 3. שִׁיתִין, *shitin*, seems to have been the upper and smaller canal, or receptacle, and אַמָּה, *amah*, a larger and lower cavity, whence issued the sewer, a cubit square, through which the water of the court and the blood ran down to the Kidron valley (*cf.* R. Shemaiah in Middoth iii, 2). It does not appear they went into the אַמָּה, or lower cavity, to cleanse it. This seems to have been always sufficiently flushed by the water of the court.

²¹ "Thou shalt not go up by steps unto mine altar" (Exod. xx, 20): hence they said let a sloping ascent be made to the altar (Meehilta. מַזְבֵּחַ אֲדָמָה). For the measurements of the sloping ascent see Midd. iii, 3; Zevach. 62 *b*.

²² *cf.* Midd. v, 2, where it is said "the sloping ascent and the altar measured sixty-two" cubits (upon the ground). The altar was thirty-two cubits in length, and the sloping ascent therefore only thirty at its base. The remaining two cubits were those of the part which projected forward towards the altar over the foundation and the circuit, and, as Rashi expresses it, "were swallowed up in the thirty-two cubits of the altar" (Zevach. 54 *a*, 62 *b*).

²³ It was required that the pieces of the burnt offerings should be thrown upon the altar, "as the blood was put upon the altar by throwing, זָרִיקָה, so also the flesh by throwing." (Zevach. 62 *b*; *cf.* note on the signification of the word זָרַק in "The Speaker's Commentary," introduction to Leviticus.) Hence a partition space was necessary between the ascent and the altar itself (Zevach. 62 *b*), across which the priest standing upon the ascent might throw the pieces (*cf.* Tamid vii, 3).

²⁴ *Vide supra*, 9. The sixth of a medium cubit was a handbreadth, and it was wanting in the height of the pile because the foundation was only a cubit of five handbreadths high.

by the thickness of a thread.²⁵ And there was a cavity, a cubit by a cubit, on the west of the sloping ascent, and it was called רבובה, *rebubah*, and in it they placed birds found unfit for the sin offering,²⁶ until they became decomposed, and were taken out to the place of burning.²⁷

15. And there were two tables on the west of the sloping ascent, one of marble upon which they placed the pieces of the sacrifices, and one of silver, upon which they placed the vessels of service.²⁸

16. When they built the altar they built it entirely solid, like a kind of pillar, and they made no cavity whatever in it, but brought perfect stones, large and small, and brought lime and pitch and lead, and moistened it, and poured it into a large frame of the measure of the altar, and built and raised it. And at the south-eastern corner they put a frame [גוף, *body*] of wood or stone, of the measure of the foundation, into the midst of the building, and likewise they put a frame into the middle of each horn until they finished the building, and the frames which were in the midst of the building took away so much as to leave the south-eastern corner without foundation, and the horns remained hollow.²⁹

17. The four horns of the altar, and its foundation, and its square, were essential;³⁰ and every altar which had not horn, foundation, sloping ascent, and square, is, that was unlawful, because these four were

²⁵ Zevach. 62 *b*. One of these inclines was on the east and led to the circuit, and the other on the west leading to the foundation. "A burnt offering of birds, how was it made? He went up by the sloping ascent, turned to the circuit and came to the south-eastern horn" (*ib.* vi, 5). Rashi upon this point says "that by which they went to the circuit proceeded from the eastern side of the sloping ascent to the right . . . and that which led to the foundation proceeded from the west of the sloping ascent" (*ib.* 62 *b*). The slope of these small inclines was one in three, that of the large sloping ascent to the altar "one cubit in three cubits and a half and a fingerbreadth and a third of a fingerbreadth" (*ib.* 63 *a*, and the gloss). The large ascent was made with a gentler slope in order that the priests carrying the heavy pieces of the sacrifices might go up more easily. It was the custom to strew it with salt in rainy weather in order to render it less slippery (Grubin x, 14, and 104 *a*).

²⁶ Middoth iii, 3.

²⁷ "Rabbi Ishmael son of Rabbi Johanan ben Baruka said there was a hollow place there to the west of the sloping ascent, and it was called רבוכה, *rabuchah*, and there they throw the defiled of the sin offerings of birds until they became decomposed and were carried out to the place of burning" (Tosefta Korbanoth 7). Some read נבובה, *hollow*, for רבובה. The *rabubah* was in the ascent itself. The dimensions given were those of the opening; the size of the cavity is not known, but it is believed to have been large (*cf.* Aruch and Bartenora, and Tosef. Yom Tov to Midd. iii, 3).

²⁸ Shekalim vi, 4. The vessels were those ninety-three of silver and gold which were brought out of the chamber of vessels at the commencement of the morning sacrifice (*cf.* Tamid iii, 4, and Bartenora on the passage in Shekalim).

²⁹ Zevachim, 54 *a*, *b*.

³⁰ מעכבין, *delaying*, because the altar could not be considered as complete until they were made.

essential, but the measure of its length, and the measure of its breadth, and the measure of its height were not essential, and that which was not less than a cubit by a cubit and three cubits high, *was* like the measure of the place of the pile of the altar in the wilderness.³¹

18. An altar which had a flaw in its masonry, if the flaw in its masonry was a handbreadth, it was unlawful, if less than a handbreadth, lawful, provided that in the remainder there was no stone with a flaw in it.³²

CHAPTER III.

1. THE form of the candlestick is explained in the Law. There were four bowls, and two knops, and two flowers in the shaft of the candlestick, as it is said (Exodus xxv, 34) "and in the candlestick four bowls, made like unto almonds *with* their knops and their flowers." And there was yet a third flower joined to the shaft of the candlestick, as it is said (Numbers viii, 4) "unto the shaft thereof, unto the flowers thereof."

2. And it had three feet, and there were three other knops to the shaft of the candlestick, and from them the six branches issued, three on this side, and three on that side, and upon each of these branches were three bowls, and a knop and a flower, and all were shaped like almonds in their structure.

3. Thus all the bowls were twenty-two, and the flowers nine, and the knops eleven. And all of these delayed the one the other,¹ and if even one of the forty-two was wanting it delayed the whole.²

4. To what do these words refer? To the case in which they made the candlestick of gold; but when it was of other kinds of metal they did not make for it bowls, knops, and flowers. And the candlestick which is to come will be all of gold one talent with its lamps; and it will be all of beaten work from the mass. And of other metals they did not prescribe the weight.³ And if it was hollow it was lawful.

5. And they never made it of old materials whether it was of gold or of other kinds of metal.⁴

6. The tongs and the snuff dishes and oil vessels were not included in the talent, for lo, it is said of the candlestick "pure gold" (Exod. xxv, 31), and again it says, and the tongs thereof, and the snuff dishes thereof "pure

³¹ "Rab Khama bar Goreah said the גזרים pieces of wood which Moses made *for the pile* were a cubit long and a cubit broad," and this was regarded as the measure of the מערכה pile, or fire (Zevach. 62 a, b).

³² Cholin 18 a. "How much constitutes a flaw in the altar? As much as will arrest the finger-nail. They repeat, how much constitutes a flaw in the altar? Rabbi Simeon ben Yochai said a handbreadth. R. Eleazer ben Yacob said as much as an olive. There is no contradiction, the one refers to the lime, the other to the stones."

¹ Menachoth 28 a, b.

² Tosefta Menachoth 6.

³ Menachoth 28 a, b.

⁴ Menachoth 28 a.

gold" (*ib.* 38); and it is not said its lamps pure gold, because the lamps were fixed to the candlestick and were included in the talent.⁵

7. The seven branches of the candlestick hindered the one the other, and its seven lamps hindered the one the other, whether⁶ they were of gold or of another kind of metal. And all the lamps were fixed to the branches.⁷

8. All the six lamps which were fixed to the six branches which issued from the candlestick had their faces towards the middle lamp, which ~~was~~ upon the shaft of the candlestick, and that middle lamp had its face towards כנגד the Holy of Holies, and it is that which was called the western lamp.⁸

9. The bowls resembled Alexandrian cups, of which the mouth is broad and the bottom narrow. And the knops ~~were~~ like apples of Kirjathaim,⁹ which are of little length, like an egg broad at its two ends;¹⁰ and the flowers, like the flowers of pillars, which are like a kind of saucer with the lips turned outwards.¹¹

10. The height of the candlestick was eighteen handbreadths. The legs and the flower three handbreadths, and two handbreadths plain, and a handbreadth in which were a bowl, a knop, and a flower, and two handbreadths plain, and a handbreadth a knop, and two branches issued from it one on each side and were extended upwards to opposite the summit of the candlestick, and a handbreadth plain, and a handbreadth a knop, and two branches issued from it one on each side and were extended upwards to opposite the summit of the candlestick, and a handbreadth plain, and a handbreadth a knop, and two branches issued from it one on each side and were extended upwards to opposite the summit of the candlestick, and two handbreadths plain. There remained three handbreadths, in which were three bowls, a knop, and a flower.¹²

11. And there was a stone in front of the candlestick and in it three steps, upon which the priest stood and trimmed the lamps, and he put upon it the vessel of oil and its tongs and the snuff dishes at the time of the trimming.¹³

⁵ Menachoth 88 *b*. R. Nehemiah was of opinion that the lamps were not included in the talent.

⁶ Menachoth iii, 7.

⁷ "At the top of each branch was a lamp like a cup and there they put the oil and the wicks" (Rashi in Menach. 28 *a*).

⁸ Menaduth 98 *b*, and the comment of Rashi.

⁹ Joshua xiii, 19, &c. Cariathaim is mentioned by Eusebius as a village near Medoba and Baris.

¹⁰ For the signification of the word כִּרְיָתַיִם, *cf.* a passage in Avodah Sarah 40 *a*. and the note of Rashi; also Aruch and Buxtorf, *s.v.*

¹¹ Menachoth 28 *b*, and the comment of Rashi. The remark that the flowers were like little dishes or saucers seems to be Maimonides' own.

¹² Menachoth 28 *b*.

¹³ Tamid iii, 9. The Mishna says that he left the oil vessel, זָבַח, on this stone, but does not mention his putting the tongs and snuff-dishes upon it.

12. The table of *shewbread* was twelve handbreadths long and six handbreadths broad.¹⁴ It was placed with its length parallel to the length of the house, and its breadth to the breadth of the house, and so all the other "vessels" which were in the Sanctuary, their length was parallel to the length of the house, and their breadth to the breadth of the house, except the arc, the length of which was parallel to the breadth of the house.¹⁵ And also the lamps of the candlestick *were* opposite to the breadth of the house between the north and the south.¹⁶

13. There were for the table four golden rods cleft at their tops, against which rested the two piles of shewbread, two for each pile, and these are what are mentioned in the Law as "the covers thereof," קִשּׁוֹתָיו.

14. And it had twenty-eight golden reeds, each one of them like the half of a hollow reed, fourteen for the one pile and fourteen for the other pile, and these are what are called the "bowls thereof," מִנְקֵרוֹתָיו.

15. And the two censers in which they put the incense upon the table by the side of the piles are what were called, "the spoons thereof," כַּפּוֹתָיו. And the moulds in which they made the shewbread are what were called "the dishes thereof," קַעֲרוֹתָיו.¹⁷ The fourteen reeds were thus arranged: the first cake was placed upon the table itself, and between the first and the second were put three reeds, and also between each two cakes three reeds, but between the sixth and fifth, two reeds

¹⁴ Menach. xi, 5. "The table was ten handbreadths long and five broad. . . . Rabbi Meyer said the table was twelve *handbreadths* long and six broad." In the first statement the cubit is taken to be a small one of five handbreadths, in the second a medium cubit of six handbreadths. The decision appears to have been according to R. Meyer's opinion.

¹⁵ Menach. xi, 6 and 98 a.

¹⁶ The position of the candlestick is discussed at length in Menachoth, 98 b. Maimonides is of opinion that it stood across the house, three branches being towards the north and three towards the south, and this agrees with the statement that whilst the lamps which were upon the branches looked towards the central lamp, the latter looked towards the Holy of Holies, and hence was called the western lamp (*vide supra*). Rashi (in Menach. 98 b) says the candlestick "was always placed north and south, and therefore only one of its lamps looked towards the west, and that was the middle one, the mouth of whose wick was towards the west, and the rest had their wicks looking towards the middle lamp, the three on the northern side looking towards the south, and the three on the southern side looking towards the north." Yet a passage in Tamid iii, 9, which alludes to the "eastern lamps," gives support to the opinion held by some of the Rabbis that the candlestick stood east and west, and that the western lamp was the outer lamp on the western side, which position, moreover, is in accordance with the rule that the length of the "vessels" was parallel to the length of the house.

¹⁷ Menach. xi, 6, gives the number of the rods and reeds. The Gemara (97 a) adds "the dishes thereof," these were the moulds; "the spoons thereof," these were the censers; "the covers thereof," these were the rods; and "the bowls thereof," these were the reeds 'to cover withal,' because they covered the bread

only, because there was no other above the sixth. Thus there were fourteen reeds to each pile.¹⁸

16. And there were two tables within the porch at the door of the house. One of marble upon which they placed the shewbread when they took it in, and one of gold upon which they placed the bread when they carried it out, because they rose higher and higher with holy things, and went not lower and lower.¹⁹

17. The altar of incense was a cubit square,²⁰ and it stood in the holy place (היכל), equidistant from the north and the south sides and drawn from between the table and the candlestick towards the outside²¹ (i.e., towards the door), and the three were placed in the third part of the holy place and inward, opposite to the veil which divided between the holy place and the most holy.²²

18. There were twelve spouts to the laver in order that all the priests occupied with the continual service might sanctify [i.e., wash] themselves at the same time. And they made a machine for it in which there might constantly be water. And it was profane [not hallowed] in order that the water that was in it might not become unlawful by remaining all night, because the laver was one of the sacred vessels and sanctified whatever was placed in it, and everything that became sanctified in a sacred vessel if it remained all night became unlawful.²³

with them." The following are the names given to these several appurtenances of the table:—

Hebrew.	A.V.	Talmud.	Signification of Talmud word.	LXX.	Vulgate.
קערה	dish	דפוס	mould	τροβλιον	acetabulum
כף	spoon	בויד	censer	} θυσικη	phiala
קשה	cover	סניף	fureula			σπονδιον	thuribulum
מנקה	bowl	קנה	reed	κυαθος	cyathus

¹⁸ Menachoth 98 a, where it is said that the lower cakes were placed, *ביעל ישהרו של יסולה*, upon the middle of the table, or perhaps upon the clean surface of the table, the bare table (Lev. xxiv, 6).

¹⁹ Menachoth xi, 7.

²⁰ Exodus xxx, 2.

²¹ Joma 33 b. "The table was on the north, drawn two cubits and a half from the wall, and the candlestick on the south, drawn two cubits and a half from the wall. The altar was between and stood in the middle drawn towards the outside," which Rashi explains to mean towards the east, where was the door of the temple.

²² Cf. Tosefta Yoma, 2.

²³ Yoma iii, x, 37 a. "Ben Katin made twelve spouts to the laver, there

leaving been only two *before*. And also he made a machine for the laver in order that its water might not become unlawful by remaining all night." Ben Katin was a high priest. The Gemara explains the reasons why twelve spouts were required; also that the "machine" was a wheel by means of which the laver [?] was "immersed" in the cistern (*cf.* Rashi). The structure and use of this famous machine are not clearly understood. That by its means the laver itself could have been immersed in a מקוה gathering of waters or spring [Maim., Biath Hammikdash v, 14] and raised again by one unassisted priest [Tamid i, 4] will appear impossible, if we remember how large and heavy the laver must have been for twelve priests to wash at it at one time. Maimonides in his comment on the Mishna hazards the suggestion that the machine was a vessel surrounding the laver, and that the water remained constantly in it, and was removed into the laver as required. Not improbably it was a bucket attached to a rope or chain running over a wheel by means of which the water was raised, and which was let down into the "cistern or spring" at night, its water being thus "joined with the water of the cistern" (Rashi, Bartenora, Tosefoth Yom Tov). That it was a clumsy instrument appears from the fact that the noise it made could be heard at Jericho! [Tamid iii, 8.] The chief interest which attaches to this curious question arises from the circumstance that all the Rabbinical commentators appear to assume that there was a cistern, pool, or fountain under the laver, a point not to be forgotten in any attempt to determine the site of the Sanctuary.

It may be mentioned here that the Talmud teaches that there was a canal which brought water to the Sanctuary from the fountain of Etam (Jerus. Yoma perek iii, fol. 41, *a* 1; Maim., Biath Hammikdash v, 15). This water went in the second temple to the bathroom of the high priest on the Day of Atonement, which was over the water-gate [Yoma 31 *a*]; in the first Temple it supplied the molten sea. עין עיטם, the fountain of Etam, is said to have been twenty-three cubits higher than the floor of the court, and hence it is inferred that the water might easily be forced to the top of the gate which was only twenty cubits high. [Yoma, *loc. cit.*] Rashi thinks Etam may have been the same as Nephtoah [Joshua xvi, 9.] The Talmudic doctors held a curious theory respecting the water of Etam, which may be best given in the words of Rashi, "The slopes of Babylon returned the waters which were poured upon them to the fountain of Etam, which was a high place in the land of Israel, and this fountain brought water to the bathroom of the high priest on the Day of Atonement, which was situated on the wall of the court over the water-gate. As is said in the order for the Day of Atonement (Yoma 31 *a*), 'the fountain of Etam was twenty-three cubits higher than the floor of the court.' And how did they return? There are by the Euphrates canals and stairs, סילונות וסולמות, below the surface (of the sea), and by the way of these stairs [probably there is here an error, סולמות being put for סילונות] the waters returned to the land of Israel. And they returned and welled up in the fountains. And the fishes returned by way of those stairs, which were easier for their ascent than the way of the Euphrates itself" (Shabbath 145 *b*). The curious may follow this subject in the Gemara, Tosefoth and gloss of Rashi in Bechoroth 44 *b* and 55 *a*. "R. Judah said that Rab said all the rivers in the world are lower than the three rivers (Hiddekel, Pison, and Gilon), and the three rivers are lower than the Euphrates."

CHAPTER IV.

1. THERE was in the Holy of Holies, on its western side, a stone upon which the ark was placed¹ and in it the pot of manna and Aaron's rod.

¹ Yoma v, 2. "After the ark was removed there was a stone there" (in the Holy of Holies) "from the days of the first prophets and it was called *Shetiyah*, 'foundation.' Its height from the earth was three fingerbreadths." The Gamara adds, "it is taught that from it the world was founded, which is as much as to say from Zion the world was created. According to the Bereitha. R. Eleazer said the world was created from its middle, as is said "When the dust groweth into hardness, and the clods cleave fast together" (Job xxxviii, 38). R. Joshua said the world was created from the sides, as is said, "for he saith to the snow, be thou on the earth; likewise to the small rain, and to the great rain of his strength" (Job xxxvii, 6). R. Isak (Niphka) said the Holy One, blessed be He, threw a stone into the sea, and from it was the world created, as it is said "whereupon are the foundations thereof fastened, or who laid the corner stone thereof?" (Job xxxviii, 6), and the wise men said it was created from Zion, as it is said, "A psalm of Asaph. The Mighty God, even the Lord," and says "from Zion the perfection of beauty" (Psalm l, 1); from it was perfected the beauty of the world. The Bereitha teaches that R. Eleazer the great said "these are the generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens" (Gen. ii, 4). The generations of the heavens were created from the heavens; the generations of the earth were created from the earth. And the wise men said both the one and the other were created from Zion, as it is said "A psalm of Asaph. The mighty God, even the Lord hath spoken, and called the earth from the rising of the sun unto the going down thereof," and it says "out of Zion, the perfection of beauty, God hath shined," from it was perfected the beauty of the world (Yoma 54 b). Such were the Rabbinical opinions respecting this famous stone, which, according to Rabbi Schwarz (das heilige Land 216 7), is identical with the Sakhrat or sacred rock at present venerated by Mahomedans under the Dome of the Rock.

In the Toldoth Jesu the Aven Hashsheteyah, "stone of foundation," is affirmed to be the stone which the patriarch Jacob anointed with oil. Upon it was said to be written the letters of the *the nomen tetragrammaton*, the ineffable name of God, and lest anyone should learn the letters of this name and become possessed of the wondrous powers which that knowledge conferred, two dogs were placed near the Sanctuary, which, if anyone had succeeded in learning the letters, barked so fiercely at him as he was passing out as to cause him immediately to forget them. It is said that Jesus having entered, learned the letters, wrote them upon parchment, and placed the parchment in an incision which he made in his thigh, the skin closing over it on the name being pronounced, and having escaped the canine guardians of the place, thus became possessed of the supernatural powers which he afterwards manifested (Buxtorf Lex. Talmud, 2541). In Wagenseil's edition of the Toldoth Jesu the stone is said to have been found by King David when digging the foundation of the temple (*cf.* Maccoth II a) "over the mouth of the abyss," and that he brought it up and placed it

And when Solomon built the house, knowing that its end was to be destroyed, he built in it a place in which to hide the ark underneath in secret places, deep and tortuous. And Josiah the king commanded them to hide *the ark* in the place which Solomon built, as it is said "and he said unto the Levites that taught all Israel, which were holy unto the Lord, put the holy ark in the house which Solomon the son of David, king of Israel, did build; it *shall not be* a burden upon *your* shoulders; serve now the Lord your God," &c. (2 Chron. xxxv, 3). And there were hidden with it the rod of Aaron, and the pot of manna, and the anointing oil, and all these were not restored in the second house.² And also the Urim and Thummim, which were in the second house, did not respond by the Holy Spirit, nor did they enquire of them, as it is said, "till there stood up a priest with Urim and with Thummim" (Ezra ii, 63), and they only made them in order to complete the eight garments of the High Priest, in order that he might not be בְּחֹסֶר בְּגָדִים, wanting in the proper number of garments.³

in the Holy of Holies. The Targum of Jonathan represents *the Name* as being engraved on the stone of foundation with which "the Lord of the world covered the mouth of the great abyss" (Exod. xxxviii, 30). When Jonah was in the belly of the fish he was carried under the Temple of the Lord, and saw the stone of foundation fixed to the abysses, קִבְעַק בְּתַהוֹמוֹת (Tanchuma 53, b 1).

There is a tradition that the prophet Jeremiah took this stone with him to Ireland, that it was subsequently conveyed to Scotland by an Irish prince, and eventually removed by King Edward III to Westminster Abbey, since which time all the kings and queens of England down to Victoria have been crowned upon it.

Nearly all modern Rabbis appear to hold the opinion of R. Schwarz respecting this stone of foundation. It seems strange that it should have been confounded with Zohelath, yet in the Jewish manual arba' taanoth (tisha b'av) this identity is suggested.

By the first prophets, Samuel, David, and Solomon are here intended (Rashi, Sotah 58 b).

² In Yoma 52 b, Kerithoth 5 b, Horiouth 12 a, it is said "with the ark there were hidden the pot of manna, the vessel of anointing oil, the rod of Aaron, its almonds and blossoms, and the coffer which the Philistines sent as a gift to the God of Israel" (1 Sam. vi, 8). For the place in which the ark was hidden, see 2 Chronicles xxxv, 3; Shekalim Yirushalmi, ch. vi, page 10, and Rashi on Kerithoth, 5 b. All the Rabbinical writers held that there were chambers or hollow spaces under the whole Sanctuary, and it is doubtless some of these to which Maimonides here refers. The exact position of the hiding-place of the ark was supposed to be near the chamber of wood in the court of the women (Skekalim vi, 2).

³ In Yoma, 21 b, it is said "in five things the second house differed from the first house, viz., there was in it neither ark, nor atonement, nor cherubim of fire, nor the Shekinah, nor Holy Spirit, nor Urim and Thummim." Rashi held that the ark, the atonement and the cherubim were one. The opinion that there were Urim and Thummim in the second house, in order that the number of the

2. In the first house there was a wall, a cubit thick, dividing between the holy *place* and the most holy,⁴ and when they built the second house they doubted whether the thickness of the wall was taken from the measure of the holy *place*, or from the measure of the most holy, and therefore they made the length, עביר, of the most holy *place*, exactly twenty cubits, and the holy *place*, exactly forty cubits, and they put an additional cubit between the holy *place*, and the most holy.⁵ And they did not build a wall in the second house, but made two vails, one on the side of the most holy *place*, and one on the side of the holy *place*, and between them was a cubit corresponding to the thickness of the wall which was there in the first house. But in the first Sanctuary there was one⁶ vail, as is said, "and the vail shall divide unto you," &c. (Exodus xxvi, 33).

3. The temple⁷ which the children of the captivity built, was a hundred cubits by a height of a hundred. And thus was the measure of its height. They built to a height of six cubits closed and solid, like a kind of foundation to it,⁸ and the height of the wall of the house forty cubits, and the height of the ornamented beam, כיוור, *keoor* or *ceiling*, which was by the roof, a cubit, and above it a height of two cubits vacant, in which the

garments of the high priest might not be incomplete, but that they did not enquire of them, is derived from the Tosefoth Yoma, 21 *b*. Rabbi Abraham ben David questions whether Urim and Thummim could be numbered with the garments [note on Beth Habbech], nor does Maimonides himself in his enumeration [in Kle Hammikdash viii, 2] of the high priest's garments mention the Urim and Thummim.

⁴ Yoma 51 *b*, and the comment of Rashi; *cf.* Baba Battira, 3 *a*.

⁵ Jerus. Kelaim, ch. viii.

⁶ Yoma v, 1; *cf.* Gamara and Tosefoth 51 *b*.

⁷ היכל. The whole of this section is from Middoth iv, 6.

⁸ Maimonides elsewhere ["Commentary on the Mishnas," Midd. *in loc.*] says that this foundation was built בגוף הקרקע, in the body of the earth, and that the walls were placed upon it. The "Tafacreth Israel" ("Mishnaoth Rabbi, Lipsitz, Warsaw," 1864) has this passage, "it was the foundation, and was six cubits high, because the mountain rose and fell, and the temple and the porch were built upon the top of the mountain upon the level ground, and the walls stood near the place where the mountain began to descend, and thus in order to give to the house a firm foundation, לבלתי יטוט, without tottering, they built a foundation of hewn stones around the above mentioned level ground six cubits high; and inasmuch as that foundation was joined [אטום, closed] on the inner side with the ground, so that the inside of the porch and temple was not seen at all, it was called אטום, *closed*," and this in accordance with the remark of Rabbi Shemaiah, that "the threshold of the house was raised six cubits above the ground by closed masonry, solid wall, and it is necessary to say that there were steps at the porch by which they went up to the threshold, and for those going down from the temple to descend from the threshold." [Middoth, *loc. cit.*] Had these six cubits been "in the body of the earth," they could not have been reckoned to the height of the building.

dropping might be collected, and this is what was called **בֵּית דִּלְפָּה** *domus stillicidii*, place of dropping. And the thickness of the rafters above the place of dropping a cubit, and the plaster a cubit.⁹ And an upper chamber was built above it, the wall of which *was* forty cubits high, and by its roof a cubit, the height of the ornamented beam, and two cubits the height of the place of dropping, and a cubit the rafters, and a cubit the plaster, and the height of the battlement three cubits; and a plate of iron like a sword, a cubit high, was above the battlement, all round in order that the birds should not rest upon it, and this is what was called the scarecrow. Thus the whole was a hundred cubits.

4. From the west to the east *was* a hundred cubits, and this was their arrangement: four walls, one in front of the other, and between them three vacant places; between the western wall, and the wall in front of it five cubits, and between the second and third wall six cubits, and between the third and fourth wall six cubits; and these were the measurements of the thickness of the wall with the vacant place, which was between two walls. And the length of the Holy of Holies twenty cubits, and between the two veils, which divided between it and the holy place, a cubit, and the length of the holy place, forty cubits, and the thickness of the eastern wall in which was the gate six cubits, and the porch eleven cubits, and

⁹ “*Kioor* is engraved work (2 Chron. ii, 13; Zach. iii, 9), and the engraved ornaments which architects make in lime or stone, and sometimes it is said *Kioor v'tzioor*, *i.e.*, engraved and painted. **דִּלְפָּה** *dropping*, is the dripping of water from the roof, and it was the custom to make for buildings two roofs, one above the other, and to leave a small place between the two, and to call this hollow space **בֵּית הַדִּלְפָּה**, *domus stillicidii*, from the word **דִּלְפָּה**, *to drop*, so that if the upper roof should drip, the water would remain in that space” [Maim. Comment on Mishnas, Midd. iv, 6]. “*Kioor*, the lower rafter of the roof . . . and because it was covered with gold and painted with beautiful pictures it was called *Kioor* . . . the upper rafters, which rested upon the lower rafter, was two cubits thick, and these were called **בֵּית דִּלְפָּה**, *domus stillicidii*” [Bartenora on Midd., *in loc.*] A modern gloss on this passage of the Beth Habbech says “it is a custom in Turkey in building princes’ houses to make a roof of planks painted with beautiful pictures. It is called *lavan*, and above it the principal roof which is exposed to the sky, and a space between the *lavan* and that principal roof, and if at any time the principal roof should leak, the dropping would descend in that space upon the top of the *lavan*, and on this account it was called *domus stillicidii*.”

The structure of the present roof of the outer corridor of the Dome of the Rock at Jerusalem may illustrate that of the ancient Temple.

“The **טַעֲזִיבָה** (*or plaster*) was the lime and stones which were placed upon the roof” [Maim. on Midd., *in loc.*] Sometimes reeds and bushes were placed over the rafters, and the cement laid on above. [Baba Metyin (as quoted by Aruch) 117 a; *cf. ib.* 116 b, in Mishna, and note of Rashi; also Baba Bathri 20 b in Mishna.] It was the custom to roll this plaster with a cylindrical stone called *maqilab*, **מַעֲזִילָה** [Maoth ii, 1]. Such roofs are common in Palestine at the present day.

the thickness of the wall of the porch five cubits, altogether a hundred cubits.¹⁰

5. From north to south a hundred cubits. The thickness of the wall of the porch five cubits, and from the wall of the porch to the wall of the holy place ten cubits, and the walls of the holy place six walls, one in front of the other, and between them five vacant places. Between the outer wall and the second five cubits, and between the second and third three cubits, and five between the third and fourth, and between the fourth and fifth, six, and between the fifth and the inner wall six, in all forty cubits on this side, and forty cubits on the side which was opposite to it, and the breadth of the house within, twenty cubits. Lo, there were a hundred cubits.¹¹

6. The *pishqotes*^h, פִּשְׁפֹּשֵׁת, is a little door. There were two little doors to the temple by the sides of the great gate, which was in the middle, one on the north, and one on the south. By that on the south no man ever entered, and in reference to this it was explained by Ezekial (xliv, 2) "this gate shall be shut, it shall not be opened." But by that on the north they entered, and going between the two walls until he reached the place where was the opening into the holy place on his left, he went into the interior of the temple הֵיכָל, and proceeded as far as the great gate and opened it.¹²

7. The breadth of the great gate was ten cubits, and its height twenty cubits. And it had four doors, two within and two without, the outer ones opened into the doorway to cover the thickness of the wall, and the inner ones opened into the house, to cover the space behind the doors.¹³

8. The doorway of the porch was forty cubits high, and twenty broad, and there were no gates to it.¹⁴ And there were five carved oaken beams over the doorway above. The lower one extended beyond the doorway, a cubit on each side, and each one of the five extended beyond that below it, a cubit on each side, so that the upper one *measured* thirty cubits, and there was a row of stones between every two beams.¹⁵

¹⁰ These measurements are essentially the same as those given in Middoth iv, 7, but by reckoning the thickness of the walls west of the Holy of Holies as spaces, and each face of a wall as a distinct wall, obscurity has been occasioned.

¹¹ Middoth iv, 7. See the last note. The account in Middoth gives only the breadth of the house behind the porch. According to Maimonides the room for the slaughtering instruments measured ten cubits by eleven, internal measurement.

¹² Middoth iv, 2 ; Tamid iii, 7. In the Mishna it is said that the priest, after opening the little door, entered the chamber and thence passed into the temple. Maimonides does not agree with Rabbi Judah's opinion that the priest went in the thickness of the wall until he found himself standing between the two gates.

¹³ Middoth iv, 1.

¹⁴ Tosefoth Avodah Zarah 53 a. "The porch was open along its whole eastern side."

¹⁵ Middoth iii, 7.

9. The temple הַיְבֵל , was built broad in front and narrow behind, like a lion.¹⁶ And there were chambers surrounding the whole house round about, besides the wall of the gallery. The lower chamber *was* five cubits broad, and the roofing, רֹבֵד , above it six, and the middle chamber six, and the roofing above it seven, and the uppermost seven, as is said "the nethermost chamber" &c. (1 Kings vi, 6), and thus the three chambers surrounded the house on its three sides.¹⁷ And also around the walls of the porch from below upwards there were thus: a space, הַלֵּק , of one cubit, and a standing place, רֹבֵד , three cubits, and a space of one cubit, and a standing place three cubits to the upper part. And the standing places, רֹבִים , surrounded the walls, the breadth of each standing place was three cubits upwards, and between each two standing places a cubit, and the upper standing place was four cubits broad.¹⁸

¹⁶ Middoth iv, 7.

¹⁷ Middoth iv, 3, 4. רֹבֵד is a floor or pavement, and the word is used here because the roof of one chamber formed the flooring of the chamber above.

¹⁸ Middoth iii, 6. The following is Lightfoot's rendering of this passage:—"Round about the walls of the porch from below upward they were thus: one cubit plain, and then a half pace of three cubits, one cubit plain (or an ordinary rising of steps) and then another half pace of three cubits, and so up, so that the half paces did go about the walls of the porch."

Also by the Jewish commentators the passage in Middoth which Maimonides here paraphrases is taken to refer to the steps and standing places which led up to the porch. But Maimonides understood it to refer not to the steps, but to a kind of ornament of the wall itself consisting of a projection three cubits in perpendicular measurement repeated at intervals of a cubit, the uppermost projection measuring four cubits. In his comments upon the Mishnas (Midd. iii, 6) he says "the wall of the porch was built according to this arrangement, which was that one cubit in the height of the wall its *whole* length was plain and even like the rest of the walls, afterwards the building or masonry projected from the wall like a balcony, בְּצוּצְרָה , three cubits high, afterwards, at a distance of one cubit, it projected again, and thus is what was called *robod*, רֹבֵד , and thus the structure of the whole was a cubit, and a *robod* three cubits," &c.

If the steps of the porch are referred to there could not have been more than three cubits between the lowest step and the foundation of the altar. According to some opinions there was only one; and it seems hardly possible that a bullock could have stood and been slaughtered by the priest in so small a space [Yoma iii, 8] without inconvenience. In the same narrow space, also, the whole company of officiating priests must have stood whilst one of their number sounded the *magrefah*: an instrument so large and powerful that people in the city could not hear one another speak for the noise it made, and whose "voice" could be heard at Jericho!

The laver, moreover, was between the porch and the altar, and it must have been very small if the space between the altar and steps was only three cubits, unless, indeed, as has been suggested ["Tafaereth Israel Mishnas, Warsaw, 1861"], it was placed upon the steps themselves. Objections to this latter view are, 1, that no mention is made of the priests going up the steps to reach the laver, and, 2, that the account of the manner in which the priests performing the

10. All these vacant places, which were between the walls, are what were called **חַמְּמֵי**, *chambers* (Ezekiel xl, 7, 10). The chambers surrounding the Sanctuary were five on the north, five on the south, and three on the west. And there were three stories, story above story, so that there were fifteen chambers on the south, five above five, and five above them, and also on the north fifteen. And on the west were eight chambers, three above three, and two above them, in one story. Altogether there were thirty-eight chambers.¹⁹

11. There were three openings to each chamber, one to the chamber on the right, and one to the chamber on the left, and one to the chamber above. And at the north-eastern corner in the chamber, which was in the middle story, were five openings, one to the chamber on the right, and one to the chamber which was above it, and one to the gallery, and one to the chamber in which was the little door, and one to the temple (**הַיְבֵל**).²⁰

12. And a gallery (or winding staircase), **מִסִּיבָה**, ascended from the north-eastern corner to the north-western corner by which they went up to the roofs of the chambers. Going up by the gallery with his face to the west, he traversed the whole northern side until he reached the west; having reached the west he turned his face to the south, and passed along the whole western side until he reached the south; having reached the south, he turned his face to the east and went along on the south, till he reached the door of the upper chamber, for the door of the upper chamber opened on the south.²¹

13. And at the door of the upper chamber were two beams of cedar wood by which they went up to the roof of the upper chamber. And pointed pieces²² divided in the upper chamber between the roof the holy place, and the roof of the Holy of Holies. And there were in the upper chamber openings²³ into the Holy of Holies, by which they let down the workmen in boxes that they might not feast their eyes upon the Holy of Holies. And once a year, at every Passover, they whitened the temple (**הַיְבֵל**).²⁴

(To be continued.)

daily service ascended the steps to the porch (Tamid vi, 1) seems to imply that they had not before ascended any of them, **הֵחֵלְוּ עוֹלָיִם**, "they began to go up."

¹⁹ Middoth iv, 3.

²⁰ Middoth iv, 3. Maimonides and some more modern commentators regard the lower chamber as having been below the level of the floor of the holy place, and founded on the outer side by the foundation.

²¹ Middoth iv, 5. It appears that the upper story did not extend farther west than the western wall of the Holy of Holies. The roofs of the western, as well as those of the northern chambers, were open to the sky.

²² Middoth iv, 5. **רִשֵׁי פִּטְפִטִּים** were wooden projections from the northern and southern walls, of the upper story [cf. Bartenora on Midd. i, 6, and Talmudic Tractate Midd. iv, 5], or as Maimonides thought from the floor [Comment. on Mishnas, Midd. iv, 5].

²³ **לולין** = **אֲרוֹבוֹת**, *fenestra* [Bartenora, cf. Oholoth x, 1].

²⁴ Middoth iii, 4.

THE "CITY OF DAVID" ONLY A PART OF JERUSALEM.

SIR,—Captain Conder has in several places argued against the identification of the modern Ophel with the old "City of David" on account of the inadequacy of its area for "a capital like Jerusalem" (*Quarterly Statement*, 1884, p. 23), "the capital of Syria in David's time" (*Quarterly Statement*, 1884, p. 22), &c., thus making it appear that the terms "City of David" and "Jerusalem" refer to the same area, and are interchangeable.

He himself, however, supplies the answer to this assumption, when, on p. 28, *Quarterly Statement*, 1884, he tells us that Solomon's palace was on Ophel, and "outside the City of David." It is true he says also (p. 28) that Ophel was "only afterwards occupied," it being, according to p. 22, "in the time of Manassch, when Ophel was included," &c., but this can scarcely be reconciled with the former statement, unless we are to understand that Solomon's palace was outside the *walls* of the "capital of Syria."

The following passages from the Bible, however (some of which I have not yet seen cited in this controversy), prove clearly, I think, that the Scriptural "City of David" was not the whole, but only *part*, of the "capital of Syria," even in Solomon's time.

From 2 Samuel vi, 12, we learn that David brought up the Ark of God from the house of Obed-Edom *into the City of David* with gladness. (See also 1 Chron. xv, 29.)

Then after the Temple was built, we find from the almost identical language of 1 Kings viii, 1, and 2 Chronicles v, 6, that "Solomon assembled the elders of Israel . . . to bring up the Ark of the Covenant of the Lord, *out of the City of David* which is Zion."

It is quite clear, therefore, that the *Temple* was not *in* the "City of David."

Again, we learn from 1 Kings iii, 1, that Solomon brought Pharaoh's daughter *into the City of David* temporarily, "until he had made an end of building his *own house* and the house of the Lord," &c. Upon the completion of these "she came up *out of the City of David* into her house that Solomon had built for her" (1 Kings ix, 24). This is corroborated by 2 Chronicles viii, 11, which gives us also the reason for her sojourn in the "house [city, Septuagint] of David, King of Israel," not being permanent. These latter show that the "house for Pharaoh's daughter" also was not *in* the "City of David."

Clearly then the "City of David" was not the *whole* of Jerusalem.

The above passages, I venture to think, give greater force to those cited by Rev. W. F. Birch, on page 80, line 3, 1884, *Quarterly Statement*, 2 Kings xiv, 20, and page 198, "No. (2)," 2 Chronicles xxviii, 27, in the latter of which he interprets "in the city of Jerusalem" as meaning "in the City (of David) at Jerusalem." This is further borne out by 2 Kings viii, 24, which tells us that Joram was buried "in the *City of David*," while 2 Chronicles xxi, 20, informs us that "they buried him in the City of David, but *not* in the *sepulchres of the kings*;" and the same is said of Joash, in 2 Chronicles xxiv,

25. Are we to understand that there were *three* royal cemeteries? This follows from the above passages, if the sepulchres in which David, Solomon, and Rehoboam were interred, were *not* on Ophel, where Captain Conder allows it to be probable that the Garden of Uzza was situated, in which were buried the later kings who are not said to have been laid to rest "in the City of David."

If there were only *two* royal sepulchres, then we have *three* passages certainly (and perhaps *four*, if we include the case of Asa, 2 Chron. xvi. 13, 14), in which it is distinctly stated of monarchs who were *not* buried in the sepulchres of the kings, that they *were* buried in the City of David.

How then can there be any room for doubt, that *if* the later kings were buried on Ophel, the former were so too?

Yours truly,

H. B. S. W.

P.S.—Regarding C. R. C.'s objection to the force of the extract from the Tosiphtha (84, p. 197), may I point out that its bearing on this subject is not weakened by the supposition that Rabbi Akiba was "constructing a theory merely?" Supposing this were the case, he would surely not have "invented" a passage, whose length would have made it clearly impossible of belief if the City of David he knew had been where C. R. C. wishes to place it!

His mention in this connection, of the Brook Kidron, shows sufficiently that the Royal Tomb of which he was speaking (and consequently the City of David, which enclosed it) was in *close proximity* to the Kidron, so that a passage from the tomb to the brook was neither incredible nor unlikely.

VERIFICATION OF REFERENCES.

City of David, Quarterly Statement, p. 173, 1884.—Where has Canon Birch written anything that will entitle us to say that he has been "supposing that the City of David stretched across a deep valley?"

Dalman in Bashan, Quarterly Statement, p. 241, 1884.—Where is the passage to be found in which this is described as "a large example?"

I cannot find it so spoken of by Mr. Oliphant, and it is certainly desirable that the misleading passage should be pointed out, and the blame for its error rightly attributed.

H. B. S. W.

December 10th, 1884.

QUERIES.

The Emek of the dead bodies, &c., Quarterly Statement, 1883, p. 217.—The statement here made that “Jeremiah terms it” (*i.e.*, the valley of the Tyropoon) “the vale (Emek) of the dead bodies and of the ashes,” makes me desirous of asking whether the use there of the word “Emek” does not imply that the “*valley of the dead bodies,*” &c., was one of a different character, and, therefore, a different valley, from that of the Tyropoon, respecting which another term, “gai,” is used?

The Upper Gihon, Quarterly Statement, 1883, p. 216.—Does the word “upper” in the original necessarily apply to *Gihon*? May it not be used, as in the A.V., so as to read “the upper outlet of Gihon,” inasmuch as there is, I believe, no direct mention anywhere in the Bible of any *Lower Gihon*?

Valley of Giants, Quarterly Statement, 1883, p. 222.—May I venture to ask that your readers may be afforded some explanation of the reasons which have caused the expression of the view that this valley was north of Jerusalem; and is not the one which extends nearly to Bethlehem as Josephus says it was?

Uzziah's burial, Quarterly Statement, 1884, p. 242.—What are the difficulties “in reconciling the accounts in Kings and Chronicles?” Does not the principal one arise from maintaining that “the City of David was another name for *Jerusalem* generally?” whereas there is no difficulty at all if we regard them as analogous to Henry VIIIth's Chapel and Westminster Abbey.

The Siloam Tunnel, Quarterly Statement, 1884, p. 249.—May I ask whether the following is a correct translation of the Syriac version of 2 Chronicles xxxii, 30, and if so whether it may not be considered as strongly corroborating the view that the Siloam Tunnel was made by Hezekiah? I am informed that the *Syriac* in this verse reads:—

“And Hezekiah hid the spring (or outgoing) of the waters of the upper fountain and sent them into the *western tank* of the City of David.”

The Lower Gihon, Quarterly Statement, 1884, p. 249.—How can the Gihon mentioned in 2 Chronicles xxxiii, 14, be the Pool of Siloam, when the Gihon is distinctly said to be “Gihon in the Nachal?” I have always understood previously that this passage was the principal proof that the *Virgin's Fountain* was to be identified with *Gihon*, as there is no other spring in the Kidron than the Virgin's Fountain; and no other *Nachal* in the environs of Jerusalem than that of the Kidron.

En Rogel and Gihon.—May it be an allowable explanation for the reconciliation of the somewhat conflicting views respecting these two, to suppose that “Gihon” of Hezekiah is the *Virgin's Fountain*, while the “Gihon” of Solomon's anointing is equivalent to the “En Rogel” of Joshua, and is the same as the *Pool of Siloam*? Of course this necessarily supposes the correctness of the distinction made between an Upper and a Lower Gihon—a matter which I have made the subject of a previous query, for the sake of obtaining fuller information.

December 10th, 1884.

H. B. S. W.

THE WATERS OF SHILOAH.

In *Quarterly Statement*, 1884, p. 75, I put forward the theory that these waters flowed along an aqueduct on the east side of Ophel from the Virgin's Fountain to the mouth of the Tyropœon. I am anxious for my theory to be tested (and (?) proved) by excavation. Meanwhile, it will be well to dispose of the objections raised against my aqueduct in the last two numbers.

Captain Conder seems to object—

(1) That it has left no known traces of its existence. As the same might have been said of the Moabite Stone before 1868, and the Siloam Inscription in 1879, the objection has obviously no weight. Only let traces be looked for where they may be supposed to exist, and then no doubt they will be found.

(2) That it is so drawn on my plan that it apparently joins on to an existing channel, in which water runs the opposite way. This objection, I consider, was answered by anticipation in the three queries placed in my plan against this part of the aqueduct.

Whether the aqueduct within the Tyropœon ran on the line marked, or on another line, or on no line at all, does not really affect my theory that there used to be an aqueduct on the east side of Ophel between the Virgin's Fount and Siloam.

Professor Sayce offers a curious objection. He says, Sir Charles Warren failed to find any traces of it in his galleries (or shafts) on Ophel, but he does not add (as he rightly might have done) that all these shafts, except possibly two, were *north* of the point whence my supposed aqueduct ran southwards, and that the two exceptions were at least 40 feet higher in elevation than the level of the supposed aqueduct. Under these circumstances it was impossible for Sir C. Warren to discover the aqueduct; he wrote to me, however, in November, 1883, as follows:—“I think it quite possible that there was an aqueduct on the east side of Ophel, as you suggest.”

To sum up—

Professor Sayce, in connecting the waters of Shiloah with the Siloam Tunnel, is driven to attribute the latter to Solomon, and not to Hezekiah, whom Captain Conder and others (myself among the number) regard as its author.

Captain Conder, by rejecting both Professor Sayce's tunnel and my aqueduct, has the *waters* of Shiloah left on his hands *without any water* at all. For water flowing down the Tyropœon could not be said to go softly, and waters flowing in a natural channel down the Kedron could not be the waters of *Shiloah*, as the meaning of this word shows that they ran through an aqueduct.

Here my supposed aqueduct affords a happy way out of the dilemma. It is most probable that the mouth of the Tyropœon was turned into well-irrigated gardens by means of such an aqueduct, centuries before the gigantic undertaking of making the Siloam Tunnel was ever dreamt of.

October 27th, 1884.

W. F. BUCH.

ZION, THE CITY OF DAVID.

ON urging a Society that sends its maps over the world not to be afraid, but boldly to put the City of David where Nehemiah places it, *i.e.*, south of the Temple, I was told in reply, "You have convinced nobody." This is an objection that has often, on other occasions, been urged against the truth.

I have not claimed to have convinced any one, but still some have been convinced. Professor Robertson Smith says that the Ophel site alone "does justice to the language of the Old Testament." Professor Sayce says, "Mr. Birch seems to me indubitably right in holding that the City of David stood on the so-called hill of Ophel" (*Quarterly Statement*, 1884, p. 80). Sir Charles Warren has for thirteen years candidly owned that the Book of Nehemiah places the City of David on Ophel. Captain Conder, after five years' unyielding opposition, at length admits that "when Ophel came to be inhabited, the name (City of David) may be supposed to have included Ophel" (*id.* 242).

My theory, then, ought not to be rejected off-hand on the plea that no one believes it. Yet what I undertook to do was not to convince my opponents, but to confute their arguments. Two widely divergent objections are urged against me in the July and October numbers. Captain Conder credits me (p. 212) with "confining ancient Jerusalem to the insignificant space south of the Temple," while Professor Sayce thinks I endanger my views by supposing that the City of David stretched across a deep valley; - in other words, the former thinks that I make Jerusalem small, and the latter that I make the City of David large. Strange to say, the *fact* is, I make Jerusalem larger and the City of David smaller than does either of these writers. Want of due circumspection has caused the one to strike on Scylla, and the other to fall into Charybdis. Neither can point to a single passage of mine in these pages in support of the theories they thus attribute to me.

Further, (1) in reply to Captain Conder I must remind him that I have *already* pointed out (1884, p. 81) that "the City of David was only part of Jerusalem," and that I place the former on Ophel, while I make my Jerusalem *larger* than his (*id.* 81). Thus, "confining Jerusalem to Ophel" is just what I have *not* done.

Again, why (2) does Professor Sayce speak of my "supposing the City of David stretched across a deep valley?" Where have I supposed it? So far from doing so, I have consistently for six years repudiated any theory that does not place Zion, the City of David, solely on Ophel (so-called).

My Jerusalem theory is as follows:—

1. The Tyropœon Valley was part of the valley of Hinnom which ran from near the Jaffa Gate through the present city to the Kedron.
2. Zion, the City of David, was entirely on the southern part of the eastern hill, *i.e.*, on Ophel (so-called).
3. The sepulchres of David were in this same part.

4. The "gutter" (2 Sam. v, 8) by which Joab gained access to Zion, was the secret passage (connected with the Virgin's Fount) discovered by Sir C. Warren.

5. Araunah betrayed Zion to David either by divulging the secret of the "gutter," or by assisting Joab in ascending it.

I have defied any one to upset No. 2, but I am willing to extend the challenge to the other points. Accordingly, when Professor Sayce comes boldly to the attack, I cannot run from my guns, but must ruthlessly mow down his objections to my (not Canon Birch's) theory by confuting them. I am glad, however, to say that Professor Sayce agrees with me, partially on No. 1, and all but entirely on Nos. 2 and 3, but he wholly rejects No. 4, and consequently No. 5, though, since he is "quite ready to believe whatever Josephus may say provided it is not contradicted by external or internal evidence" (p. 172), I anticipate in the end his hearty acceptance of my last point.

Professor Sayce's objections to No. 4 are practically three.

(1) He urges that 2 Samuel v, 6-8, has to do with the capture of *two* places, and that therefore it was not Zion, the City of David, to which Joab gained access.

(2) That Joab could not have got up the shaft found by Sir C. Warren, since in Professor Sayce's opinion it did not then exist, being of later date than the Siloam Tunnel.

(3) That the Hebrew word for "gutter" means a waterfall, and therefore could not be a rock-cut shaft or passage.

To make the matter in dispute more intelligible, I give in full the passages in question:—

2 Samuel v, 6. "And the king and his men went to Jerusalem unto the Jebusites, the inhabitants of the land, which spake unto David, saying, Except thou take away the blind and the lame, thou shalt not come in hither: thinking, David cannot come in hither.

7. "Nevertheless David took the stronghold of Zion: the same is the City of David.

8. "And David said on that day, Whosoever getteth up to the gutter, and smiteth the Jebusites, and the lame and the blind, *that are* hated of David's soul, *he shall be chief and captain.* Wherefore they said, The blind and the lame shall not come into the house."

1 Chronicles xi, 6, states: "And David said, Whosoever smiteth the Jebusites first shall be chief and captain. So Joab the son of Zeruiah went first up and was chief."

To prove his first point, Professor Sayce tries to make a short cut, by impressing into his service Hebrew grammar. He protests against my describing his interpretation of two places being taken as a "popular error" (perhaps my *popular* was ill-chosen), and asserts that "the Hebrew tenses admit of no other (interpretation); we have *waw consecutivum* in each clause. The narrative sets before us a sequence of events. . . . David captured the outpost of Zion, and *after this*—but on the same day—he promised rewards to 'whosoever getteth up to the gutter,' &c."

My contention (p. 72) was that in verse 8 the sense would be made clearer by translating "And David said" by "For David said," &c., since this verse explains *how* David succeeded in taking Zion, the capture of which was mentioned in the previous verse.

The question is, *Must* the words translated "And David said" mean "And *after this* (the previously mentioned event) David said," or may they not mean "For David said," and, if so, does not this rendering agree better with the rest of the passage?

A disputed point of grammar must be dealt with by a competent Hebrew scholar. I extract the following from a full explanation of the question, kindly furnished to me by Professor Theodores:—

"The verbal form called 'future' (Hebrew עתיד by the older grammarians), is variously named in the modern grammars as imperfect, aorist, fiens, &c. . . . The letter ך prefixed to the 'future,' generally provided with the vowel Pathach (-) and followed by a dot called 'strong Dagesh' in the initial letter of the verb, has the property of changing the verb from the future to the past, whence the Hebrew grammarians named it 'the vav conversive.' Modern grammarians have invented for it different names, *consecutive*, *voluntative*, *relative*, &c. The interpretation of the prefix ך varies between *and*, *now*, *for*, *but*, *still*, *nevertheless*, *then*, *inasmuch as*, *namely*, *consequently*, and probably still more particles, either temporal or logical.

"It is not true that ך before a verb in the future *must* be interpreted to mean 'afterwards' (Sayce, p. 174). Examples are numerous. . . . Thus in Genesis xxxvii, 5, we read (A.V.), 'And Joseph dreamed a dream, and he *told it* his brethren, and they hated him yet the more.'"

Here follows verse 6: "And he said [future with ך] unto them, Hear, I pray you, this dream which I have dreamed." Would it not be absurd to render the beginning of verse 6, viz., ךַּוַּיֹּמֶר (wayyōmer), "Afterwards he said unto them?" Joseph did not tell his dream in consequence of his brothers' hatred; but his brethren hated Joseph in consequence of his communication about dreaming. In point of time, verse 6, commencing with "And he said," is anterior to the words "and they hated him yet the more" in verse 5. Again, in Exodus xl, 17, we are informed that on the first day of the first month in the second year the tabernacle was reared up. The next verse, the 18th, reads, "And Moses reared up [future with ך] the tabernacle, &c." Can ך here mean "afterwards?" What! *after* the rearing up of the tabernacle, Moses reared up the tabernacle!

Professor Theodores adds this translation:—(6) "Then marched the king and his men towards Jerusalem against the Jebusite inhabiting the land, and he said to David thus, Thou wilt not enter here, except thou set aside the blind and the lame, meaning: David shall not enter here! (7) Nevertheless, David conquered the fortification 'Zion,' which is 'the City of David. (8) For David proclaimed on that day, He that smites the

Jebusite, reaching so far as the aqueduct, along with the lame and along with the blind, those hated by the soul of David . . . [The Scripture is here elliptical, not stating what should be done to him, but the want is supplied in 1 Chronicles xi, 6], because the lame and the blind, even they say he shall not enter within. (9) Thus David settled in the fort and called it the City of David. And David built round about from Millo and inward." Professor Theodore's further adds:—"In the Hebrew commentary, called *Biur*, on the translation called Mendelsohn's, the following opinions are stated:—Verse 7. 'And David conquered.' This 'And' is adversative and means *but, nevertheless*. Verse 8. 'And David said.' In the preceding verse (7) the text states in a *general* way that David overpowered the stronghold, but now in (8) the *particulars* are stated how the conquest was effected."

Thus it is amply shown that the grammar does not prove that two places were taken in 2 Samuel v; 1 Chronicles xi. If I may add a word of my own, I would say there would be an unaccountable *lacuna* in the sacred narrative if two places had been taken, since no mention whatever is made of the second capture. The passages give a complete story of one place being taken, stating the fact of its capture, that a reward had been offered for its capture, and the name of the successful hero.

The A.V. is right in the heading of 1 Chronicles xi: "He winneth the castle of Zion from the Jebusites by Joab's valour," and so far I was wrong in describing Professor Sayce's interpretation as a *popular error*. Thus I conclude that it *was* the fort (of) Zion to which Joab gained access.

But, secondly, Professor Sayce says (175): "The careful workmanship of these passages, the niches for lamps—a Græco-Roman invention—the iron ring, and the fact that the lower conduit (discovered by Sir C. Warren) led into the winding Siloam Tunnel, all go to show that this lower conduit was later in age than the Siloam one."

a. Niches for lamps.—In his account of the Siloam Tunnel (1881, p. 142) Professor Sayce mentions a niche opposite the inscription, and admits the reasonable suggestion that it was for the lamp of the workman that cut the letters. Was the inscription therefore (and the tunnel as well) a Græco-Roman invention? I will not, however, press the point. If Professor Sayce will refer to Colonel Warren's account of the passage, he will, I think, find no mention whatever of "niches for lamps," but only of piles of loose stones (Letters, p. 39; Memoirs, Jerusalem, p. 367), an invention dating as far back as Jegar—sahadutha.

b. "The iron ring."—My initials and H.B. are smoked beyond the broad arrow in a low passage in the cave of Adullan, but the antiquity of the cave is not consequently reduced. The ring *must* have been added after the passage was made, but how long after no one knows, and therefore the iron age proves nothing.

c. The lower conduit, &c.—It would, however, be quite as correct (more correct I believe) to say "the Siloam Tunnel led into the conduit." Colonel Warren's professional opinion (Letters, p. 40) on discovering the passage, was

as follows:—“The fact of the newly found aqueduct being nearly in a line with the first 50 feet of the old one, gives the idea that this may originally have been the means of providing Ophel with water, and that the remainder of the duct to the present Pool of Siloam may have been an afterthought.”

He also holds to the same opinion in “Underground Jerusalem” (p. 333). Thus Professor Sayce’s second objection fails.

His third objection I propose, if time permit, to answer fully when I have exposed in detail the fallacies of the arguments urged for placing the City of David in any other position than on Ophel (so-called). It will suffice now to say that the evidence proving that the gutter was an aqueduct, and that Araamah betrayed Zion, is given in *Quarterly Statement*, 1878, p. 184; 1879, p. 104.

W. F. BIRCH.

THE ROUTE OF THE EXODUS.

I.

PERMIT me to reply to the views of Mr. Baker Greene, as given in the October number of the *Quarterly Statement* of the Palestine Exploration Fund, and which have been made the subject of a leading article in the *Morning Post* of the 22nd October, regarding the identity of Mount Hor with Mount Sinai. I regret not having seen Mr. Greene’s book, but as his views are very fully set forth in the *Quarterly Statement* I will deal with a few points on which he lays stress in that publication; and I hope to be able to show, by the aid of a few crucial tests, that his views are altogether untenable.

I may be allowed to point out that this is pre-eminently a question which requires some personal knowledge of the countries referred to; and it does not appear from Mr. Baker Greene’s statement that, like the venerable Dr. Beke, he has made a pilgrimage to the East in order to verify his views by personal observation. On the other hand, I may remind the reader that the identification of Mount Sinai (Jebel Músa) in the peninsula of Arabia Petrea with the “Mount of the Law” has been maintained by eminent men who have personally examined the district, such as Dr. Robinson, Barkhardt, the late Professor Palmer, and Col. Sir Charles W. Wilson, formerly of the Ordnance Survey of Sinai. After this consensus of opinion it might have been supposed that nothing more was to be said.

Mr. Baker Greene asserts that after the passage of the Red Sea the Israelites followed the old caravan road across the Tih tableland to Akabah, which he identifies with Elim, where there were “twelve wells and threescore and ten palm-trees” (Exod. xv, 27). As Elim merely means “a grove of palms,” the name might doubtless have

been applied to Akabah, or to several other spots where groves of palms happened to grow; so that little value can be attached to this point of identification.

But taking the sacred narrative as it stands, let us see how it fits in with Mr. Greene's views. The Israelites are stated to have gone three days in the wilderness, and to have found no water (verse 22). Mr. Greene then draws the probable inference that on the fourth day they found water, and he identifies the spot where the water was found with Kala'at Nakhl, which is situated about half-way between Suez and Akabah on the caravan road, and is considered a fourth day's stage for caravans. Of this place Professor Palmer says:—"The country is nearly waterless, except a few springs, situated in the larger wadies; but even here water can only be obtained by scraping small holes in the ground and baling it out with the hand. All that is obtained by the process is a yellowish solution, which baffles all attempts at filtering" ("Desert of the Exodus," p. 287). Such was the water with which, according to Mr. Baker Greene's views, the thousands of Israel, with their flocks and herds, were fain to slake their thirst after a march of three days under a broiling sun, and over one of the most desolate and forbidding tracts in that part of the world!

But, even supposing the water to have been at that period more plentiful, another question remains to be answered: Has Mr. Baker Greene ascertained the distance from Suez to Nakhl, which was reached, as he supposes, on the fourth day? If he will measure the distance on a good map he will find that it is about seventy English miles in a straight line, and in addition the march involves the ascent of the ridge of Jebel er Râbah of about 2,000 feet. To suppose that the Israelitish host, consisting of men, women, and children, together with their flocks and herds, could have marched seventy miles and crossed a ridge of 2,000 feet in three days is a demand on our credulity which he can scarcely hope to be granted. That it can be done on camels or horses is doubtless true; but to accomplish the journey on foot would tax the powers of a skilled pedestrian, and would be impossible for women and children.

Having disposed of this point, which lies at the threshold of Mr. Baker Greene's argument, I will take up another. It is stated that the Israelites on reaching Elim found twelve wells, and that they "encamped there by the waters," evidently referring to the waters of the wells; but surely, if Elim means Akabah, as Mr. Greene supposes, we might have expected to find some reference to the waters of the Red Sea (or Gulf of Akabah) as being in the vicinity of the camping ground.

But another objection to Mr. Greene's views meets us at the commencement of Exodus xvi, where it is stated that on leaving Elim the Israelites "took their journey and came unto the wilderness of Sin, which is between Elim and Simai." In his statement Mr. Greene seems to make a confusion between the "wilderness of Sin" and the "wilderness of Zin," which latter lay along the Arabah, and probably included Elim and Akabah. The wilderness of Sin, according to the best

authorities, lay to the west of the Sinaitic peninsula. In any case the two names refer to two different districts. That spelt with *samech* being referred to in Exodus xvi and xvii; that spelt with *tsade* in Deuteronomy xxxii, 57; Numbers xiii, 21; xxvii, 14; and Joshua xv, 3, these being connected with Kadesh-Barnea.¹

In reference to the statement of St. Paul, it is not difficult to understand why he places Mount Sinai in "Arabia." The term was doubtless used by the Apostle in a general sense to include the vast region of desert-land lying to the south and east of Judæa. Mr. Greene himself sees the difficulty of accounting for the fact that Mount Hor should be associated with the lesser event of the death of Aaron rather than with those stupendous manifestations of Divine power which were connected with the giving of the Law.

Again, if Elim be Akabah, how can this be reconciled with the statement of Numbers xxxiii, 10, that the Israelites "removed from Elim and encamped by the Red Sea," inasmuch as Akabah is actually by the Red Sea? Other difficulties might be cited, but the above are probably sufficient to show that Mr. Baker Greene's identification cannot be admitted.

Nor can I admit that Kadesh-Barnea is Petra. From personal experience of the difficulties of the mountain pass leading from the Arabah Valley to Petra, I may safely affirm that it would have been impracticable for the Children of Israel when on their way to the Promised Land.

EDWARD HULL.

Dublin, November 18, 1884.

II.

PROFESSOR HULL having been good enough to place at my disposal a proof-sheet of his objections to my view of the Exodus, I gladly avail myself of the opportunity of replying to them forthwith. Negatively it is a source of satisfaction to me that, with this exception, no one of the many members of the Palestine Exploration Fund has challenged the soundness of my arguments.

I must confess, however, that I find considerable difficulty in knowing how to deal with Professor Hull's criticisms. I have no right to complain that he has not read my book before entering the lists, but not having done so, I think I may justly complain that he should have assumed that I did not take the trouble of studying with ordinary attention the subject of which I treated. He tells me how to ascertain the distance from Suez to Nakhl; quotes Professor Palmer as to the waterless character of the country around the last-named place;² he attributes to me "a

¹ The Rev. Dr. Stubbs, of Trinity College, Dublin, has kindly verified the originals for me.

² Kalaat el Nakhl, with its fort and wells, has been frequently mentioned and described by travellers for centuries past. See Thevenot's account, quoted

confusion" between the wildernesses of Sin and Zin; he gravely informs the readers of the *Quarterly Statement* that the initial letters of these words are different, and with equal gravity adds in a footnote that my respected friend Dr. Stubbs has verified the fact by reference to those passages in the Hebrew version where the names occur. He somewhat authoritatively asserts that personal observation of the country is pre-eminently required for the settlement of the points in issue, and, with what most persons will be inclined to think singular infelicity, refers to the late Dr. Beke's pilgrimage in search of the true Mount Sinai. Finally, he refers to the authority of a number of persons as to the identity of Jebel Mûsa with Mount Sinai,¹ and airily adds that after this consensus of opinion it might have been supposed that nothing more remained to be said. To measure small things by great, I may remind the Professor that there was a still greater consensus of opinion against Galileo when he maintained that the earth moved, and against the first geologists who ventured to deny that the creation of the world was effected in six solar days.

And now to deal with Professor Hull's objections in detail:—

He says that little value can be attached to the identification of Elim with Akabah because of the presence of palm-trees at the last-named place. I would go farther, and say no value whatever could be attached to such a ground of identification taken *per se*. But if he will turn to my contribution to the last *Quarterly Statement* he will find that I wrote, "I cannot give here in detail the many reasons, Scriptural, philological, historical, and geographical, for my identification of the Elim of Exodus xv, 27, with the Elath of Deut. ii, 8, and 1 Kings ix, 26," and the modern

by Ritter, *Erdkunde*, 14. He crossed the desert from Suez to Akabah in 1658, the journey occupying six days, of which sixty-seven hours were spent in travelling, which closely corresponds with the estimated time in the "Tabula Pentingeriana" (sixty-eight hours). See also Dr. Shaw, "Travels in Barbary and the Levant," 1721, p. 477; Dr. Pococke, Bishop of Meath, "Description of the East," 1743, i, 265. Nakhl is the half-way house on what Captain Burton describes as the oldest route in the world, and it has never been surveyed.

¹ It is not of much consequence, but as a matter of fact Burekhardt identified Jebel Serbal, a mountain thirty miles to the westward of Jebel Mûsa, with Sinai, an opinion shared by Lepsius and others. Captain Burton thus pithily sums up the respective claims of the various mountains in the peninsula to be "the true Sinai":—"It is evident that Jebel Serbal dates only from the early days of Coptic Christianity; that Jebel Mûsa, its Greek rival, rose after the visions of Helena in the fourth century; whilst the building of the convent by Justinian belongs to a.d. 527. Ras Sufsaveh, its rival to the north, is an affair of yesterday, and may be called the invention of Robinson; and Jebel Katerina, to the south, is the property of Rûppell." ("Midian Revisited," i, 237.) I have the best reason for knowing that Professor Palmer had accepted my views of the Route of the Exodus before he left England in 1882, and that he would probably have taken the first opportunity of avowing his change of opinion had he returned.

Akabah. I cannot be expected to summarise the contents of an octavo volume of nearly five hundred pages.

Professor Hull urges the impossibility of the thousands of Israel, with their flocks and herds, finding a supply of water at Nakhl, and the improbability of their making the journey from Suez to that place in three or four days. Unfortunately for his inference he proves too much. There is no place in the desert of the Tih, where they are said to have wandered for forty years, where water could have been obtained for such a multitude. It is generally supposed that the released captives, including old men, women, and children, numbered between two and three millions. If such was the case, and they had formed a column ten abreast, allowing only a yard depth for each rank, the caravan, exclusive of flocks and herds, would have reached from Suez to Akabah. I believe that the released captives were not in such excessive numbers as to preclude the possibility of their doing what is annually done by the Egyptian Haj, namely, crossing the desert to Akabah in about a week's time. Professor Hull says that from his personal experience of the difficulties of the mountain pass leading from the Arabah to Petra, he can safely affirm it would have been impracticable for the Children of Israel on their way to the Promised Land. This objection, like the preceding one, rests, I presume, on their supposed numbers. But let us glance at certain admitted historical facts. At some period of their journeyings the Israelites were beyond all question in the middle portion of the Wady Arabah. They desired to pass through Edom, which throughout is a very mountainous region, in order to reach Moab and the Trans-Jordanic country to the north. The Edomites refused permission, and "came out against Israel with much people and a strong hand" (Numb. xx, 20, 21), "wherefore Israel turned away from him." But where did Israel turn? It is conceded on all hands that on quitting Mount Hor, the Israelites descended the Arabah "by the way of the Red Sea," by which is here meant beyond all dispute the Gulf of Akabah (Deut. ii), and, passing Ezion Gaber and Elath, "compassed Mount Seir," that is, Edom, and following the east "coast" of that country pursued a northerly direction to Moab. About this portion of the route followed by the Israelites there never has been any question. But the reason they took this circuitous course was because they were not enabled to pass through Edom, and this inability depended not upon the physical characteristics of the country, but on the hostile attitude of the Edomites. But the difficulties of this particular pass by which Professor Hull proceeded from the Arabah to Petra would have been equalled if not exceeded by those of the other "wadies" debouching from the Idumean range into the Arabah. So that we must either reject as unhistorical the statement that the Israelites would have crossed Edom from the Arabah if they had been permitted to do so, or admit that those physical difficulties on which Professor Hull lays such stress would not have been insuperable.

Professor Hull says it is not difficult to explain St. Paul's placing

Mount Sinai in Arabia. "The term was doubtless used by the Apostle in a general sense to include the vast region of desert land lying to the south and east of Judæa." But this is begging the whole question. There is not a tittle of evidence that St. Paul ever thought or heard of the so-called Sinaitic peninsula. I affirm without fear of contradiction that no human being ever dreamt of extending Arabia west of the Arabah until Ptolemy, at the close of the second century, introduced what he called Arabia Petraea, an innovation which was never sanctioned or recognised by the Arabian geographers. It is not unreasonable to conclude that St. Paul, being a highly educated man, knew what he was writing about, and when he referred to Arabia meant the country which was so designated by his contemporaries. For the explanation of the curious fact that the association of Mount Hor with Aaron's death should have apparently survived those arising from the tradition of the law I must refer to the "Hebrew Migration." It should not be forgotten that, wherever situated, Mount Sinai fell into oblivion among the Jews. No pilgrimages were made to it, and its exact site was certainly unknown to Josephus, or he would have fixed its locality by its proximity to some well-known place.

The "confusion" which Professor Hull attributes to me respecting the wilderness of Sin and Zin supplies an opportunity, of which I may be permitted to avail myself, not only of satisfying the Professor that he has done me an injustice, but of bringing under the notice of the readers of the *Quarterly Statement* some interesting facts respecting Sin and Zin which will, I believe, lead them to share my opinion that they were identical.

The wilderness of Sin was between Elim and Sinai (Exod. xvi, 1), and in Exodus xvii we have mention made of two very remarkable incidents which must have happened in, or in the immediate neighbourhood of, that wilderness, namely, the smiting of the rock with the production of water, and the battle with the Amalekites. Let us briefly consider all that is told us respecting these two incidents.

According to the account in Exodus xvii, the Israelites murmured through want of water, and obtained the miraculous supply from the rock in Horeb, the place bearing the name "Massah and Meribah, because of the chiding of the children of Israel, and because they tempted the Lord." We have, however, another account of this miracle in Numbers xx. It is there stated that "then came the children of Israel, even the whole congregation, into the desert of Zin in the first month, and the people abode in Kadesh, and Miriam died there." Whilst in this place "there was no water for the congregation." The people rebelled, and Moses, by command of the Lord, smote the rock, and the water came forth abundantly. "This is the water of Meribah, because the children of Israel strove with the Lord, and He was sanctified in them."

Now no one will seriously contend that there were two distinct miracles, performed under precisely similar circumstances, at an interval of nearly forty years, in places widely apart, and that the water produced bore in both cases the name "Meribah." But all doubt on the matter is removed

by referring to the language which was addressed by the discontented Israelites to their leaders. They demanded why they had been brought into the wilderness with their cattle to die, and asked "wherefore have ye made us to come out of Egypt to bring us into this evil place? it is no place of seed, or of figs, or of vines, or of pomegranates, neither is there any water to drink." This language was appropriate if used by people who had only recently quitted Egypt, and who "in the first month" (Numb. xx, 1) after their departure had arrived in a region where they were forced to submit to great privations; but it is hopelessly unintelligible as coming from people who had been thirty-nine years straying about in the wilderness, the generation which had quitted Egypt having by that time almost entirely died out.

The second incident recorded in Exodus xvii is the battle with the Amalekites, and if the accepted view that the wilderness of Sin was in the south-west region of the Sinaitic peninsula, this must have been fought close to the Gulf of Suez. The negative and the positive evidence against such an assumption are, however, overwhelming. The inscriptions on the steles at Sarbut el Khadem, which is close to the route which must have been followed by the Israelites if they entered the peninsula, prove that the mines in that neighbourhood were worked by the Egyptians for centuries before the Exodus took place, and for long afterwards.¹ If, however, this particular region was occupied by Egyptians when Moses led the captives away, it is in the highest degree improbable that he would have entered a place occupied by his enemies, and still more so that the circumstance of having done so should have been unnoticed in the Biblical records. But by what possible train of reasoning can the presence there of the Amalekites be accounted for? Who were the Amalekites? Amalek was the grandson of Esau, and one of the Dukes of Edom (Gen. xxxvi, 12). The Edomites and the Amalekites were frequently treated as identical. It was the Amalekites who barred the progress of the Israelites when on their way to the Land of Promise (Numb. xiii, 29), within a few months after this supposed battle in sight of the Gulf of Suez. But we have a specific account of a battle between the Israelites and the Amalekites, in which, however, the latter were victorious, and the scene of the engagement was in the wilderness of Zin near Kadesh (Numb. xiv), the same incident being referred to in Deuteronomy i, and it was this reverse which led to the return of the Israelites down the Arabah to Elath, and their subsequent journey by the east of Edom to Moab.

It is therefore simply inconceivable that the Amalekites, who beyond all question were Edomites, should have been found at the time of the Exodus in Egyptian territory, and then actually occupied by the Egyptians, and that they should, without any imaginable reason, have given battle there to the Israelites. In the battle recorded in Exodus xvii the Israelites were victorious, while in that mentioned in Numbers xiv and Deut. i they were vanquished. There can be no reason to doubt that these

¹ "Heb. Mig.," p. 174.

engagements were consequent on the efforts made by the Israelites to pass through Edom, and were fought in the same region

It is worth while to ascertain what opinion a Jew living at the commencement of the Christian era entertained respecting the locality where the first battle with the Amalekites was fought. Josephus, in his paraphrase of this portion of the Biblical narrative, states that a coalition was formed against the Hebrews, and that "those who induced the rest to do so were such as inhabited Gobolitis and Petra: they were called Amalekites" ("Ant.," iii, 2). It is perfectly clear, therefore, that, in the opinion of the great Jewish historian, this battle was fought in Edom, and that the Sinaitic peninsula was wholly absent from his mind. He certainly had no opportunity of consulting those great modern authorities which place Mount Sinai between the Gulfs of Suez and Akabah.

Whilst the Israelites were still between Elin and Sinai they met with the Kenites and concluded a league with them (Exod. xviii). But the same insuperable objection to the transportation of the Amalekites to the Sinaitic peninsula, applies to placing the Kenites in the same region. This latter people, though distinct from the Amalekites, occupied with them the country on the east of the Arabah. They are positively referred to by Balaam (Numb. xxiv, 7); they aided Judah in the invasion of Southern Palestine (Judg. i, 16); and on the occasion of Saul's campaign against the Amalekites (1 Sam. xv), which beyond all question was fought in the region to the south of the Dead Sea, the Kenites at the request of the king separated themselves from the Amalekites. What imaginable reason could Jethro, who was the Sheikh of the tribe, have had for taking his people for a flying visit to the so-called Sinaitic mountains?

It will doubtless be urged that my identification of the wilderness of Sin with that of Zin is irreconcilable with the "Itinerary" (Numb. xxxiii), in which they are apparently distinguished from each other, and placed very far apart. My reply is, that the result of a critical collation of the Itinerary with the narrative of the principal events which marked the journeying of the Israelites from Egypt to the Promised Land shows that the former is a production of a more recent date, and was probably compiled either during or immediately subsequent to the Babylonian captivity. It is observable that the Itinerary tells us no new facts, though it furnishes names of places of which there is no mention elsewhere. It would be impossible for me to give here an exhaustive analysis in support of the inference of the comparatively late date of this composition, but one or two points may be noticed pertinent to the present matter. In the Itinerary the Israelites are said to have proceeded from Kibroth-hattaavah (which we know was in the wilderness of Sin, Exod. xvi) to Hazeroth, and thence to a number of places of which we have no mention elsewhere. But we learn from another source that on removing from Hazeroth the Israelites "pitched in the wilderness of Paran" (Numb. xij, 16), which is identified with that of Zin, from which the spies were sent forth. It is clear, therefore, that if according to the Itinerary the Israelites proceeded from Kibroth-hattaavah, in the wilderness of Sin, to Hazeroth which was

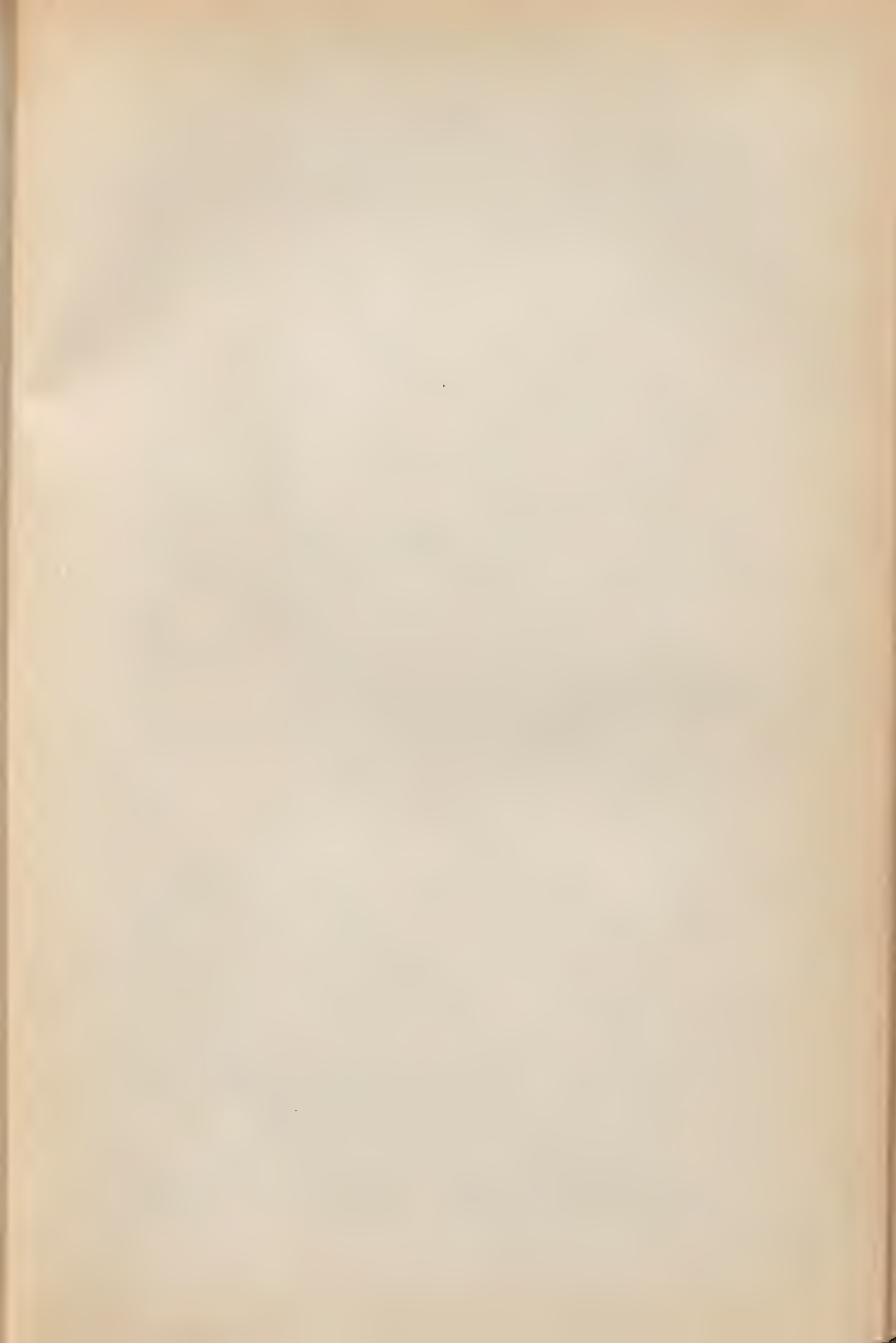
the next station to the wilderness of Paran, or of Zin, the deserts of Sin and Zin must have been contiguous, or were identical if the journey from Hazeroth to Zin marks the return to Elath at the head of the Gulf of Akabah. As, however, the spies "searched the land from the wilderness of Zin unto Rehob," the wilderness of Sin, which was close by, if not identical with, that of Zin, and which lay between Elim and Sinai, could not have been in the Sinaitic peninsula. I may add that one of the curious results of taking the statements in the Itinerary in their received sense is that, as the Israelites did not reach the wilderness of Zin until immediately before the death of Aaron, the spies who set out from thence could not have undertaken their mission until nearly forty years after the departure from Egypt. But the forty years' delay in the wilderness was declared to have been the punishment for the disobedience of the Israelites on the return of the spies (Numb. xiv).

There are many who regard the Pentateuch as a continuous narrative from the beginning of Genesis to the end of Deuteronomy, and who make it an article of faith to ascribe the authorship to Moses. I cannot understand why they do so, or why they consider it as incompatible with inspiration to admit that it may be the work of many hands. The Gospels do not speak with diminished authority because they are the productions of four different evangelists. On the contrary, the confirmation they respectively afford of the facts they record furnishes more conclusive proof of the sacred narrative than if the story had been told by only a single witness. And so it is with the various distinct records which have been welded together in the Pentateuch. By their substantial agreement in the main, no less than by their differences in details, in forms of expression, and in dialect, they give us, by what are termed "undesigned coincidences," the most absolute proof of the historical accuracy of this great movement of liberated Hebrews from Egypt to Palestine which was destined to exercise so great an influence on the human race. Carefully preserved by the different nations of which Trans-Jordanic and Cis-Jordanic Israel and Judah were composed, they were subsequently collected and presented in the form in which we now see them. The Mount of God was to some known as Horeb, to others as Sinai, and probably to all as the *Har-ha-har*, the Mount of Mounts. The Elim of the records of one section is the Elath of another, as the Hazarim of the one is the Hazeroth of the other, and in like manner the wilderness which by some was kept in their memories as that of Sin, was referred to by others as that of Zin.¹ These are, however, differences which, if viewed in a proper light, only serve the more conclusively to convince us of the authenticity and the antiquity of these precious records.

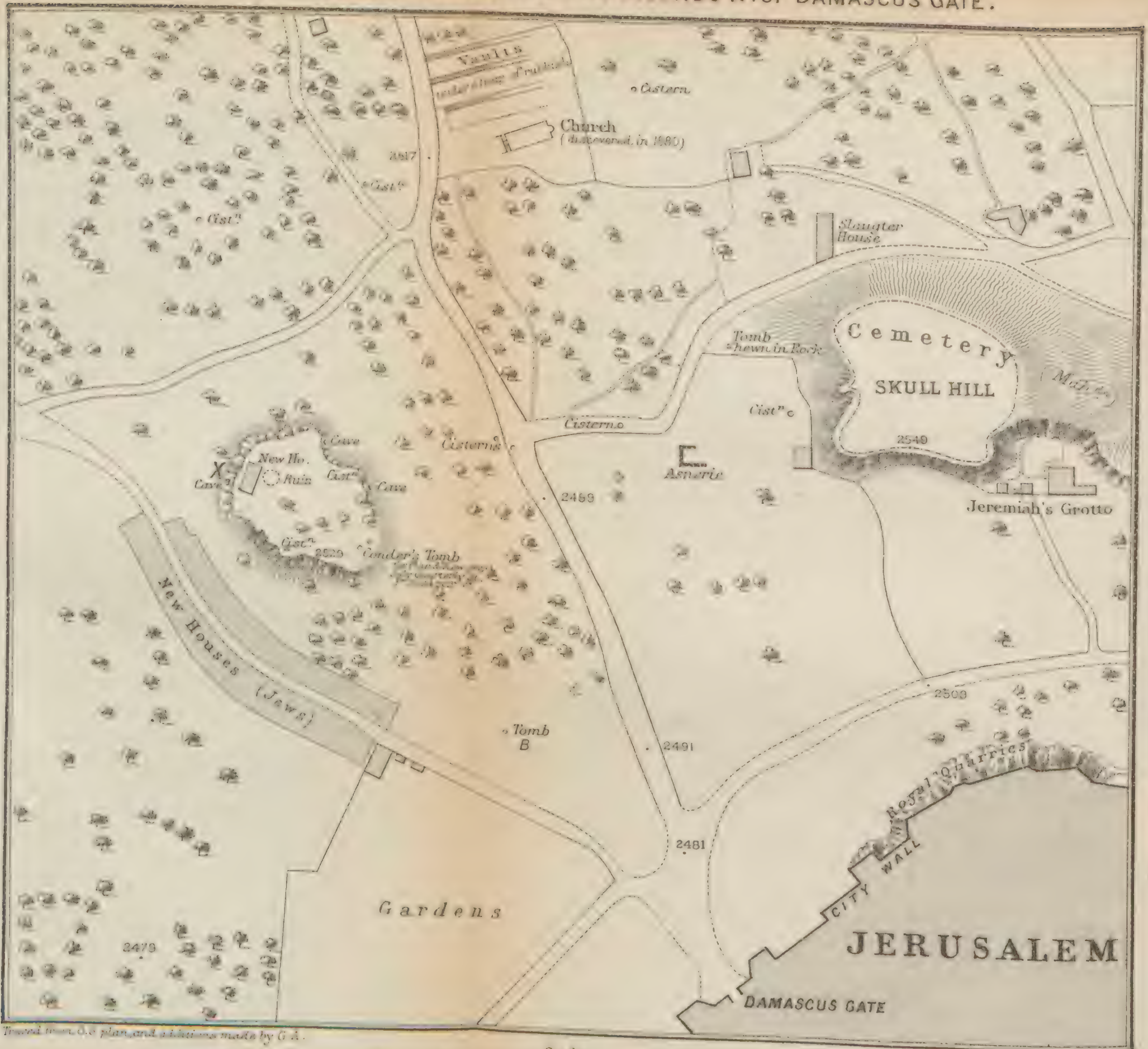
J. BAKER GREENE.

¹ We have an illustration of the difference in the use of sibilants by the Cis-Jordanic and Trans-Jordanic sections of Israel in Judges xii, 6. The Sibboleth of the former was the Shibboleth of the latter.

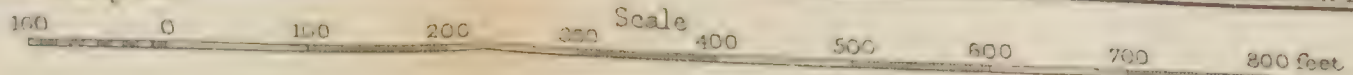




PLAN SHEWING POSITION OF THE TWO MOUNDS N. OF DAMASCUS GATE.



Traced from O.S. plan, and additions made by G.A.





Maison

Grotto

Grotto

EM

THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

It has been found necessary to postpone the first instalment of Mr. J. Chichester Hart's papers on the "Natural History in the Desert" until July. The work will be completed in about four instalments. Each number will be illustrated by a large coloured plate.

The two communications from the late General Gordon published in this number are merely, as will be seen, notes sent to the Secretary, and placed aside until they could be revised by the writer. Of late years he took a deep interest in the proceedings of the Society, though his own conclusions, as may be gathered from the papers here published, were based on other than purely scientific grounds. The theory put forward in the note on Golgotha has been further developed in Gordon's "Reflections in Palestine."

The Committee have to thank Mr. Laurence Oliphant for two important communications which will be found on pages 82 and 94. The other papers promised to the Society by a recent traveller have not yet reached us, but we shall almost certainly be able to produce them in July.

The following is the Balance Sheet for the year 1884:—

		BALANCE SHEET.						
		£	s.	d.	<i>December 31st, 1884.</i>	£	s.	d.
Subscriptions, Donations, and Lecture returns..	3,709	4	6		Exploration	1,851	13	7
Loan	850	0	0		Maps and Memoirs	2,592	13	7
Maps and Memoirs ..	862	1	0		Salaries	373	15	6
Books	224	3	5		Rent	121	0	0
Photographs	9	5	3		Printers	504	3	1
Balance (<i>January 1st,</i> <i>1884</i>)	172	5	8		Office expenses	48	12	5
					Photographs, cost of	11	12	8
					Postage and Parcels	74	5	10
					Balance	249	3	2
						<u>£5,826</u>	<u>19</u>	<u>10</u>
						<u>£5,826</u>	<u>19</u>	<u>10</u>

Examined and found correct.

(Signed) WALTER MORRISON.

It will be seen that the expenditure includes the sum of £1,851 13s. 7d. due to exploration. This makes the total cost of the Geological Expedition about £2,300, part of which was included in the balance sheet of the preceding year. The sum of £2,592 13s. 7d. was expended on "Maps and Memoirs." Against this is the sum of £862 1s. received on that account, and the valuable property of the Great Map and the reduced modern map in the possession of the Society, besides the copies which remain of the "Survey of Western Palestine." Printing takes the large sum of £500, which includes the postage of the *Quarterly Statements* to subscribers. Management is an item which varies little from year to year. Including parcels and postage it amounted last year to £629 6s. 5d. The proportional table of expenditure is as follows:—

Exploration, nearly	..	..	33·21	per cent.
Maps and Memoirs	..	..	46·49	„
Printing ..	..	..	9·04	„
Management	..	..	11·26	„
			<hr/>	
			100·00	

A considerable sum, about £750, still remains (March 25th) to be paid on account of the Maps and Memoirs, and the Society is further indebted in the amount of a loan of £850, the whole of which it is hoped to pay off before the end of the year.

The Palestine Pilgrims' Text Society have issued their report for the last year, in which it appears that they have now seventy-one members, and have issued two pilgrims' texts, viz., those of Antoninus Martyr and Sancta Paula. That of the Bordeaux Pilgrim is already translated and printed, and only awaits Sir Charles Wilson's notes. The Society has received permission of Count Riant to use the publications of the *Société de l'Orient Latin*. Four more publications may be expected in the course of the year.

The long-promised list of Old and New Testament names, with identifications, references, and notes, is nearly completed. It has been compiled by Mr. George Armstrong from the Bible Dictionary, the lists in Clarke's Bible Atlas, and Captain Conder's lists, and is especially prepared with a view to being a guide to the forthcoming maps covering the east as well as the west of the Jordan.

Professor Hull's book, called "Mount Seir," was issued on January 14th. Subscribers are allowed a reduction on the price, and can obtain it in the usual way, by application to the office, for 7s. 6d. post free. It contains, besides a popular account of the Expedition, which occupies twenty chapters out of twenty-two, a summary of Scientific Results, and a discussion on some of the more important of the sites visited. There is also appended a Geological Map, and an Appendix containing Major Kitchener's Report, and a paper by Mr. George Armstrong on the Wady Arabah. There are twenty-three illustrations from drawings and photographs made by the travellers during their work.

Those who are interested in the welfare of the modern inhabitants of Palestine, will be pleased to hear that the English Langue of the venerable Order of St. John has now established an Ophthalmic Hospital just outside

Jerusalem, where a duly qualified English surgeon, specially skilled in the treatment of the eye, is now resident. The local management is vested in a committee of British residents, Associates of the Order of St. John, under the presidency of the Consul, Mr. Noel Temple Moore, C.M.E. The English offices are at the Chancery, St. John's Gate, Clerkenwell.

The income of the Society, from September 26th to December 12th, 1884, inclusive, was—from subscriptions and donations £556 5s. 4d., from all sources £703 16s. 4d. The expenditure during the same period was £728 6s. 1d. On March 12th the balance in the Banks was £205 9s. 6d.

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

- (1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects:—
 The Survey of Western Palestine, as illustrating Bible History.
 Palestine East of the Jordan.
 The Jerusalem Excavations.
 A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."
- (2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows:—
 The Survey of Western Palestine.
 Jerusalem.
 The Hittites.
 The Moabite Stone and other monuments.
- (3) The Rev. James Neil, formerly Incumbent of Christ Church, Jerusalem.

EDEN AND GOLGOTHA.

By GENERAL CHARLES GORDON, R.E.

I.

POSITION OF EDEN.

I HAVE formed a theory with respect to the position of Eden. I believe the Greek of the text respecting the parting of the main river of Eden into four other rivers can be read that four rivers united to form one great river.

In Genesis we have one river Euphrates given us : on it was Babylon. We have the Hiddekel, on which was Nineveh (*vide* Daniel), and which is the Tigris ; these two unite and come down the Persian Gulf. We need to identify the Pison and Gihon. The Pison is the Nile, its meaning is "overflowing," and it flowed into the Red Sea before the Flood ; it is connected with Egypt, which, like Nineveh and Babylon, oppressed Israel. The Blue Nile encompasses Havilah, where there is gold. Havilah was a grandson of Shem, his brothers were Ophir and Sheba, also connected with gold, and with Abyssinia ; they went forth by Mesha (? Mecca), they crossed the sea, for Solomon got his gold from Ophir by sea. Where is the Gihon ? There is the Brook Gihon south of Jerusalem, the Valley of Hinnom, where idolatrous practices went on ; it therefore is also a spot whence Israel was oppressed. On this brook is Jerusalem ; its flow, when it has any, is to the Dead Sea, its ravine is very deep, and could have been the bed of a river before the Flood. There is the difficulty of finding a ravine from the Dead Sea descending to the Gulf of Akabah through Wady Arabah, the Valley of Salt. By report, the watershed or flow of the Valley of Salt is towards the Dead Sea, and not towards the Gulf of Akabah. Is there any other ravine from the Dead Sea to the Red Sea by which the Gihon could meet the Nile in that Red Sea ?

Allowing for the moment that the Pison is the Nile, and Gihon is the Brook Gihon, that they flowed into the Red Sea, and through the Gate of the World, Bab el Mandeb, we find by taking off the soundings of the Indian Ocean, that there are two clefts of 1,000 fathoms deep, joining near Socotra, and then going south, gradually deepening till they reach 2,600 fathoms, some 100 or 200 miles west of Seychelles.

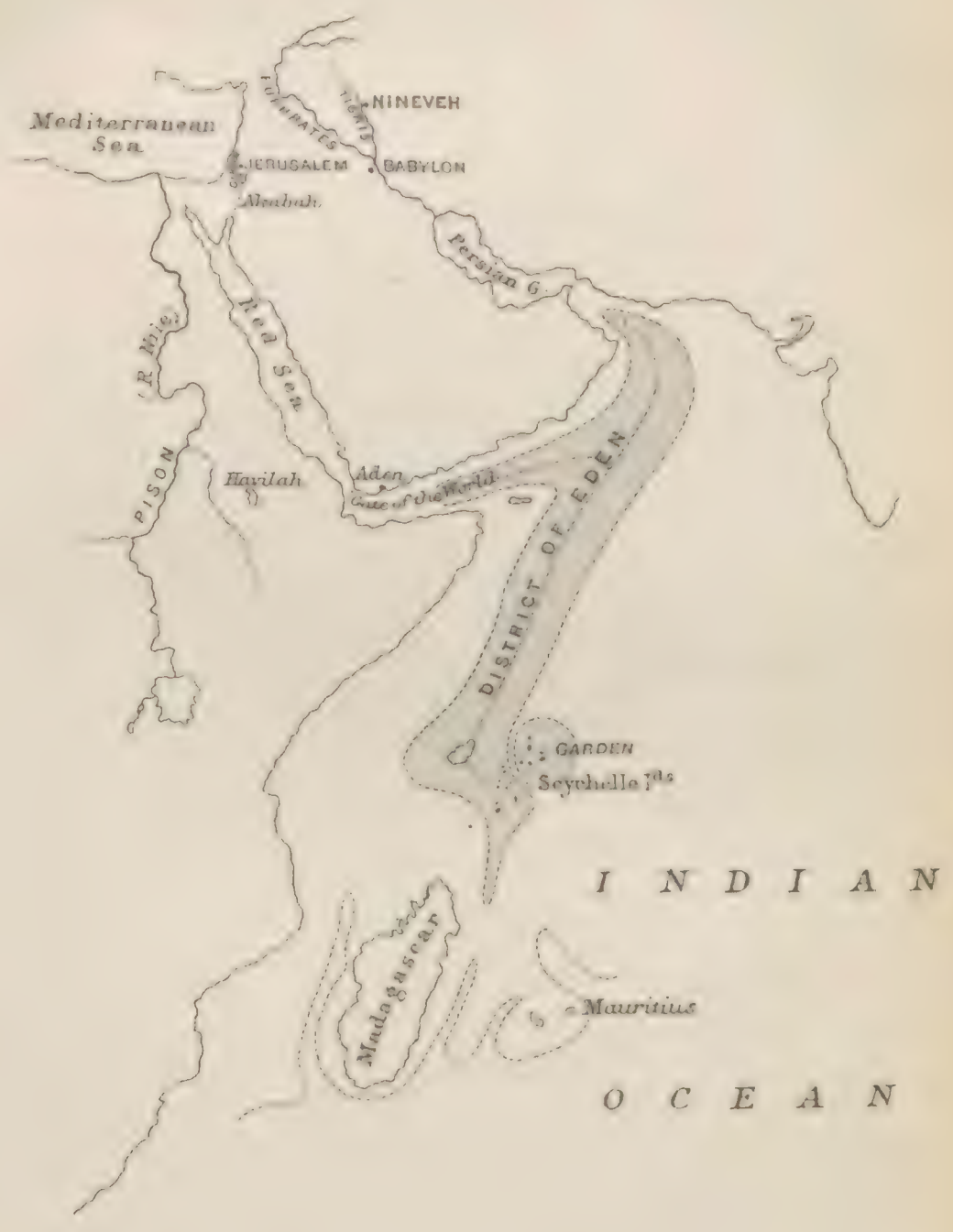
Seychelles is granitic, all other isles are volcanic.

Aden, query Eden.

Mussulman tradition places Eden at Ceylon.

I do not go into the question whether or not the Tree of Knowledge is not the *Lodoicea seychelliarum*, and the Tree of Life the *Artocarpus incisa*, though for myself I do not doubt it.

I was two years in the neighbourhood of the sources of the Euphrates, Arax, Phasis, &c. ; no flood could connect these rivers ; — floods do not alter the features of a country with respect to high ranges.



for the body, and if you take Warren's or others' contours with the earth or rubbish removed showing the natural state of the land, you cannot help seeing that there is a body, that Schick's conduit is the cesophagus, that the quarries are the chest, and if you are venturesome you will carry out the analogy further. You find also the verse (Ps. xlviii), "Zion, on the sides of the north;" the word "pleura," same as they pierced His *pleura*, and there came blood and water, God took a *pleuron* from the side of Adam, and made woman. Now the Church of Christ is made up of, or came from, His *pleura*, the stones of the Temple came from the quarries, from chest of figure, and so on; so that fixed the figure of body to the skull.

3. Then by Josephus's account, as I read it, the Tower Psephinus was on the rocky point opposite the skull. Titus had his headquarters at the slaughter-house, 2 furlongs from the wall, viz., 300 to 400 yards, near the *corner* (note that corner, for it is alluded to in the 400 cubits broken down by Jehoshaphat, king of Israel), and my placing of the walls and reading of Josephus would make his point of attack just where Schick's conduit enters the city east of Damascus Gate, or at the cisterns to east, where I think Agrippa's wall began. Mystically, the Roman Eagle should have gone at the Lamb of Zion by the throat, viz., Schick's conduit. However, I will not continue this, for if you please you can get the papers and plans from my brother. I would do them for you if you wish; I did them for Chaplin long ago. The camp of the Assyrians is the place where Nebuchadnezzar camped a month *after the fall of the city*, when he came to *burn the Temple*; it is this day which the Jews keep as the fast, not the day of *taking the city*.

3. Naturally, after discerning *the figure*, the question arose of Mount Zion, and of the boundaries; by studying the latter with the Septuagint there seemed no reason *by Scripture* to consider Ain Haud the *Eushmesh*. Septuagint has Beth Samos, and near Jebel el Tell is Kh. el Sama. Again, Gihon (being the Tyropœon) is to gush forth, and as the skull is the Altar, it is thence the two rivers, one to the Dead Sea, the other to the Mediterranean, are to come. At last Moses's blessing to Benjamin came in, "he shall rest between His arms," not his shoulders; so thus I brought the boundary up Gihon to Kh. el Sama.

4. Other reasons came to back this view,—

Nehemiah mentions town of Furnaces.

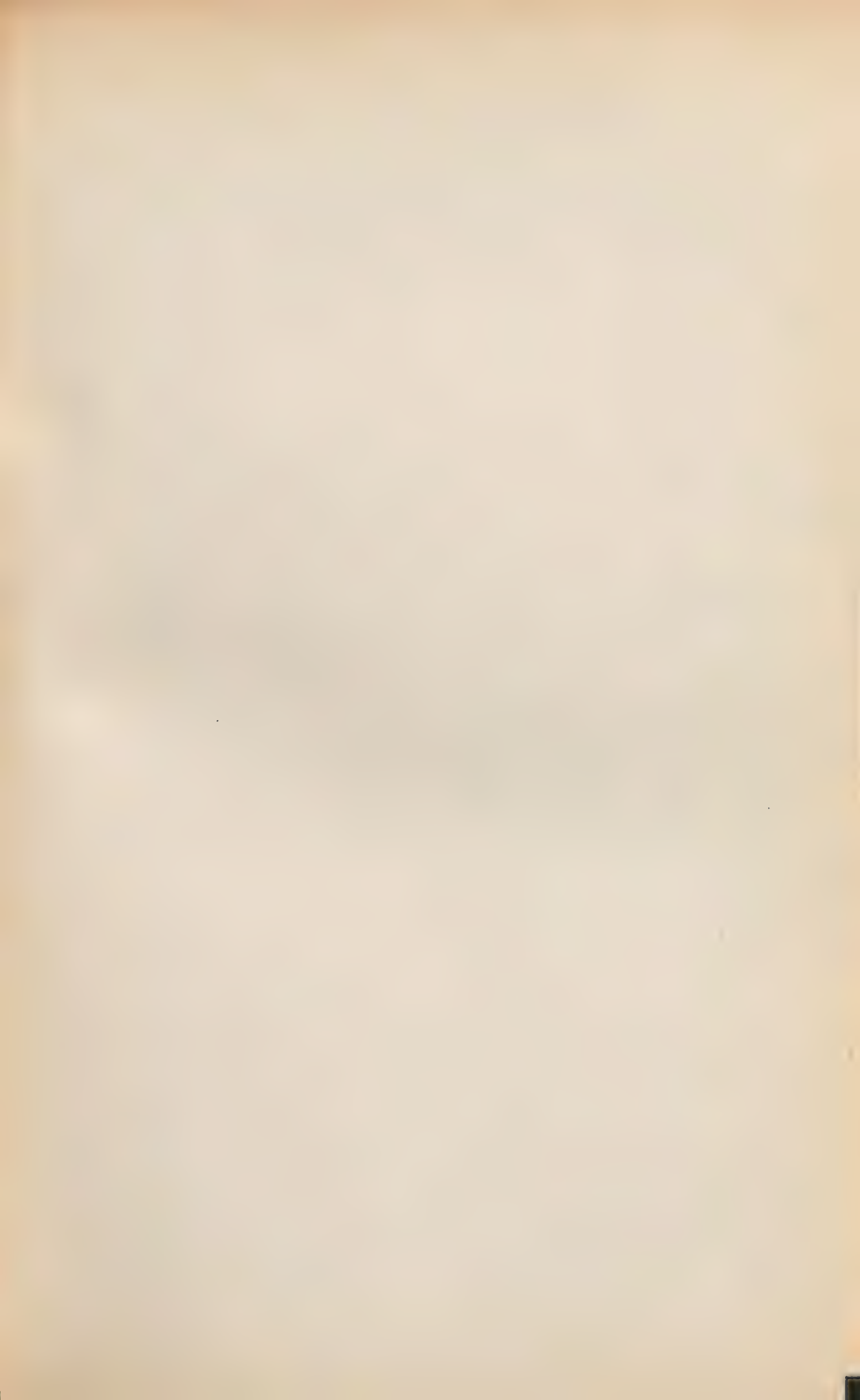
He also mentions throne of *Governor*.

Josephus mentions women's towers.

The word "furnace" is derived from *fornax*, thence the connection. The tent Cozbi and Zimri went into was a *furnace*. Josiah broke down the high places built by Manasseh near the Gate of *Governor*, which were, no doubt, these same *furnaces*. Herodias lived at Jaffa Gate, and even to this day there are *furnaces* there I should think, for the troops are there.

This led to looking up the history of the Levites, &c., in Judges, of Gibeon, of mouldy bread, Nob, Gibeah of Saul, &c., and the result is as





SKETCH MAP
OF
PART OF THE JAULAN DISTRICT
E. OF SEA OF GALILEE.



G.A. del.

E. Weller.

Te Nona
Estera U Khistin
ib
Toll na Lottinich

I have just noted, according to my ideas; but it is a matter of perfect indifference to us all, for these sites are in each of us.

During these studies, the potters' field comes up, and also the pool where Abner and Joab met, the field of the treacherous ones, and my idea is that round about the Serpent's Pool is the Tophet, Aceldama, Potters' field; that down the Valley of Hinnom is the Perez of David.

I will not bore you much longer than to say that, by my ideas,

Kuryet el Eneb is	}	Kirjath-jearim
		Ramathaim-Zophim
		Armathaim
		Ramah, one of them
		Place of Saul's anointing
		Arimathea
		Emmaus

and that Samuel was sacrificing to the Ark when Saul came to him.

Schick has been writing on these subjects for years, and he plaintively says, "but how *am I* possibly to advance other views now?" In reality, in writing on these sites, no man ought to draw any cheques on his imagination; he ought to keep to the simple fact, and not prophesy or fill up gaps. If one wrote under cognomen α , and altered under cognomen β it would be all right; as it is now, a man under his own name cannot go right about face all at once. The Ark was built at Abu Shushch by Noah, and floated up to Baris; only in A.D. 776 was it placed on Ararat, which is "*holy land*." God said, "Go to a mountain I will shew thee," a mountain already consecrated by the resting place of the Ark. Noah offered on the rock his sacrifice. Look at Genesis and you will see (Gen. xi, 1), after the Flood they journeyed *eastward* to Shinar; you might go eastward from either Ararat or El Judi near Jesereb ebn Omar for ever before you reached Shinar. I will not bore you any longer, except to say that I think there are not many places far apart of interest in the Scripture way, and that these few are—

1. Nazareth and region of Tiberias.
2. Plain of Esdraelon.
3. Shechem.
4. Bethel.
5. Jerusalem.
6. Bethlehem
7. Hebron.
8. Kuryet el Eneb, Philistia.
9. Jericho, Gilgal, Ammon and Moab, Dead Sea, Valley of Arabah.

C. G.

EXPLORATIONS NORTH-EAST OF LAKE TIBERIAS,
AND IN JAULAN.

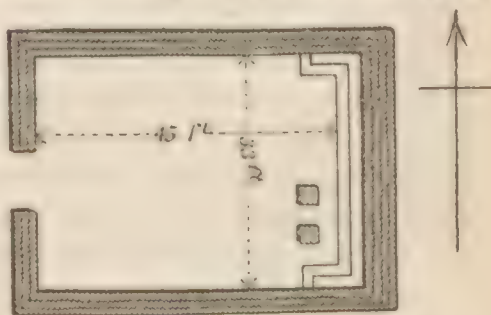
BY LAURENCE OLIPHANT.

HAIFA, 30th January.

THE examination of the country to the east of the Jordan is, under existing conditions, attended with so much difficulty that I was glad to seize an opportunity which offered a few weeks ago to pay a visit to the northern and eastern shores of the Lake of Tiberias, and penetrate a short distance into Jaulan, with the view of visiting certain localities, where I had reason to believe that some ruins existed which had hitherto escaped observation. I was unfortunately prevented by circumstances from devoting to them the time and labour which they deserved, and was compelled, in more than one instance, to hurry past places where it would have been interesting to linger, with the mental reservation that I would endeavour to return, at some future time, for a more detailed examination.

I commenced my investigations immediately on crossing the Jordan, at the point of its debouchure into the lake. Here, at a distance of half a mile east from its mouth, are situated the ruins of El Araj, which consists of foundations of old walls, and blocks of basaltic stone, cut and uncut, which have been used for building purposes. The ruins cover a limited area. A little over a mile north of El Araj there rises from the fertile plain of El Batihah a mound strewn with blocks of stone, and remains which cover a considerable area. This is Et Tell, a spot which it has been sought by more than one traveller to identify with Bethsaida Julias. I will not here enter into the much vexed question of whether there were two Bethsaidas, as insisted upon by Reland and many others, or only one; or whether "the desert place apart," upon which was performed the miracle of the five loaves and the two fishes, was on a desolate spur of the range immediately to the north of this Tell, which would necessitate two Bethsaidas, or whether it was not, as Dr. Thomson supposes, at the north-east corner of the Lake on the shoulder overhanging Mesadiyeh, upon which assumption he constructs a theory which would involve only one; or whether, as suggested by Captain Conder, the Sinaitic Manuscript is right in omitting the definition (Luke ix, 10) of the desert where the 5,000 were fed, as "belonging to the city called Bethsaida," in which case the necessity for a second city of that name ceases to exist, and the miracle may have been performed in the plain at the south-east of the Lake. It is possible that excavations at Et Tell might enable us to decide positively whether it is the site of Bethsaida Julias, which we know was in this vicinity. A small native village has been built among the ruins, which do not at present afford to the passing traveller any indications of former magnificence; but I was unable at the time to examine them, as I was desirous of pushing on without delay to a spot where I was informed by a Bedouin sheikh who accompanied me from Araj that the fellahîn, in the course of getting out stone for constructing a small village last summer, had laid

bare some stones on which were carvings and pictorial representations. After following the course of the Jordan, on its east bank, for another mile, we reached a spot on the barren slope of a hill a few hundred yards from the river, where some native huts had been recently built, and where large cut stones, carved cornices, capitals, and fragments of columns were strewn in profusion, while from the midst of them rose the walls of what appears to have been a synagogue; owing, however, to a later superstructure having evidently been reared upon the original foundation, I feel somewhat diffident in pronouncing upon this point decidedly. I will, however, state my reasons for coming to this conclusion, while the accompanying sketches of the ornamentation I found here may enable others more competent to form an opinion than myself to judge of their origin. The dimensions and ground plan of the building with the columns still *in situ* closely resembled those of the small synagogue at Kefr Birim. The length was 45 feet, the breadth 33



feet. The building had an east and west orientation, and the door was in the centre of the wall on the western side. This does not, so far as I know, occur in the case of any synagogue hitherto found, but it was doubtless due to the necessities of the case, as the site for the building was excavated from the hill-side, the floor at the east end being about 9 feet below the surface of the earth at the back of the wall, while the slope of the hill would have made it inconvenient to place the door, as usual, on the south side. A more serious objection to this being a synagogue lies in the fact that the stones were set in mortar, which does not occur in the case of other synagogues; but there were indications to show that these walls had been erected upon older foundations. They were now standing to a height of 8 feet. There were no door-posts or lintel to the entrance. The floor, which was thickly strewn with building stones, fragments of columns, and of carved cornices and capitals, was below the level of the ground, and was reached by a descent of two steps, while opposite, running along the whole length of the eastern side, were two benches or steps, the face of the upper one decorated with a thin scroll of ornamental tracery; these may have served for seats. The depressed floor and stone benches are both features which occur in the synagogue at Irbid. Upon the upper bench stood the fragments of two columns about 4 feet in

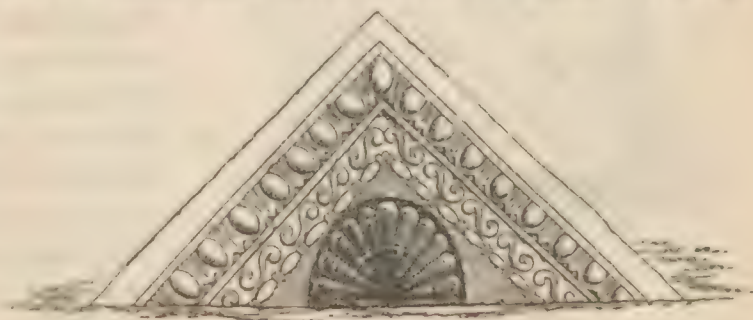


FIG. 4.

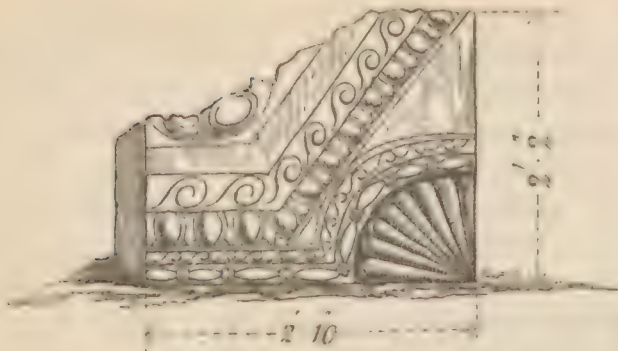


FIG. 5.

the floor. These blocks averaged 2 feet 6 inches by 18 inches. The capitals of the columns were in Corinthian style, 2 feet 3 inches in height, and consisted of a double row of leaves, which differed somewhat from the usual acanthus, apparently of a later or more composite order. The ornamentation and character of the niches (see figs. 4 and 5) so closely resembled those found at the synagogue at Kerazeh and elsewhere, being of the same florid and somewhat debased type, that they seemed to me to set at rest the question of the original character of this building, though it may subsequently have been diverted to other uses. Time did not allow me to do more than make rough drawings of the architecture, but I trust they are

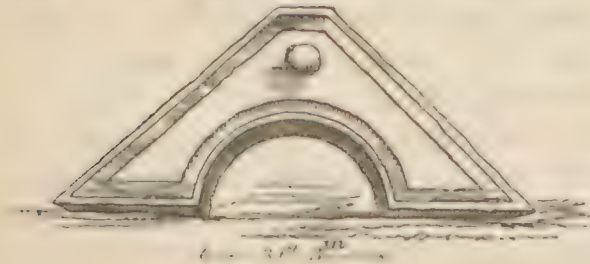


FIG. 1.

two small semi-attached fluted columns with Doric capitals, almost exactly similar to the one found at Irbid. Also one cut into a round arch, which

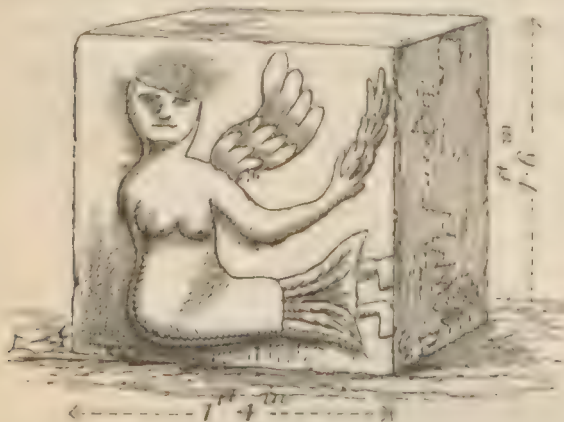


FIG. 2.

(fig. 3). Other specimens of the ornamentation are seen in fig. 7. I have

height, and 1 foot 2 inches in diameter. They were evidently not *in situ*, being without pedestals, and I can only account for their being in their present position by the supposition that they had been placed there recently. The other two appeared to be *in situ*, but their bases were much hidden by the blocks of stone heaped on

sufficient to enable a comparison to be made between them and the engravings in the "Memoirs." If I am right in my conjecture, this synagogue would probably date from about the second century of the Christian era. I also found a stone which consisted of the upper portion of

may have been placed over the lintel on the plan of the arch on the lintel over the entrance to the great synagogue at Kefr Birim. It measured 39 inches across the base of the arch (fig. 1). A most interesting object was a winged female figure, holding what was apparently a sheaf (fig. 2). The ornamentation of the cornice does not resemble any which I have observed either in the "Memoirs" or elsewhere, and is not unlike the so-called egg and dart pattern

not been able to form any conjecture which should identify this most interesting spot with any Biblical or historical locality. Its modern name is Ed-Dikkih, meaning platform, a name not inappropriate to its position. It is possible that during the next dry season the natives may continue their excavations, as stones are needed. I have

urgently impressed upon them not to deface or destroy any remains that may be unearthed; but they unfortunately watched my proceedings with an uneasiness and suspicion which I am afraid a gratuity failed altogether to dispel.

We now pursued an almost easterly direction along the lower flank of the range which

rose abruptly on our left, and in a mile and a half reached a spring and the remains of a small ruin called Unim el Araj. There seemed, however, to have been only two or three houses here, and finding nothing of interest we pushed on, and reached in half a mile more the ruins of Elahseniyeh. Here again I was fortunate in coming upon remains which have been exposed to view for the first time by the natives this year.

The portion excavated was not so extensive, nor did it reveal so much that was interesting, as Ed-Dikkih, but the area covered with old ruin was greater, and it was in ancient times probably the centre of a larger population. The character of the remains now exposed to view is very difficult to determine, owing to the confusion which has been created by their representing two periods, the building of the later having apparently been placed diagonally on the one that preceded it. They were situated upon a terrace of solid masonry about 5 feet high, now strewn with building stones. The upper or more recent chamber measured 20 feet across one way, but there was nothing to determine its length, no walls having been left standing; the dimension in one direction, however, could be gathered from the cement floor which still remained, a considerable portion of which was visible at a depth of 18 inches below the surface

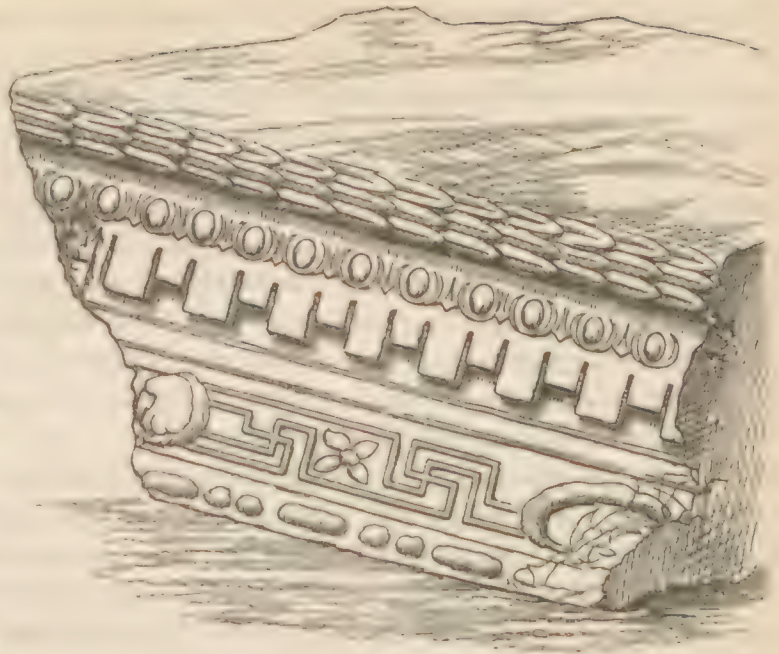


FIG. 3.

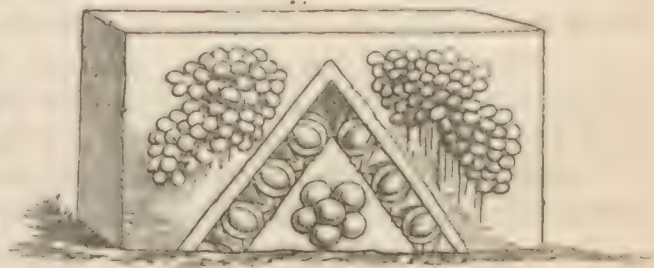


FIG. 7.

of the earth. There appeared, 18 inches below it, a floor of solid stone, and this was evidently a portion of a building of some size, to judge from the blocks of stone which apparently were the foundations for the pedestals of columns. These consisted of five cubes of stone, each 2 feet every way, and 6 feet apart. As the stone floor on which they stood was 3 feet below the surface of the ground, the upper surface was 1 foot below it, and there may therefore have been more in continuation of the line in which they were, which the excavations of the villagers had not revealed. They ran north and south, and diagonally to the upper flooring of cement. There were some fragments of columns, pedestals, and carved cornices and capitals lying among the ruins of the vicinity, but they were much broken, and not sufficiently noteworthy to stop to sketch.

I had, unfortunately, no time to carry out my original intention of following up the Wâdy Ed Dâlich, two miles higher to Elyahudiyeh, where ruins are reported to exist, but I was assured by the sheikh that they contained no remains such as I had seen at Ed-Dikkih and Elahseniyeh, so I crossed the plain back to the coast where the ruins of Mesadiyeh still remain to suggest that the similarity of their name to that of Bethsaida may furnish a clue to the identification with them of that town. They contain nothing of interest however, without excavation; but enough remains to show that the head of the Lake must in old times have been a great centre of population, since the towns near it are all from one to two miles apart, and I have heard of more ruins in the neighbourhood, which I hope at some future time to have an opportunity of examining.

As some confusion exists in all the maps to which I have had any access in the nomenclature of the five wâdies which intersect the country between the Jordan and the Wâdy es Samak, I have been very particular in obtaining the names as accurately as I could from the best native sources. Of these the Wâdy Jeramâya is the most wild and inaccessible, and except for the sportsman—it affords excellent cover for the large game which are said to abound in it—would probably not repay examination; the same cannot be said of the other wâdies, in which, especially near their heads, I have reason to believe some ruins are to be found.

Following the Lake shore, we passed at the mouth of the Wâdy Ejgayif the ruins of Akib; these consist of nothing but heaps of basaltic stones. There is near here a spot marked "ruins" in some maps, and called Dukah; they are also mentioned by more than one traveller. I found on inquiry, however, that a projecting cliff near 'Akib was called the Dukah Kefr 'Akib, or the precipice of 'Akib, and this has doubtless given rise to the confusion. A mile and a half beyond 'Akib we turned up the great wâdy of Es Samak. It is up this fertile valley, watered by a perennial stream, and which is in places two miles wide, and about seven miles in its greatest length, that it is proposed to carry the projected railway from Haifa to Damascus, as it affords an easy gradient from the depressed shores of Lake Tiberias to the elevated plateau of Jaulan; the rise in that distance being a little over 2,000 feet. As we ascend, I observe that only quite the lower strata are of limestone; all the rest is basaltic, and this formation is of vast

thickness. The whole of Jaulan is indeed an immense volcanic field, consisting of irregular heaps of amorphous lava and disintegrating scoriæ, with mounds of globular basalt.

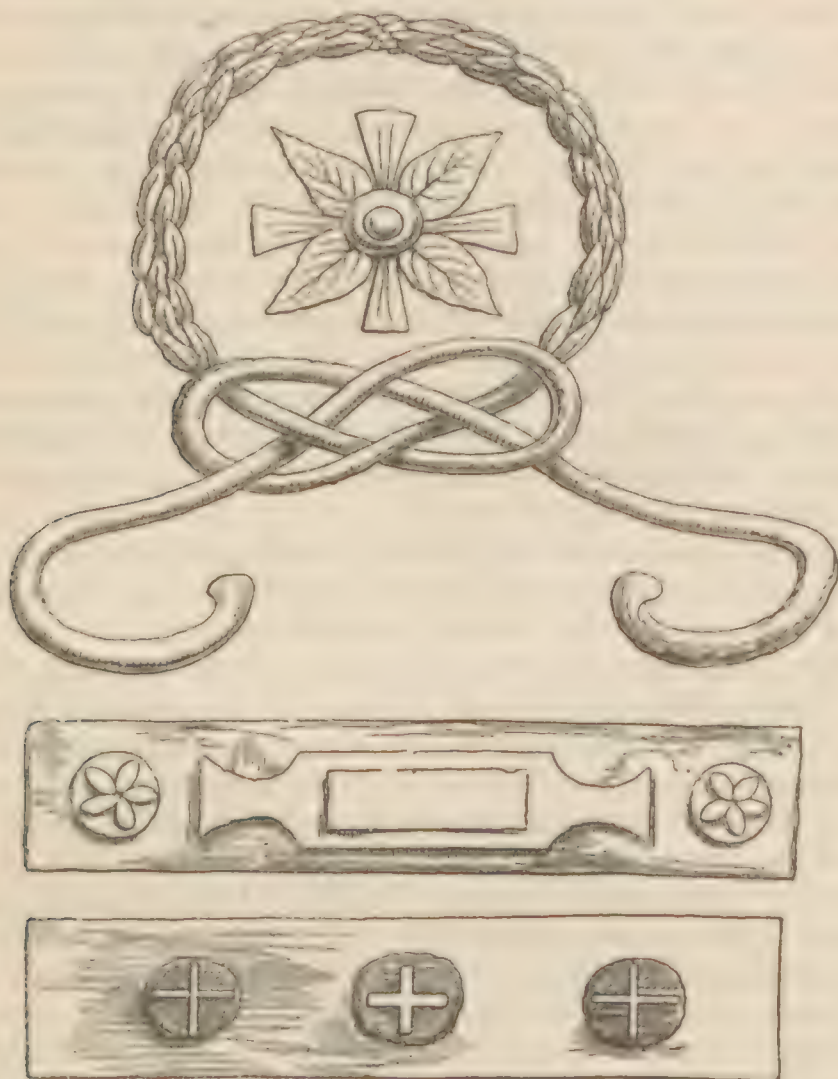
After ascending the wâdy for three miles we reached, a little below the margin of the plateau on the right side, the ruins of El 'Adesch, but it happened to be so dark at the time that I could not distinguish more than heaps of stones, and I had no opportunity of returning to it.

The country is very sparsely peopled in the district of Jaulan in which we now were, one of the largest villages being that of El 'Al, built on the site of an ancient ruin ; but the place has been so much built over that little can be seen, though in the walls and yards of the houses are many vestiges of antiquity. In the stable of the house in which I lodged was a column *in situ* standing to a height of 6 feet, and in the yard a draped female statue, life size, in three pieces. The feet, which as far as I could judge were on a pedestal *in situ*, were partially covered with earth ; the rest of the figure, which had been separated from them at the ankles, was lying on the ground ; the head had also been separated from the body ; but each of the pieces was in good preservation. The left arm clasped what appeared to be a quiver, from which I gathered that the statue was one to Diana. An inscription would probably be found on the pedestal settling this question, but circumstances prevented my excavating sufficiently to find out whether this was the case.

My objective point was now Khisfin, a village lying five miles distant in a north-easterly direction, which has played so important a part in the history of the country that I was extremely anxious to investigate the ruins which exist there, and which have never been the subject of examination. After riding for an hour we came to the ruins of Nab, situated on a small mound. They consist of blocks of basalt building stone, some traces of foundations, some fragments of columns and capitals, and a tank, dry at the time of my visit, but which evidently holds water for some portion of the year ; it had apparently been much deeper at a former period, only the two upper courses of masonry being now visible. It was oval in shape, and measured about 60 yards by 30. A little off the road to the right stands a large tree on a mound which is a conspicuous object on the vast plain, and is called Ez Zeitimi, or the hill of the olive-tree. In half-an-hour more we reached Khisfin, which is a large village for this part of the country, the houses constructed entirely of the hewn stones which here cover a greater area than any ruins which I have hitherto visited in this neighbourhood.

The earliest notice which I have been able to obtain of Khisfin is that of Yakubi, about 900 A.D. He mentions it as one of the chief towns of "the Province of the Jordan," Syria being divided in his day into three provinces, viz. : the Province of Damascus, the Province of the Jordan, and the Province of Palestine. Yakub in the thirteenth century mentions it as a town of the Hauran district below Nawa, on the Damascus road, between Nawa and the Jordan. Khisfin was doubtless at one time a fortress of the Saracens, as it is further mentioned as the place to which Al Melek

al 'Adil (Saladin's son and successor) fled after having been routed at the battle of Baisin by the Crusaders, who advanced upon him from Acre. As it is mentioned as being one of the chief towns of the province so long ago as 900 A.D., it is probable that its importance dates from a much older period, as indeed was indicated by some of the ornamentation which I found there. That it must also have been an important crusading stronghold is evident from the leading characteristics of the remains, as they now appear, and of the ornamentation, of which I give specimen sketches.



The walls of the principal fort now standing measure 68 yards one way, by 54 the other. They are 9 feet in thickness, and are eight courses of stone in height, the stones from 1 foot to 1 foot 6 inches square, but some are much larger. Within the fort are the traces of a second or inner wall forming a sort of keep in the centre, but the whole area is so encumbered with ruin that it would require more time than I was able to give to it to make accurate measurements, or a plan of the building. The village had almost the appearance of a quarry, so thickly piled were the blocks of hewn stone which enclosed the courtyards and formed the walls of the houses, while they were strewn thickly or stacked in heaps over all the neigh-

ouring fields. The lintels of the doors consisted frequently of large stones, some of which possibly had served the same purpose in old times, on which were tablets, rosettes, crosses, bosses, and other crusading devices.

I now proceeded in a westerly direction, and in two miles reached the ruins of Esfera, a mound covered with the usual hewn basaltic stones, and with traces of foundations. Two miles further on was the conspicuous hill of Tell el Muntar, which is also strewn with ruins of the same character; but at neither place were the remains of any marked interest;—they all indicated, however, the presence in ancient times of a large population in this section of country. Just to the south of Tell el Muntar we came upon a dolmen field—I counted twenty grouped in a comparatively limited area, averaging perhaps a hundred yards apart. Some were composed of three side stones with a covering slab, and in most cases were “free standing.” In others the superincumbent slab rested upon four uprights, and in others upon heaps of large blocks of stone. In no case did I observe the covering slabs to be so large as I have seen them elsewhere, probably owing to the weight of the basalt of which they were composed; but circumstances prevented my giving these interesting monuments upon this occasion the attention they deserved, and I was compelled to be satisfied with having discovered their locality. In support of Captain Conder’s theory it may be interesting to note that they were situated near water, as I shall presently show, and upon the verge of the precipitous ledge of rock which here forms the eastern cliff of one of the branches of the Wâdy es Samak, from which a magnificent view is obtained. The plateau here forms a promontory which splits the wâdy, and at its southern extremity is situated the old stronghold of the Crusaders, called the Kasr Berdauif, or Baldwin’s Castle. I saw the ruin from a distance, but was unable to visit it on this occasion. This I the less regretted as it has already been examined, and the small crumbling ruin which remains offers nothing of interest. On the other hand, I was impatient to reach a ruin hitherto unknown, and which was situated directly beneath the upper ledge of rocky cliff down which we were now leading our horses at no little peril to life and limb. After descending abruptly about 500 feet we came to a broad shelf, or small cultivated plateau, beyond the edge of which there was another steep descent to the bottom of the wâdy. It was upon this shelf that the ruins of Umm el Kanatar, or the “Place of Arches,” is situated. It may have derived its name from the first object which met our view, as, turning sharp to the right under the impending cliff down which we had just descended, we came upon a most singular and most picturesque spot. Here were two large arches, one partially ruined, but the traces of which were still plainly visible projecting from the rock against which it had been built, the other in a perfect state of preservation. This one measured 23 feet in breadth, 6 feet 6 inches in depth, and 16 feet in height. The ruined one was probably of the same dimensions, but as it was partially broken away there was no means of accurately judging of it. They had been built over a crystal spring, the waters of which still filled the small tank 23 feet long and 6 feet wide, with a depth of 2 feet of water, under the perfect arch, and

contained many small fish. It apparently escaped by an underground channel. Over the centre of the arch was a large slab of stone, upon

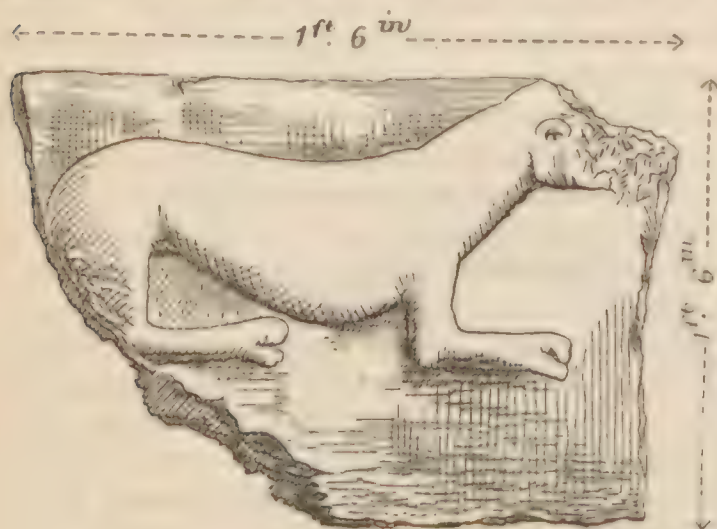


FIG. 1.

which had been an inscription now too effaced to be legible, and as it was 16 feet over head I had no means of examining it closely. At a slab at the side of the spring was a stone on which was the carved figure of a lion (fig. 1), and in front the wide-spreading arms of a magnificent old tree offered a grateful shade. At the time of year at which I visited these springs,

however, I was not in a position to appreciate its charms; a bitterly cold wind, accompanied by sleet, was blowing, and I had just before arriving at the dolmen field undergone an experience which made the task of a minute examination of ruins or dolmens in an easterly gale of wind unpleasant in

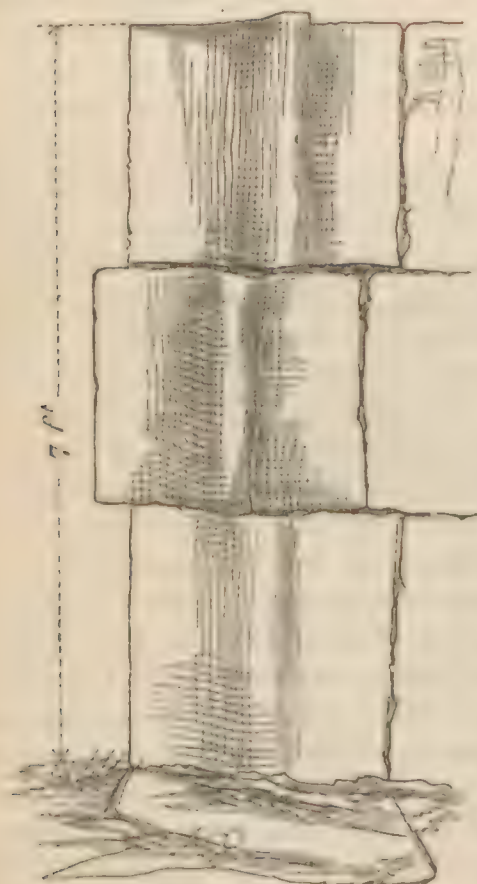


FIG. 2.

the highest degree. When allowing my horse to drink at what seemed a puddle on the plateau, he had made a step forward and plunged head foremost down what turned out to be an overflowed well, with me on his back. We had some difficulty in extricating ourselves, but the severity of the cold wind was so much intensified by my drenched condition, that, not being in my good health otherwise at the time, I was compelled to hurry over these ruins. They are situated about fifty yards from the spring to the north, and consist of ruined walls enclosing an area apparently as nearly as possible of the same dimensions as the synagogue at Ed-Dikkih, but the traces of the western wall were concealed by such piles of large blocks of building stones that it was impossible to determine them. The southern wall was standing to a height of about 7 feet, and consisted of three courses of stone averaging a little over 2 feet each in

height, by about 2 feet 6 inches in breadth. The door was situated 15 feet from the south-east angle of the wall, and was 4 feet 9 inches in width; the stones forming the door-post were slightly carved into a plain moulding (fig. 2). On entering, the area presented a mass of stone *débris*, and columns, and pieces of carving, tossed about in the wildest confusion; six columns from 10 to 12 feet in height rose above the piles of stone at every angle, as though they had been partially overturned by an earthquake; the shaken condition of one of the stones which formed the door-post, and which projected from the others, as well as the general aspect of such of the ruin as was still standing, confirmed my impression that the building had been destroyed by a convulsion of nature. It was difficult under the circumstances to determine the true position of the columns, or the exact plan of the building; but the character of the fragments of ornamentation which still remained, the fact that the columns were all within the enclosure of the building, that the walls were without cement, the position of the door, and the moulding of the door-posts, all rather lead me to the same conclusion with respect to this building which I have arrived at in the case of Ed-Dikkih, and to regard it as having been formerly a synagogue.

There was one stone on which was carved the representation of an eagle (fig. 3), a fragment of egg and dart cornice, closely resembling the one at Ed-Dikkih, a large triangular slab cut in the shape of an arch and highly ornamented, measuring 3 feet 6 inches along the base line, and 5 feet 8 inches between the two extremities, and which I assume

to have been placed on the lintel of the main entrance (fig. 4); and there were fragments of Corinthian capitals.

It is highly probable that a careful investigation of these stones would reveal inscriptions which would throw more light on this interesting ruin than, during my hurried inspection

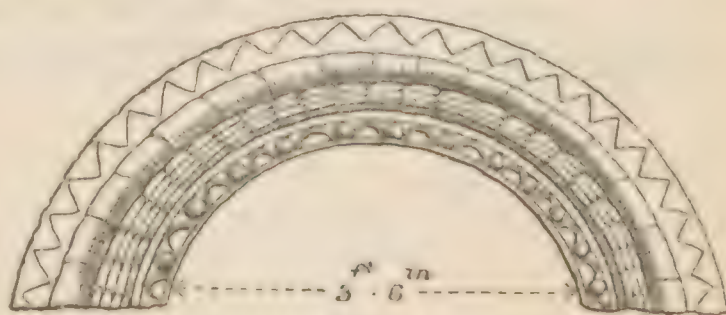


FIG. 3.

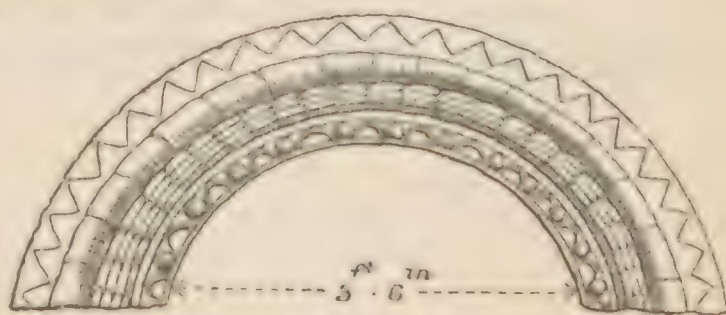


FIG. 4.

of them, I was in a position to obtain. I send these notes simply as a description of what I was able to observe, under circumstances by no means favourable to minute investigation; but it is not impossible that I may be able to revisit this part of the country and supplement this paper with more details of the ruins which are noticed in it, as well as

to look for others of the position of which I have received some information.

On my return to Tiberias, a Jew came to tell me that he knew a house which contained a stone upon which there was an inscription. I found it in the floor of a tumble-down dwelling inhabited by an old Jewish woman. As it was too begrimed with dirt to make anything of, I tempted the old woman with a bribe to let me take it up and carry it off, promising to return it. The inscription turned out to be in Greek characters, and as it may have escaped the attention of former travellers, a squeeze of it is forwarded herewith. I also annex the best copy I have been able to make, in case the squeeze does not arrive in good condition.

ΥΠΕΡΕΥΧΑΡΙΣΤΙΑΣ Δ
 ΟΥΗΜΩΝ ΣΙΡΙΚΙΟΝ
 ΝΑΠΑΙΣ ΑΜΣΝΟΙΗΜΙ
 ΟΙΘΡΕΒΟΙΣ ΟΥΑΝΗΓΙΡΑΜΘ

I was also taken by a Jew to look at a stone built into the back wall of the synagogue, on which was an inscription. He told me that he had seen some gentlemen take a squeeze of this, and I therefore only took a hasty copy, thinking it probable that it would be found in the "Memoirs." As however, this is not the case, I presume it must have attracted the notice of some more recent explorers. The following is my copy:—

ΟΥΑΓ
 ΤΑ'ΕΤΗ 'ΟΕ
 ΩΜΗΝΑΔΕΝ
 ΙΝΖΗCΑCΑΝ
 ΚΒΝΥΜΦΗΝ

I am indebted to my companion, Mr. Guy Le Strange, for the list of the Arab names, which I append, of the places taken down from the natives on this trip, with their significations.

LIST OF NAMES OF PLACES.

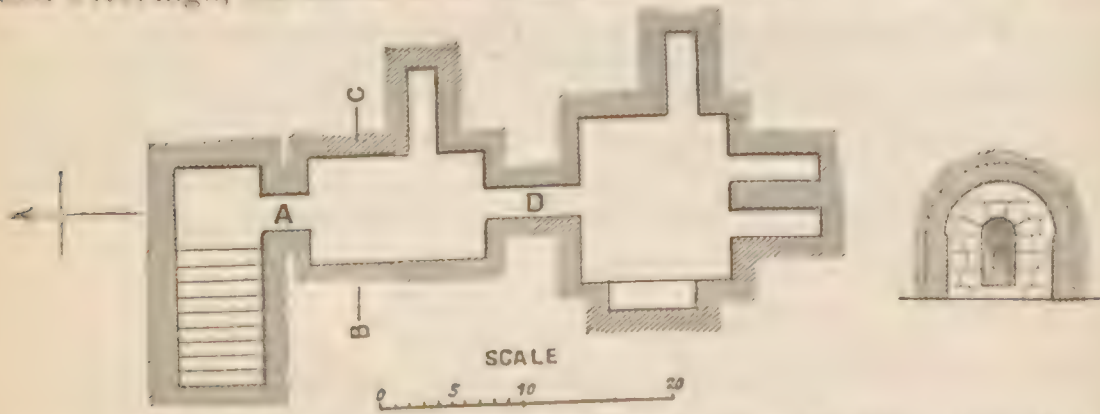
1. El-'Adesi, for El-'Adeseh, العدسه, "the lentil."
In Palestine, concrete of small pebbles used for floors, from its resembling lentils, is known as "El-'Adesi."
2. El-Ahsáninyeh, the vulgar form of El-hassániyyeh, الحسانية, "Belonging to Hassán," p.n.
3. 'Ain Esfera, probably for 'Ain Ešo-Sfairah, عين الصفيرة, "the whistling spring."
4. El-'Akîb, العقيب, "the term."
5. El 'Ál الاعال, "the high."
6. El-'Araj, الاعرج, "the lame."
7. El Batfihah, البطيحة, "the swamp."
8. Ed-Dikkih, الدكة, "the platform."
9. Kasr Berdawîl, قصر برداويل, "Baldwin's Castle."
10. Kersa, كرسي (?), "the seat."
11. Khisfin, خسفين, p.n.
12. Mes'adiyyeh, مصعدية, "the place of ascending."
13. Nâb, ناب, "the eye-tooth."
14. Et-Tell, التل, "the hill."
15. Tell el Montar, تل المنظر, "the hill of the watch-tower."
16. Tell ez-Zeitûnih, تل الزيتون, "the hill of the olive-tree."
17. Umm el 'Ajâj, ام العجاج, "the place of whirl-winds" or "battle."
18. Umm el Kenâtir, ام القناطر, "the place of arches."
19. Wâdi ed Dâlich, وادى الدالية, "the gorge of the vine tendril."
20. Wâdi Ejgayif, for Wâdi esh-Shakayyif, وادى الشقيف, "the gorge of the little boulder." Shakayyif, or Shagayyif, for the Bedouins change the dotted K into G, is the diminutive of "Shakif," meaning a "fragment" or "boulder" in the colloquial dialect.
21. Wâdi Jermâyya, وادى جرماية, p.n.
22. Wâdi es Saffah, وادى الصفاح, "the gorge of the slayer."
23. Wâdi es Samak, وادى السمك, "the fish's valley."
24. Wâdi Shebib, وادى شبيب, p.n.
25. El-Yahûdiyyeh, الديوريدي, "the place belonging to the Jews."

NOTES ON A TOMB OPENED AT JEBATA, AND ON
MONUMENTS FOUND AT NABLOUS.

BY LAURENCE OLIPHANT.

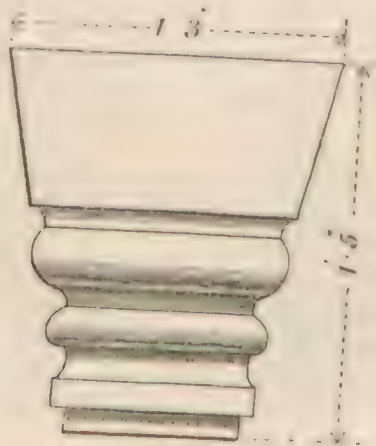
HAIFA, 21st January, 1885.

HAVING received intelligence from a native that the villagers of Jebata (Sheet 5, M. *i*) while excavating for stone for their building operations, had unearthed what he termed a subterranean abode, but which I conjectured to be a tomb, I proceeded to that place in order to examine it. The sheikh and most of the villagers accompanied me to the spot; here they had laid bare a flight of nine stone steps leading down to an open court about 6 feet square—the niches formed of cemented masonry, the stones averaging 2 feet by 18 inches, but in some instances exceeding those dimensions. The height from the *dhbris* which had accumulated on the floor to the top of the masonry was about 11 feet, above which were 2 feet of soil. From this open court a passage 3 feet long, 2 feet 6 inches wide, and 5 feet high, marked A in the plan (Section BC), led to a chamber 14 feet



long, 8 feet broad, and 8 feet 6 inches high, the walls consisting of plain chiselled stones set with mortar in courses of from 2 feet to 2 feet 6 inches in height. This chamber differs from the very few hitherto discovered in Palestine, and which seem confined to Galilee, in that the stones are set in mortar. On the left of the chamber was a single koka, which had been a good deal destroyed by the recent excavations of the villagers, but the chamber itself was in perfect order, and in fact in such good condition that it was difficult to realise that it was an ancient construction. The roof was vaulted, and of solid masonry. In the centre of the east wall was an entrance, D, exactly corresponding to the one marked A, excepting that the passage was 7 feet 6 inches in length. It led into a chamber hewn out of the solid rock, 12 feet by 10 feet 6 inches and 6 feet 6 inches in height; this contained three kokim and a loculus under an arcosolium, but the side of the loculus, as well as those of the kokim, had been much injured. The villagers told us that they had found bones in the loculus, and some fragments of pottery in this chamber. Not far from these tombs was another similar excavation, the entrance to which presented the appearance of that to an ordinary cave; but on entering it we found ourselves in

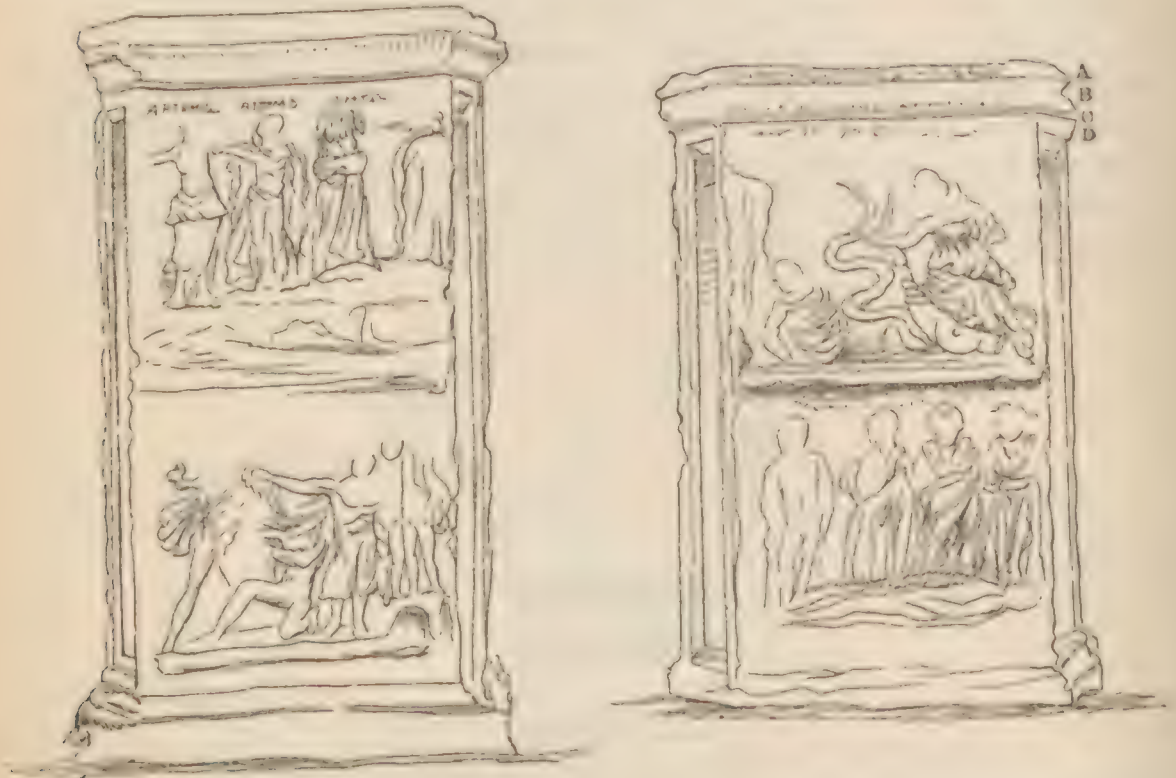
a small circular rock-hewn chamber, the floor so covered with rubble that it was not possible to stand upright. In the centre of the roof was an aperture 18 inches square, carefully hewn, and from it led a passage of masonry, the stones, also set in mortar, 2 feet 6 inches broad, and about 5 feet to the point where it was completely choked with earth; had we been able to spare the time to excavate we should have found probably that it led into a tomb. The entrance to this passage was almost completely blocked by the handsome capital of an Ionic column, the column itself 18 inches in diameter. On further examining the stones strewn in the vicinity, and some of which we were told by the natives they had unearthened, we found one on which was carved a seven-branched candlestick, one which may have served as a keystone, a sarcophagus, several fragments of columns, and a monolith standing 10 feet from the *débris* at its base, with grooves and lots similar to others which I have seen at Dabil on Carmel, but taller. I can only imagine it to have formed part of some olive-pressing machinery. In the neighbouring rocks were vats and winepresses. It is not unlikely



that next summer the natives will undertake further quarrying operations, when new discoveries may be brought to light, the more especially as all the existing indications go to show that Jebata, the ancient Gabatha, must formerly have been a place of some importance.

I have been fortunate in obtaining a glimpse of some monuments recently discovered during some municipal improvements now in progress at Nablous, which are destined for the Museum at Constantinople, and of which I send you such hurried and imperfect sketches as I was able to take, with copies of inscriptions. They were in such positions that it was extremely difficult to take squeezes, nor were the conditions propitious for my doing so. The one which I forward was of an inscription much defaced, on which I can only make out the words **ΤΟΝ ΤΡΙΠΟΔ**, but perhaps others may be more successful. Many of the letters in the other inscriptions were so much effaced as to be rendered doubtful, and I have left them imperfect; but it will not be difficult, with more time than I have been able to give to them, to make the necessary corrections. The monuments which I have seen consist of two statues, one of a draped male

figure, life size ; the head, right arm, and feet were missing. The other was a smaller draped male figure, the head and feet of which were also missing. The most interesting object was a triangular pedestal, 40 inches high, with slightly curved sides 22 inches long, and squared angles 8 inches across. The three sides contained six tableaux *in basso relievo*, one of them a good deal mutilated, representing, amongst others, incidents in the life and labours of Hercules, in whose honour possibly the statue which once stood upon the pedestal was erected. The first tableau represents a figure in a



chariot struggling apparently with a hydra. Above this, on the upper moulding of the cornice, was the inscription (marked A)—

ΝΙΟΣΘΗΚΕΝΑΤΘΙΔΟΣΕΚ ΣΑΣ
 ΝΕΚΕΝΕΝΤΘΥΠΟΛΕΣΣΙΝΑΡΙΣ ΣΚΕΝΑΠΑΣΙΝ

Below this (marked B) was the following :—

ΚΑΛΛΕΙΚΛΙΜΕΙΦΘΙ- -ΚΑΙΧΑΡΙΣΙΝΠΡΟΦΕΡΟΝ

and below this (C)—

ΤΟΥΙΩΓ·ΚΑΙ·ΛΓΟΝΙΦΟΙ- -ΛΙΑΜΕΤΑΙ·ΚΑΙ·ΙΗΘΕΝ

The lower section represented three draped figures standing : on their right a nude male figure standing ; at their feet a prostrate nude male figure ; above them was the inscription (D)—

ΤΟΝΑΧΕΛΩΝ

The upper section of the next side represented Leto Apollo and Artemis, with their names above them in the following order:—

ΑΡΤΕΜΙΣ	ΑΠΟΛΛΩΝ	ΛΗΤΩ
Nude to the waist.	Nude right arm over Artemis's shoulder, with a cloak hanging down his back and over his arm.	Completely draped, with a snake apparently on the left.

The lower section of this side represented five figures, behind a group of four figures, of whom two were naked men wrestling, the other two were naked, one standing with outstretched arm, and one on a sort of stool; above them the inscription, partly illegible,—

ΤΑ  ΠΙΤΟΝΜΕ

and over some of the figures were the letters, **ΝΩΤ Ι·ΥΡΟ**

On the third side, which I had no opportunity of sketching, on the upper section, under the words **ΤΡΟΦΟΙ ΗΡΑΚΛΗΣ**, was a nude infant struggling with a serpent between two draped female figures—evidently Hercules strangling the serpents sent against him by Hera. On the lower section of this side, and under the words **ΘΗΣΕΥΣ ΓΝΩΡΙΣΜΑΤΑ**, was a much defaced nude figure on the left, supporting what seemed to be a full sack, and on the right three draped figures.

I understand that they are continuing to find objects of interest at Nablous, which I trust shortly to have an opportunity of going to examine.

THE PASSAGE OF THE ISRAELITES ACROSS THE RED SEA.

BY SIR JOHN COODE.

THE *Quarterly Statement* for April of last year contained an interesting article by Professor Hull, of Dublin, on "The Relations of Land and Sea in the Isthmus of Suez at the time of the Exodus," wherein he deals with the question of the actual position of the passage of the Red Sea by the Children of Israel.

Professor Hull justly remarks that, according to the present position of land and water, there is a direct landway across into the "wilderness of Etham," and he asks whether, if at the time of the Exodus the physical conditions of the district north of Suez had been the same as they are now (of course he disregards for the moment the existence of the Suez Canal), there would have been cause for the cry of despair from the Israelites, or

the necessity for a stupendous miracle of deliverance such as the Bible narrative relates !

He then proceeds to show that the beds of sand and gravel containing shells, corals, and other marine forms now existing in the waters of the Gulf of Suez (which beds are found on either side of that gulf up to at least 200 feet above the present sea-level) form complete evidence of the elevation of the whole land area of that particular region, but that this elevation must have taken place at a time long antecedent to that of the Exodus. He points out, what is true, that if at the time of the Exodus an elevation of not more than from 25 feet to 30 feet had remained to be effected, the land now forming the southern part of the Isthmus of Suez would have been submerged by the waters of the Red Sea, and he regards it as in the highest degree probable that as far back as the time "when the Exodus took place the waters of the Red Sea extended northwards up the valley at least as far as the Bitter Lakes, producing a channel 20 to 30 feet in depth, and perhaps a mile in breadth ; a terrible barrier to the Israelites, and sufficient to induce a cry of despair from the whole multitude."

Having quite recently traversed the whole Isthmus, making a special examination of the portion between Ismailiya and Suez, the following incident, which then occurred, appears to me to be worthy of notice, inasmuch as it is eminently corroborative of Dr. Hull's view.

Whilst engaged with other members of the International Commission upon the investigation of various matters connected with the question of improving the Suez Canal, some of our party landed from time to time, and on one occasion at a point between what is now the north end of the Gulf of Suez and the south of the Bitter Lakes, not, in fact, very far to the north of the bridge of boats by which the pilgrims to and from Mecca cross the Canal.

Desiring to test for myself the character and hardness of the unbroken ground at this point, and at a height of about 12 or 15 feet above sea-level, the first stroke of a pick turned up, from 3 inches below the surface, a thick cake of a dull white substance which at the moment appeared to be gypsum, and whilst stooping to take it up, I remarked accordingly ; but simultaneously, a colleague who was standing at my side exclaimed "Salt." On asking him how it came to pass that he so instantly arrived at this conclusion, he replied that the whole district thereabouts was full of such salt.

When it is explained that this gentleman had the engineering charge of a considerable length of this part of the Suez Canal at the time the work was in course of construction, and consequently had thus acquired an intimate knowledge of this district, and also that on testing the ground at other points thereabouts, I found salt existing below a thin covering of sand at heights considerably above the sea-level, there is ample warrant for saying, as I have done, that the extensive existence of salt in this form and at such a height cannot be regarded otherwise than as a proof that the waters of the Red Sea did at one time extend as far north as the Bitter Lakes ; a specimen nearly an inch thick is before me as I write.

Further evidence that, at some time antecedent to the formation of the Suez Canal, the sea extended as far up the Isthmus as the Bitter Lakes, is found in a remarkable sample of salt which was cut from the bottom of the Bitter Lakes by the engineers of the Suez Canal Company before the sea was let in to effect the completion of the water communication between the northern and southern sections of the work. This block of salt, to which my attention was directed by M. de Lesseps, is preserved in the courtyard attached to the offices of the Canal Company at Ismâliya; it is fully 7 feet in height, and, according to M. Voisin Bey, who at the time it was taken out acted as the Company's Chief Engineer in Egypt, salt certainly existed to a still greater depth, but to what precise extent is not known.

I may here mention that whilst passing over the 1,500 (English statute) miles from the Strait of Bab-el-Mandeb to Suez, the water of the Red Sea is so far changed by evaporation that samples taken from the surface at Suez have been proved to be nearly 2 parts in 1000 salter than those at Bab-el-Mandeb. It should be borne in mind, moreover, that an exceptionally great amount of evaporation would necessarily take place within such a comparatively shallow inland basin as that of the Bitter Lakes, having its surface swept by the hot dry air of the Arabian Desert, and shut in from the Mediterranean by the high land at Scrapeum immediately to the north, or at any rate by the still higher ridge of country at El Guisr. These conditions would obviously contribute to the formation of such a remarkable deposit of salt as is found in the specimen above described.

A peculiar feature in this specimen is the presence of an occasional thin layer of sand, most probably caused during the prevalence of violent southerly winds which from time to time raise the sea-level at Suez nearly 3 feet above that of an ordinary spring tide in calm weather. The strong current to the northward on such occasions would be certain to carry a considerable quantity of sand into the Bitter Lakes, sufficient, it may be assumed, to account for the layers of sand in question.

The facts to which I have here called attention appear to me unquestionably to confirm the view entertained by Professor Hull. Feeling, with him, that according to this view the physical conditions at the time of the Exodus will be brought into harmony with the Bible narrative, and that the difficulty which has hitherto surrounded the subject of the passage of the Israelites through the Red Sea will thus have been to a great extent removed, I have ventured to send you the result of my own recent personal observations in the locality in question.

THE CITY OF DAVID.

BY THE REV. W. F. BIRCH.

“Nil tam difficile est, quin quærendo investigari possiet.”—*Ter. II. T.*

So long as knowledge grows from more to more, will thoughtful writers on Jerusalem from time to time change, or at least qualify, their opinions. Mr. Fergusson in 1847 placed Aera west of the Temple, but in 1860 north of it. Surely, until he reverts to his earlier opinion, no one can fairly quote the weight of his name as in favour of the western site, which he has deliberately abandoned for more than twenty years. But if a writer is always to be tied down to what he has once written, and afterwards distinctly repudiated, then I must ask Captain Conder to submit to his own ruling, and to allow me to quote the weight of his own name, in favour of the Ophel site for the City of David, and against his later statements, since in *Quarterly Statement*, 1877, p. 179, he said, “Thus the City of David, in this case, is Ophel.”

Another error into which Captain Conder has fallen may also be corrected, as it bears on the position of Zion, and most readers are weary of arguments *pro* and *con*, and so in accepting theories are guided solely by the names of their respective advocates. In the *Memoirs* (“Jerusalem,” p. 93) he says that “Sion has been supposed by Lewin to be identical with the Upper City of Jerusalem.” Many will learn with surprise that Lewin was a most determined opponent of the common opinion, that the Upper City was the site of Zion, and actually accentuated his aversion to such an identification by dubbing the Upper City *pseudo-Zion*, *i.e.*, the false or spurious Zion. “Afterwards, in ‘Siege of Jerusalem, 1863,’ Lewin holds that the names ‘Zion’ and the ‘City of David’ were originally applied to the *whole* city of Jerusalem; that the latter was subsequently appropriated by popular belief to that portion of Ophel where he supposes ‘David’s palace to have stood.’ Accordingly, throughout his book, he speaks of the south-west quarter of the city as ‘now called Zion,’ thereby intimating that it had no ancient right to this special designation; and yet, inconsistently enough, the name of Sion is given to it in his plan.”

I am obliged to take this extract from “The Psalms of David” (by E. F.), as I cannot myself refer to “The Siege,” since the Fund’s copy has been indefinitely borrowed. Some reader of these pages perhaps will kindly correct me if I misrepresent Lewin’s opinion, who, as it seems to me, never maintained that Zion was identical with the Upper City.

Whoever assails my theory must inevitably catch a Tartar, for the simple reason that the site I advocate is the very one appropriated (as many admit) to Zion in the Book of Nehemiah; and Nehemiah (be it remembered) himself was chief surveyor at Jerusalem and rebuilt its walls, and therefore must have known the position of Zion, the City of David, a thousand times better than either Josephus or any other writer on Jerusalem from his day to this.

As no one seems disposed to accept my challenge and grapple boldly

with my theory, I suppose it is time for me to make a sally and expose the utter hollowness of the arguments alleged in favour of the rival sites for Zion, positions well described (to use Lewin's word) as pseudo-Zions.

Now the key to the whole question of the true site of Zion consists of two simple facts, viz. :

(A) That the Hebrew version always describes the Valley of Hinnom as *ge*-Hinnom, and the Brook Kidron (on the east side of Jerusalem) as *nachal*-Kidron, never once interchanging the two words *ge* and *nachal*.

(B) That in the historical books of the Bible, the City of David is six times called Zion, but never in a single instance Mount Zion, while in the Psalms and Prophets this term is often applied to the Temple. Consistently with this distinction, 1 Maccabees, omitting all mention of *Zion* simply, speaks of the City of David as one place and *Mount Zion* as another, identifying it with the Temple or sanctuary.

Through disregarding these reasonable distinctions, and taking *ge* to be equivalent to *nachal*, and Zion (the City of David) to be the same as Mount Zion, writers have unconsciously produced such a confusion in Jerusalem topography, that with scores of books bearing on the subject, very few persons are aware of the true site of the City of David.

This remarkable distinction between *ge* and *nachal*, I must add, is no invention of mine devised to prop up my theory. Gesenius long since observed it, Lewin approved of it, Williams "had misgivings" in disregarding it, Thrupp and Captain Conder and others have recognised it; I merely insist on its *rigid* application, confident that it is the key to Jerusalem.

Further, that the City of David is never historically called Mount Zion in the Bible is a point that any Bible reader may verify for himself. Having got possession of this invaluable key, let me now use it without fear against all the pseudo-Zions, and show how untenable and indefensible it makes every one of the various positions held by the opponents of my theory.

First I will take the site west of the Temple originally proposed (though it resembles Lightfoot's) by Sir Charles Warren, since with his opinion on many kindred points I am in the closest agreement.

I. ZION, SOUTH AND NOT WEST OF THE TEMPLE.

In 1871 Sir C. Warren stated in the "Recovery of Jerusalem," that "in the Book of Nehemiah, the City of David, the House of David, and the Sepulchre of David, all appear to be on the south-eastern side of the hill of Ophel, near the Virgin's Fount, and yet such a position for Zion appears at first sight to be out of the question."

Seven years passed over before I perceived that the apparently contrary evidence, which seemed to Sir C. Warren to make the Ophel position for Zion "out of the question," really was in strict agreement with the evidence of Nehemiah. Seven years more have rolled on since that time, yet I regret to have to add that the whole Biblical evidence, which I have from time to time shown to be *consistent*, and to point to but

one conclusion, still appears to him contradictory, and leads him still to place Zion, the City of David, on the western side of the Temple, and not on Ophel on its southern side. When I place Zion on Ophel, he admits "it is the *natural* position to assign to it on reading the Book of Nehemiah, only it does not seem to me to accord with the other accounts."

I am very desirous that Sir C. Warren from an opponent should become an ally of my theory, by being convinced that this *natural position* is also the true position. One important result, I believe, would be that a diligent and (I anticipate) a successful search would soon be made for the sepulchres of David, and of the Kings of Judah, and the discovery of these most interesting and magnificent relics of pre-exilic Jerusalem would, once and for ever, lay the restless ghost of controversy about the position of the City of David, and save me the trouble of demolishing the other pseudo-Zions.

With this object I would point out two things—

- (1) That the weight of Nehemiah's evidence is simply overwhelming.
- (2) That his evidence is really in the strictest accord with all the other accounts except one or two palpably incorrect statements of Josephus.

The Book of Nehemiah (as admitted by Sir C. Warren) places (1) the Sepulchres of David (iii, 16), (2) the House of David (xii, 37), and (3) and (4) the stairs of the City of David (iii, 15 ; xii, 37), between the Pool of Siloah and the Temple, *i.e.*, on Ophel (so-called). It is also to be noted that in harmony with these indications "the House of the Mighty" (or *Gibborim*, the technical name of *David's* body-guard) is further (iii, 16) spoken of as being in this part, *i.e.*, on Ophel.

Here I must ask two questions. In the case of what sacred site does the identification rest upon fuller or better evidence than the Book of Nehemiah gives in the case of the City of David? If these four or five consistent statements in Nehemiah can reasonably be discredited, what identifications can reasonably be believed? Is it not far more probable that Nehemiah's statements are the truth, the whole truth, and nothing but the truth, and that the other sacred writers have been misunderstood by Sir C. Warren, than that the Biblical statements about the City of David are inconsistent and contradictory?

Sir C. Warren ("Temple or Tomb," p. 41) thinks it "probable that from the first the site of the Holy Sepulchre was known among the Christians, and that *it has never been forgotten.*" But is it not much more probable that the Jews, with far less difficulties to contend with, never forgot the site of the Sepulchre of David, and of the City of David? When Sir C. Warren rejects the Ophel site for Zion, it seems to me that he has to suppose that the Jews, in the time of Nehemiah, had actually become misled about the true position of the Tomb and the House and the City of David, although there had been no break whatever in the continuity of their knowledge about these revered localities, for "many of the priests and Levites and chief of the fathers, who were ancient men, that had seen the first house," were present when "the foundation of this (second

Temple (*i.e.*) house was laid before their eyes " (Ezra iii, 12). Is it possible that all these had either forgotten the position of the chief sites in " the city of their fathers' sepulchres," or else agreed to transfer them to wrong positions? Any such ignorance or conspiracy is utterly inconceivable. If it is once admitted that the Book of Nehemiah places the *Tomb* and the *House* and the *City* of David all on Ophel, then, whatever be the consequences, I see no way of escape from a frank admission that these localities were actually on Ophel.

The position, however, held by Sir C. Warren I understand to be this, viz., that strong as is the evidence in Nehemiah in favour of Zion, the City of David, having been on Ophel, nevertheless the evidence requiring Zion to have been elsewhere seems to him still stronger and only to be satisfied by his site. As in the *Athenæum*, 1881, he writes of "The Temple or the Tomb" thus, "I must state emphatically that this book is a very serious attempt to settle the topography of Jerusalem, and one that I have no doubt will be successful." I take that work as setting forth his reasons for placing Zion west of the Temple.

Let me first, however, state certain points on which I agree with this most candid of opponents. He states in his book—

(a) p. 21: "They (the first book of Maccabees) call the sanctuary . . . Mount Zion."

(b) 9: "Zion, . . . the royal sepulchres were also there."

(c) 9, 10: "Zion formed part and was the fortress of Jerusalem. Zion was not synonymous or co-extensive with Jerusalem. We have not a single instance in the historical books of the term Zion, or the City of David, being used for the whole city."

(d) 24, 25: "His (*i.e.*, Josephus') vagueness in speaking of the topography of the past . . . greatly in contrast with the precision throughout the historical books (of the Bible) and 1 Maccabees. . . . It does not appear in any case that he gives any help in the topography" (*i.e.*, of the Jerusalem of the Old Testament).

(e) 13: "There can be little doubt that Zion the stronghold was in Benjamin."

Having thus successfully threaded his way through what have proved great stumbling blocks to many, Sir C. Warren seems to me to have been completely beguiled into a wrong conclusion by three misconceptions: first as to (A) and (B) above, in reference to the distinction between *ge* and *nachal*, and between Zion and Mount Zion; and next, (C), that the Acra of Josephus was west and not south of the Temple.

Unconscious of his first misconception, Sir C. Warren writes ("Temple or Tomb," p. 35) in support of his western site thus: "This position I have assigned to Zion is the only one which allows of accord in the several accounts, and is the only site yet proposed that will render intelligible the passage, 'Now after this, he (Manassch) built a wall without the City of David, on the west side of Gihon, in the valley' (2 Chron. xxxiii, 14)." One has only to point out that the word here rendered *valley* is in the Hebrew version *nachal*, and at once it will be apparent that this passage,

instead of supporting Sir C. Warren's theory, is directly opposed to it, and confirms the evidence of Nehemiah. For a wall in the *nachal* or Kidron Valley, which is on the east side of Jerusalem, could not possibly be on the *west* side of Jerusalem. While, further, as Gihon literally means a *spring*, and not a pool, and as the only spring in the Kidron Valley is the Virgin's Fount, a lower wall on the east side of Ophel just west of that Fount (as required by this passage) would exactly suit the indications of Nehemiah which place the City of David on Ophel.

Even if some sophist could succeed in persuading one that *nachal* does not always in regard to Jerusalem mean the Kidron, still it might fairly be urged that it was needless to make the Bible contradictory, by applying to the valley running westwards from the Temple a term which undoubtedly often refers to the Kidron, especially when the usual application would leave Nehemiah and 2 Chronicles in perfect accord. So again, in like manner, 2 Chron. xxxii, 30, may be as well explained by the Ophel site for the City of David as by one west of the Temple, while it is probable that if Gihon means (as it must) the Virgin's Fount in xxxiii, 14, it also means the same spring in xxxii, 30.

One mistake often leads to and confirms another. Unaware that the *nachal* (Kidron) could not be the *ge* (Hinnom), Sir C. Warren drew the boundary between Judah and Benjamin which "went up by the valley of the son of Hinnom" (Josh. xv, 8) from "the Virgin's Fount, up the (Valley of Hinnom) Kedron, until nearly opposite the south-east angle of the Noble Sanctuary, where it crossed over the hill of Moriah at the southern side of the Temple, and thence up the Tyropoeon Valley to the Jaffa Gate" ("Jerusalem Rec.," p. 307). As this line quite excluded the Ophel site from Benjamin (see (*e*) above), Sir C. Warren appears to think it unnecessary to discuss the Ophel site in "The Temple or the Tomb," and accordingly he does not make any allusion to the evidence of Nehemiah, even while he takes the trouble of saying (p. 24), "Akra (*i.e.*, Zion) could not have been south of the upper city as here fixed, and if further to the north than Et-Takiyeh, it would have been on the other side of the valley," &c.

Had he only gone on to deal with the Ophel site, I believe Sir Charles Warren and not I would now be its most resolute defender.

Further, unaware of his second misconception, Sir C. Warren writes ("Temple or Tomb," p. 11): "It would hardly be necessary to point out that Mounts Zion and Moriah were distinct hills, were it not that of late years they have been pronounced by some writers to be identical. In the first place, for many years after King David captured Jerusalem, Zion was a royal city, while Moriah must have been beyond Jerusalem, and was the private property of a sheikh or chieftain of the Jebusites. Then, again, David had to go up to Mount Moriah, which he could not have done had the two been identical; then we have the grand ceremony of bringing up the ark of God *out of the City of David, which is Zion, up to Mount Moriah.*"

Here misconception as to (B), or involuntary confusion between *Zion*:

and Mount Zion, makes a mountain of difficulty where everything is really smooth and plain. Only let it be borne in mind that Zion was the City of David, and that Mount Zion (the higher part of the ridge north of Zion) was the site of the Temple—*i.e.*, Mount Moriah—and these three points turn out to be genuine supporters of my theory.

David lived in Zion, the City of David, while Mount Moriah was outside it. Therefore he could go up and the ark could be brought up “out of the City of David which is Zion” to Mount Moriah (*alias* Mount Zion).

I have thus shown that the Biblical passages claimed by Sir C. Warren as requiring another site for Zion than that marked out in Nehemiah, are really in the strictest harmony with the evidence of that book. Instead of there being any “difficulty or discrepancy” about the Biblical statements, there is nothing but perfect concord among them, as to the position of the City of David.

After this it would only be so much the worse for the credit of Josephus if the third misconception (C) that I have attributed to Sir C. Warren could be shown to be no misconception on his part. For what value, in opposition to the Bible, would belong to the opinion of a “vague” writer like Josephus, who “does not appear in any case to give any help” in the topography of pre-exilic Jerusalem, but has rather made of it a Gordian knot by a few rash conjectures and inaccurate statements of his own devising? Bare justice, however, to the Jewish historian demands that I should point out that he nevertheless places his Acra *south* of the Temple, so that he also is thereby a witness in favour of the Ophel site for Zion, inasmuch as he makes his Acra correspond with the fortress or Acra of the Maccabees, and this (1 Macc. i, 33) was identical with the City of David. (See Acra south of the Temple.)

One or two other points still remain to be noticed. It is said (“Temple or Tomb,” p. 12) that “in no single instance in the historical books is this (that it was a holy place) said of Zion after the building of the Temple.” This, however, from 2 Chron. viii, 11, seems hardly to be correct, and curiously enough this verse is quoted on p. 6. Yet after the ark had been taken out of Zion, the City of David, one does not expect to read historically anything implying that it was still there.

Sir C. Warren admits (“Temple or Tomb,” p. 18) that no argument as to the position of Zion, the City of David, can be derived from the poetical books, yet afterwards he points out that Psalm xlviii may be an exception, and “if so we have direct proof that Zion, the City of David, stood on the north side of the city.”

Obviously he refers to the words, “Beautiful for situation, the joy of the whole earth, is Mount Zion on the sides of the north, the city of the great King.” But, unhappily for his theory, even here it is *Mount* Zion (or the Temple), and not Zion the City of David, that is said to be towards the north. In *Quarterly Statement*, 1883, p. 154 (see also 1878, p. 183), I have pointed out that the Rabbis (though misunderstood by Lightfoot and Fergusson) in several passages place *Mount* Zion (*i.e.*, the Temple) on the

north side of the city (*i.e.*, of David), or Zion. Therefore Zion was south of the Temple.

Lastly, if Sir C. Warren should urge ("Temple or Tomb," p. 21) that the foreign soldiers *descended* from the Acra (*i.e.*, the City of David) to molest the Jews, and that they could not have *descended* from the Ophel site, then the answer is that it is either he himself or Josephus who makes them to *descend*, since 1 Maccabees, the reliable authority for these times (which Josephus was not), speaks rather of a going up from the Acra to the Temple (1 Macc. vii, 33).

As, therefore, (1) Sir C. Warren admits that Nehemiah in four particulars places the City of David on Ophel, and (2) as it has been shown that 2 Chron. xxxiii, 14, instead of requiring his western site, makes it impossible, and that there was no difficulty in going from Zion, the City of David, to Mount Zion, the site of the Temple, and that according to Psalm xlviii and the Rabbis, Mount Zion, or the Temple, was on the north side of (Zion) the City of David; for it is admitted that 1 Maccabees gives the name of Mount Zion to the Temple, and identifies the City of David with its Acra; and (3) as this Acra is identified by Josephus with his Acra, which he has been shown to place south of the Temple, I now invite Sir C. Warren either to find some fresh defence for his pseudo-Zion or to abandon it entirely and occupy what he has all along admitted is Nehemiah's site, *viz.*, that on Ophel so-called.

I await with keen pleasure Sir C. Warren's attention to these remarks, hoping that he will (if he can) overthrow my conceit or else become the latest and ablest advocate of the Ophel site for Zion. To his memorable excavations at Jerusalem I am deeply indebted for my interest in the Holy City. If his works have enabled me, as a dwarf on a giant's shoulders, on the one solitary point of the true site of Zion, to see at present somewhat further than he has done, I cheerfully own my obligation to such an instructor.

Most gladly, too, shall I turn chameleon and change from a hasty critic to a patient spectator, whenever an outburst of enthusiasm for discovering the hidden catacombs of David sends forth a treasure-laden band of explorers to resume his too long suspended work of discovery. In this case whom would the men of Silwân ("Jerusalem Rec.," p. 243) more eagerly hail in their native tongue as a guide through the labyrinthine sepulchres of Ophel, than the well-known *Monitor Niloticus* (*Quarterly Statement*, 1871, p. 86) of the Philistian plain?

Meanwhile, if any one (in the absence of our *gibberim* in Africa) thinks that I go in for assertion rather than for argument, let him not fail at once ruthlessly (and if he likes anonymously) to expose the fallacies of my fancied reasoning.

Perish my theory if it be false; but if it is true, then the very next thing is to search for the sepulchres of David, so that some fortunate explorer may telegraph to Mr. Besant almost in the very words of Caesar, "Veni, vidi, vici."

W. F. BIRCH.

P.S.—I see that at the Carlisle Church Congress, Canon Tristram practically accepted my challenge and attacked the Ophel site for Zion in the following words :—

“Still less does it seem to me possible to conceive that the City of David, the fortress, was on Ophel, dominated by the higher rock of Moriah behind, and with the commanding brow of the modern City of David to the west. To any one acquainted with the strategic sites of ancient fortresses, the hypothesis is simply impossible. What becomes of the wall of Ophel excavated by Sir C. Warren, and which is referred to in Kings and Chronicles as the work of Manasseh? And again, there is no question as to the Jerusalem of the period of the return. We read the minute details of Nehemiah, and no ingenuity can square his description of the circuit with the suggested position of the City of David.”

Now it is remarkable that not men of war, like Sir C. Warren and Captain Conder, but Canon Tristram, like myself, a man of peace, should be the first to urge that, from a military point of view, it is impossible that the City of David, a fortress, ever stood on Ophel.

In “Jerusalem Recovered,” Sir C. Warren observes that there is a rocky knoll on the Ophel ridge higher than the ground immediately north of it. This knoll he marks at 2,290 feet (p. 298). If the ancient fortress of the Jebusites reached northward as far as this knoll, and was fortified here by a wall 50 feet high, then according to his plan of the rock levels it would not be dominated by any point on the Moriah ridge, or on the western hill (the modern Sion), within a distance of 400 feet. But at that distance, against *walls* built of *masonry*, what would even Arish’s bow have availed, though it was reputed to have carried between 400 and 500 miles?

If in the age of the twelve spies, the cities of Canaan were “walled up to heaven,” why might not the castle of Zion, 400 years after, be fortified in its weakest point by a wall 50 feet high? And how then, I would ask, does Canon Tristram propose with a sling and a stone, or even with a long bow, in the absence of catapults, to capture a fortress not dominated within a range of 400 feet? Secondly, as the Ophel wall discovered by Sir C. Warren is at least 200 feet north of the knoll (the assumed northern point of the City of David), the date of its construction has nothing to do with David’s Zion.

Thirdly, “the minute details of Nehemiah” place (and are admitted by Sir C. Warren to appear to place) the City of David solely on Ophel. I am glad to see every form of objection urged against Ophel (so called) being the site of the City of David, since, as the feebleness of each objection is exposed, it will gradually dawn on one and another opponent that Nehemiah’s site is both true and reasonable. One unique and invaluable advantage that this site possessed I may here name in passing, viz., that by means of a secret passage (Sir C. Warren’s shaft, or the “Gutter,” 2 Sam. v, 8) the defenders of Zion had at their service an inexhaustible supply of water from the Virgin’s Fount.

If now the opponents of the eastern hill once more fall back from

arguments on *names* they will be worse off than ever, since General Gordon ("Reflections in Palestine," p. 14) observed, "The Hebrew 'tzion' is always the eastern hill." It will take a few bushels of names to outweigh that of the noble hero of Khartoum.

NOTES BY THE REV. G. H. TOMKINS.

I.

SUGGESTED IDENTIFICATION OF BERTHAI OR BERTHAL.

THIS place, so important on the northern frontier of Palestine, has never yet been fixed. The name B-rôthai, **ברותה**, is only given by Ezekiel (xlvi, 16) in setting out the boundaries of the tribes. I do not doubt that it is the B-rôthai, or B-rôthi, **ברותי**, or **ברתי**, of 2 Sam. viii, 8, a city of Hadadezer, King of Zobah, taken from him by David. I hope to show that this place may now be identified in a very interesting way, both by its name and by its probable position, and I will take the matter as it came to me, only premising that if I am wrong in separate points still my main position may hold good.

In the Karnak List of Northern Syrian towns made tributary by Thothmes III (Mariette, "Karnak," pl. 19, 20, 21) occurs Bur-su (141). In "Proc. Soc. Bib. Arch.," Jan. 9th, 1883, I made a guess at its being possibly the Bisuru of Assurnazirpal (now Tell Basher), but this did not satisfy me, and it occurred to my mind that the explanation might be found in the Semitic word for cypress, or perhaps pine-tree, viz., Assy. *burâshu*; Heb. *b-rôsh*, **ברוש**; Aram. *b-rôth*, **ברות**; Arab. (says Kitto) *burasi* and *burati*; Syr. vers. *berutha*; Chald. *berath*.

Now the *Bursa* of Thothmes is very close to the Assyrian *burâshu*, allowing for the Syrian *s* instead of *sh*, which the Rutennu, lords of the land in the time of Thothmes, would use. *Burasu* and the Egyptian transcript *Bur-su* are one word, and this led me to the country of coniferous trees, and to the name B-rothai in the Bible.

It has been supposed that the B-rôthai of Ezekiel is Beirût, but I think this quite inadmissible from the situation of Beirût, and also from the name, which seems much more likely to be Heb. **בארות**, wells; and here I think Egyptian records will help us. For we have a Beerôth in the Palestine List of Karnak, No. 19, *Barta*, so recognised both by Mariette and by Maspero (Zt., 1881, p. 123). And again, we have Beirût in the Mohar's travels, *Bartha* (Brugsch, "Geog. Inschr.," vol. ii, 42; Pierret, "Voc.," pp. 124, 126). And these names differ from *Bur-su* as Beerôth, **בארות**, from *B-rôsh* or *Burâsu*, *Berutha* in the Syriac, and B-rôthai in Ezekiel, and B-rôthi in 2 Sam. viii, 8, which might well be near Riblah, but could not be Beirût, a place of the Phœnicians who were friends and close allies of David.

But I am anticipating. In the very interesting letter of M. Clermont-Ganneau (*Times*, Dec. 29, 1883, *Quarterly Statement*, Jan. 1884), the name of Wady *Brisa* struck me in connection with the rock-inscriptions of Nebuchadnezzar found there by M. Pognon, who thinks "that these texts mark the site of a timber-yard where trees were cut to be sent to Babylon." Now this seems to me to cohere with all the evidence, as I will try to show.

The name of the wâdy, "one of the wildest valleys on the eastern slope of Lebanon, about two hours from Hermel," appears also as the name of a place, *Brisa*, in the beautiful *Carte du Liban* of the French Imperial Government, at the mouth of the wâdy, down which a stream is marked as flowing to the Orontes. *Brisa* seems to declare the root B-R-S, which in various modifications signifies *to cut* (including B-R-TH), and this is the key to the names given above as designating the cypress, or pine, which was regarded as *timber* for hewing.

Now in Syriac names habitually end in the vowel *a*, and (as we have said) take the sound of *s* rather than of *sh*. And I think *Brisa* may well be so called from the tree in question, which Mr. Carruthers, of the British Museum, takes to be the *Piceus Halepensis* ("Bible Educ.," iv, 359); and it may well be this tree which the conquered people of the Lebanon are represented as felling for Seti I, that he might build a great ship, and rear their stately stems as masts for the bright streamers in front of his temples.

We know that Thothmes III led his armies to the Lebanon, and thence drew the tribute that pleased him. The ships of Phœnicia were laden with sticks of timber and masts, together with long poles of wood for [the dwellings of] the king, who had founded in the country of Lebanon a fortress of unusual strength, named after himself, near the Phœnician cities of Aradus and Simyra at the foot of Lebanon (Brugsch, "Hist.," vol. i, pp. 334, 336).

The great valley of Cœle-Syria, the course of the Orontes, the new walls and towers of Kadesh, were well known to this hardy warrior-king. And I know not why the name Bursu should not have marked the place in his time, where Nebuchadnezzar gathered his stores of pine-timber so long afterwards, and which is now known by the name of *Brisa*.

Possibly another name, hard by *Brisa*, may illustrate this supposition. In the *Carte du Liban* I find on the other side of Hermel a place marked *Erénich*.

Now *érina* is the Assyrian name for the cedar, as in Hebrew עֵרֵן occurs in Isaiah xlv, 14. May not *Erénich* be named from *érin*, as *Brisa* from B-rôsh?

I will now endeavour to prove that *Brisa* is a very likely site for *Berôthah*, taking that place also as the B-rôthi of Samuel.

It was one of the cities of Hadadezer, King of Zobah, whom David defeated towards Hamath, where an intrusive Hittite king, Toû, was at war with Hadadezer (see Sayce, "Fresh Light from the Monuments," p. 163.) It is not surprising that Hadadezer, who had subjugated the

minor "kings of Zobah" whom Saul had beaten, should hold lordship over the upper course of the Orontes.

And, as far as we know, Brisa will suit Ezekiel's boundary right well. Unfortunately "the way of Khethlon" is not known. May Heit, west of Riblah, be Khethlon? It is on the way from "the great sea" to Zedad, *i.e.*, Sudud (Ezek. xlvii, 16). I think this description may be partly cleared as follows: "from the great sea the way of Khethlon towards the entrance to Zedad-Hamath [or Zedad of Hamath]; Berothah, Sibirin (which is on the frontier of Damascus and Hamath); the middle Khatser (which is on the frontier of Khauran); and the frontier from the west Khatser-Ainûn the frontier of Damascus, and Zephôn [the Orontes, as Captain Conder suggests] northwards, and the frontier of Hamath." The Septuagint, which is very confused, seems to read Zedad-Hamath as one name transposed, *viz.*, Hemaseldam. If we take it as meaning Zedad of Hamath the difficulty of getting Hamath into the frontier-list disappears; and then all will go consistently. For we thus cut out the Phœnician territory, including the Lebanon, by a line following the opening of the Nahr el Kebir to a little south of the Bahr el Kades, then striking the Orontes near Hermei, and perhaps making its south-east corner at Sabura, west of Damascus (Sibirin? סבירים), and then westwards to the north of Hermon until it finds the sea again. This will not take the frontier to Zedad, but to the entrance (לברא), "as men go to Zedad" (A.V.), or, as the Vulgate puts it, "a mari magno via Hethalon, venientibus Sedada."

Then Khatser-ainûn, if it be at 'Ain el Asy, as Captain Conder suggests, would be quite in the line following the higher waters of the Orontes (Zephon), and he says that it is "close to the present north-west limit of the Damascus district."

But the situation of Berothah seems to be nearly settled by one Biblical coincidence. The place called Berothai in 2 Sam. viii is designated Kôn, כּוֹן, evidently the Conna of the Antonine Itinerary, in the parallel text of 1 Chron. xviii, 8.

This has been set by Porter and the *Carte du Liban* at Râs Ba'albek; but the thirty-two Roman miles given from Heliopolis will overreach Râs Ba'albek, and accordingly Captain Conder suggests Kamû'a el Hirmil. But this distance will very nearly bring us to Brisa, which may surely well be B-rôthah and Kôn.

If indeed the Brisa of the rock-inscriptions of Nebuchadnezzar were the Bursu of Thothmes, and the Biblical Berotha, it would be a wealthy place, and David might well have taken "exceeding much brass" thence. And this would bring David's northern limit very near to the land of the Hittites and to Kadesh, as the record of his census shows in 2 Sam. xxiv, 6.

P.S.—I think it a very interesting thing that in the Karnak List of Northern Syria, No. 246, is found the name *Leba*, which must, I think, be *Lebach* on the road half-way between Ba'albek and Brisa, which

"modern name is sometimes pronounced *Lebu*," says Captain Burton. "It is the Lybo or Lybon of the Antonine Itinerary." ("Unexpl. Syria," vol. i, 64) [? Libo].

II.

THE QUÊ OF THE ASSYRIAN ANNALS IN THE BIBLE.

THE land of Quê, mentioned by Assyrian kings in their records of conquest, was the plain of Cilicia.

In the last work which, still incomplete, left the hand of the lamented Fr. Lenormant ("Les Origines de l'Histoire," vol. iii, p. 9), he has pointed out the interesting fact that this land is mentioned in 1 Kings x, 28, and 2 Chron. i, 16, where the word translated in A.V. "linenyarn" has so perplexed the interpreters. Jerome has given the true sense: "And horses were brought to Solomon from Egypt and from *Coa*, for the king's merchants bought them from *Coa*, and brought them at a settled price;" and similarly in the parallel passage. In the Hebrew it is קוֹן, סוֹן, and it is to be noticed that "all the kings of the Hittites" must include the King of Quê, as indeed we know.

In the Septuagint the name is given as Thêkouč, Θεκουč, but I think this was caused by the Egyptian prefix *Ta*, meaning "the land," which might be familiar to the Alexandrian Jewish scholars.

This is an excellent instance of the light to be gained from Assyria for the explanation of the Bible. The name Quê also occurs in Egyptian records in the composite personal name of Kaui-sar, a Hittite officer in Egypt.

III.

LUZ IN THE LAND OF THE HITTITES.

CAPTAIN CONDER thinks that the Lûz built by the man who betrayed Bethel (Lûz), as recorded in the Book of Judges (i, 22-26), may be the present Lûweizeh, near Bâniâs.

But if a more remote and northerly part of the "land of the Hittites" is to be preferred, it may be worth notice that in Rey's map a place called Qalb Louze is marked between Aleppo and Antioch, in the middle of the Hittite region.

IV.

THE NAME BETH-LEHEM.

THE ordinary meaning given to the name Beth-lekhem is "house of bread," the modern name being hardly different at bottom, viz., "house of flesh" in Arabic, since the root **לחם**, to eat, is only varied in application, as we now restrict the old general word "meat" to flesh-meat.

But I have long suspected that Beth-lekhem was originally a sacred place of the Lakhmu of whom we read in the Chaldean cosmogony (G. Smith, "Chaldean Genesis," by Sayce, 58, 60, &c). Lakhmu and his female counterpart Lakhmu seem to have been deities of fertility.

There is another Bethlehem (of Zebulun), equally called Beit Lahm, an old city of the Canaanites (Josh. xix, 15), "in the midst of an oak forest," says Dr. Porter (Murray, 370), a better place for a sanctuary of Lakhmu than for a "house of bread."

I think this Lakhmu will also account for the name of "Lakhmi, the brother of Goliath the Gittite, whose spear-staff was like a weaver's beam" (1 Chron. xx, 5), and vindicate the text of the passage in the Chronicles in preference to that in 2 Sam. xxi, 19, which is otherwise doubtful. This devotee of Lakhmu would well match the son of Anak devoted to Saph (Saphi) "of the sons of Rapha" in the verse before. (See my paper on "Biblical Proper Names," Trans. Vict. Inst., 1882.)

Perhaps Lakhmam, or Lakhmas, may be similarly named. It is supposed to be the present El Lahm, very near Beit Jibrin. "The situation appears satisfactory. The site is ancient" (*Quarterly Statement*, 1881, p. 53). This brings us to the very haunt of the sons of the giant, "the house of the giants." "We still find the neighbourhood of this town [Beit Jibrin] producing an exceptionally tall and fine race of peasants, greater and more stalwart men than those to be found in any other part of the country." So wrote the late Professor E. H. Palmer ("Jewish Nation," p. 58). Captain Conder speaks of the "gigantic sheikh" of this place ("Tent Life," vol. ii, p. 153). Indeed this Lahm might well be the home of "Lakhmi the brother of Goliath the Gittite," and Gath is only twelve miles off. That the old heathen significance of Lakhmu should resolve itself into "bread," and the proper name Lakhmi become unintelligible to the Jews, would be only characteristic of the purification that so signally swept Western Palestine of the monuments of its pristine idolatry, of which, however, the quaint memorials linger in occult forms of names and old-world folk-lore of the fellahin, as M. Clermont-Ganneau and Captain Conder and others have disclosed.

V

ZOBATH, ARAM-ZOBATH, HAMATH-ZOBATH.

ZOBAN has, I think, never yet been identified, unless, indeed, by the lamented George Smith in his last explorations from Aleppo.

Dr. Friedrich Delitsch, in his work "Wo lag das Paradies?" p. 266, gives most interesting extracts from George Smith's last pencil notes, in which he wrote: "(April) 6 (1876): 2.30 p.m. to 6.30 p.m. on to Sfirā. —7: 6.15 to 3.30. Kanassar, at corner of lake building of basalt, road through hills, large city by lake. Greek inscriptions and remains, remains of large camp near city—earth inclosure.—8: 3 hours past end of hills to Zobat or Zibat 4 miles round extensive ruins. Many Greek inscriptions, nothing earlier, tombs on hills.—9: 8 hours to Meskench, (Tipsisah.)"

Now the name Zobat would agree with the Assyrian form of the name Zubitu, or Zubutu: and the place, more than a quarter of the way from Aleppo to Palmyra, would surely suit well enough for Zobah. Professor Sayce considers Pethor, at the outlet of the Sajur into the Euphrates, to have been in Aram-Zobah, and says: "The territory Zobah, which extended into the desert towards Palmyra, adjoined Aram-Rehob, and Aram-Maachah (2 Sam. x, 6). Aram-Maachah again bordered on Geshur "in Aram" (2 Sam. xv, 8; iii, 3); and both formed parts of the territory allotted to Manasseh (Josh. xiii, 11, 13). However, Rehob and part of Zobah alone are included under the name of *Arama* or Aram in the Assyrian inscriptions, which place them on the west of the Euphrates, southward of Pethor and the R. Sajur" (Queen's Pr. Bible Supp., p. 69).

Is it not possible that the Tōb of 2 Sam. x, 6, whence the Ammonites hired Arameans against David (with the warriors of Zobah, Beth-rehob, and Máakah) may be found at Taiyibeh (marked Tyba in ancient maps), between Palmyra and Thapsacus, and that Rehob may be Ruheibeh, north-east of Damascus, on the old route to Palmyra by Geruda (Porter, "Syria, &c.," p. 505). It does not seem necessary that this Rehob should be the same as the northern limit of the reconnaissance of Joshua's spies. The name is frequent.

"Maachah," says Canon Tristram, "lay east of Argob (Deut. iii, 14), and east of Bashan (Josh. xii, 5)."


As to Khamath-Zobah, may not this be explained as the *warm baths* near Kanasir in the land of Zobah (תמח, the same in Hebrew without points as Khammath, viz., the present Hammâm ("Unexpl. Syria," vol. ii. 180), just as at Tiberias the Khammath of Josh. xix, 35, now Hammâm Tabaríya?


P.S.—Is it possible that the name Ma'akah may in altered shape survive in the Tell Umm Ma'azah, visited by Burton and Drake, north-east of the Lejah? ("Unexpl. Syria," vol. i, p. 231.)




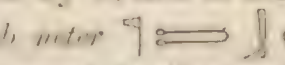
EXPLORATION IN THE DELTA OF EGYPT.

BY THE REV. H. G. TOMKINS.



IN the *Quarterly Statement* for January, 1884, some account was given of the important work of M. Naville for the Egypt Exploration Fund in the Wâdy Tumilât, *i.e.*, the valley of the Sweet-water Canal. Since the memorable discovery at Tell el Maskhutah much has been done at Sâh by Mr. Flinders Petrie; and just now the subscribers to the Egypt Fund have received M. Naville's Memoir on "The Store-City of Pithom, and the Route of the Exodus." Of this I will first write something, and hope in a later number of the *Quarterly* to give a short account of the last year's work, and of that now in hand.

M. Naville's Memoir is handsomely got up, and contains thirteen plates and two maps. The plates are photographic, and represent the statue of the recorder and the sculptured hawk, both in the British Museum by the gift of H.H. the Khedive to the Committee, and of the Committee to the Museum. The plates give the inscriptions found by M. Naville. In these the name of the nome is given, that of the district, and that of the "store-city." The nome is , the 8th nome of Lower

Egypt. The district is , the last form being truly equivalent to the Hebrew כְּנֹת, letter for letter.

With regard to the equivalence of  and  the instances given by Brugsch in the *Zeitschrift f. Aeg. Spr.* 1875, p. 8, are conclusive, and so says M. Naville, p. 6: "The letter  which was pronounced *th* is often transcribed in Greek and Coptic by σ , and in Hebrew by ט . The name of Σεβένυτος, Sebennytus, *Theb neter*  is a striking proof of this assertion, which is corroborated by the spelling of many common names. I need not dwell on this philological demonstration, which seems to me quite conclusive."

Yet a writer in the *Athenæum* of February 14, 1885, has the hardihood to pronounce that "the philology that can identify the *Oukat* of the hieroglyphics with the כְּנֹת of Exodus xii, 37, is worthless.¹


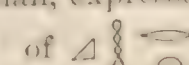

The "store-city" is called by the name of its sanctuary, spelt both ideographically and phonetically, , Pi-Tum, Hebrew פֶּתֶם, and , Ha-neter Tum, which equally means the sanctuary of Tum; and the tutelary god of the place is identified by various and conclusive

¹ I am glad to find that M. Naville agrees with me in an interesting point: "Rev. H. G. Tomkins has pointed out that we have the Assyrian transcription of Succoth in the Iskhût of Essarhaddon. *Academy*, March 3, 1883." Mem. p. 6, note.

proofs besides. In the *Deutsche Revue*, March 1884, p. 358, Brugsch gives his adherence to M. Naville's conclusion in most undoubting language.

I have already pointed out in the *Quarterly Statement* for January, 1884, how singularly the structures disclosed at Tell el Maskhutah, even in minute details, tell their own tale and bear out the precise and unusual particulars of the story in the Book of Exodus with regard to bricks, and straw, and reed, and the short supply, and the "hard bondage in mortar." It will not be doubted, I believe, by those who weigh the manifold monumental evidence, that we have there the store-city Pitum, built by the enthralled children of Israel.

It is in the large and important tablet of Ptolemy Philadelphus that we get some most interesting clues to further geographical discoveries.

The most curious is the mention of a place, with a sanctuary of Osiris, called , Pi-keheret, which seems, as M. Naville supposes, to have been "the second sanctuary of Heroöpolis, at a short distance from Pi-Tum, but nearer the sea." He compares the name with the Pi-Hakhiroth (Exod. xiv, 2, 9; Numb. xxxiii, 7), פִּי הַחִירוֹת; LXX (Numb.) τσοστόμα Εἰρώθ; Vulg., Phihahiroth. In Numb. xxxiii, 8, we have merely Hakhiroth; LXX, Εἰώθ. The name itself seems to be, therefore, Egyptian, expressed in Hebrew חִירוֹת. This would, I think, convey the sound of  well enough. Considering the determinative (a serpent), may we not compare , "serpent of the lower hemisphere" (Pierret. Vocab., p. 372)?

The ascertained position of Pi-tum and the indication of "Pihakhiroth" of Exodus put us on the sure line of march of the Israelites. I would recommend students of these questions to read the new edition (just out) of the very able and important work of the Abbé Vigouroux, "La Bible et les Découvertes Modernes," 4^{me}. edⁿ. Paris. Berche et Tralin, Tome II.

In a future *Quarterly Statement* I hope to return to some detailed points of geography of the eastern part of the Delta. Meanwhile it is most satisfactory to know that M. Naville has undertaken excavations at an important point near Fakûs in the heart of the land of Goshen.

In the great ruined and deserted capital of the Delta, Zoan, Tanis, Sâh, Mr. Flinders Petrie has entered on a course of thorough examination in his methodical and perfect style. It must be remembered that he has done much valuable service, which scholars will appreciate, in pioneering; having sifted the first tentative suggestions in very many places, and ascertained at what spots work will be worth the cost. All this is of very high practical importance, besides the actual results, of which I hope to speak in the next *Quarterly Statement*, with regard both to biblical and to classic antiquity.

The Rev. W. C. Winslow, of Boston, the Hon. Treasurer for America, is doing most active and successful work; and with regard to support at home it is especially to be noted with much pleasure that the Hellenic Society has given an earnest of approval and practical interest by a

donation towards the cost of excavations at the spot where Mr. Flinders Petrie has, in all probability, hit upon the ancient Naucratis, the one Greek colony of later Pharaonic times. The Hellenists will revel in the spoils of this mine of early Greek art, while the Biblicists will await the certainly important tidings of further exploration in Goshen and the "Field of Zoan."

THE SITE OF EMMAUS.

BY THE REV. P. MEARNS.

THE interesting narrative of our Lord's journey to Emmaus, with two of His disciples, on the day of His resurrection, has caused much attention to be given to the question as to the site of the village; but, until recently, nothing satisfactory had been suggested in the way of identifying the site. Mrs. Finn's identification of Emmaus with Urtâs, in the valley of Etham, near Bethlehem, has been received with much approval, as it well deserves to be. But certain objections have been urged against this discovery by writers who have paid some attention to the subject, and such objections ought to be carefully weighed. One thing seems to me certain, however, that if Urtâs be rejected the site is still entirely unknown.

Two writers, who both held theories of their own, have stated objections, in the *Quarterly Statement* for October last, to Mrs. Finn's discovery. It has been remarked by a shrewd observer of men and manners, that when a man has made a speech in favour of an opinion he is not likely to change it, even after he finds strong objections stated against it; but, if he has written a book in its advocacy, there is no longer any hope of his abandoning it. Mrs. Finn's critics naturally wish credit for previously expressed views; but others will be careful to weigh the evidence on both sides. The two objectors to Mrs. Finn are not themselves agreed; and, whatever may be said of her discovery, I think we must throw their theories overboard; for they do not seem to me to meet the requirements of the case. It appeared to me at first, as it does still, that none of the sites recently discovered in Palestine have been supported by evidence more conclusive than that produced by Mrs. Finn in favour of Urtâs as the true Emmaus.

Mr. Henderson says—"At the risk of being classed among cavillers I venture to give reasons for entirely dissenting from the proposed identification." He refers to Lightfoot, "who proposed to identify Etham with Emmaus, not only anticipating Mrs. Finn's proposal, but giving another, and (as he thinks) more plausible support for it than she has done." This remark is curious, especially as following his strong dissent. It cannot mean, that because the learned Lightfoot went to the valley of Etham for the site of Emmaus, Mr. Henderson "entirely dissents from" the proposal of Mrs. Finn to go to the same valley for the same purpose.

Perhaps he merely meant to refuse the credit of the discovery to Mrs. Finn because Lightfoot made a remark somewhat in the same direction. He thinks that Lightfoot anticipated Mrs. Finn's proposal, and gave more plausible support for it; and we almost expect him to add, therefore I yield to Dr. Lightfoot rather than to Mrs. Finn. Any one who has read Lightfoot's remark will see that it is feeble compared with the conclusive evidence adduced by Mrs. Finn; but we accept the identification with equal readiness, whether it is made by Lightfoot or Finn.

Mr. Henderson begins his objections thus:—"There is no evidence to show that 'the bath' Mrs. Finn writes of is of the age she assumes—that is, was old enough, not to say important enough, to give its name to a place known to Luke and Josephus." The reader is apt to suppose from this remark, that Mrs. Finn had incidentally found a bath among the ruins at Urtás, and at once inferred that it was old enough to have given the name of Emmaus to the place before the days of Luke and Josephus; but, on turning to her paper in the *Quarterly Statement* for January, 1883, he will find that she has not said anything like this. After a personal examination of all the places, within $7\frac{1}{2}$ miles of Jerusalem, that had been or might be proposed as the site of Emmaus, she fixed on Urtás as the only one that met the requirements of the narratives of Luke and Josephus. Her conclusion was not hasty, but was reached after a prolonged investigation of ten years. The ruined buildings had been concealed by 20 inches of soil; but she said that diggings might bring the buildings and the baths to light. "Several years passed before funds for making excavations were forthcoming;" but at length excavations were made, and both the buildings and the baths were found. Mrs. Finn thinks that there is reason to believe that baths had been used here in ancient times from the days of Solomon. It is a caricature of her remarkable discovery, to say that she found *one bath*, and concluded that it was old enough to have given name to the place.

Mr. Henderson's second objection is, that "the existence of a bath, or baths, in a valley down which flows abundance of water is not, *primâ facie*, a thing so special as to explain the distinctive name of a village." He does not say that the excavations carried out under the direction of Mr. Cyril Graham and Mrs. Finn brought several baths to light; but he slips in the words "or baths" to cover the whole. The reader who fails to turn to Mrs. Finn's paper will form a very incorrect idea of her discovery from the representations of Mr. Henderson. The local name of Urtás is Hammâm, which like Emmaus signifies baths; and a rock there has the name *Leeyet al Hammâm*, that is, "the promontory of the baths." Here was abundance of water, and baths, and the very name Emmaus in its local form. But Mr. Henderson thinks that "if every place is to be recognised as a possible Emmaus where the name 'Hammâm' is found, we shall have plenty to choose from." It is not a "possible Emmaus" that is wanted, but one $7\frac{1}{2}$ miles from Jerusalem, with the other necessary requirements, and, if we give up Urtás, instead of many places to choose from, there is not one left.

Mr. Henderson's other objections are equally trifling. Jerome looked away from Urtâs, which was near Bethlehem, where he was living, to Nicopolis, which was far away, as the Emmaus of Luke. Mr. Henderson rejects Jerome's opinion, for this Christian Father favours Nicopolis; but he tries to get an argument against Mrs. Finn from his very silence. He appeals also to the silence of Meshullam, who is now dead; but how does he know what Meshullam had heard of Emmaus or Hammâm? As M. Meshullam and Mrs. Finn were joint-cultivators of the ground at Urtâs, it is likely that she had told him all she knew about the name, and probably he knew of it before her, as he had lived for years on the spot. Mr. Henderson thinks that Urtâs refers to the old gardens of Solomon; and that it was an older name than Emmaus; but he has not produced a particle of evidence for this opinion. Mrs. Finn's explanation is much preferable—that the Roman soldiers, who were settled there after the destruction of Jerusalem, changed the name from Emmaus to *Hortus*, the Latin name for garden; and that the natives corrupted this name into Urtâs.

Mr. Henderson is favourable to the claims of Kubeibeh, for which place not much can be said, except that it is about the proper distance from Jerusalem, which might be said of many other places equi-distant with it. The Crusaders fixed on it; but their opinion does not count for much. In publishing an account of my journey in Palestine in 1881, from Joppa to Jerusalem, I had occasion to remark—"It is a pity we can ask no more than probability for Kubeibeh" as the site of Emmaus. I could get no reliable information regarding the site. Since the publication of Mrs. Finn's discovery, in 1883, there is no longer a *probability* in favour of Kubeibeh. Mrs. Finn was aware of its claims; but, after a personal inspection, she concluded that neither there, nor anywhere else at the distance of $7\frac{1}{2}$ miles from Jerusalem, is there a sufficient supply of water for the baths of Emmaus. Professor Robinson says, that it was only in the beginning of the fourteenth century, when traces began to appear of the "idea which fixed an Emmaus at Kubeibeh; a transfer of which there is no earlier vestige, and for which there was no possible ground, except to find an Emmaus at about sixty stadia from the Holy City."

Mr. Henderson is not strongly in favour of Kubeibeh—he gives his readers a choice of it, or Khamasa on the other side of Jerusalem: he is only strongly against Urtâs, the true site. He was formerly an advocate of Khamasa, but the distance of ten miles from the city appears to have cooled him; although he retains the name, in the face of this formidable objection, so far as to offer his readers a choice between Khamesa and Kubeibeh. Lieutenant Conder's objection to Khamasa is unanswerable—"The distance of Khamasa is $8\frac{1}{2}$ English miles (some seventy stadia) in a straight line, and 10 by road" (*Quarterly Statement* for 1881, p. 274). Mr. Henderson reserves a right to offer a choice of Khamasa after it has been given up by everybody else who has given attention to the subject.

The second letter is very incorrectly printed. I therefore avoid

referring to what may be only typographical errors. But the letter is more distinguished by confidence than caution. Mr. Kennion begins by saying : "Mrs. Finn's case rests on a mistaken inference from the words of Josephus about the Galilee Emmaus." He ought to have been very sure of his ground before writing down so sweeping a condemnation of so esteemed a writer as Mrs. Finn. She is not likely to have rested her whole case "on a mistaken inference." On examination it will be found that Mr. Kennion is mistaken, and not Mrs. Finn. He says that Josephus interprets the name Emmaus "to mean *pro hæc vice* hot wells. But he certainly does not intend it to be understood that the name Emmaus always has that meaning." But Josephus, in fact, does not interpret the name Emmaus to mean, either for the occasion referred to or any other, "hot wells." The word he uses is *θερμα*, *warm baths*, referring to the gentle heat of baths. But if he had meant hot springs he would have used the feminine, *θερμαι*. Josephus says, that the meaning of a warm bath was particularly applicable to the Tiberian Emmaus; for in it was a spring of warm water, to supply the bath, and useful for healing. The historian distinctly says, that the name always points to a warm bath. The Hebrew Hammath also signifies "warm baths," rather than hot springs, as Dr. Tregelles remarks under the word in his edition of Gesenius. At Emmaus Nicopolis there was a healing fountain, and the baths supplied by it gave name to the place. Neither at Nicopolis nor Urtâs is there a hot spring now, whatever there may have been in the days of the Bible; but Mrs. Finn thinks that the name might be given to a place famous for its baths artificially heated. Mr. Kennion asserts that there is "no ground for the assumption with which Mrs. Finn sets out, that the interpretation given by Josephus to the Galilee Emmaus is to be extended, or has any application to any other Emmaus." But the truth is, that Josephus records the fact that the name was applied to three places—Tiberias, Nicopolis, and the village $7\frac{1}{2}$ miles from Jerusalem; and he intimates no limitation of the general meaning he assigns to the word.

Mr. Kennion gives a much better account of Mrs. Finn's discovery than Mr. Henderson does. He says:—"The copious fountain in the Urtâs valley attracted her attention, as being sufficient to supply baths. The recollection of once visible traces of baths still existed in the neighbourhood: search is made: remains of extensive and luxurious baths are brought to light, dating very probably from the days of Herod the Great: and Mrs. Finn concludes that she has found Emmaus." We almost expect him to add, as he might well have done, I agree with her, and accept this as a highly interesting and important discovery. It is therefore disappointing to find him adding, "I submit that, just as every Emmaus was not a Hamath, or hot spring, so every discovery of Hammâm, or baths, is not the discovery of an Emmaus. That there were Hammâm at Urtâs Mrs. Finn has discovered as a veritable and interesting fact. But that the village itself, or the district, was ever known by the name of Emmaus, or even of Hammâm,

Mrs. Finn has not advanced a fragment of evidence." I have already shown that Emmaus is never a hot spring, but a hot bath, and that the three places to which, according to Josephus, the name was applied had all a spring for the supply of baths, and that Mrs. Finn found the local name for Emmaus at Urtâs. We do not speak of "a fragment of evidence" merely, but we say that the chain of evidence in favour of Urtâs is complete, not one link being wanting.

Mrs. Finn remarked in her paper that Emmaus had been "chosen for a Roman settlement of military colonists, 800 strong;" and she added that "Cæsar ordered the lands of Judæa to be put up for sale, *all but one place*, which he reserved for 800 men, whom he had dismissed from his army—which he gave them for habitation." She thought it "not likely" that Kolonieh would have been chosen for the Emmaus settlement; "for it would have been altogether useless on the western side as a check on the eastern fortress of Masada, or on the mountain district in general, being too much off the upper plateau of Highlands." Mr. Kennion objects that "the colonisation referred to was in no sense what she calls it, *military*. It was a *grant of land* to 800 *disbanded* veterans, for their residence and possession." Unintentionally no doubt, but not the less really, does he here misrepresent Mrs. Finn. He does not quote her words, but he conveys the impression that, according to her, the 800 soldiers belonged still to the regular army, and that they were stationed at Emmaus solely for defensive purposes. But she called the company military only because it consisted of soldiers dismissed from the army; and they would require some fortification to defend themselves from the sudden attacks of neighbours in those times of war and confusion. Their very presence would be a protection against incursions from the east side of the Jordan. Mr. Kennion puts emphasis on the words *grant of land* and *disbanded*, as if to intimate that Mrs. Finn had said something contrary; but her words were confirmatory of both.

Mr. Kennion tries to get some help from Jerome, who blunderingly fixed on Nicopolis as the Emmaus of Luke, and overlooked the true site; but he admits the fact that the true site was not known in the days of Jerome, so that he can get no help from him.

He mentions what he calls an *improbability*—that Josephus and Luke should have stated the distance from Jerusalem if the place was so near Bethlehem. He is at a great loss for arguments when he resorts to such an improbability. Josephus was likely to state the distance from the great city where the Romans completed their conquest of the Jews, when he was speaking of the destination of a portion of the disbanded army. And as for Luke, he was describing a journey, not from Bethlehem, but from Jerusalem to Emmaus, and probably the disciples only passed near, and not through, the City of David. His mistaken improbabilities lead him again to speak of "the fragile nature" of Mrs. Finn's arguments; but he is still dreaming; when will he awake? It is "as when a hungry man dreameth, and, behold, he eateth; but he awaketh, and his soul is empty."

Mr. Kennion concludes by propounding his own theory, which is, that the district of Emmaus in Josephus "lay along the valley that has Kolonich at its southern extremity," and that the village in Luke "was near the head of that valley, and reaching on to Kubeibeh." It is his old opinion, which he finds it hard to give up in favour of Mrs. Finn, whom, however, he thanks "for her valuable contribution to the discussion."

I have already referred to the claims of Kubeibeh, which really have no weight in the presence of Mrs. Finn's discovery. As for the district beginning at Kolonich, four miles from Jerusalem, it is impossible that Josephus, who knew the district well, could have said that it was $7\frac{1}{2}$ miles from the city. The proposal of this site must therefore be regarded as utterly untenable. But no discovery of baths is mentioned at Kubeibeh; and the reader now perceives why the writer was led into the error of asserting that Josephus explained Emmaus to mean hot springs, and that baths were not necessary to every Emmaus. He shuts his eyes against the flood of light which Mrs. Finn has thrown on the subject, and says: "One conclusion is indisputable, that no other location of St. Luke's Emmaus could by any possibility combine so many rays of light as converge upon the Wady Buwai." His conclusion is not only disputed, but we may pronounce it utterly impossible to accept the site he proposes. All was doubt and uncertainty about the site of Emmaus till the publication of Mrs. Finn's paper; but now all appears clear and certain.

Coldstream.

ZION AND OPHEL.

BY J. M. TENZ.

Mr. Birch and Dr. A. H. Sayce are confident that Mount Zion stood on the south side of the Temple mount which descends down to the lowest part of the valleys surrounding Jerusalem, and Dr. Sayce, in his "Topography of Præ-exilic Jerusalem," in the last *Quarterly Statement*, takes it for granted that it is no longer possible to deny it. Yet the valley which Dr. Sayce shows in his sketch map to divide Ophel from his little Mount Zion on the lowest hill of the city has no existence.

We may also justify the remarks made by Captain Conder in reply to Mr. Birch on the same subject in the last *Quarterly Statement*.

Josephus, the great historian of the Jews, who is so much blamed for his errors, and attributed errors, is yet the most reliable authority, as it has in many cases been proved by recent discoveries.

Having for many years taken great interest in the history of Jerusalem, the Temple, and the discoveries made from time to time by exploring

parties, and having also carefully constructed a model of that city when in the time just before its destruction by Titus, I may be permitted to give my opinion on the topography of ancient Jerusalem.

The "upper city" of Josephus answers to all requirements of Mount Zion, the City of David. "Walk about Zion, and go round about her, tell the towers thereof, mark ye well her bulwarks, and consider her palaces," means many towers, extensive walls, numbers and important palaces, which could not have all been placed on the lower slope of the Temple-hill, which by Josephus is called the suburb.

In a military point of view we may naturally suppose that the uppermost hill was "Mount Zion, the stronghold of the Jebusites." History and recent discoveries support it. When the Israelites took possession of their promised land, Jerusalem fell to the lot of Benjamin (5 "Ant.," i, 22), "but the Jebusites who inhabited it were not driven out until the time of David," "and the border went up by the valley of the son of Hinnom unto the south side of the Jebusite; the same is Jerusalem" (Josh. xv, 8). This passage sufficiently indicates that the border went up by the south valley, which is now called valley of Hinnom. The Tomb of David may also be looked for at or near the traditional site, which is over against, or near "the pool that was made" (Neh. iii, 16), which may well be the so-called lower Pool of Gihon, once one of the largest pools at Jerusalem.

The Dragon Well may be identified with the Virgin's Well.

On the arrival of Nehemiah at Jerusalem, the Temple was partly rebuilt by Zerubbabel; the king's high house (the site of which was in later years joined to the outer court of the Temple by Herod the Great) was probably restored, and the Nethinims had dwellings in Ophel; Nehemiah would have taken up his residence there, as the other parts of the city were still in ruins. On his night journey he would have proceeded from Ophel to the valley gate before the Dragon Well (Virgin's Well), then went on to the dung gate, probably the same as the gate between two walls near the Pool of Siloam, then to the fountain gate, a gate leading to the upper city. After he went up by the brook (Brook Gihon and Valley of Hinnom), then returned and entered by the valley gate (Neh. ii, 12-15).

Further explorations may result in the discovery of the site of the east, or Shushan gate, which according to the Talmud stood over against the east front of the Temple. Thus we would obtain the exact line from east to west through the centre of the Altar, which, I believe, stood on the rock in the Great Mosque. It has also been remarked, in one of the *Quarterly Statements*, that the sacred cubit, which is said to have been marked on the sides of the Shushan gate, may yet be found on the lower part, which must have been below the level of the court, with steps to descend to a much lower level of the ground outside the wall, but which is now to a great extent filled up. The discovery of that gate would therefore be of great importance.

It is still my impression that some remains of the second wall may yet be found on the east side of the Church of the Holy Sepulchre. It is quite possible that that church may cover the site of Calvary and the garden of

Joseph of Arimathea. Although, according to the Talmud, the place of stoning, and the discoveries of the ruins of St. Stephen's Church outside the Damascus gate, may favour Captain Conder's views of his supposed Calvary on a hill just outside that gate, yet the traditional site, which dates at least back to the time of the Empress Helena, ought not to be disputed until further discoveries can be made.

We sincerely hope that the Palestine Exploration Fund Society will be able to continue their work of exploration at Jerusalem, which is the only means to lead us to a satisfactory result.

December 10th, 1883.

CAPTAIN CONDER AND KADESH-BARNEA.

BY THE REV. H. CLAY TRUMBULL.

INASMUCH as Captain Conder has given special prominence, in the *Quarterly Statement*, to my volume on Kadesh-Barnea, as worthy of consideration in the settlement of a pivotal point in the lower boundary of Palestine, I venture to ask the privilege of calling attention to the main purpose of that volume—which he has not touched by his comments.

In "Kadesh-Barnea," I have subjected every Biblical mention of that ancient site to an examination, and have compared them all with each other, showing, as I believe, that many of them absolutely require its location at or near the site of 'Ayn Qadees, and that every one of them is consistent with that location; hence that there and there only its identification is properly to be looked for. If I am right as to this consensus of Biblical evidence, it follows that even if a Kadesh-Barnea be actually discovered elsewhere, it cannot, by any possibility, be the Kadesh-Barnea of the Bible-text.

This basal portion of my volume is, as I have said, left untouched by Captain Conder's criticisms; and if, indeed, he were found to be correct at every one of his more than twenty noted points of difference with my incidental suggestions of confirmatory evidence of the identification of 'Ayn Qadees, my claim that *there* is the site of Kadesh-Barnea would remain as strong as before, in spite of such errors in my confirmatory collatings.

But, lest Captain Conder's long list of apparent mistakes on my part should throw discredit on the really important portion of the volume, not dealt with by him, and so should deter from its examination those who know of it only from his criticisms, I desire to say, that after a careful re-examination of every point to which Captain Conder has taken exception, I am of the opinion that at no one of them has he shown an error in the work he criticises, while in a number of cases his own position is clearly untenable. Let me name a few illustrative instances.

1. I referred to the plain of "Es-Seer," or "Es-Sirr"—as noted by Rowlands and Wilson and Palmer—as a trace of the old name of "Seir," in the region south-eastward from Beersheba. Captain Conder says of this modern name: "Until it can be shown to contain the guttural of the Hebrew, it cannot be considered to represent Seir, especially as it should begin with *Shin*, nor with *Sin* or *Sud*." But Gesenius, Fürst, and other lexicographers, are positive that the Hebrew guttural (ע) is frequently interchanged with approximate sounds, and is sometimes dropped altogether. Captain Conder himself suggests this dropping, when he would find a trace of "Ba'al" in "Ballah." And Dr. John Wilson even cites this very word "Seir" (east of the Arabah) as an illustration of the exceptional dropping of the *'Ayn*. "Yet we have," he says, "الشراه (Esh-Sherah), for שֵׁעֵר (Seir)." And in this view Wilson is sustained by Burckhardt, by Koehler in his notes on Abulfeda, and by others.

Again, the lexicographers above-named give marked illustrations of the representing of the Hebrew *Sin* by the Arabic *Sin*, instead of *Shin*. This would seem to make it possible, certainly, for the name "Es Seer" to be a trace of the ancient "Seir," especially as the district where it is found did, as I think I have shown from the Bible-text, formerly bear that name—whether it be found there now or not.

2. I have claimed that the early Old Testament sweep of Edom clearly included the region also known as "Seir," where Esau lived before he removed to "Mount Seir." Captain Conder thinks that "the name Edom, or 'red,' must surely have been applied to the red sandstone country, and not to the white chalk plateau of the Tih." But the Bible says that the name Edom likewise came from the "red" pottage—which Esau ate on "the white chalk plateau" of his early home; "therefore was his name called Edom," and therefore was his land likely to be known as the land of Edom. I still incline to the opinion that the Bible statement has some basis of truth in it.

3. In explaining the causes of the long-prevalent error that there were two Kadeshes, I referred to the Rabbinical evidence that there were two Reqams, one of which was Petra, and the other was Kadesh. Captain Conder says, "I fail to find anything to support the view that there were two Rekens, one at Petra, one at 'Ain Kadis;" and he courteously suggests that "the second Reken seems only necessary to the theory of 'Ain Kadis being Kadesh-Barnea." But I cited the assertion of a well-known Talmudic scholar of more than two centuries ago, that, according to the Talmud, "there were two noteworthy places named Rekam on the limits of the land [the Holy Land]." Then I showed from the Talmud itself that one of these Reqams was in the region of Petra (probably identical with it) while the other (sometimes called "Rekam Giah") was on the westerly side of the desert, toward Askelon. The identity of 'Ain Qadees with this second Rebam I left open for other proof. Does Captain Conder really think that the Talmud was written in the special interest of those who would identify Kadesh at 'Ain Qadees?

4. Concerning the "Mount Hor in the edge of the land of Edom,"—which is not, however, an essential point in the locating of Kadesh-Barnea,—I claimed that the whole tenor of the references to it in the Bible-text forbid the possibility of its fixing at the traditional site, in a mountain stronghold of the Hebrew-tabooed Mount Seir; while every requirement of the sacred text is met in the suggested location at Jebel Madurah. The evidence of the Bible-text Captain Conder does not discuss; but he is sure as to "the consensus of tradition and opinion in the matter." I spoke of the possible vestige of the Hebrew name "Moseroth" (one of the names of the lower Mount Hor) in the Arabic "Madurah," "the consonants 'D' and 'S' having a constant tendency to interchange in Eastern speech." At this Captain Conder says: "I do not think this is the case. The soft T and the soft S (*Te* and *Sin*) are convertible, and so are the soft D or Dh and Z (*Dhal*, *Dal*, *Zain*), but I do not recall any instance where D and S are convertible." I did not say that D and S were "convertible," but that they had "a constant tendency to interchange;"—if Captain Conder is not aware of *that* fact, I am surprised; for the lexicons teem with illustrations of it, and Orientalists frequently refer to the fact. For example, from Freytag and Fürst: Hebrew, קָדַח (*Klatsa*); Arabic, حَادَا (*Hadada*); both meaning "to flee." Hebrew, נָסַח (*Nasakh*); Arabic, نَضَحَ (*Nadakhā*) and نَضَحَ (*Nadaha*), all three meaning "to pour out." Also in Arabic itself, such parallel forms as يَصَّصَ (*yassasa*), and نَفَّصَ (*naffasa*), "to open the eyes" (said of a young animal).

5. Incidentally I referred to the *correspondence* of the names "Zephath" and "Sebayta," and to the lack of the formerly claimed identity between "Zephath" and "Sufah." Captain Conder says: "The radical meaning of this name [Zephath] in Hebrew and Arabic is the same, 'to be clear,' 'bright,' 'conspicuous,' 'shining.' The identity of Zephath and Sufah can hardly be doubted by any who consider the root whence the two words originate. The suggestion of Sebaita or Sebata for Zephath has always seemed to me to argue a want of scholarship on the part of Rowlands. The Arabic name seems to be from the root Sebt, 'rest,' which has not a single letter in common with the root whence Zephath originates." But it is Professor Palmer who says ("Desc. of Exod," ii, 375 f.): "The name Sebaita is etymologically identical with the Zephath of the Bible, Zephath signifies a watch-tower." As to the root of the two words, it would seem that Captain Conder has mistaken, as a root, the Hebrew צִבְחָה (*Tsabhā*), "to shine," for צַפָּחָה (*Tsapphāh*), "to look about." The idea that Professor Palmer, having examined this word on the field and afterwards in his study, should have confounded the root of "Zephath" and "Sebayta" with so common a root as that of the "Sabbath,"—"which has not a single letter in common with the root" he was considering,—presupposes "a want of scholarship" on the part of that eminent Orientalist which English readers generally will not be ready to admit without some show of proof.

6. One of the many Hazars, or Hezrons, or border-territory "enclosures," of Canaan, is mentioned in the sacred text as lying between Kadesh and Adar. I stated that I found traces of one or two enclosures between 'Ayn Qadees and 'Ayn Qadayrat, which would meet that description. Thereupon Captain Conder says: "Dr. Trumbull has omitted to notice what appears to me to be a strong argument, which, as far as I know, I was the first to suggest, in the identification of Hezron." The site of Hezron which Captain Conder suggests is "the Hadireh hill west of Wady el Yemen"—quite out of the Bible possibilities of the case; and he says: "It is strange that Dr. Trumbull should have been quite silent as to this suggestion, which if it be correct settles the Kadesh-Barnea question for ever;" and Captain Conder even thinks that "the omission of any notice of Hadireh (in 'Kadesh-Barnea'), and several minor errors above pointed out, seems to spoil the completeness of the work." Yet the term Hazar, Hazor or Hezron, or the plural form, in simple or in compound, is so common as a descriptive one in the Bible story (see, *e.g.*, Num. xi. 35; xxxiv, 4, 9; Deut. ii, 23; Josh. xv, 23, 25, 27, 28; xix, 5, 36, 37; I Kings ix, 15; Ezek. xlvii, 16, 17), that if found by itself anywhere it would hardly be more determinative as a particular site than the term "camp." It is even shown by the Bible-text (Deut. ii, 23) that these Hazars or Hazarim were all along the southern boundary of Canaan, and four or five of them are noted, as near each other in that region, in the description of that border (Josh. xv, 23-28). The idea that the finding a trace of one of those "enclosures" "settles the Kadesh-Barnea question for ever," seems to me so utterly chimerical that I should not have felt justified in an attempt to refute it if it were not forced into fresh prominence by Captain Conder's renewed claim of its importance. I certainly accord to him all the credit of being, as far as I know, "the first to suggest" it.

7. I gave the Arabic name of "Qadayrât" precisely as it was written for me by my guide, who gave me also its English meaning as "the power of God." Captain Conder says that "it appears to be spelt with a *Dad* [instead of a *Dal*] by mistake." Yet the dialectic change of *Dad* for *Dal* is by no means uncommon in Arabic words, as the lexicons show. I simply gave the writing and the definition as given to me by a native Arab. Captain Conder has himself emphasized "the importance of studying the local peasant dialect of Syria," because of its throwing light on the interchanging of letters—like *Sin* and *Sad*—supposed by scholars to be "never confused." Possibly another example of this is to be found in *Dad* and *Dal*.

8. Quite outside of the question of the site of Kadesh-Barnea, but considered at some length in my book, is the route of the Hebrew exodus. Captain Conder says: "It is to be regretted, however, that sufficient notice has not been taken of the facts (both geological and engineering), which leave it indisputable that the level of the Red Sea has been changing, and that the Isthmus of Suez has been growing broader within historic times." In speaking of that which is "indisputable," Captain Conder probably

means that, in his opinion, the view he holds ought not to be disputed; —although he is aware that it is. I have yet to see any claim by a geological authority that the Isthmus *must have been* materially narrower in the days of Moses. The mere opinion of a geologist that it *might have been* so at that date, because it had been so long earlier, can weigh but little against the evidence and indications from history, sacred and profane, to which I have pointed in my book, that then it *was not* so.

9. My footnote remark, in passing, an incidental item of Egyptian history, that “the fortress of Kana’an has not been identified,” prompts Captain Conder to say: “This seems to have been written before Dr. Trumbull had seen my paper on the subject, as my suggestion of Kana’an a large ruin near Hebron, met with hearty acceptance from Mr. Tomkins.” In the English edition of my book (published by Hodder & Stoughton), I have mentioned Captain Conder’s proposed identification; but while I recognise the exceptional value of the Rev. Henry George Tomkins’s opinion in favour of one of Captain Conder’s suggested identifications, I still venture to repeat what I have already said in my revised volume, that, in my opinion, Khurbet Kana’an “does not correspond with the pictured [Egyptian] representation of a fortress on a detached hill, with a lake near it.”

10. Captain Conder’s mention of a “rationalistic explanation of the pillar of cloud and of fire, which seems suggested on p. 397” of my book, I do not quite understand; but I desire to relieve the text and the tone of my work from the imputation which “seems suggested” in that mention. Referring to the fact that “it was common for Eastern armies to be guided by a column of smoke moving on in their van by day, and by a streaming banner of flame before them by night,” I said that when Jehovah’s host went out from Egypt, “the Lord went before them by day in a pillar of cloud to lead them the way; and by night in a pillar of fire to give them light.” And to make it clear to every mind that I looked upon the Israelites’ guiding emblem as a supernatural and a miraculous display, I quoted approvingly the words of Kurtz, that the difference between the ordinary caravan-beacon and this one was, “that the one was a merely natural arrangement, which answered its purpose but imperfectly, and was exceedingly insignificant in its character, whilst the other was a supernatural phenomenon, beyond all comparison more splendid and magnificent in its form, which was also made to answer far greater and more glorious ends.” Possibly Captain Conder’s term “rationalistic explanation” was a slip of the pen, or a misprint, for “rational explanation.”

11. While admitting that I have shown the existence of an ‘Ayn Qadees at the site described, Captain Conder suggests that it may be “a monkish site;” since “the monks were not careful as to the Biblical requirements of their sites;” and he also says that, “generally speaking, one feels that the evidence has been rather twisted in favour of ‘Ain Kadis, though Dr. Trumbull has striven to be impartial and candid.” It is quite a fresh thought to me, that the monks were in the habit of fixing, in Arabic equivalents of ancient Hebrew, geographical sites of the Old Testament story,

in the Holy Land or the desert; although I knew that they located the homes, or the tombs, of Moses, and Aaron, and Samuel, and Elijah, and Jonah, and other Old Testament personages, without much regard to the Biblical requirements"—as in the case of Jebel Neby Haroon (called Mount Hor), for example. Their interest was, I supposed, in Bible biography rather than in Bible geography. Indeed in a work written since my re-discovery of 'Ayn Qadees, Captain Conder has said implicitly on this point ("Heth and Moab," p. 18): "There is, however, no better guide to identification than the discovery of an ancient name, and whatever may have been written concerning the migration of sites, we have not as yet any clearly proven case in which a Semitic indigenous title has wandered away from the original spot to which it was applied for geographical or religious reasons." Why Captain Conder would suggest an exception to his otherwise invariable rule, in this case of 'Ayn Qadees, is by no means obvious; for I certainly would not suggest that, "generally speaking, one feels that the evidence, or the argument," "has been rather twisted" by him *against* 'Ayn Qadees; for it must not be questioned that Captain Conder "has striven to be impartial and candid."

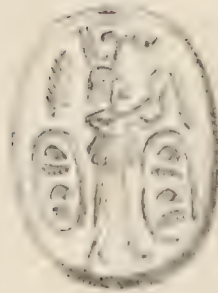
12. It would seem unnecessary for me to follow up in detail all the minor points touched by Captain Conder in his extended critical comments on my work; not one of which has any more force than those to which I have already replied. But there is a single other suggestion of his which I ought to note in closing. He says: "The map requires a word of notice, for it is not clear why 'Ain Kadis is there shown much further east in longitude than is the case in Palmer's map, or Holland's map." It is even in connection with *this* point that Captain Conder suggests the appearance of my twisting the evidence I would proffer. On the face of my map I said distinctly: "This map makes no claim to accuracy in the unsurveyed region of the Negeb. Any comparison of maps based on the researches of Robinson, Rowlands, Wilson, Palmer, Holland, Bartlett, and other recent explorers, will show irreconcilable differences in the contour of that region as portrayed by them. All that this map attempts is to indicate the outline and salient points of that region in the light of present knowledge, and as explained by descriptions in the text of the volume which it accompanies." I will now add, that on my return from the East I saw Professor Palmer in London, and talked over my discovery with him. He told me that he did *not* visit 'Ayn Qadees; hence he could not be sure of its location. We looked over his map together, and, in the light of all that I could tell him of my journeyings, he and I were agreed that 'Ayn Qadees must be farther east than he had supposed. Therefore it was that I entered it on my tentative sketch-map accordingly. As I understand it, Mr. Holland made no survey of the region, and the map which was prepared by General Sir Charles Wilson, to accompany Mr. Holland's posthumous notes of his journey, was also based on Palmer's (or Tyrwhitt Drake's) survey; hence, again, the location of 'Ayn Qadees was there given as erroneously indicated by Professor Palmer. *The difference in the location thus indicated affects in no degree, however, the question of identification*—an identification which the



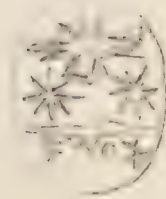
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ॐ नमो भगवते वासुदेवाय

Bible record will admit of anywhere within the sweep of a dozen or fifteen miles or so in that region, and only within that sweep. There was, therefore, no inducement for me to change the location for the sake of my argument, even if I were as liable to such swaying as Captain Conder would suppose.

Of one thing I am very sure, that the precise location of 'Ain Qadees—which is Kadesh-Barnea—can be known only through a careful survey of its region; and I earnestly hope that that survey will soon be made under the eminently competent direction of Captain Claude Regnier Conder; for whatever differences of opinion there may be as to his thousand and one identifications, with his often fanciful and his sometimes grotesque suggestions of resemblance, there is no question that he has laid the entire Bible-studying and truth-loving world under obligation to him, for his tireless, his intelligent, and his most skilful services as an explorer and a surveyor in the lands of the Bible. And of that line of his work, I sincerely hope that the end is not yet.

H. CLAY TRUMBULL.

Philadelphia, U.S.A.

NOTES ON SOME PHENICIAN GEMS.


By GREVILLE J. CHESTER, B.A.,

Member of the Royal Archaeological Institute.

IN the course of last winter, during visits of short duration to Smyrna and Beyrût, I obtained several antique gems and engraved stones of Phœnician and semi-Phœnician character, which seem to be of sufficient interest and importance to merit description in the *Quarterly Statement* of our Society. I should, however, mention at starting that, being altogether unlearned in ancient Oriental languages, I am indebted for the ensuing information concerning the different inscriptions to Professors A. H. Sayce of Oxford, and Robertson Smith of Cambridge, to whom my best thanks are due for the trouble they have taken, and the attention they have paid to the matter.

No. 1. Bought at Beyrût. (See plate.)—This gem is of pale blue chalcedony, approaching to the stone sometimes called "sapphirine," and is a fairly executed and beautiful specimen of semi-Phœnician work. The influence of both Egyptian and Assyrian art are here well displayed. The intaglio represents a winged sphinx treading upon a uræus. This sphinx, according to Professor Sayce, has the bearded human head of the Assyrian bull, surmounted by the plumes of the Egyptian god Bes. Each of the two wings ends in a horned head, of which one resembles that of a griffin, and the other that of some species of antelope. With regard to these heads, Professor Sayce remarks that they "suggest the origin of the

Greek legend of the Chimera." Curiously enough, I this winter obtained in Lower Egypt a small bottle of brownish-green ware, being a grotesque human figure, in front of which is a seated lion, with the head and plumes of Bes. This variant was hitherto unknown to Professor R. V. Lanson of Turin, the learned author of the "Mitologia Egizia," now in course of publication, and will be figured by him in the next forthcoming part of that work. On a Phœnicio-Egyptian scarabæus of burnt sard in my possession, found in Egypt, is depicted a hawk-headed, seated sphinx, with the disk upon his head, and a uræus under his feet, and on a fragment of limestone sculptured on both sides, and of singularly fine work, now in the British Museum, but found in the Fayoum, and brought by me from Egypt in 1882, is a winged lion, passant, to the right, with the head and plumes of the same deity. Could this fragment have been identified as having been found in the Delta, it might have been supposed to have belonged to the period of the Shepherd Kings, and the combination ascribed to semi-Semitic influence, but I am not aware that the sway of the Hyksos extended to the isolated province of the Fayoum. Anyhow, it is interesting to compare the subject of the earthenware bottle, the gem, and the sculptured fragment, with that of the present stone. This gem has had a small hole drilled through it, close to the tail of the sphinx, by some possessor, who wished by that means to fit it for suspension.

No. 2. From Nazareth. (See plate.)—This gem, cut in intaglio in dark sard, is set in a modern gold ring of Oriental workmanship, and is of even finer work than the stone last described, and a most beautiful example of Egypto-Phœnician art. On it is a winged sphinx, seated, whose human head wears the Egyptian head-dress. Below this is a scarabæus, whose expanded wings stretch completely across the stone. Below this again, supported by uræi, is an ornamental cartouche, of which Professor Sayce remarks, "the hieroglyphics consist of the Egyptian *Neb*, 'Lord,' turned upside down, followed by the Hittite  'country,' twice repeated, and turned upside down." It may have been the signet of a Phœnician prince.

No. 3. Found at Amrit (*Marathas*). (See plate.)—This scarabæoid of hard yellowish-brown limestone is pronounced by Professor Sayce to be a very interesting example of Egypto-Phœnician work. It was formerly in the possession of the late well-known M. Perétié of Beyrût, whose large collection of Egypto-Phœnician amulets, scarabs, and scarabæoids fell into my hands after the death of their proprietor. Most of these objects are formed from steatite, but some, like the present specimen, are of harder stone. Their large number, upwards of three hundred, testify to a school of craftsmen for ornaments of this description having existed in early times, at least as early as Thothmes III, of the eighteenth Egyptian dynasty (*circa* 1600 B.C.), at Umrit.

The centre of this stone is occupied by the figure of a king, between two palm-branches, a characteristic and favourite emblem upon the Phœnician coast. The monarch, whose name seems to have been *Ah-usab*,

or, according to another possible reading, *Ah-men*, wears the *Pschent*, or combined crown of Upper and Lower Egypt, copied from Egyptian monuments, and is in the act of adoring the lunar disk "Ah." On either side the king is a cartouche, "each of which," says Professor Sayce, "contains the lunar disk Ah, and the character Men, each twice repeated and turned upside down. The work of this stone is distinctly Phœnician, and though the dress and attributes are Egyptian, the figure evidently represents a king of Phœnicia.

No. 4. Found at Beyrût. (See plate.)—This lentoid gem of white crystal is the most remarkable stone in the collection, and has been found very difficult to interpret. It has for its device three stars, of which the upper one is winged. Below these, and divided from them by two lines, is an early Phœnician inscription, written from right to left $\star O W \zeta$ (ישעא),

i.e., *Yeshu-ā*, from the root *Yēsha*, to save. Professor Sayce considers the characters to be of the seventh or eighth century, B.C., and certainly not later; in which case this gem is one of the earliest known, and he adds that "the two lines which divide the name from the stars and winged solar disk [for so he decipheres the winged star] explain the origin of the similar names which divide in half the inscriptions on early Hebrew seals." With regard to the translation of the inscription, I have permission to insert in this place two communications with which I have been favoured by Professor Robertson Smith.

"The seal reads $\star O W \zeta$, ישעא. The root ישע, is not Aramaic, and so the \aleph cannot be the Aramaic article. The explanation must be sought within the Hebrew-Phœnician language.

"This being so, the analogies which naturally present themselves are those of such Phœnician proper names as עבדא פתחא, כלבא, in which the termination \aleph appears to mark that the name has been shortened at the end. Thus Kalbā is the same name as Kalbēlim (*Corp. Inscr. Sem.* Fasc. i, No. 52), Hanno (with ō for ā as a later pronunciation) is the shortened form of Hannibal or some such longer name, Pathha corresponds to a heathen counterpart of Pethahia, and so on.

"The Hebrews themselves have similar contractions of proper names, and had them at an early date, as appears from the form עזיָּהּ = Uzziah or Azariah in 2 Samuel vi, 3. Thus if the seal were Hebrew, the name on it would be the short form answering to ישעיהו, Isaiah. The winged star seems, however, rather to point to a heathen owner, and in this case the last member lopped off will not be the name Jahveh, but some other divine name, as in the Phœnician instances already quoted, and the name means 'the victory or salvation of' Baal, or whoever the god is.

"Quite similar is the Philistine name Sidkā, King of Ascalon, on the inscriptions of Sennacherib. ישע without the \aleph , appears as a proper name on a gem figured by Levy, *Phœnicische Studien*, ii, No. 8a of the plate."

No. 5. Found at Konia, in Asia Minor. (See plate.)—This large scarabæoid gem, perforated lengthways for suspension, is formed of beautifully iridescent rock crystal. Upon it is represented the four-winged Assyro-Babylonian god Merodach, who, although the stone is slightly damaged, Professor Sayce considers is strangling in either hand the bird-demons. "This device," the Professor adds, "passed through Phœnicia to early Greece. Below Merodach, from which it is divided by double horizontal lines, is a bird, perhaps an eagle, on either side, divided by two vertical lines, the Egyptian symbol *Ankh*, the sign of life.

No. 7. Found at Beyrût.—A pierced scarabæoid. On it is a winged sphinx, with antelope's head, standing. Behind, a winged deity. This specimen is in poor preservation, but is remarkable on account of its material, which is malachite, a substance very rarely used by the ancients. Phœnician work.

No. 8. Found near Beyrût.—Scarabæoid of opaque white chalcedony. On it a bull, in front an amulet, perhaps intended to represent the solar disk. Good Græco-Phœnician work.

No. 9. From Beyrût.—Small scarabæoid of pale blue opaque chalcedony. On it a lotus flower; on either side, and facing it, a vulture with expanded wings. Beneath these a striated band. Below this a star, upon either side of which is a winged uræus, and again below, a scarabæus with expanded wings. Phœnician work.

No. 10. Coast of Syria. From the collection of M. Perétié. (See plate.)—This is a bead of white opaque gypsum. It bears an inscription of eight letters, the meaning of which has hitherto defied elucidation. Professors Wright, Robertson Smith, and Sayce are alike unable to interpret it, but the latter thinks it may be of Gnostic origin.

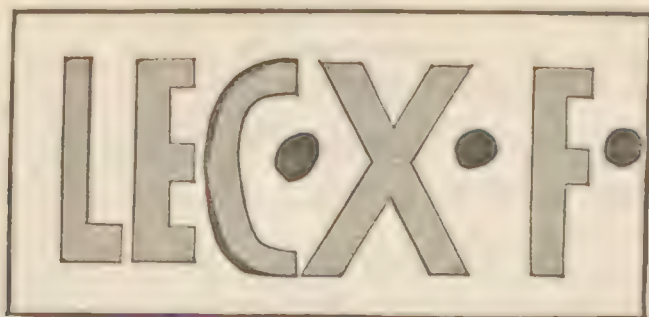
NOTES BY SELAH MERRILL, D.D., LL.D.

I.

A RELIC OF THE TENTH LEGION, CALLED "FRETENSIS."

I NOTICE in the list of antiquities in the possession of the Palestine Fund, that they have two imperfect specimens of tiles bearing the stamp of the Tenth Legion, and it may be of sufficient interest to state that I possess a perfect specimen, which I bought of some fellahin who had just dug it from its hiding place. The following are the dimensions of the tile: $7\frac{1}{2} \times 7\frac{3}{4}$ inches, and $1\frac{1}{4}$ inches thick. The oblong place for the letters is sunk into the tile, leaving the letters in relief, the surface of the letters

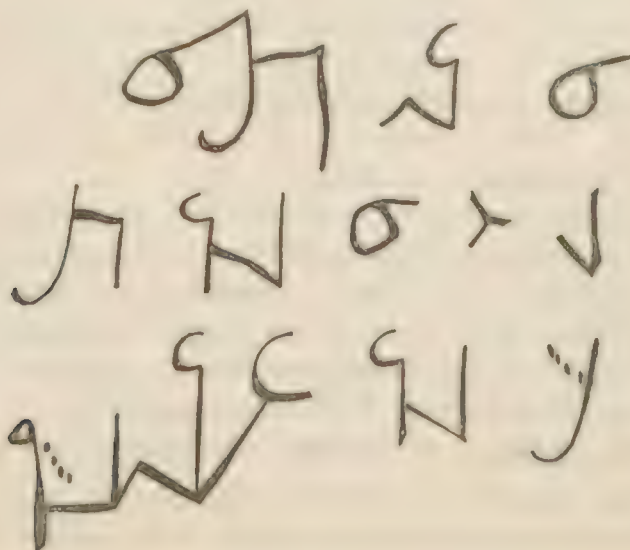
being of the same level as the surface of the tile. The oblong place itself is 4 inches long and $1\frac{3}{4}$ inches wide. The length of the letters is $1\frac{1}{4}$ inches.



II.

THE INSCRIPTION AT ARAK EL EMIR.

EVERY copyist, if he labours conscientiously, has reason to respect his own work until he is convinced that he is in error. I visited the place in question several times, and copied the inscription with care. My copy is quite unlike that which Captain Conder ascribes to Levy (*Quarterly Statement*, January, 1885, p. 12), and unlike that which Captain Conder gives as his own (*ibid.*), inasmuch as mine has a decided bar extending from the top towards the right as in the initial letter of the following inscription from Bozrah :—



In the first and second lines a letter occurs three times which is identical with the first letter in the Arak el Emir inscription. This letter I would read *Alaph*, and would transliterate the above inscription—

אמתא
לגאברת
-בר-מ-

This is one of a number of Nabathean inscriptions which I copied while at work in the Hauran, but I have never had time to classify them or to give them much study.

I have for years felt that there were a larger number of Nabathean inscriptions to be gathered in the desert east of the Jordan than scholars imagined, and that when these have been collected, materials will exist for a better understanding and a fuller knowledge of that once powerful and interesting people.

I make no attempt to translate the Arak el Emir inscription, but when I visit the place again I will take pains to re-copy it, or to take an impression of the letters.

III.

THE STATIONS OF DAVID'S CENSUS OFFICERS.

THE account of the numbering of the Israelites by David contains some interesting geographical notices, two of which, at least, have always been puzzles to scholars. It will be a help to remember that only Israel and Judah were to be numbered (see 2 Sam. xxiv, 1). The command was, "Go now through all the tribes of Israel, from Dan even to Beersheba," and leads us to suppose that aliens and subject peoples, whether within or without the limits of the kingdom, were not to be reckoned in the census of the Jewish people themselves. This is confirmed by verse 9, where the sum of the men of Israel and Judah only is given.

King David's officers crossed the Jordan and pitched first in Aroer near Jazer. They went thence to Gilead. Their third camping place was "the land of Tahtim Hodshi," their fourth camping place was Dan Jaan, and their fifth was Sidon. They went thence to the "stronghold of Tyre," and thus southward to Beersheba, keeping within the limits of the territory as defined in verse 2. The Hebrew of verse 6 is as follows:—"And they came to Gilead, ואל-ארץ תחתים חדשי, and they came דנה יצן." The Septuagint renders verse 6—"And they came to Galaad, and into the land of Thabason which is Adasi, and they came to Dan Idan and Udan, and compassed Sidon." The Targum on Samuel has after Gilead, דרומא חדשי

וּלְאַרְצָא, that is, "and to the district south of Hodshi." Eusebius has, Ἀπειθδα η' Ἀδασαι, and Jerome, "Æthon Adasai pro quo Symmachus posuit inferiorem viam."

Numerous suggestions have been made in explanation of the words Tahtim Hodshi. The Septuagint regarded them as two names belonging to one place. Zunz, whose high rank among Jewish scholars all admit, regards them as two distinct places. Boettcher resolves the word Tahtim, תַּחְתִּים, into תַּחַת יָם, below the sea. Fuerst is inclined, I judge, to favour this change, which is true of some other scholars. In that case יָם would refer to the Sea of Galilee (compare Numb. xxxiv, 2; Josh. xii, 3; viii, 27), and Hodshi would have some connection with Chimmereth. Besides these hints there should be mentioned an important Hebrew tradition, found in the Midrash on Samuel, chapters xxx and xxxii, which connects Tahtim Hodshi with Beth Yereh.

There were two places, Tarichea and Sennabris, which Josephus locate at the southern end of the Lake of Tiberias, and both are extremely distant from the City of Tiberias, namely, thirty furlongs ("Life," xxxii; "Wars," III, ix, 7). Josephus states that the great plain of the Jordan commenced at Ginnabriu [Sennabris] ("Wars," IV, viii, 2); while the Talmud states that the Jordan did not receive that name until after it left Beth Yereh (בֵּית יֶרֶח, Talmud Bab. Bechorot, 55a). It would seem that the point where the plain of the Jordan commenced (according to Josephus), and the point where the river Jordan began to receive that specific name (according to the Talmud) were practically identical. But, further, the Jerusalem Talmud mentions Beth Yereh and Sennabris together as the names of two towers, שְׁנֵי אֲבַטְלִיּוֹת, or fortified places on the Lake of Gennesareth (Megillah, i, 1, Gemara). This passage might be rendered, "The . . . was divided into two parts like Beth Yereh and Sennabri." The Aruch explains the words שְׁנֵי אֲבַטְלִיּוֹת (אֲבַטְלִיּוֹת for אֲבַטְלִיּוֹת) as meaning "two castles in a place where there is a bridge for water, but there is no water between them." There can be little doubt, I think, that the Beth Yereh of the Talmud is the Tarichea of Josephus, of which the modern representative is *Karak*. This place has long since been identified as Tarichea, and a knowledge of the nature of the ground compared with Josephus's detailed description of it makes such a conclusion almost if not absolutely certain.

It is difficult to decide whether Tarichea, Beth Yereh, or Yereh was the original form of the name, or whether the place bore two names, as was not unfrequently the case. The Hebrew name might have been written בֵּית־תִּירָה or בֵּית־תִּירָה, and this would easily come to be written בֵּית־תִּירָה. The name Tarichea is also a good Greek word meaning salting-station, from τριχέω, which has reference to preserving bodies by artificial means, whether salting fish or embalming mummies. The name is thus supposed to be derived from the business of preserving fish which was carried on at this place (compare Strabo, xvi, 2, 45).

The long bluff at the extreme south-west corner of the Lake of Tiberias, which is called at present *Karak*, was originally connected with

the mainland by a dry bridge or causeway. On the mainland at or near the end of this bridge we suppose that the place called Sennabris should be located. These suggestions, if valid, would illustrate and confirm both Josephus and the Jewish writings. The statement of the Aruch, for instance, made probable without any knowledge on the part of the writer of the ground at the south end of the Lake, could not have been more accurate than it is, and Josephus also would be correct in stating the distance of Tarichea and Sennabris from Tiberias to be the same and in the same direction.

I have several times had occasion to speak of the Jordan Valley on the east of the river, from the Lake of Tiberias as far south as the Zerka or Jabbok, as being exceedingly fertile because of the numerous mountain streams which water it. The first stream below the Lake is the Yarmuk, or Hieromax, called at present the *Menadireh*. It is an interesting fact that the region along this river, after it leaves the hills, is called *Ard el 'Adasiyeh*, عَدَسِيَّة. The Menadireh is, in that portion of it, called *Wady 'Adasiyeh*. At the point where the road approaches the river in order to enter the mountains there is a ruin of considerable size, which bears the common name of *Ed Deir*, and the portion of the valley of plain immediately north of it is called the Plain of Duair. Still farther to the north, and but a short distance from the mountains, are the "hills of the foxes." On the shore of the Lake are the ruins of Semakh, and to the north-east is the place known as *Khorbet es Samrah*. Down the valley to the south, a short distance from Ed Deir, and near the Menadireh, is a fountain and a ruin called Yagana (Yagana, Yag'na, or Yak'na, يَا قَانَا, or يَتْنَه). Since the letter *Heth* readily interchanges with *Agin*, may it not be possible that 'Adasiyeh represents the ancient Hodshi?

In my judgment there was a very natural reason why the census-takers should visit the broad and fertile valley which stretches to the south from the lower end of the Sea of Galilee. They had completed their work in Gilead, and were on their way northward towards Sidon and its vicinity. As only Israel and Judah were to be numbered the region of Damascus would not be visited, but that just below the Sea of Galilee would be on their direct route as they went north. This was the meeting place of two great thoroughfares between the country on the east and that on the west of the Jordan, even as it is to-day. The road from Beisan to Damascus, which crosses the Jordan by the *Jisr Mejmât*, and the road from Tiberias to the Hauran and Gilead (formerly a fine bridge supported on ten arches, led over the Jordan just below the Lake, intersect on this plain now called *Ard el 'Adasiyeh*. If any point on their route, as the officers were going from Gilead northward, was suitable for a place of public assembly, none more suitable than this could have been chosen. Their object was not to get into a large city, but to pitch their camp in the place that was most central and most easily accessible for the largest number of the inhabitants.

One of the truest remarks ever made in the long discussion as to the site of the Holy Sepulchre was that of Lieutenant Conder, namely, that "Fortifications" (referring to the line of the walls) "follow the hills and not the valleys." Again, with regard to the site of Capernaum I have often urged, in opposition to those who advocate the claims of Tell Hum, the unreasonableness of supposing that a custom house would be located at a distance of $2\frac{1}{2}$ miles from the main route of travel, which it was designed to accommodate. In like manner in endeavouring to trace the route of David's census-takers is it unfair to claim that the most natural suppositions should receive the first consideration? It is on this principle that attention is now called to the district or Plain of 'Adasiyeh below the Sea of Galilee. Similarly the region about Aroer near Jazer (I locate Jazer at *Kharbet Sar*) has been the battle ground and the meeting place of the tribes living in that section of the country for generations, and why may it not always have been so?

If the census-takers chose for their work the most central and convenient points, we should expect one near Lake Merom. Dan, if it were chosen, would accommodate all the people residing north of the Sea of Galilee, and south of Mount Hermon. The great road from Damascus to the sea coast divided at Dan into two branches, one following the present route by Shukif to Sidon, and the other, that farther south, past Hunin to Tyre.

If Dan stood alone in the text there would never have been a doubt that one of the census stations was near this ancient and well-known site. But having the word Jaan with Dan has seemed to make the matter of identification a difficult one. We must remember that we are dealing with a Hebrew record of a very early date, when Phœnician influence was especially strong in the north of Palestine. Baniyas, the modern name found in this region, is commonly thought to be a corruption of Panias or Paneas, which commemorated the worship of the god Pan in this once famous grotto. But Baniyas is probably a corruption of a much older name, Balinas, composed of two Phœnician words, Bal and Jaan, or Yaan.

I notice in the "Transactions of the Society of Biblical Archaeology," Vol. VII, Part 3, page 394, an attempt to identify Thatim Hodshi with Kadesh on the Orontes, which seems to me to be wholly without foundation. Why should the census-takers go more than 100 miles north of Palestine when they were directed to confine themselves to numbering the tribes of Israel within their several tribal territories?

A NOTE ON GOLGOTHA.

I have noticed latterly a good deal of discussion as to the site of Calvary, and that modern writers incline to place it north-west of Jerusalem. I have never been in Palestine, so can be no judge from the country of the fitness of their ideas. But I should like to make some suggestions arising from study of the Gospel narratives.

We read that Joseph of Arimathea went in boldly to Pilate and begged the body of Jesus. Evidently then it was not customary for the bodies of crucified criminals to be given up to their friends; or Mary and His apostles would have taken His body as a matter of course. Joseph was an influential and rich man—he got it; but even he had to go to headquarters, and make special request for it. How about the bodies of the two thieves? What would be done with them?

Two others were crucified with Him—on either side one, and Jesus in the midst. Plainly then it was an ordinary execution, and would take place at the ordinary spot. In the valley of the son of Hinnom was Tophet, where fires were kept always burning to consume the filth and refuse of the city; dead animals and the “bodies of criminals” were thrown therein. This valley debouches into the Cedron valley, wherein Jews so desire to be buried.

We read that many of the women who had followed Jesus and had ministered to Him, stood afar off beholding. They must have had some eminence on which to stand or they would not “from afar off” have been able to behold; the crowd would have hidden Him. This coign of vantage the Mount of Offence, or the Hill of Evil Council, would supply. As Antonia (and the Hall of Judgment) was at the north-west corner of the Temple hill, they would only have to bring Him down by the Temple precincts—always guarded—and a very short distance would bring them “without” the gates; for we are very sure the accursed valley of the son of Hinnom would never be enclosed within the Holy City by any wall. Neither does it seem at all likely that the spot for the infliction of the accursed death of crucifixion should be chosen near the place where were the tombs of kings and prophets. Does it not then seem that the most likely spot to fulfil all the Scripture requirements for the crucifixion is near the junction of the valley of Hinnom with that of the Cedron? There would be Tophet on the one hand, and the place of honourable burial close by on the other.

It is plain that Jesus was laid in an open space; for as the women came hurrying up, one is bidden by one angel to look in and see the place where the Lord lay; does so, and sees a second angel seated on the right side; whilst another woman standing on the outside stoops down to look in, and sees two angels within, sitting one at the head the other at the foot of the place where the body of Jesus had lain. There was space enough for Peter and John to walk in, and see where the grave-clothes lay, and the napkin which had bound the head lying apart.

Then as for the "mound bearing some resemblance to a skull." When we consider the earthquakes, the battles, the sieges, which so changed and destroyed the ancient features of the land, we need not lay much stress upon this: such resemblances are common in rocky countries. Within half a mile of the spot where I write is a sharp cliff which from three different points bears a faithful likeness of three men known to me, and extremely unlike each other. Any very wet early winter, followed quickly by severe frost, might bring down a portion of this cliff and utterly destroy all these faces.

The last argument for the north-west site, viz., the shorter length of streets to be passed through, is entirely set aside by supposing our Lord to be led along the Temple precincts to the south side, and so to the valley of the son of Hinnom.

GIRDLER WORRALL.

THE SAMARITAN TEMPLE.

CAPTAIN CONDER seems to think that no dependence is to be placed upon the precise statement of Josephus that there was a Temple on Mount Gerizim, unless a corroboration of his assertion can be furnished from another source.

I do not gather that he is prepared with any evidence actually contradicting Josephus, and until such is forthcoming may we not justifiably believe him, especially as he refers to the said Temple, not merely in the long passage to which reference is given by C. R. C. ("Ant.," XI, viii, 2-7), but also in "Ant.," XII, v, § 5, where he quotes a letter from the Samaritans to Antiochus asking permission for their Temple, which before had no name, to be called "the Temple of Jupiter Hellenius," and again in "Ant.," XIII, iii, § 4, in which he gives an account of the disputation before Ptolemy respecting the two Temples, viz., at Gerizim and at Jerusalem?

If there was no Temple at Gerizim, he must have fabricated a good deal more of his history than the assertion about its being built by Sathballat, of whom he records that "*he was then in years*" ("Ant.," XI, viii, § 2).

H. B. S. W.

March 23rd, 1885.

BETH HABBECHEREH, OR THE CHOSEN HOUSE—

continued.

CHAPTER V.

1. THE mountain of the house, which was Mount Moriah, was five hundred cubits by five hundred cubits, and it was surrounded by a wall.¹ And arches were built upon arches beneath it, because of the tent of defilement.² And it was all roofed over, cloister within cloister.³

2. And there were five gates to it; one on the west, and one on the east, and one on the north, and two on the south.⁴ The breadth of each gate was ten cubits and its height twenty. And there were doors to them.⁵

3. Inside of it, a reticulated wall [*called soreg*] went all round. Its height was ten handbreadths,⁶ and inside of the *soreg* the rampart⁷ ten

¹ Middoth ii, 1, and i, 1.

² Parah iii, 3. "The mountain of the house and the courts were hollow underneath because of קבר התהום, the grave of the abyss," *i.e.*, lest there should be a hidden grave beneath.

³ Pesachim i, 5. "Rabbi Judah said two cakes of a thank-offering which had become defiled were put upon the roof of the porch, אַעֲלֵנָה הַיִּצְטָבָא," and Rashi remarks that this porch was a סַטְיוֹ = *στοα*, *cloister*, which was "in the mountain of the house where the people assembled and sat." The Gemara upon the same passage (Pesach. 13 *b*) says "Rabbi Judah said that the mountain of the house was a double cloister . . . which was called אַסְטוּוֹנִית, a porch, a cloister within a cloister," and here Rashi adds that it was furnished with a roof to protect the people from the rain, and that the porch, אַיִצְטָבָא, went all round, סַבִּיב סַבִּיב מִקְפָּת, and had another inside it. In Pesach. 52 *b*, and Berachoth 33 *b*, this remark of Rabbi Judah is again noted, and in the former place Rashi explains that "double porches, אַיִצְטָבָאוֹת, were all round *the mountain of the house* one within the other." In Succah iv, 4, it is stated that the elders arranged the palm-branches of the people at the Feast of Tabernacles "upon the top of the porch," and here again the gloss of Rashi adds that the breadth, רַחְבָּהּ, of the mountain of the house was surrounded by covered cloisters." These cloisters and their roof are again mentioned in Succah 44 *b* and 45 *a*. According to the Talmud, therefore, a roofed double cloister extended all round the mountain of the house, but for the statement of Maimonides that the whole enclosure was roofed over (if that be the meaning of כּוֹלוֹ הִיא מְקוּרָה) I find no authority in the Talmud.

⁴ Middoth i, 1, 3.

⁵ Middoth ii, 3.

⁶ This reticulated wall (סוּרֵג, *soreg*) is mentioned in Middoth ii, 3. The gloss of R. Shemaiah says "it was made of carved pieces of wood, כִּרְלִיּוֹת עֲצִים, intertwined one upon the other obliquely as they weave bedsteads." Rashi in Yoma 16 *a* says the *soreg* was "a partition made with many holes in it like a bedstead woven with cords, and was constructed of long and short pieces of wood called a lattice placed one upon another obliquely" (*cf.* Bartenora). I do not know that it is anywhere stated in the text of the Talmud whether the *soreg* was of stone or of wood.

⁷ חֵיל, *chel*. The word (גִּבְהוֹ, its height) is placed between brackets, and is perhaps an interpolation of the transcribers. That the *chel* was a space and not

cubits (in height). It is this which is spoken of in the Lamentations (ii, 8), "He made the rampart and the wall to lament;" that is the wall of the court.

4. Within the *chel* was the court, and the whole court was one hundred and eighty-seven cubits long by one hundred and thirty-five broad.⁸ And it had seven gates, three on the north, near to the west, and three on the south near to the west, and one on the east,⁹ set opposite the Holy of Holies in the middle.¹⁰

5. Each of these gates was ten cubits broad, and twenty cubits high, and they had doors covered with gold, except the eastern gate, which was a wall is proved by several passages in the Talmud. In Sanhedrim 88 *b*, it is said "on sabbaths and feast days they (the members of the court) sat in the *chel*." Rashi adds "because the people were many and the place in the chamber too narrow for them." Pesachim 64 *b*, notes that "the first company (bringing their lambs at the Passover) remained in the mountain of the house, and the second in the *chel*," and here Rashi has the important note that it was "within the *soreg*, between the *soreg* and the wall of the court of the women, where the mountain began to rise." Baal Aruch says the *chel* was a place surrounding the wall between the mountain of the house and the court of the women, and that there was a great divinity school, *מדרש גדול*, in it.

In Kelim 5 *b*, we read "the *chel* was more sacred than the mountain of the house, because idolaters and those defiled by the dead might not enter there." Not improbably there was a rampart, perhaps with an escarp at the inner side of the open space, and joined to the wall of the courts, and to this the door of the house Moked opened (Midd. i, 7). The remark of Baal Aruch "that the *chel* was a wall higher than the *soreg*" would in this case be intelligible, and it may have been such a wall which some have supposed to have been ten cubits in height.

R. Lipsitz thinks that four cubits of the *chel* were level, and the remaining six on the rising ground, and that those six cubits were occupied by the steps up to the court, which steps he holds to have extended all round the house for the people to sit upon, and he founds this opinion upon the passages in Pesachim (13 *b*, 52 *b*) above quoted, and the gloss of Rashi. This learned Rabbi also holds that these steps and all the mountain of the house outside of the inner wall (the wall of the courts) were roofed over, and that probably seats were placed on the level ground outside the *soreg* (Mishnaoth, vol. v, 311 *b*, Warsaw 1864). Rashi, in Yoma 16 *a*, remarks that the twelve steps leading from the *chel* to the court of the women were *באותן יאמות* "in those ten cubits" which formed the breadth of the *chel*, because the mountain rose from the *Soreg* to the court of the women six cubits, and he farther adds, in reference to these steps, that "in breadth each step was half a cubit, and in length extended, *משך*, along the whole breadth of the mountain from north to south." Of the *chel* he says that it was "a vacant place of ten cubits."

⁸ Middoth v, 1, 2, 6.

⁹ Middoth i, 4: *cf. ib.* ii, 6, and Shekalim vi, 3.

¹⁰ Berachoth ix, 5. "A man may not raise his head lightly (*i.e.*, indulge in levity) opposite the eastern gate, because that is set opposite the Holy of Holies."

covered with brass resembling gold, and that gate was what was called the upper gate, and it was the gate Nicanor.¹¹

6. The court was not set in the middle of the mountain of the house, but its distance from the south of the mountain of the house was greater than that from all *the other* sides, and its nearness to the west greater than that to all *the other* sides. And the space between it and the north was greater than that between it and the west, and *that* between it and the east greater than that which was between it and the north.¹²

7. And before the court on the east was the court of the women, which was one hundred and thirty-five cubits long by one hundred and thirty-five cubits broad. And at its four corners were four chambers of forty cubits by forty, and they were not roofed, and thus they will be in the future.

8. And what was their use? The south-eastern chamber *was* the chamber of the Nazarites, because there they cooked their peace-offerings and shaved off their hair (Num. vi, 18); the north-eastern was the chamber for storing wood, and there the priest who had blemishes removed the worms upon the wood, because every piece of wood in which there was a worm was unlawful *for the altar*.¹⁴ The north-western *was* the chamber of the lepers. In the south-western they put oil and wine, and it was called the chamber of the house of oil.¹⁵

9. The court of the women was surrounded by a balcony,¹⁶ in order

¹¹ Middoth ii, 3. In Succah v, 4, it is said "the two priests stood at the upper gate which led down from the court of Israel into the court of the women." That this was the gate Nicanor appears from Middoth i, 4, "the gate on the east of the court was the gate Nicanor" (*cf.* Yoma 19 a). Rashi in his note on Sotah i, 5, says "the gate of Nicanor was the upper gate, which was in the wall that was between the court of Israel and the court of the women." To this gate suspected women were brought to drink the bitter waters of jealousy (Num. v.), and lepers and women after childbirth were cleansed at it (Sotah i, 5; Negaim xiv, 8). R. Shemaiah also, on Kelim 5 b, says, "the gate Nicanor was the gate of the court of Israel." In Kle Hammikdash vii, 6, Maimonides remarks, "the upper gate was the gate Nicanor. And why was it called the upper gate? Because it was above the court of the women."

¹² Middoth ii, 1. The Tosefoth Yom Tob gives the following measurements of the several spaces:—

		Cubits.			Cubits.
Northern space	.. ..	115	Eastern space	.. ..	213
Southern "	.. ..	250	Western "	.. ..	100
Court..	.. ..	135	Court	.. ..	287
		<hr/>			<hr/>
		500			600

¹³ Middoth ii, 5.

¹⁴ For the chamber of wood, see also Shekalim vi, 2.

¹⁵ Middoth ii, 5.

¹⁶ גזוזטרא, *tabulatum*; in Middoth ii, 5, it is called כציצרה, *tabula*, *asser cui aliquid imponitur* (Buxtorf). This balcony is said by R. Shemaiah and by Bartenora to have been for the accommodation of the women during the rejoicings

that the women might see from above and the men from below, and so not be mixed. And there was a large house on the northern side of the court outside, between the court and the rampart (*chel*); it was arched and surrounded by stone benches, and it was called *Beth Hammoked*, the House Moked. There were two gates to it, one opening to the court and one opening to the *chel*.¹⁷

10. And there were four chambers in it, two holy and two profane, and pointed pieces of wood¹⁸ distinguished between the holy and the profane. And for what did they serve? The south-western *was* the chamber of the lambs,¹⁹ the south-eastern the chamber for making the shewbread, in the north-eastern the family of the Asmoneans laid up the stones of the altar which the Greek kings defiled, and in the north-western they went down to the bathing-room.

11. A person descending to the bath-room²⁰ from this chamber went by the gallery which ran under the whole Sanctuary,²¹ and the lamps at the Feast of Tabernacles, and they take this opinion from the Gamara (Suceah 51 *b*), which explains that the erection of this balcony was part of the "great preparations" which were made on that occasion. "At first the women were within and the men without, and when they began to indulge in levity it was arranged that the women should be outside, and the men inside, and seeing that the occasion of levity still arose they arranged for the women to be above and the men below" (Gamara, *loc. cit.*). Rashi upon this passage remarks that in the court of the women there were originally no beams, ן״ג, projecting from the walls, and that afterwards they placed beams jutting from the walls all round, and every year arranged these balconies of planks, upon which the women might stand and witness the rejoicings of the Beth Hashshavavah." Both Middoth and Maimonides speak of these balconies as if they were permanent.

¹⁷ Middoth i, 5, 7, 8.

¹⁸ חתיכות עצים, *pieces of wood* (Rashi in Yoma 15 *b*). "Ends of beams projecting from the wall" Bartenora (*cf.* Middoth i, 6; ii, 6; iv, 5). They do not appear to have formed a partition, but only to have been a sign indicating the limits of the holy and profane parts of the house.

¹⁹ Middoth i, 6, where it is called the chamber of the lambs for the offering. In Tamid iii, 3, the chamber of the lambs is said to have been at the south-western corner, which evidently refers to its position in relation to the altar and court of the priests, and shows the position of the house Moked itself without contradicting the statement of Middoth and our author. There can hardly be a doubt that it was, as here stated, at the south-western corner of Moked, though the gloss on Tamid says it was on the north-west of that house (*cf.* Yoma 15 *b*, and Tosefoth Yom Tov on Tamid iii, 3).

²⁰ בית הטבילה, *domus lavaeri*, house of bathing or dipping. The bathing here practised differed from baptism in the usual modern signification of the term, inasmuch as it was not an initiatory rite, and might be repeated.

²¹ In Tamid i, 1, it is "under the Birah!" "What is Birah? Rabbah, son of Bar Chanah, said that R. Johanan said there was a place in the mountain of the house, the name of which was Birah, and Raioh Lakish said all the house was called Birah," as is said (1 Chron. xxix, 19) "and to build the palace, *birah*, for which I have made provision" (Zevach. 104 *b*). Maimonides here uses the

burned on either side until he came to the bathing-room. And there was a large fire²² there and an excellent²³ watercloset, and this was its excellence, that if he found it shut he knew there was some one inside.

12. The length of the court from east to west *was* a hundred and eighty-seven *cubits*, and these were the measurements, viz., from the western wall of the court to the wall of the temple (היכל) eleven cubits, the length of the whole temple a hundred cubits, between the porch and the altar two and twenty, the altar two and thirty, the place of the tread of the feet of the priests, which was called the court of the priests, eleven cubits, the place of the tread of the feet of Israel, which was called the court of Israel, eleven cubits.²⁴

13. The breadth of the court from north to south *was* a hundred and thirty-five *cubits*, and these were the measurements,²⁵ viz., from the north wall to the shambles eight cubits, the shambles twelve cubits and a half: and there on the side they hung up and skinned the holy sacrifices.

14. The place of the tables was eight cubits, and in it were marble tables, upon which they laid the pieces of the offerings and washed the flesh to prepare it for being boiled. These were eight tables. And by the side of the place of the tables was the place of the rings, twenty-four cubits, and there they slaughtered the holy sacrifices.

15. Between the place of the rings and the altar *was* eight cubits, and the altar two and thirty, and the sloping ascent to the altar (כבש, *Kelesh*) thirty, and between the sloping ascent and the south wall twelve cubits and a half. From the north wall of the court to the wall of the altar, which was the breadth, was sixty *cubits* and a half, and corresponding to it from the wall of the porch to the east wall of the court, which was the length seventy-six.²⁶

term מִקְדָּשׁ, *mikdash*, as synonymous with *birah*. Bartenora, in Pesachim vii, 8, and again in Tamid, remarks that "the whole of the Sanctuary was called *Birah*." The gallery here spoken of, מִסְבָּה, *ambitus, circuitus*, was subterranean, הקרקע תחת (Beth Habbec. viii, 7). It opened into the profane part of the enclosure, and was consequently not holy.

²² A wood fire, מְדוּרָה. Cf. Isaiah xxx, 33; Ezekiel xxiv, 9, 10.

²³ *Lit.* honourable, שֵׁל כְּבוֹד. The whole of this section is from Tamid i, 1.

²⁴ Middoth v, 1.

²⁵ Middoth v, 1.

²⁶ In Middoth v, 2, where the measurements of the court from north to south are given, a remainder of twenty-five cubits is said to have been "between the sloping ascent and the wall and the place of the pillars," and Maimonides has allotted one-half of this measurement to the former space, and one-half to the latter, the result of which is to place the central line of the altar nine cubits south of the central line of the door of the Temple and of the court. His authority for this is the Gamara of Yoma 16 b, for although R. Judah maintained (*loc. cit.* and Zevach. 58 b) that the altar "was placed in the middle of the court, and measured thirty-two cubits, ten cubits opposite the door of the Temple היכל, eleven cubits to the north and eleven cubits to the south," the

16. All this quadrangle was called "north," and it was the place in which they slaughtered the most holy sacrifices.²⁷

17. There were eight²⁸ chambers in the court of Israel, three on the other rabbis disputed that opinion, bringing forward the passage in Middoth v, 2, to prove that "the greatest part of the altar lays to the south."

The following are the measurements given by the three chief authorities:—

	Middoth and Gamara of Yoma.	Maimo- nides.	Rashi.
From north wall to place of the pillars	8	8	8
Place of pillars	12½ (?)	12½	10½
From pillars to tables	4	..	4
Place of tables .. .. .	..	8	4
From tables to rings .. .. .	..	..	4
Place of rings	24	24	24
From rings to altar.. .. .	4	8	8
Altar	38	32	32
Sloping ascent	32	30	30
Between sloping ascent and south wall	10½ (?)	12½	10½
	135	135	135

According to Maimonides, therefore, twenty-five cubits, and according to Rashi, twenty-seven cubits of the altar were south of the central line of the court. Rashi, in his elaborate note on this subject in Yoma 16*b*, explains that the northern side of the altar extended just as far as the northern doorpost of the central gates, and that the receding of the foundation and circuit of the altar (Midd. iii, 1) left two cubits on the northern side of the top of the lower gate (that east of the court of the women) not obstructed, and that it was through this small space the priest standing on the Mount of Olives could see into the door of the Temple (Midd. ii, 3). It will be remembered that the summit of the altar was exactly twenty cubits above the floor of the court of the women, and that consequently the aperture of the lower gate was obstructed by it to the top, except on its northern side, if Rashi's supposition as to its position is correct, and on the south of the northern horn where one cubit would be left above the altar, through which a person could see into the Temple if his eye were placed in a line with the lintel or not more than one cubit below it. As to the priest on the summit of the Mount of Olives looking through the gateway, this will appear hardly possible when it is remembered how much higher the Mount of Olives is than the Temple Hill. He must have looked *over* the eastern wall and *over* the lower gate.

²⁷ Zevachim 20*a*.

²⁸ Middoth v, 3 and i, 4, and Yoma 19*a*. In Yoma the chambers on the north and south are placed as Maimonides here places them, but in Middoth the chambers of salt, of Parvah, and of the washings are placed on the north, and the other three on the south.

north and three on the south. Those on the south were the chamber of salt, the chamber of Parvah,²⁹ and the chamber of washing. In the chamber of salt they put salt to the offering, in the chamber Parvah they salted the skins of the holy sacrifices, and on its roof was the bathing-room for the High Priest, on the Day of Atonement.³⁰ In the chamber of washings they washed the inwards of the holy sacrifices, and from it a winding staircase (מַסִּיבָה) ascended to the roof of the house of Parvah. And the three on the north *were* the chamber of hewn stone,³¹ the chamber of the draw-well, *and* the chamber of wood. In the chamber of hewn stone the great Sanhedrim sat, and half of it was holy and half was profane; and it had two doors, one to the holy and one to the profane *part*, and the Sanhedrim sat in the profane half. In the chamber of the draw-well³²

²⁹ R. Shemaiah on Middoth (37 *b*) says that the name Parvah was derived from פָּרִים, *parim*, young bulls, because it was the skins of the oxen offered as sacrifices which were salted in it. Baal Aruch quotes from Yoma 35 *a*, "What is Parvah? R. Josef said Parvah was אַמְיָסָא, *amjusa*, a magician," and explains "Parvah was the name of a certain *magus*, and some of the wise men say that he dug a hollow place underground in the Sanctuary so that he might see the service of the High Priest on the Day of Atonement; that the wise men became aware of the pit which he had dug in that place, and found him, and that the chamber was called after his name." Maimonides in his comment on Middoth says "Parvah was the name of a magician who dug in the wall of the court in this chamber until he could see the service; and he was killed." Since the service of the Day of Atonement was chiefly performed on the northern side of the court, this story is a confirmation of the statement of Middoth that the chamber of Parvah was on the northern side. Bartenora, quoting Rashi (on Yoma iii, 6), remarks "a certain magician, מַכִּיָּשָׁף, named Parvah, built this chamber, and it was called after his name;" and in his work on Middoth v, 3, the same writer intimates that the chamber was built by magic. Parvah was in the sacred part of the Temple enclosure (Yoma iii, 3, 6).

³⁰ Yoma iii, 3, 6.

³¹ לְשֵׁכֶת הַגִּזִּית. The chamber Gazith. The Gamara of Yoma (25 *a*) says "it was like a large basilica; the lots were on the east, the elders sat on the west," so that its long diameter appears to have been east and west. That one half of it was holy and one half profane is stated on the same page. The reason why the Sanhedrim sat in the profane half is that only kings of the House of David might sit in the court (*loc. cit.*). The Tosefoth Yom Tov (Midd. v, 4) says the chamber of the draw-well was south, and the chamber of wood to the north of the chamber Gazith.

³² לְשֵׁכֶת הַגּוּלָה. Lightfoot calls it the room of the draw-well, because there was in it a wheel with which to draw water. Middoth (in some copies) speaks of the בְּיַר הַגּוּלָה, the well of the captivity, being placed in it, and this well is said to have been dug by those who came up from the captivity, and to have given its name to the chamber (Bartenora and Tosefoth Yom Tov). This well is mentioned in Erubin x, 14. "They were permitted to draw water from the well of the captivity and from the great well on the Sabbath." R. Shemaiah, in Middoth, says it had sweet water for drinking and a pipe or reservoir, אֵבֶן, of water for washing (*cf.* Jer. Yoma 41 *a*, 1). The word גּוּלָה, or more accurately

was a well from which they drew by means of a bucket,³³ and thence supplied water to the whole court. The chamber of wood³⁴ was behind these two. It was the chamber of the High Priest, and is what was called the chamber Parhedrin.³⁵ And the roof of the three was even. And there were two other chambers in the court of Israel, one on the right of the eastern gate, which was the chamber of Phinehas the vestment keeper, and one on the left, which was the chamber of the pancake maker.

גִּלְיָהּ, means also a fountain or source of water (*cf.* Jud. i, 15), and inasmuch as it is taught in both Talmuds (Jerus. Yoma 41 *a*; Bab Yoma 31 *a*; Bechor 44 *b*; Shabb. 145 *b*, and the notes of Rashi, also Maim. Baith Hammikdash v. 15), that the water of the fountain Etham, עֵיטָם, was brought to the Temple, it is not certain that לְיַסְבַּת הַגּוֹלָה should not be translated "the chamber of the fountain." Solomon's molten sea is said to have been supplied from Etham, and the laver to have been filled from it. In Yoma 31 *a* it is said "the fountain of Etham was twenty-three cubits above the level of the court."

³³ גִּלְיָהּ is also a jug or similar vessel, *lecythus*, or "a large round basin, עגול ספל גרוג" (Tosefoth Yom Tov to Midd. v, 4). Some kind of bucket is here signified by Maimonides, but whether it was of wood, metal, or clay it is impossible to determine. The suggestion of a modern commentator (Mishnaoth Schmid, Vienna, 1835) may here be noted "probably the בור הגולה was a common well with two buckets worked by a wheel, one descending into the water as the other was drawn up."

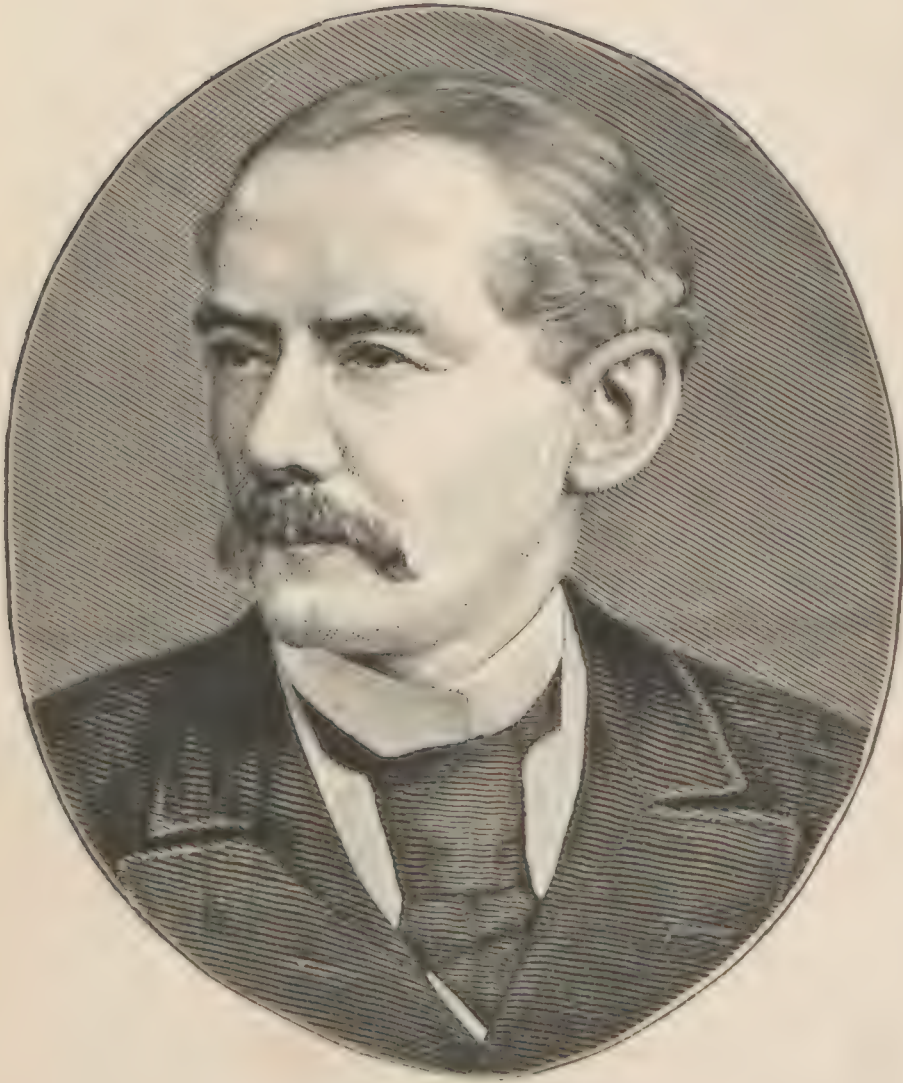
³⁴ The chamber of wood is said to have been for storing the wood fit for the altar (Tosefoth Yom Tov to Midd. v, 4; *cf.* Midd. ii, 5).

³⁵ "Seven days before the Day of Atonement they separated the High Priest from his house into the chamber Parhedrin" (Yoma i, 1). "And why the chamber Parhedrin? Was it not the chamber of the councillors? At first it was called the chamber of the councillors לְיַסְבַּת בְּלוֹוֹטֵי = παστοφερειων των βουλευτων, but because they began to purchase the priesthood with money and to change it every twelve months, as these assessors were changed every twelve months, therefore they called it לְיַסְבַּת פְּרַהֲרֵיִן, the chamber of the assessors" (*Ib.* 8 *b*, and the note of Rashi). "Rab Papa said there were two chambers for the High Priest; one, the chamber Parhedrin, and one the chamber of the house of Abtinias; one *being* on the north, and one on the south, *of the court* . . . I do not know whether the chamber Parhedrin was on the north and the chamber of the house of Abtinias on the south; or the chamber of the house of Abtinias on the north, and the chamber Parhedrin on the south, but we are of opinion that the chamber Parhedrin was on the south" (Yoma 19 *a*).

(To be continued).







COL. SIR CHARLES W. WILSON, K.C.M.G., C.B., LL.D., F.R.S., R.E.

THE
PALESTINE EXPLORATION FUND

NOTES AND NEWS.

WE have received, too late for the *Quarterly Statement*, a most important packet from Herr Schumacher, a note concerning which appeared in the January and April numbers. It contains a map covering about 200 square miles of a part of the Jaulan, that little known and extremely interesting country lying east of the Lake of Galilee, formerly Gaulanitis after the hitherto undiscovered city of Golan (Josh. xxx, 8, and xxi, 27), one of the three cities of refuge in the East. It has been traversed by Burckhardt, Porter, and Welzstein, Mr. Cyril Graham, Mr. Laurence Oliphant, and Dr. Selah Merrill. Herr Schumacher, however, is the first who has surveyed any part of the country, and planned and sketched its ruins. The results of the work are very briefly summed up in the report of the Executive Committee below. He has discovered, almost beyond possibility of doubt, the Biblical Golan. He suggests a new identification for Argob. He has found a vast field containing something like 500 dolmens; he has partially planned the most curious subterranean city of Dera, and he has planned and described all the monuments and buildings in the places which he visited, including the very interesting place round which are gathered the traditions of Job. He has also given a most valuable general description of the country, and has gathered a good collection of Arabic names. It is sufficient commendation of the work to state that its places may be placed side by side with those of Captains Conder and Kitchener in the "Memoirs of the Survey of Western Palestine."

The Committee have decided to produce this work separately and to present a copy of it, post free, to every subscriber of the Fund who may make application for it. A form of application is enclosed. The book will be set up uniform with the cheap editions of "Heth and Moab" and "Tent Work," and will form a volume about half the size of these books. It will be issued with the October *Quarterly Statement*.

We are enabled by the courtesy of the Proprietors of the *Pictorial World* to present with this number a portrait of Sir Charles Wilson, who has now returned from Egypt.

The interest attaching to Herr Schumacher's work will be increased by the paper presented to the Society, and published in this number, by Mr. Guy le

Strange. It is an account of a short journey east of the Jordan, and of a visit to Pella, the Kalat el Rukud, which is outside the part surveyed by Captain Conder; Jerash, the Wady Zerka, Yajuz, and Ammán. Mr. le Strange carries with him in his Eastern travels a rare acquaintance with the works of Arabian and Persian travellers. He has undertaken to translate and to annotate for the Pilgrims' Text Society, the Travels of Mokaddasi.

The notes by Mr. Laurence Oliphant and by Herr Hanauer are curious and interesting. The Rock Altar close to the site of Zorah strongly suggests the story of Judges xiii, 19, and the altar of Manoah. It seems to be, at any rate, of extreme antiquity.

On Sunday evening, June 21st, died suddenly, at his residence in Cheyne Walk, Mr. W. S. W. Vaux, F.R.S., formerly Keeper of Coins in the British Museum, and latterly Secretary of the Royal Asiatic Society. Mr. Vaux became a member of the Committee of this Society on its foundation, May 12, 1865, for the whole period of its existence he remained a member, and attended nearly every meeting of the Committee. His loss is one which will not be easily filled up.

And on Tuesday, the 23rd, died, at his residence at Penzance, another of the Society's oldest friends and supporters, A. Lloyd Fox, a member of the General Committee, and the Society's Hon. Secretary for Falmouth.

Professor Hull's work, "Mount Seir," is now ready. New editions have also been issued of "Tent Work" and "Heth and Moab" at six shillings each.

Light upon the ancient customs of Palestine has been thrown from a very unexpected quarter, namely, Russian Central Asia. Dr. Lansdell ("Russian Central Asia," Sampson Low & Co.) has discovered as far to the east of Palestine as London is to the west, and among an Iranian population, many Semitic customs described in the Sacred Books, especially those written after the Captivity. These customs may have had a common origin, or, as Dr. Lansdell suggests, they may have been taken eastwards by the Ten Tribes.

The income of the Society, from March 17th inclusive, was—from subscriptions and donations £260 9s. 6d., from all sources £481 18s. 5d. The expenditure during the same period was £382 1s. 6d. On June 24th the balance in the Banks was £351 12s. 1d.

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

- (1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects :—
 - The survey of Western Palestine, as illustrating Bible History.
 - Palestine East of the Jordan.
 - The Jerusalem Excavations.
 - A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."
 - (2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—
 - The Survey of Western Palestine.
 - Jerusalem.
 - The Hittites.
 - The Moabite Stone and other monuments.
 - (3) The Rev. James Neil, formerly Incumbent of Christ Church, Jerusalem.
 - (4) The Rev. George St. Clair, formerly Lecturer to the Society, is about to organise, by arrangement with the Committee, a course of lectures this winter on the work of the Society.
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THE LATE MR. W. S. W. VAUX.

WE have to announce the sudden death, at the age of sixty-seven, of Mr. William Sandys Wright Vaux, M.A., F.R.S., the well-known numismatist and Oriental scholar. His long connection with the British Museum, the service of which he entered in 1841, the year after his graduation as B.A. at Baliol College, Oxford, and from which he retired in 1870, culminated in his keepership of the Department of Coins and Medals, which he occupied for two or three months short of ten years. As an expert in this sphere of learning, he acted for some time as a joint editor of the *Numismatic Chronicle*, arranged and described for the Society for the Publication of Oriental Text the series of fac-similes of the coins struck by the Atábeks of Syria and Persia, 1848, and, among other learned contributions, communicated to the Numismatic Society of London in 1863 a paper "On the Coins reasonably presumed to be those of Carthage." He was employed from 1871 to 1876 in the compilation of a catalogue of the coins in the Bodleian Library for the University of Oxford. As a scholar of more general and literary activity, Mr. Vaux prepared, in 1851, a descriptive "Handbook to the Antiquities of Greek, Assyrian, Egyptian, and Etruscan Art in the British Museum." He was the author of "Nineveh and Persepolis, an historical sketch of Ancient Assyria and Persia, with an account of the recent researches in those countries," 1850, which reached its fourth edition in 1855, and of which a German translation by Dr. J. T. Zenker was published at Leipsic in 1852. To the series of the Society for Promoting Christian Knowledge, generically entitled "Ancient History from the Monuments," Mr. Vaux contributed two several works—"Persia, from the Earliest Period to the Arab Conquest," 1875, and "Greek Cities and Islands of Asia Minor," 1877. These works, however, by no means exhaust the list of Mr. Vaux's productions, which embrace numerous contributions to the transactions of various learned societies, and especially to those of the Royal Society of Literature, of which Mr. Vaux was for some time secretary. On New Year's Day, 1876, he was appointed to the secretaryship of the Royal Asiatic Society, an office which he held until his death, at his residence in Cheyne Walk, Chelsea, on Sunday evening last. Mr. Vaux, who was the son of the late Prebendary Vaux, of Winchester, Vicar of Romsey, Hants, was born in 1818, and was educated at Westminster and Baliol College, Oxford, where, as already mentioned, he took his B.A. degree in 1840. In the world of learning he was a man of very wide knowledge and of the most varied accomplishments, and he was much esteemed by a large circle of private friends.—*From the Times.*

ANNUAL MEETING OF THE GENERAL COMMITTEE.

THE Annual Meeting of the General Committee was held at the Society's Offices, 1, Adam Street, Adelphi, on Wednesday, June 24th, 1885.

The Chair was taken by Mr. JAMES GLAISHER.

The minutes of the last meeting were read and confirmed. The Secretary then read the following Report of the Executive Committee :—

“MY LORDS AND GENTLEMEN,

“Your Committee, elected at the last meeting of June 19th, 1884, have, on resigning office, to render an account of their administration during the past year.

“I. The Committee have held nineteen meetings during the year.

“II. The ‘firman’ necessary for the prosecution of the Survey of Eastern Palestine is still withheld by the Turkish authorities.

“III. The work of exploration in the Holy Land has been carried on during the last twelve months by Mr. Laurence Oliphant, Herr Schumacher, and Mr. Guy le Strange. The best thanks of the Committee are due to these gentlemen for the valuable reports and papers given to the Society by them ; some of them, including *Notes on the Jaulan* and *Notes on Carmel* by Mr. Oliphant, have already been published in the *Quarterly Statement*. Other notes by the same gentleman will appear in July, together with an account of a journey east of Jordan by Mr. Guy le Strange. The Committee have also just received, and have great pleasure in laying on the table, a really magnificent contribution to the Survey of the East, in a packet of memoirs, plans, and map, from Herr Schumacher. This work, certainly the most important examination, so far as it goes, of the Jaulan district, as yet made by any traveller, is put forward by the Committee with great satisfaction as the principal work of the year. It is proposed to issue this in a separate form apart from the *Quarterly Statement*, and to present it to all subscribers who may desire to possess a copy. The map will be incorporated with the map of the Society, and laid down on the sheets now being prepared by Mr. Armstrong. It covers about 200 square miles ; the Memoirs contain a list of Arabic names, a general description of the country with its perennial streams, cascades, forests, villages, roads, and people, and an account with excellent plans and drawings of the villages and ruins in the district visited by Herr Schumacher.

“Among the principal ruins described may be mentioned that called Kh. Arkub er Rahwab, which Herr Schumacher would identify with the Argob of the Bible, commonly placed at the Lejjah. He is supported in this view by the authority of Burekhardt, who maintained that Argob would be found somewhere in southern Jaulan. Important ruins were found in the Ain Dakhar and Beit Akkar. North of the former place is a field of

dolmens, in number not short of 500, called by the natives Kubur Beni Israil—graves of the children of Israel. Ancient stone bridges were found crossing the streams at Nahr el Allan and Nahr Rukkad; a remarkable altar was found at Kefr el Ma, conjectured by Herr Schumacher to be the Maccabean Alima. Here a remarkable statue of basalt was also found. In a village called Sahem el Jolan, Herr Schumacher thinks he has discovered the Biblical Golan, which has hitherto escaped identification. The situation, the name, the extensive ruins, and the traditions of the people, all seem to confirm Herr Schumacher's conjecture. The ruins of the remarkable underground city of Ed Dera were examined and planned for the first time, together with the towns and monuments of El Mezeirib Tuffas and Nawar, identified by Mr. Oliphant with the land of Uz; other subterranean buildings were found at Kh. Sumakh and at Sheik Saad. The rock tomb of Job was also photographed and planned. These Memoirs and Maps may be considered as following immediately on the notes furnished by Mr. Oliphant for the *Quarterly Statement* of April last. The recovery of two important Biblical places, the mass of light thrown upon ancient worships, the great number of ruins planned, and the care and intelligence bestowed upon the whole work, render it incumbent upon the Committee to ask the General Committee for a special vote of thanks to this young explorer, as well as to Mr. Oliphant and Mr. Guy le Strange. It must also be mentioned that Mr. Oliphant has discovered a dolmen in Judaea, where hitherto none had been found. It lies in a desert and hilly part of the country, on sheet 115 of the great map. Another interesting discovery is one made by Herr Hanauer, close to the site of the ancient Zorah, of a rock altar which suggests the passage in Judges xiii, 19 and 20.

“The publications of the year in the *Quarterly Statement* have also included Major Kitchener's important geographical report of the Arabah Valley. An archaeological paper by Clermont-Ganneau on Palestine Antiquities in London, and communications from Canon Tristram, Rev. H. Clay Trumbull, Rev. H. G. Tomkins, Dr. Selah Merrill, Dr. Chaplin, Rev. W. F. Birch, Professor Hull, Mr. Baker Greene, and others, to whom the best thanks of the Committee are due. The books published by the Committee since the last meeting of the General Committee are 'Mount Seir' by Professor Hull, and cheap editions of Captain Conder's 'Tent Work' and 'Heth and Moab.' The remaining copies of the 'Survey of Western Palestine' have been placed in the hands of Mr. A. P. Watt, of Paternoster Row, for disposal, subject to the condition that no reduction be made on the original price of the work.

“The Committee have now in their hands the whole of Professor Hull's Geological Memoirs. This important work has been sent to the printers and will be issued as soon as possible.

“An arrangement has been made with Mr. H. Chichester Hart, by means of which we shall be enabled to publish his Memoirs on the Natural History of the Arabah. Herr Schumacher will also, it is hoped, continue his researches as opportunity may offer.

"The Balance Sheet for the year 1884 was published in the April *Quarterly Statement*. The Society received during the year the sum of £5,654, including a loan of £850, and expended £1,851 in exploration, £2,592 on maps and memoirs, £504 in printing, and £618 in management. Since the beginning of the year the sum of £1,224 has been received; exploration has cost £116, maps and memoirs £408, printers £200, and management £346.

"As regards the maps showing both Eastern and Western Palestine with the Old and New Testament names on them, they are now ready for the engraver, but will not be handed to him until Herr Schumacher's work can be laid down on them. Mr. Armstrong has also completed a list of Old and New Testament names with their identifications.

"The Committee have to express their best thanks to the Local Hon. Secretaries, and to all who have helped to spread a knowledge of their work, which, as will be seen from the preceding report, is actively going on, and will continue to do so, as long as any part of our original prospectus remains to be filled up.

"The Committee have lastly to deplore the sudden death on Sunday last, the 21st, of Mr. W. S. W. Vaux, F.R.S., formerly Chief of the Numismatic Department in the British Museum, and lately Secretary of the Royal Asiatic Society. Mr. Vaux has been a member of the Executive Committee since the formation of the Society on May 12th, 1865. There has hardly been a meeting from that date until the last meeting of June 2nd at which he was not present, and his interest in the Society and his watchfulness over the advance of its work have never ceased from the beginning."

The adoption of the Report was proposed by Dr. CHAPLIN, of Jerusalem, who spoke of the way in which the work of the Society was steadily growing in recognition, and seconded by Mr. CYRIL GRAHAM, who bore testimony, from his own experience in the country, to the beauty and excellence of Herr Schumacher's work.

The DEAN OF CHESTER proposed the re-election of the Executive Committee. This was seconded by the Rev. Dr. LÖWY. Both gentlemen took occasion to speak of the great loss the Society had sustained in the lamented death of Mr. Vaux.

Mr. HENRY MAUDSLAY proposed, and Mr. CRACE seconded, a vote of thanks to the Chairman.

THE SITE OF EMMAUS.

(See *Quarterly Statement*, October 1884, April 1885.)

IN reply to Mr. Mearns, I only ask permission to prove my statement that Josephus (Bell. Jud. iv, 1) does interpret *Emmaus* to mean, in the particular place referred to, *Hotwells*. Mr. M. contends "The word he uses is *θερμα*, *warm baths*, referring to the gentle heat of baths. But if he had meant hot springs he would have used the feminine, *θερμαι*." Whatever the lexicon may say, Josephus leaves no doubt as to his own employment of *θερμα* in the passage before us. His words are: *μεθερμηγενομενη δε Αμμαους, θερμα λεγοιτ' αυ, εστι γαρ εν αυτη πηγη θερμων υδατων προς ακεσιν επιτηδεως*. Mr. Mearns paraphrases this passage in the following somewhat imaginative manner:—"Josephus says that the meaning of a warm bath was peculiarly applicable to the Tiberian Emmaus; for in it was a spring of hot water *to supply the bath*, and useful for healing. *The historian distinctly says that the name always points to a warm bath.*" (The italics are mine.) If Mr. Mearns reads his authors in this fashion, I think I may safely leave my argument to take care of itself on other points on which he animadvert.

A. KENNION.

ACCOUNT OF A SHORT JOURNEY EAST OF THE
JORDAN.

BY GUY LE STRANGE.

THE impediments which, at the present time, the Turkish Government almost invariably throw in the way of any one who attempts a journey into the country across the Jordan, and having heard of the large sums usually demanded of travellers by the Sheikhs of the Belkâ under plea of escort dues—emboldens me to offer this present account of a hurried trip through 'Ajlûn and the Belkâ, successfully carried out during the month of November, 1884, without Government permission, tents, baggage-mules, or blackmail. We left Nazareth on the morning of Tuesday, the 11th of November, but, as is often the case on the first day of a journey, the start was delayed by reason of trifles forgotten till the last moment, and, in consequence, the sun was already two hours on its course before we lost sight of the white houses of Nazareth and threaded the ravines down into the plain of Esdraelon. Pella was to have been the end of the first stage, but the sky was clouding up and threatening a deluge; hence even before we had passed the villages of Nain and Endor it seemed hopeless to attempt getting across the Jordan that day. The rain, however, held off till after lunch, which was discussed on the green bank of Goliath's river, the Nahr Jâlûd, which runs into the Jordan after watering Beisân, and then we walked our horses through the ruin of the beautiful Saracenic Caravanserai overhanging the stream which is known as the Khân el Ahmar, or "the Red." But an hour later, while passing through the squalid village of Beisân, and casting a hurried glance at the imposing and widespread ruins of the ancient Seythopolis of the Decapolis, down came the rain in torrents; and the sky at the same time displayed such sure tokens of something more than a passing shower, that by 4 o'clock it was determined to seek shelter and a night's lodging in the hospitable tent of an Arab whom we found camped below in the valley of the Jordan.

For about ten hours the rain continued with but little abatement, soaking through the hair walls, and dripping from the roof of our host's abode, and further causing the sheep and goats to be disagreeably anxious to participate with us in the comparative shelter which the same afforded. However, by a couple of hours past midnight the sky was again clear, and I may add that during the remainder of the trip as far as Jerusalem, the state of the atmosphere was everything that could be desired. The late autumn in Palestine, as a season for journeying and exploration, has perhaps some advantages over the spring, if only the traveller be sufficiently fortunate to happen on the six weeks or two months which generally intervene between the early autumn showers and the steady rains of winter, which last do not, as a rule, begin much before Christmas.

In the autumn, the land, having been parched by the summer heats, is of course less green and beautiful than is the case in the early days of spring ; but, on the other hand, ruins are no longer concealed by any luxuriant vegetation, and since the coolness of the weather renders a shortened halt at noon a matter of no inconvenience, the traveller can devote to the business on hand all the hours of daylight, which even at this season can be counted upon as lasting from 7 A.M. to 5 P.M. Bedouins in general are of course early risers, and we, their guests, had in consequence no difficulty in getting early into the saddle, so that before the sun had made its appearance above the mountains of Ajlûn we were riding eastwards over the fertile lands of the Ghôr, the Arab name for the mighty "cleft" through which the waters of the Jordan pour. At the present day the country all round Beisân, though partially cultivated, and fetching a certain price in the market, is not to compare with the description that has been left to us of its fertility in the century preceding the arrival of the Crusaders. Mokaddasi,¹ writing about the year 1000 A.D., describes Beisân at his time as being rich in palm trees, and informs us that all the rice used in the provinces of the Jordan, and of Palestine, was grown here. At the present day no rice is cultivated anywhere in this neighbourhood, nor for the matter of that, as far as I know, in any other part of Palestine, and the palm has long been gone from here as from the shores of the Sea of Tiberias, where, according to the geographer above quoted, there might be seen in his days "all around the Lake villages and date palms, while on the same sail boats coming and going continually."²

That the bygone prosperity might easily return to this country, should circumstances (*i.e.*, the Government) again become propitious, was an idea that impressed itself on us, each moment the more, while riding over the rich soil, and fording at every hundred yards the streams which here intersect the Ghôr. An abrupt descent brought us in an hour to the Jordan, at a ford where the water scarcely reached the bellies of our horses, and we had the luck to be guided to the right place by three of our hosts of the previous evening, who, mounted on their wirey, bald-tailed mares, and armed with the long Arab lance, had turned out to accompany us during the first few hours of the way. Across the Jordan we suddenly came upon an encampment of black tents, tenanted by kinsmen of our last night's host, and as a consequence were condemned to waste a precious hour while coffee was prepared and ceremoniously drunk, followed by a light repast of bread and sour milk ; and hence it was past nine before we reached the ruins of Pella, although these lie but an hour distant from the spot at which we forded the Jordan. As Mr. Selah Merrill very justly observes in the work which, unless I am misinformed, is as yet the

¹ Edited in Arabic by de Goeje (Leyden, 1877), p. 162.

² *Op. cit.*, p. 161. A few stunted palms are, however, still to be seen at Kufr Argib and elsewhere on the shores of the Lake (see J. Macgregor, "Rob Roy on the Jordan," 1869, pp. 325, 329 ; also, "Recovery of Jerusalem," p. 367, in Capt. Wilson's article on the Sea of Galilee).

sole fruit of the American Palestine Exploration Society, "Tabakât Fahl is a beautiful location for a city, and the wonder is that it should have been forsaken." Even after the long summer drought, the springs gushing out among the broken columns and ruins of former splendour, are abundant enough to make fertile all the neighbouring land, which, situated as it is on the upper level of the Ghôr, and 250 feet below the sea, enjoys, perhaps, the finest climate, from an agricultural point of view, that can be found in Syria.

That the Arab name of Tabakât Fahl, the Fahl Terraces, represents the ancient Greek Pella, there can be little doubt. Dr. Robinson, who was the first to make this identification, is no mean authority in such matters, and further, Mr. Merrill, who discusses the various objections which may be urged against this present site, winds up the argument by bringing together a mass of evidence in favour of this being the ancient Pella of the Decapolis, giving citations from the works of Josephus, Stephanus of Byzantium, Eusebius, and others, who treat of the early topography of Palestine.¹ It may be of some interest to add that though the site has, to all appearance, for centuries been abandoned by the Moslems, it is renowned in their early chronicles as being the field which witnessed the great "Battle of Fahl," which, six centuries after Christ, sealed the fate of Byzantine rule in Syria.² According to the annalist Tabari, this celebrated victory was gained in the year 13 A.H.,³ and the geographer Yakut asserts that the Greeks left 80,000 dead on the field.

In the first decades of the Christian era, Pliny, describing Pella, notes its abundant water supply, and in the Talmud this city is mentioned under the name of "Phahil," as having *hot* springs.⁴ At the present day, however, the springs, though abundant, are apparently not thermal. We found them icy cold, and perfectly sweet, and on this point it may be added that the Arab geographers never allude to them in their enumeration of the numerous Hammâms of the Jordan Valley. Neglecting the Greek name Pella, the Arabs, according to their wont, revived the older Semitic pronunciation of Phahil, which they wrote Fahil or Fihl. It is of interest here to note that Yakut, in his Geographical Encyclopædia,⁵ after stating the correct pronunciation of the name to be "Fihl," continues, "I believe this name to be of foreign origin, since I do not recognise in it the form of any Arab word." And that this Pella was the place which witnessed the Moslem victory over the Greek forces, is placed beyond a doubt by the further statement that "the battle of Fihl, which took place within the year of the capitulation of Damascus, is likewise known under the appellation of the Day of Beisân," and from Beisân, on the right bank

¹ "East of the Jordan," by S. Merrill (London, 1881), pp. 442-447.

² Weil., "Gesch. der Chalifen," I, 40, *et seq.*

³ Ed. Kosegarten, II, 158.


⁴ Conder's "Handbook to the Bible," 3rd edition, p. 315.

⁵ "Mo'jam-al-Buldân" (Leipzig), III, 853.

⁶ Quoted also by the author of the "Marâsid-el-Ittilâ," ed. Juynboll, II, 336, whose work is a critical abridgment of Yakut's Encyclopædia.

of the Jordan, we had ridden in a couple of hours. Pella, or Fihl, must have fallen into ruin very shortly after the Moslem conquest, as is proved by the absence of all Saracenic remains among those of the Byzantine epoch which cover the ground in all the neighbourhood of the springs. A like fate also befell most of the great Greek cities over Jordan, such as Gerasa (Jerâsh) and Philadelphia (Ammân), where we find little that is Moslem among much that recalls the Christian times. A few generations later, after the third century of the Hejra, the very name of Fihl ceases to be mentioned in the itineraries and town lists of the Arab geographers, and neither Istakhri, Ibn Haukal, nor Mokaddasi (himself a Syrian) take any notice of the place. Still, in A.H. 278, one of the earliest of their geographers, Yakubi, considered it a place of importance, for in his summary of the cities of the military province of the Jordan (*Joud al Urdann*), after describing such towns as Acre and Tyre, he mentions¹ together Tibnîn, Fihl, and Jerâsh, adding that "the population inhabiting these towns is of a mixed character, part Arab, part foreign" (*al 'ajam*), by which last term, if I am not mistaken, we are to understand the native Greek-speaking Christians who had not been displaced by the immigrant Arabs. Fihl, or Tabakât Fahl, as the place is now called, having thus been left undisturbed for nigh on a thousand years, would doubtless yield a rich archaeological harvest to any one who could spend some days among the ruins, and carefully examine the very large number of broken cornices and other carved stones which lie about on every hand. Considerable remains of buildings also, that were once adorned with columns, surround the spot where the springs gush out from the hill-side.

Although the Jordan Valley is elsewhere parched after the summer droughts, the Fihl Gorge was a mass of waving green reeds, reaching higher than a horseman's head, and almost completely masking from view the ruined edifices which lay partially submerged in the running water. Near what must have been a bath—judging from the large piscina—stood a fine monolith in white marble, above 8 feet in height; and among the reeds, a score of yards further down, and nearer the north bank, were two others, rising, each of them, over a dozen feet out of the pool in which they stood. But nowhere did we notice inscriptions. The great centre of population would seem to have been up on the hill-side on the right or northern bank of the stream. Here there are traces of a large necropolis with innumerable sarcophagi lying about on every hand. In most cases these last had been smashed up by iconoclastic treasure-seekers, but some remained almost intact, displaying the Christian emblems beautifully carved in the white stone. One in particular was noticeable from its high artistic merit. The lid of the sarcophagus was still perfect, adorned with three wreaths chiselled in high relief, and between

them, in monogram, the , and the A.Ω. but with no further

¹ "Kitâb-al-Buldân," ed. Juynboll, p. 115.

inscription. Traces of buildings and half-buried columns lie in profusion to the south of the necropolis, on the slope overhanging the green gorge where the stream gushes out, while, doubtless, the precipitous hill which shuts in the left or southern bank of the wâdy, would repay a more detailed examination than any which has as yet been bestowed upon it. Digging would naturally be most desirable here, but much that is interesting might easily be brought to light by any one who would come armed with a crowbar, and give himself the trouble of turning over the drums and the cornices which, to all appearances, have lain in their present position since the days of the Arab invasion; and greatly do I regret that, in our hurried visit, I had neither tools with me, nor leisure time, that would have allowed of a detailed examination of this little visited ruin.

The road from Fahl to 'Ajlûn winds up the steep north bank of the Wâdy Fahl, here running east-north-east into the plateau overhanging the eastern boundary of the Jordan Valley. For the first mile the wâdy is narrow and precipitous, and the road a mere path straggling about the cliffs, a hundred feet above the dry torrent bed; but after passing a curious gap, where two giant boulders on projecting spurs have the appearance of watch towers, the gorge widens and bifurcates, the road taking the branch gully leading in the direction east-south-east. Since Mr. Merrill has laid such stress on his discovery, in these parts, of the Roman road running between Pella and Gerasa,¹ referred to by Eusebius, and which the American archaeologist regards as a final proof that Fahl is Pella, I was naturally on the look-out for traces of the same in the Wâdy Fahl. It is a disappointment for me to have to confess that though evident remains of a paved causeway are found in several places on the uplands above, yet here in the wâdy itself no traces could be discovered of cuttings in the cliff sides. I therefore conclude that the road must have approached Fahl (Pella) down some other gully.

Three-quarters of an hour after leaving Fahl we had reached the upland rolling plain, intersected in every direction by shallow ravines, and dotted with scrub oak. Before us, in a south-easterly direction, rose the mountains of Gilead; to the right, less than a mile away, and due south, was the village of Kefr Abil; while on the left, at a distance of a mile and a half, on a low spur, appeared Beit 'Adis. Skirting the heads of three small wâdies which lead down to the Jordan Valley, our road took a southerly direction for a couple of miles over the barren upland, after which suddenly the path plunged down off this upland into the precipitous gorge, which I believe to be an upper arm of the Wâdy Yâbis. On the height, with a path running up to it from the gorge, lies the village of Kefr Abil before mentioned, and before leaving the upland plateau, on the very brink of the wâdy, our road passed through remains of former habitations, rendered the more noticeable by the living rock having in many places been cut into to form large square tanks, measuring, roughly,

¹ *Op. cit.*, 357, 445.

in length 10 feet by 8 feet across. These were now filled up with mould so as to be flush with the surface, and have been constructed to serve as vats for oil or wine. The workmanship was assuredly ancient, and such as to do honour to the skill and perseverance of the stone cutters of Palestine. The wâdy into which the road plunged turned off upwards into the hills in a north-easterly direction, while downwards, towards its outlet, it runs on for more than a mile due south with many smaller wâdies coming into it from the east. In this part both the main wâdy and its tributaries were, at this season, completely dry, though showing clear traces of the rush of spring freshets. The road ran down in the bed of the wâdy, and we followed it for about a mile before turning to the left into a green valley leading up in a south-easterly direction, where nestled the village of Jedaidah surrounded by olive trees and gardens. The natural beauties of this dell, the distant clatter of the two mills which were churning the waters of the brawling stream, the well-tilled fields, and the succulent grass that covered the slopes on every hand, to us invested Jedaidah with all the attributes of a rural paradise; and it being now past midday we proceeded to recruit exhausted nature with certain of the contents of our saddle-bags, while the nags lunched, even more sumptuously than we, on the fresh grass of the brook side.

Whether or not this be the main stream of the Wâdy Yâbis I was unable to ascertain, for the maps of this district are all remarkably deficient and inexact, and a villager whom I questioned was ambiguous in his replies. But from Jedeidah, as far as we could see, the stream, making a bend at right angles about a mile down the wâdy going due south, turns west again, and forcing its way through the mountains would have every appearance of coming out into the Jordan Valley at the spot where the Wady Yâbis is marked on the maps. All this we noted while following the path which led away in the opposite direction, for scrambling up the high spur overhanging the left bank of the stream, we proceeded nearly due east into the mountains along and up the ridge, which forms the southern boundary of the little valley where we had made the noontide halt. The wâdies here begin to be dotted with scrub oak, through which, after riding for a short hour, we came into the olive groves surrounding the hamlet of Urjân. There is collected in this village a population apparently too numerous for the accommodation provided by its houses. More than half its inhabitants have turned the caves, which honeycomb the rocks, into habitations, and thus manage to provide themselves with all the comforts of a home in the bowels of the ground. These caverns would seem to be mostly of artificial construction, having squared windows and doors, with properly situated smoke holes, but very awkward for riders, and into which, several times, it was difficult for me to prevent my horse from precipitating himself. These tenements would doubtless prove worthy of investigation by any one who, more fortunate than was the case with myself, shall have leisure to overcome the inhospitable shyness of their present occupants, and thus have the good fortune to gain admittance to these Troglodyte harems.

Beyond Urjân may be said to begin the forest of Ajlân. At first the

hill slopes, and later on both the torrent beds and the ridges, became covered by oak trees, with an average height of between 30 and 40 feet. In the spring time, doubtless, the ground would be covered with grass and weeds, but now, in the late autumn, nothing was to be seen under the trees but the bare rocks; still from the thickness of the forest, and the low sweep of the branches, a horseman ten yards ahead was generally completely hidden from view. For a mile beyond Urjân the road keeps along the southern slope of the valley under the trees, leading steadily upward and crossing the entrances of many smaller dells, till finally it turns up one of these latter in a direction south-west by south, and round the upper end gains the summit of the ridge, whence a lovely view is obtained through the oak openings back over the Jordan Valley towards the Dead Sea. A little further on along the ridge, and about three-quarters of an hour after leaving Urjân, we passed a large circular hole in the ground, some 6 feet across, opening down into an immense cistern, now partly choked with rubbish, but the bottom of which was still 20 feet from the surface of the ground. It appeared to be bottle-shaped within, as are most of the cisterns in Palestine. In a southerly direction not far from its mouth, under the trees, were traces of ruined walls, but I was unable to obtain from the guide any information as to the name by which the place was, or had formerly been, known.

Our road still lay along the ridge in a south-easterly direction, with the broad wâdy on the left hand down which behind us lay Urjân, while on the right we were continually crossing charming glades where the oaks ever and again give place to bay trees, and through them a rider obtains picturesque glimpses over the well-wooded hills to the south-west. It was up one of these glades, or rather forming the background of an upland plain closed in on either hand by dark green mountain slopes, that we first caught sight of the Castle of Rabûd crowning a hill-top about three miles away, bearing south-south-west. From this point, which is rather more than an hour distant from Urjân, a direct road, said to be very stony, leads to the Kusr er Rabûd straight up this plain. It was, however, now past 3 o'clock, and the days being short we decided to push straight on to the town of Ajlûn, our night quarters, and put off visiting the castle till the morrow. We therefore turned up the hill-side to the south-east, and on the brow first caught sight of the town far below us, at the junction of three valleys, embowered in its gardens, its minaret and walls already gilded by the rays of the setting sun. An hour's scramble, first round the shoulder of the hill and then over into the valley which comes down on Ajlûn from the north, brought us to our destination, and for the last two miles the road lay through a succession of vineyards among the rocks, where the vines, whose leaves the autumn had turned to ruddy gold, stood out against the darker shade of ancient olive trees. The distance we had travelled perhaps lent a false enchantment to the view, but whether or not this be the cause, Ajlûn has a place in my memory as one of the most beautiful and fertile regions of Palestine that I visited, bearing comparison in this even with those far-famed villages that are watered by the rivers of Damascus. The little town is situated at the junction of three valleys, one coming from the north

down which had been our road ; another coming from the west, blocked a couple of miles distant by the spur, crowned with the Castle of Rabûd ; while opposite is the valley leading up almost due east on the road to Sûf and Jerâsh. The place contains a mosque with a tall square minaret, of fine workmanship in yellow stone ; and this last recalls so strikingly some campanile in the plains of Lombardy, that I am inclined to suppose that we have here the relics of a Christian church, perhaps of Crusader times. The town has an abundant supply of water from a spring which gushes out, not far from the mosque, under an archway of ancient masonry, which rises among ruins of columns and cornices. Modern Ajlûn is, however, but an unpicturesque collection of mud hovels, where the homestead generally consists of an agglomeration of windowless cabins surrounding a dung-heap.

In one of these cabins, having accomplished the ejection of our host's family, we proceeded to take up our night's quarters, and made an excellent dinner off the mutton and rice that had been originally prepared for his own household. It then became a burning question to my two companions whether the hospitality which they in turn were forced to offer to the fleas would allow of their enjoying the solace of undisturbed repose. For myself I was happy in being above such considerations. For, during a late trip across the Haurân, sundry insects pervading the guest chambers of my Arab hosts, having kept me for three successive nights without closing an eye, and further observing myself to be rendered incapable of archaeological research through the physical exhaustion brought on by ceaseless scratching, I had, this journey, brought in my wallet a small string-hammock. Now the den in which we were quartered had, like most Arab cabins, square ventilation-holes, left under the rafters on either side below the ceiling. Through two of these holes, from without, I found I could manage to push the straight stems of a couple of long logs of firewood, in such a manner that the ends protruded very appropriately inside, like pegs standing out from the opposite wall of the room ; while the logs were jammed and prevented from being drawn completely through the holes by the gnarled and branched portion that remained without. Having thus got my pegs inside the room I proceeded to sling the hammock from them about a yard and a half above my friends and the fleas, and enjoyed thereby undisturbed repose during the night, having first been duly admired by the whole population of the village, who, during a couple of hours, were admitted in rotation to rejoice their eyes at the unaccustomed sight of a Frank in bed in a hammock.

The next morning, the 13th of November, we were up betimes, and after a thimbleful of coffee rode up, going almost due west, to the Kufat er Rabûd, and reached it in a few minutes over the half-hour. From the Arab geographers quoted on a previous page, I have been unable to obtain any information as to the early history of this splendid fortress.¹ Raised on

¹ I find no mention of the place in the works of Yakubi, Ibn Haukal, Istakhrî, Mokaddasi, or Yakut, neither does the name occur in Ibn-el-Athîr's

foundations that would appear to date from Roman days, its bastions and walls bear silent witness to the energy and skill of the Crusading Knights who, during their two century tenure of the Holy Land, erected this stronghold beyond the Jordan to hold the country of Moab and Ammon in awe. The view from its battlements is grand beyond the power of pen to describe. Looking west, the long valley of the Jordan, from the Lake of Gennesareth to the Dead Sea, lay spread out at our feet, with the windings of the Jordan itself glittering among the green brushwood, its surface being already gilded by the beams of the rising sun. Beyond and for a background were the mountains of Samaria, while on either hand lay the well-clothed hills of Ajlûn, now bronzed by the late autumn, and giving back a sheen of almost metallic lustre under the level rays of sunlight that were pouring over them. Eastward at our feet rose up the town of Ajlûn nestling at the bifurcation of the valleys, in its gardens and vineyards; and beyond, some three miles off, white in a green garland, was 'Ain Jannâ, a village on the road to Jerâsh. The castle itself crowns a height, and is surrounded by a deep moat dug out of the rock. Its vaults and halls are certainly some of the finest in Palestine, the masonry equalling that to be seen at 'Athlit, on the sea coast above Cæsarea, which is always quoted as the most remarkable of the Crusading ruins. Kusr-er-Rabûd amply deserves a more extended examination than any that has as yet been accorded to it by travellers. As I have noted above, the foundations of the building would appear to date from Roman days, for on many of the stones used in the lower walls eagles are carved, in low relief, which seemed to me of earlier workmanship than the tenth century. On the left of the gate-house high up in the wall is a tablet bearing an Arab inscription, which I was unable to come near enough to read. My readers will easily believe how about these old walls, thus perched on the mountain-top as a landmark to all the Jordan Valley, and concerning the men who first constructed its dungeons and wells and dark passages, there was an amount of mystery that it would have been most fascinating to have made some attempt at penetrating, had the time permitted of a detailed exploration. But that night we were bound to sleep at, or beyond, Jerâsh, and therefore voluminous chronicle. However, although unnoticed among the Crusading Castles of Palestine by G. Rey, in his "Monuments de l'Architecture Militaire des Croisés en Syrie," an examination of the architecture and mode of construction has led me to doubt that the building is of purely Saracenic origin. I must state, however, on the other hand, that Burekhardt, who visited the place in his travels and found it occupied by a garrison, writes ("Travels in Syria," pp. 266, 267") that he saw Arabic inscriptions (presumably on the slab in the wall that I was unable to reach) which proclaimed that the castle was built by Saladin. Which too is further corroborated by Abu-l-Feda's Geography, a work of the fourteenth century of our era, where it is stated (p. 245 of the Arabic Text) that the Castle of Ajlûn was built by 'Izz-ed-Din Osâmah, one of Saladin's famous captains. Still, in spite of all this, after having examined the place, I must repeat that there is little doubt in my mind that parts of the building date from prior to the time of Saladin or even the first Crusade.

after a hurried visit we reluctantly turned our backs on the castle, and returning through the town of Ajlûn rode on, up the valley eastwards, towards 'Ain Jannâ.

On the right bank of the bed of the brook up which lay our path, and five minutes after leaving the last houses of the town, is a low cavern, used by the natives as a stable for their cattle. As far as we could see it contained no inscriptions or sculptures, and though originally, doubtless, natural, it had been artificially enlarged for the convenience of the beasts, being in most places upwards of 6 feet in height, and running deep into the hill-side for a distance that we estimated at somewhat less than fifty yards, thus affording a large area under cover, that was at the present moment much encumbered with all sorts of refuse. The distance of about a mile and a half which separates 'Ajlûn from 'Ain Jannâ is almost entirely taken up with olive trees, from which the fruit had now (November) lately been shaken; and in the market-place of the latter village we passed three huge caldrons filled with crushed berries set in a little water to simmer over a slow fire, this being one of the methods of extracting the oil. Beyond 'Ain Jannâ the road still continues straight up the valley almost due east, and, on the northern hill slope about half-a-mile from the village, passes beside a couple of rock-cut tombs overhanging the bed of the stream, the second of the two still containing a broken sarcophagus without ornament. A short distance beyond these we come on the source of the brook, where it wells up from a hole under a rock in the middle of the valley. The stream runs down from here through 'Ain Jannâ, and even at this season suffices to water all the lands between this and 'Ajlûn. Above this point, although no water was visible, oak groves of considerable extent lay on every hand, and the path, after traversing a rocky glen where the branches of the trees almost met above our heads, came to a more open space where at a couple of miles above 'Ain Jannâ the roads to Irbid and Sûf bifurcate. Of these we followed the latter, bearing slightly towards the right and in a southerly direction, through park-like glades, and in half-an-hour reached the saddle which forms the watershed between the valleys of Ajlûn and Sûf. At this point a fine view was obtained over the way before us, running through the broad valley winding down towards Jerâsh in a direction a little south of east. The ground about here was dotted with oak trees and scrub, but the growth became smaller and the clumps more sparse the further we left Ajlûn behind, till at last, near Sûf, about three miles from the saddle, the trees had disappeared almost entirely. Before reaching this village the valley narrows to a gorge shut in by white chalk cliffs, and the track, after climbing among those which overhang the ravine to the south, leads suddenly down on the squalid cabins of the inhabitants.

The Sheikh of Sûf has so evil a reputation among travellers for both cupidity and insolence that, it being yet an hour to lunch time, we decided on hurrying on without paying him a visit; but that we did not make some acquaintance with the people of the village was a cause of

subsequent regret to me, when I heard that they held in their hands many of the coins and antiquities which are brought to them for sale by the Circassians who are colonising Jerâsh. There were, in particular, rumours of a pot said to have been dug up in this neighbourhood, and reported to have contained countless gold coins of large size, which same had not all of them, as yet, been delivered over into the hands of the officials of the Ottoman Government, to whom all treasure-trove is lawfully due. The finding of hoards is of by no means rare occurrence in Palestine, where the people have at all times been their own bankers, and have ever preferred confiding their hard-earned gains back to the bosom of mother earth, rather than entrust them, for safe keeping, to friends in whom they could place no trust, knowing well that they themselves, in the like position, would, without a question, deem it imbecile to be fettered by any shackles of honesty or honour. The road from Sûf to Jerâsh, which we travelled over during a ride of rather more than an hour and a half, has been so well described in guide books as to need no detailed notice. For the most part the path follows the hill-slopes on the southern side of the broad shallow wâdy which runs down in an easterly direction till it joins that wherein lies Jerâsh, which is a valley joining it from the south. Shortly after leaving Sûf, far down to the left of the road and on the northern hill-slope, a ruin was pointed out to us by our guide which our time did not permit of our visiting, but as he assured us that it was the remains of some ancient edifice it may perhaps repay the examination of some future traveller with leisure at command. Even before reaching Sûf, as noticed above, the aspect of the country had changed. The thick oak forest, which is so characteristic of the Ajlûn hills, had been replaced by single stunted trees, pines and scrub oaks, dotted sparsely over the hill-sides; beyond Sûf the slopes became almost bare, and in all the country to the east and south of Jerâsh the land is for the most part treeless, and only an occasional pollarded oak cuts the sky line of the hill-top.

Riding across the hills from Sûf, Jerâsh becomes visible from the village of Deir-el-Leyyeh, a couple of miles from the ruins, which are seen spread out below in the broad valley running north and south. From this upper point, where, at the bottom of a hole in the rock, there is a spring, all along the road lie fragments of sarcophagi and carved stones, showing how extensive must have been the suburbs and necropolis of the Roman city. Jerâsh, or Gerasa, has been too often and too well described to require more than a passing notice in these pages. At the time of our visit the Circassians had possession of the place, but had fortunately taken up their abode on the left bank of the stream, where the ruins are comparatively insignificant, and they had not as yet begun to meddle with the magnificent theatres, colonnades, and temples crowding the right bank, and which are, Palmyra perhaps excepted, the most extensive and marvellous remains of the Græco-Roman rule in Syria. The prosperity of the town, despite its fine situation and plentiful water supply, diminished considerably after the expulsion of the Byzantines. The locality, however, is mentioned by Yakûbi, a couple of centuries after the Moslem conquest,

as being in his time one of the towns of the Jordan province : and again the poet al-Mutanabbi, one of the most celebrated of those who flourished at the Court of Baghdad, in a panegyric, devotes some lines to the praise of the fertility of the Crown domains at Jerâsh. But, except for such incidental notices, if I mistake not, the city is rarely mentioned by the subsequent Arab geographers and historians ; though Yakût, in the thirteenth century A.D., who had not himself visited the spot, writes that it was described to him by those who had seen it as "a great city, now a ruin, . . . through which runs a stream used for turning many mills ; . . . it lies among hills that are covered with villages and hamlets, the district being known under the name of the Jerâsh Mountain."¹ Whatever may have been the original cause of its depopulation, it is very noticeable that the ruins of Jerâsh up to the present day have been but little disturbed. There has never been any great Moslem city in its neighbourhood, and hence its columns remain *in situ* or, thrown down by the earthquake, sprawling along the ground, while the stones of the Great Temple of the Sun and of the theatres are fortunate in having been, as yet, unpilfered for building material. Further, since there is in these regions no sand to drift over and veil the outlines, and the frequent drought preventing the ruins from becoming masked by vegetation, all that remains stands out, white and glaring, in noontide, having that same appearance of recent desolation which is so striking a characteristic of the freshly cleared streets of Pompeii.

After lunching on the bank of the stream, among the gigantic oleanders that, still in November, were covered with delicate pink flowers, we passed the afternoon riding about, examining the ancient city, combining archaeological investigations with the keeping of a good look-out against prowling Circassians, and at sundown proceeded out of the southern gate, past the circus, now a meadow, and through the fine Triumphal Arch at the town limit. Here turning to the left, we crossed the stream at the mills and began to climb the conical hill on which stands the Moslem village and sanctuary of Neby Hüd, where it was determined to claim for ourselves hospitality, and safe night quarters for our horses, against the thievish propensities of the Christian Circassians.

The view from this high point is extremely fine, and embraces all the valley and ruins of Jerâsh looking north. While the guest-room was being swept out the elders came round and discoursed on their grievances, against the Government in general, and their new Circassian neighbours in particular. These last are a thorn to the Moslems in their agricultural operations, and further debar them from poking about for treasure among the vaults and cisterns of Jerâsh, a city built, as one of the sheikhs was good enough to inform me, by his own ancestors, the 'Adites, of the Days of Ignorance. After supper till near midnight had we to listen to and discuss politics with these worthy people, among whom the arrival of a traveller is a rare accident, and we three being Christians and they

¹ *Op. cit.*, II, 61.

Moslems, points of religion were often incidentally touched upon to the exceeding happiness of our Arab guide, who was a red hot Protestant and polemic. Despite religious differences, however, we remained excellent friends, and ultimately all slept together in the guest chamber, the party consisting of our three selves, the sheikhs, and the children. During the night an occasional dog chased goats over our prostrate forms, and the fleas hopped about merrily, which combined prevented our oversleeping ourselves. Hence by half-past six next morning (Nov. 14th) we had saddled our horses, and, breakfastless, were off for 'Ammân, to which place it had been determined to proceed by the direct road across country, without going first south-west to Salt and thence back south-east to Ammân, the route generally followed by the caravans. This direct road is hilly, and there have to be crossed numberless valleys, which from the east intersect the tableland lying between Jerâsh and Ammân; it is but little used, and, as far as I could learn, has been seldom described by previous travellers. To us its being the less known was, of course, a recommendation; besides, as we had no wish to excite the attention of the officials of the Belkâ, it was perhaps as well to avoid visiting Salt, the residence of the Governor of that province.

Starting from Neby Hûd in a south-easterly direction, after half-an-hour we crossed at right angles the Wâdy Riyâshî, running south-west, and down which lies the direct road to Salt. At the point where we forded the brook is a ruined mill almost hidden in the mass of oleanders and fig trees bordering the bed of the stream, which, it is said, joins the Jerâsh river a short distance before this latter itself falls into the Zerkâ. We, however, turning towards the south, left the Riyâshî behind us, and making our way up the hill slopes above its left bank, here most refreshingly dotted with scrub oak, in rather more than half-an-hour had gained the summit of the watershed which divides the valley of Jerâsh from that of the Zerkâ. The saddle across which the road lay commanded a fine view on either hand, the summit being marked by a cairn of stones a dozen feet high, erected to mark the spot where a celebrated chief had been slain. From here to the right, westwards, there was visible the lower part of the valley of Jerâsh, separated from us by several ranges of bare hills. To the left, and in front towards the south, lay the hills of the Belkâ, cut off from us by a deep gorge, at the bottom of which, as yet unseen, ran the Zerkâ, the Biblical Jabbok, in ancient times the boundary between the territories of Og, the King of Bashan, and of Sihon, King of the Amorites, and still to-day the limit to the north of the Belkâ province. The hills all round were barren and stony, here and there a pollarded oak struggled for existence against the drought and the loss of its branches, which the Bedouins cut off for fuel, and everything seemed lifeless and forlorn, until suddenly, as we were making our way down a steep spur to the bed of the Zerkâ, we came on an encampment of three black tents, hidden away in a delicious little dell, down which went brawling a tiny stream. The Bedouin men were all away with the flocks, but the women received us hospitably, started coffee-making, and the

while were profuse in advice and directions as to the road we were to follow. They belonged, they said, to the Khaza 'Ali, a branch of the Beni Hasan, one of the great tribes of the Belkâ, and seemed in comfortable circumstances. Very pretty striped carpets of goat hair were spread for us to sit on in the shade of the goat hair walls, and though our hostess was more remarkable for her perpetual chatter than for graces of person, she seemed extremely proud of the rings which adorned both thumb and little finger of her right hand and the two big toes of her feet. What between conversation, coffee-making, and the setting before us of bread and milk, it was fully an hour before we could tear ourselves away from our gossiping hostess, but at last we set off again up the hill spur, and then began once more zigzagging downwards. A final scramble brought us into a small amphitheatre debouching on to the river, the slopes of which were covered with the curious shrub called by the Arabs "Yenbût," its long fleshy green twigs or leaves, of the thickness of crotchet needles, brushing against our faces as we pushed our way through the tangle.

The bed of the Zerkâ, at this season only some three yards broad, and barely a foot deep, is bordered with the "Daflah," or oleander, still showing an occasional pink flower among its dark green leaves. The sides of the gorge in which the river runs are here extremely steep, in places almost perpendicular, and while further to the west, down the river, the valley appears to open out, up eastward the mountains on either hand closed in more and more, till in the extreme distance the stream makes its way out of a gigantic cleft where high precipices would seem almost to meet a thousand feet above the water. At the spot where we now crossed, the Wâdy Zerkâ has a level pebbly bottom above two hundred yards across, which during the freshets must be almost totally submerged. Riding straight across this we proceeded to pick out a torrent bed among the many that cut through the cliffs overhanging the river on the south, and after half-an-hour's climb up a very steep wâdy, we were again on the high uplands, whence, looking back over the gorge, we could trace our late route among the hills of Jerâsh. Continuing on through a broad upland valley dotted with trees, before long there appeared a small village of mud cabins,—among which was a blacksmith's shop in full blast,—clustering together under the shade of a grove of oaks, many of them of no inconsiderable size. The place is called 'Alûk, and is situated about two miles distant from the Zerkâ, due south of the spot at which we came across the river. From 'Alûk the road towards 'Ammân first runs due east for a couple of miles over the upland, crossing every now and again the head of some wâdy running down towards the left into the gorge of the Zerkâ; and finally, bearing round towards the south, crosses a hill shoulder from which back over the gorge and the hills the white dome of Neby Hûd can be made out in the far distance. The country over which we were now travelling may be described as a rolling upland cultivated in patches by the Bedouin, and in places overgrown by brushwood, scrub oak, and yanbût. Among these hollows and hills we frequently lost our way and wandered about till set on the right path by chancing to stumble

on some small camp of black tents, occupied by the women who were herding the camels in the absence of their lords.

Several times in this part of the country we passed "Arab circles" of small boulder stones, and on one occasion, under a fine Butm tree, came on what was evidently the tomb of a much respected sheikh, to judge from the corn measures and the plough which had been deposited within the circle of the shrine for safe keeping. About four miles from Alûk, and roughly to the south-east of it, topping a low hill over which lies the road, are the ruins of a building that was originally constructed of squared stones, but of which nothing is now traceable except the general rectangular plan. The place is known by the name of Sarrâj, and is used by the people as a storing place for grain. Some Arabs who were here, occupied in cleaning corn, invited us to go on to a large encampment of their tribe, the Beni Hasan, which they pointed out in a hollow a mile further off. Here the black tents, fifteen in number, and of the largest size, were pitched in two lines facing east. On stopping to inquire and give the news, we were requested by the sheikh to administer relief to an unfortunate Arab who lay at the back of the tent suffering from failing breath, in what appeared the last stage of consumption, a disease that is said to be of no uncommon occurrence among the Bedouin. The case, however, as far as we could judge, was beyond the reach of medicine, and there was no physician among us, so with expressions of sympathy, and a few general directions as to the patient's comfort, we took leave and continued our way up over a hill to the south-east, from whence was overlooked a broad shallow valley, not unlike that in which is situated Jerâsh. This valley, the drainage of which is towards the north, runs up at a very slight gradient in a direction almost due south, for over six miles. It is called by the Bedouin of the Beni Hasan, Wâdy Khallâ, or Khallî, and affords good pasture to their herds, which find water at several shallow wells that occur in its bed. The sheep and goats that are here met with are of a remarkably fine breed, large in size and having heavy fleeces. The bell-weather of each flock is distinguished by a sort of crown of gaudily coloured feathers attached to the back of the neck just behind the ears, the wool in its neighbourhood being further dyed red with henna. As we proceeded up this valley, which is everywhere dotted with oak trees and thorn, there appeared a ruin on the right hand, high up the slope of the hills shutting in the valley from the west, where by our glasses we could perceive, as we thought, the remains of walls. It is known by the names of Khurbet-er-Rumanâh and Khurbet-el-Birch, but being much pressed for time it was found impossible to visit the spot, which, further, our guide assured us, was at the present day but little more than a heap of stones. A short distance beyond, where we lost sight of the ruin, the valley takes a sharp turn to the right, and then back into a south-westerly direction, which following we soon after turned up into a branch wâdy coming in from the west, and happily came to the main encampment of the Beni Hasan, it being already two hours after midday. Here twenty-four long black tents, pitched in double row,

took up the whole of the floor of the wâdy, and to that of the sheikh, conspicuous by its superior size, we proceeded to pick our way over the tent ropes, and made ourselves the recipients of Bedouin hospitality.

First came the customary thimbleful of coffee—roasted, pounded, and boiled up in our presence; then followed a more substantial repast of excellent new Arab bread—resembling thick pancakes—which was seasoned by being dipped bit by bit in a bowl of melted butter; then coffee once more, and in an hour we were on our road again, having given our hosts the latest items of political news, and received from them in return minute directions as to the path. Returning back into the main wâdy, the track runs up it some little way, and then turning south-west crosses a low shoulder. From this point there is one road leading almost due west, up a wâdy, going direct to es Salt, while that towards Ammán keeps on in a south-westerly direction over the rolling country, and cuts across many minor wâdies that run down from the east. Near the point of bifurcation of these two roads there is a small clump of Butm or Terebinth trees, at the foot of which are lying the shafts of two broken columns. The larger of them is a monolith some 9 feet long, and is cut out of the piece in such a manner that the base, 4 feet high and about 2 feet in diameter, tapers down to the shaft of half this size, the whole being very neatly executed in white limestone. A mile further on again, where the road runs along the western slope of a shallow wâdy, we passed fragments of six more broken columns of about the same size as the above, but since no further trace of any temple or building was to be seen in the neighbourhood, one is led to the supposition that these fragments have at some period been transported hither from the great centre of ruins at Yajûz. We were now travelling along a raised causeway, the remains of a Roman road, running over the undulating plain, which is covered here and there by patches of corn land, and after a couple of miles our horses began to stumble among stones of Yajûz; but as the sun had already gone down, archaeology was out of the question, and it was necessary to discover, without further delay, the whereabouts of the Bedouin camp in which it was our intention to pass the night. Turning, therefore, off the road at right angles towards the west, a goatherd directed us to a slight depression in the plain where, after twenty minutes riding, we came suddenly on about a dozen tents of the Beni Adwân, and without unnecessary ceremony pressed ourselves on the hospitality of the somewhat surly sheikh. The night was bitterly cold, and, what between the wind and the fleas, and the extremely confiding nature of the ewes, who, for warmth's sake, were always trying to insinuate themselves beneath our blankets, sleep was fitful. Further, and as usual, till far into the night, our Arab friends discussed in strident tones politics and finance, for, as every traveller knows to his cost, these worthies have such a habit of sleeping at odd hours during the day, that at night being wakeful, they are sadly addicted to interminable discoursings. Discomfort only ceased with the dawn-chill, and, being up betimes, when the sun rose in splendour over the rolling uplands, here in most parts covered with the growth of a plant resembling heather, we were already on

our way back to the road into Yajûz, out of which we had turned the night before.

At the entrance of the ruins is a large clump of some of the finest Terebinth trees that ever I came across. In their immediate neighbourhood is a large Arab cemetery, the most prominent tomb of which is that of Nim ibn Gobelân, a sheikh of the 'Adwân, whose death, according to the inscription on the headstone, took place A.H. 1238, *i.e.*, some sixty and odd years ago. His memory is still held in awe among the Bedouin, as is proved by the numerous ploughs and other farm implements that lie round his tomb, left there for safe keeping, as in a sanctuary. One of the 'Adwân, our host of the previous night, who accompanied us a short distance on our journey, informed me that this spot is known under the name of A'deyl, and is considered distinct from Yajûz, the ruins of which extend from it eastwards for more than a mile. These ruins, now known by the Arabs under the above name, have been so fully described in their respective works by Mr. Oliphant and Dr. Merrill that further details may be deemed superfluous. It is noteworthy, however, that all attempts at identification seem to have failed, although the extensive remains of carved Byzantine capitals, squared blocks, and the foundations of numerous edifices which crowd both sides of this broad upland valley would lead us to conclude that there must have existed here a very populous town during the Græco-Roman period. It may be worth noting that in the lists of the Arab geographers there is no mention of the name Yajûz; nor was there in the days of the Caliphate, so far as I can discover, any considerable town that agrees in point of situation with the site of these ruins. The caves with which the hill slopes are honeycombed are still used by the 'Adwân as granaries, but apparently no settled inhabitants are found in the neighbourhood.

After spending some time in riding in every direction over these interesting remains, and seeking in vain for anything in the way of an inscription or a date, we proceeded in a south-easterly direction, still over a rolling country that showed ever and anon patches of cultivation. The shallow wâdies that the track crosses for the most part run down towards the east, presumably into the depressed plain of El Bukeia; however, for some miles round the whole district here about is known under the name of Yajûz. Half-an-hour after leaving the ruins we passed a large nameless heap of disjointed but squared masonry, lying in the shade of some Butin trees growing on a hill slope facing the north. From here the path, turning up the wâdy towards the east, crosses some low hills, and finally surmounting the crest, leads down into a curiously long and narrow plain: apparently the bed of an ancient lake, as I should judge, analogous to that which once filled the depressed plain of El Bukeia, lying some miles over to the north-west of our present point. Wending down the slopes which, just before reaching the level, showed successive lines of pebbly beach and water-worn banks, we descended to the ancient lake bottom, here some 400 yards broad, and as even as a billiard table. The Arabs of the

¹ "Land of Gilcad," p. 227, *et seq.* "East of the Jordan," p. 273, *et seq.*

Adwân call this tract of land Hemel Belka, and cultivate the rich alluvial soil in patches, raising crops of wheat and maize (*darra*). From the point we struck it, the plain extends for the distance of about a couple of miles due south, having an average breadth that might be estimated at a quarter of a mile, and then bears off in a south-easterly direction, draining down in all probability into the Zerkâ Valley, which, according to the maps, curves round towards it. Where the angle occurred we came up out of the narrow plain, and striking over the hills to the south-south-west passed another nameless ruin, where confused heaps of masonry are crowned by a few small, but most elegant, oval arches, which passed, once again we found ourselves on the upland plain that trends down south towards Ammân.

The land here, after the early rains, was undergoing the process of being ploughed and sown by the Fellahin of the Beni Adwân. At one moment we could count above thirty yoke of oxen, and the wonted stillness was agreeably enlivened by the shouts of the ploughmen, who, in more than one case, were engaged in directing the capricious evolutions of camels that had been compelled to take the place of the more docile steers. Considering the ungainly size of the camels and the diminutive wooden plough to which they were so clumsily harnessed, it was assuredly a marvel of skill that the furrows ran in passably straight and parallel lines. The camels evidently loathed the business, and to judge by the objurgations of their drivers—who were continually calling heaven to witness that their (the camels') clumsiness was the natural consequence of a dissolute life and a disreputable ancestry,—the camel-men themselves were not enamoured of their job. For a considerable time we passed patch after patch being ploughed in this fashion, and riding over a treeless plateau at length struck back into the high road running south-east from Yajûz to 'Ammân, which we had left to our right in turning off to visit the ruins and the Hemel Belka. After this, very shortly came a rather steep wâdy in a cross direction, running due east, down which the path led, and in a few minutes more we found ourselves for the second time in the Valley of the Zerkâ, and the ruins of 'Ammân were before us.

In these notes, however, the ruins being fully described in all the guide books, it would be waste of time attempting to recall the wonders of Greek architecture that have hitherto lain peacefully entombed beyond the Jordan, but which are now given over by the Ottoman Government to be a habitation for Circassian colonists. At the house of one of these worthies, while being hospitably entertained with tea and new bread, I endeavoured, but in vain, to gain some information concerning the whereabouts of the curious subterranean city of Rahab that Mr. Oliphant, in "The Land of Gilead," reports having heard spoken of as existing in the country to the east of the Zerkâ. All we could learn was that some people had heard tell in stories of this place, but no one at 'Ammân had seen the spot or knew of its exact position. As confirming these somewhat vague notices, it may be, perhaps, worth while to draw attention to the account which Mokaddasi, in the beginning of the eleventh century A.D., gives of a remarkable

cavern in these parts. After describing 'Ammân, where he notes "the Castle of Goliath on a hill overlooking the city, and also the tomb of Uriyyâ (Uriah *t.*) over which stands a mosque,"¹ he continues: "About a farsakh (three miles) distant from 'Ammân, on the border of the desert, is the village of ar-Rakîm. Here is a cave with two gates, one small, one big, and they say that he who enters by the larger gate is unable to pass by the smaller. On the floor of the cavern are three tombs, concerning which Abul Fadl Muhammed ibn Mansur has related to me the following, on the authority of Abu Bekr ibn, &c.," and after giving his chain of authorities, which reaches back to 'Abd Allah, the son of the Khalif Omar, he reports how the Prophet had said that these were the tombs of certain pious men, who, seeking shelter from the rain, had entered this cave and been shut in by the fall of a rock which blocked up completely the entrance. The impediment, however, was miraculously removed by the hand of the Most High, on their calling to Heaven for aid, and every man conjuring the Almighty, and resting his claim on the virtue of some especially pious act performed in past times. The legend is here not to the purpose, and is besides too long to quote in extenso, it being merely another version of the story of the Seven Sleepers of Ephesus, whose adventures form the subject of a portion of the eighteenth chapter of the Koran; but as confirming the reported existence of some large cavern or underground city in the neighbourhood of 'Ammân, the account is curious, and it shows at how early a date such a report had obtained currency.

From 'Amman it was our intention to get across to Jerusalem, *viâ* Arâk el Emir, but since the route is well described in the invaluable Bædeker, no detail of distances and directions need here be given. Riding up the bank along the now diminutive stream of the Zerkâ, we passed an abundant spring that forms one of its sources, and climbing the northern side of the wâdy gained the treeless upland plain stretching westward. Over this, a ride of two hours brought us to the cleft of the Wâdy Sir, a well-wooded ravine that drains into the Jordan Valley, and in which, but still some miles lower down, lie the remains known as 'Arâk el Emir. At the spot, where we left the bare upland plain to plunge into the green wâdy, the ruins known as Khurbet Sâr are but a short distance to the left, while across on the opposite side there were visible the mouths of several small caverns or chambers hollowed in the face of the cliff, and we noticed other specimens of these abodes of bygone anchorites in many places further down the gorge. Half-way down the steep path that leads into the dell there opens out a small plain, at present occupied by some Circassian families, who have built here a village of wattle and dab houses exactly similar to those that are met with in the neighbourhood of Tiflis. But we had to hurry on without visiting them, for the afternoon was waning.

The whole gorge of the Sir is most beautifully wooded; two mills are turned by the stream that flows through it, and while its sides are almost

¹ Mokaddasi, *op cit.*, p. 175.

everywhere hidden by the dark foliage of the oaks and other forest trees, the margin of the brook is masked by a broad fringe of oleanders that grow here to a height of over 14 feet. In a little meadow, where the cliff on the right bank recedes from the water's edge, and about two miles above 'Arák el Emir, there is a collection of Arab "circles," of a somewhat abnormal type. The stones are about a foot high, and form the perimeter of a circle that is roughly a couple of yards across. What is unusual, however, is that here the area surrounded by this low circular wall has been roofed over by laying branches rafter-wise, and filling in with straw, the whole being afterwards covered by a coat of clay. There was, as usual, a sort of doorway left in the circle of stones, and in the present instance it faced south. These little buildings have every appearance of being intended for habitations of some sort, only that while the extreme lowness of the roof and the small extent of the covered space would render the ingress of any human being an impossibility, the clean condition of the interiors showed that they were evidently not intended to serve as pens for lambs or other small quadrupeds. Further, our Arab guide immediately recognised them as marking the burial places of sheikhs, reminding us of the very similar, though unroofed circles which we had passed by in the hills on many previous occasions during our journey.

After riding down the Wády Sir for nearly two hours, the path lying sometimes in the very bed of the pebbly brook, sometimes along the meadows which skirted its banks, and at times again threading the copses that overhung its winding course, we came out suddenly into the magnificent amphitheatre of hill-cliffs where is situated 'Arák el Emir—said to be the remains of the palace which, according to Josephus, Hyrcanus built in 182 B.C., during the last days of his exile beyond the Jordan. In the main the description of the Jewish historian tallies well enough with what we find here of rock-cut caverns, and cyclopean masonry carved with forms of huge animals. It is, however, perhaps a point worth noting, and one that did not fail to strike me when I first came on the ruins of the Kusr-el-Abd, that while Josephus plainly states that Hyrcanus "built it entirely of *white* stone to the very roof, and had animals of a prodigious magnitude engraved thereupon," when we come to examine here the carved blocks, alongside of which the inquisitive traveller feels dwarfed to the dimensions of an insect, we find that they are all, without exception, cut out of stone most remarkably *black*. But as Josephus had himself never visited this place, the error is probably due to his having been misinformed by the hearsay report of contemporary tourists. The remains at 'Arák el Emir, whatever may be their date, cannot fail to strike the traveller with somewhat of that same feeling of awe which he experiences on standing for the first time beside the huge stones at Baalbek, the platform of Persepolis, or the Egyptian Pyramids. Greek and Roman ruins are dwarfed into insignificance beside these, for they tell of an age when labour and time were held as of no account in the calculations of those who built for themselves such temples, palaces, or tombs. It was with difficulty that we tore ourselves away from these wonderful relics of a bygone civilization. But

already the sun was hiding behind the western hill, and while we were lingering in the artificial caverns high up in the cliff, they became shrouded in gloom, though the bold characters of the Hasmonean inscription on the rock above,—read “Adniah,” and said to mean “Delight,”—still stood out distinct in the blush that was already dying from the face of the black masonry in the meadow below.

We had yet to beat up night quarters, and therefore scampering up the shoulder of the projecting spur shutting in the amphitheatre on the south, we crossed into a wâdy known as that of Umm el Madâris, and shortly coming across some homeward-bound cattle were directed by the neat-herd to the encampment of his tribe, the Beni 'Abbâd, located in an adjacent dell. We were now among the wâdies that lead down directly to the Jordan Valley, and just before coming to the tents, while riding over the crest of an intervening spur, suddenly there burst on us a most magnificent view of the Dead Sea, spread out apparently at our feet. From the height, its whole surface, as far as the eye could reach, appeared like a sheet of burnished gold about to become molten, under the rays of the setting sun, whose orb was fast vanishing behind the blue hills of the desert of Judæa; and below, in the foreground, was the opening out of the Jordan Valley, here some ten miles across—Jericho, as a patch of black green foliage, shining out distinct on the further side.

Although the Beni 'Abbâd were hospitable, and their carpets were tolerably free from vermin, the coldness of the night, and the continuous groaning of one of the men who had lately received a spear thrust in his leg, rendered our sleep but fitful. Besides, as usual, our hosts took up the best part of the night detailing their grievances to us, and requested our advice on the important point of how £100 might be obtained on loan to rid them of their enemies. It appeared that certain lands belonging from time immemorial to their tribe, for which, moreover, they held title deeds, had been by Government granted to, and were occupied by, the immigrant Circassians. We suggested that a petition forwarded with the title deeds to the Government would doubtless set matters right, but in reply we were assured that so doing, unless much bakhshish went with the papers, would only lead to the loss of the deeds without there being the smallest chance of the tribe obtaining any re-establishment in their rights. Cheaper than this, they said, it would be to bribe the Circassians to decamp and take up their quarters on somebody else's land, and for this purpose a hundred pounds were needed, which we, however, perforce, deeply regretted being unable to put them in the way of obtaining.

Next morning we were up before the sun, for there was the long ride into Jerusalem before us. Distances in the East, even after long practice, appear most deceptive, especially when looking from a height down and across a plain. The Jordan seemed almost at our feet, but it was four hours' good riding before we reached the ford and crossed the swirling muddy stream, which, even at this season, in some places rose above the horses' girths.

When leaving the mountains and riding between the last hill spurs out

into the Ghôr, I judge we must have passed within a short distance of Tell esh Shâghûr, which recent writers propose to identify with Segor, or Zoar, one of the Cities of the Plain. Dr. Merrill, who discusses the question of the site at some length,¹ concludes by stating that to his mind the arguments for placing the Zoar of Lot at the north end of the Dead Sea are convincing, adding, "We present here a few quotations from Arab writers which bear upon this question." But from these "quotations" I venture to think he deduces an erroneous conclusion, through not bearing in mind the fact that the narrow valley leading *south* from the Dead Sea towards the Gulf of Akabah was known to the Arabs as the Ghôr, and hence bears the same name as that applied by them to the Jordan Valley itself running up *north* from that lake.

Whatever may be concluded from the Bible as to the true position of the Zoar of the Pentateuch, a careful examination of the Arab geographers leads me to conclude that they, at least, stuck to the traditions preserved by Josephus, and followed by Eusebius and Jerome, which place Zoar or Segor to the south-east of the Dead Sea. This place, further, is identical with that frequently mentioned under the name Segor by the historians of the Crusades, and is found in many of the itineraries of the mediæval travellers. To the Arab geographers Zughar, the city of Lot, was as well known a place as Jerusalem or Damascus, seeing that the Dead Sea, more generally called by them Al Buhairah-al Muntinah, "The Stinking Lake," has also the alternative name of the Sea of Zughar. Further, it is evident that there were not, for these mediæval geographers, *two* Zughars, for in Yakut's Mushtarik, a Lexicon of Geographical Homonyms, which especially deals with cities of the same name but of different location, the name Zughar does not figure in the list. Turning now to Mokaddasi, who was himself a native of Palestine, and wrote during the century preceding the first Crusade, we find that Zughar (also spelt Sughar) is mentioned as being in his day the capital of the province of the Sharâ² (which corresponds in general with the ancient Moab), and he cites it as the sole remaining city of Lot, "saved by reason that its inhabitants knew not of the abominations." As to its position, it is described as standing on (or near) the Dead Sea, with the mountains near about it;³ while that it is to be sought at the south-eastern end of the Lake is shown by the statement that it is one marhalah (twenty-five miles—a day's march) distant from Maâb, a town situated in the desert to the east of Kerak; and four marhalahs from Wailah,⁴ the port at the head of the Gulf of Akabah. Also Istakhri⁵ and Ibn Haukal,⁶ geographers of the generation preceding Mokaddasi, state that between Jericho and Zughar lay "a day's march," and in one case other MSS. give the alternative but

¹ "East of the Jordan," 233, *et seq.*

² Mokaddasi, *op. cit.*, p. 155.

³ *Op. cit.*, p. 178.

⁴ *Op. cit.*, p. 192, 249.

⁵ Edit. de Goeje, p. 66.

⁶ Edit. de Goeje, p. 126.

probably erroneous reading, "two days' march." At this epoch, that is, during the eleventh century A.D., Zughar was a place of considerable trade, famed for its indigo and dates, these last being of exquisite quality, and quoted as one among the eight kinds celebrated in all the countries of Islam.¹ On the other hand, the climate of Zughar was deadly, and its drinking water execrable, "hot even as though it were over hell fire,"² and later, when characterising the drinking water of Palestine as generally so excellent, Mokaddasi exclaims,³ "but we take refuge in Allah from that of Zughar, though the water of Bait-er-Râm is in truth bad enough."

Turning now to the great Geographical Dictionary of Yakut, compiled in the early part of the thirteenth century A.D., we find two long articles, one under the heading Sughar, and another under the alternative pronunciation of Zughar.⁴ After quoting the verse of a poet who sings of the "southern region of the Sharât from Maâb to Zughar," Yakut proceeds to give various traditions which connect the town with the history of Lot, and says that its name came to it from one of Lot's daughters. Finally it is stated that Zughar is situated in the neighbourhood of the Dead Sea, in a wâdy; it being three days' journey from Jerusalem, and lying near the frontiers of the Hejâz.⁵ Lastly, and not further to multiply quotations, the author of the *Meracid*, writing about a century after Yakut, after quoting his words as to the position of Zughar on, or near, the Dead Sea, adds that it lies near Kerak.⁶

In conclusion, therefore, and in opposition to Dr. Merrill, I find no authority among such of the Arab geographers as I have read for locating the Zughar or Zoar of their day anywhere but to the south-east of the Dead Sea. For, to sum up their indications, the city stood near the Dead Sea; one day's march from Maâb, the same from Jericho, and four from the head of the Gulf of Akabah; three days' march from Jerusalem, and near Kerak; from all of which it would appear impossible that a town across the Jordan opposite Jericho should be intended; while the assertion that the water at Sughar was execrable, of itself indicates that Tell esh Shâgûr, in the wâdy below Arâk el Emir, where excellent springs abound, can hardly be a satisfactory identification.

From the Jordan ford up to Jerusalem we rode along the beaten track that every Cook's tourist has followed. The ghastly barrenness of the country, and the glare from the chalky hills among which the road winds, renders this one of the most tedious bits of journeying in Palestine, and we were fortunate in being able to accomplish the ride from Jericho to Jerusalem in five hours. It is, however, worth while to come up this

¹ Mokaddasi, p. 470.

² *Op. cit.*, p. 178.

³ *Op. cit.*, p. 184.

⁴ Wustenfeld's *Yakût*, II, 933; III, 396. In the Arab geographers the name is found spelt *صغر*, Sughar; *زغر*, Zughar; and *سقر*, Sukar.

⁵ *Op. cit.*, II, 934.

⁶ "*Meracid-el-Ittilâ*," I, 514.

dreary road from the east to catch one's first sight of Jerusalem from the summit of the Mount of Olives. Arriving by the Jaffa road, the Holy City is hidden until you are almost within its gates, but from Bethany the pilgrim rides suddenly into view of this unique metropolis, which, in its entirety, lies spread out at his feet. The week's discomfort in Bedouin tents, and the monotonous ride of the last few hours, had, I think, attuned us all to a just pitch of appreciation, and although rather too hungry and weary for æsthetic raptures, it was some little time before we turned down through St. Stephen's Gate, and sought out our night quarters in the Damascus Hotel.

In concluding these notes, and for the information of those who may have any intention of penetrating into the countries beyond the Jordan, I may be permitted to remind my readers that our journey had been accomplished without paying a piastre to Goblân, the famous (or rather infamous) chief of the 'Adwân, or even in any way gratifying the cupidity of the Sheikh of Sûf—both worthies generally but too well known to those who have left Jerusalem for a trip into the Land of Gilead. And yet we had been able, in the course of six days, to visit the sites of Tabakat Fahl (Pella), Jerâsh, 'Ammân, and 'Arâk el Emir, taking the direct route across country from one site to another, and along roads seldom seen by the ordinary tourist. The secret of our successful raid—for so only can I venture to call it—lay in the fact that, taking neither tents nor servants, we were but three horsemen mounted on inelegant hacks, more useful as roadsters than in any way remarkable for breed, and that one of us was a native of the country, personally acquainted with the Arab sheikhs of the district which it was intended to visit. Lastly, as we took no more baggage than our horses could carry, we, in accordance with that ancient and convenient custom of the Arabs, imposed ourselves nightly as guests in some nomad camp, coming down at the hair-tent of the sheikh, whose honour, forthwith, was engaged for our personal well-being and safety. By this proceeding we avoided the necessity of carrying with us provisions for the road, and dispensed with a baggage animal: and hence our appearance was in no way calculated to excite the cupidity of those whom we met in our journey.

The presence of tents and baggage mules, with the attendant dragoman and zaptieh, are plentiful reasons to explain the costliness of which travellers complain who cross the Jordan and go eastward from the Dead Sea. Any one who is lucky enough to get a native friend for companion, who can keep his own counsel, and wants no escort of zaptiehs, can almost always visit any part of the country beyond the Jordan at very little risk. Only his stay must be so little protracted that the authorities get no news of it, and for this short time the traveller must be content with the nourishment of Arab fare, and such repose as is to be obtained on the hard earth under an Arab tent, where hospitality is alike provided for vermin and for men.

46, CHARLES STREET, MAYFAIR,
LONDON, *May*, 1885.

NOTES.

I. A DOLMEN IN JUDÆA.

HAVING had occasion recently to ride from Jericho to Nablus, I decided to try and take a short cut from Khurbet 'Aūjah el Fōka (Sheet 15, O r) to El Mugheir (Sheet 15, N 7). It will be seen by a reference to the map that there is no path marked, and that the region to be traversed is a desolate tract, upon which no habitations are indicated. It occurred to me that I might chance to stumble across something of interest in this deserted district, and such in fact proved to be the case. A peasant whom I picked up, tilling his land in the Wādy el Aujah, consented to serve as a guide, but said that he doubted whether the route would prove practicable on horseback. The ascent from the valley of the Jordan for the first 1,500 or 1,800 feet was one which did indeed tax my horse's powers to the utmost, even without a rider, as it involved a climb by a scarcely perceptible goat path, now up smooth steep inclines of limestone, now over jagged rocks. I then traversed for a distance of about five miles or more, taking the windings of our way into consideration, the wildest and most barren tract imaginable of rocky tableland, here and there intersected by deep wādies, offering from time to time views of considerable scenic grandeur, and in a north-easterly direction up the Jordan Valley, of great extent. Beyond this there was nothing to vary the monotony of ruggedness, and rarely an indication of a path, the guide simply selecting the line of country which seemed most practicable for my horse. It was while indulging in regrets at having ventured on an experiment which seemed likely to prove so uninteresting, that I made a discovery which afforded me some consolation. On the side of a bare hill I came upon four slabs of stone, which from their size and shape presented all the appearance of being the component slabs of an overturned dolmen—one, which was larger than the others, being about 9 feet by 5 feet, formed in all probability the covering slab. As I am not aware of any dolmen, or remains of one, having been found in Judæa, this would confirm the theory that they once existed there, but that the two Tribes were so scrupulous in their obedience to the order "to overturn the tables of stone," that traces of them have hitherto escaped observation. It is possible that a minute examination of this section of country would reveal interesting remains of early rude stone monuments. I roughly took the bearings of the spot by compass, but the whole place is such a wilderness of rocks that I doubt whether I could find it again. About half-a-mile distant from it I found another evidence of a most ancient period. This consisted of a square enclosure 24 yards each way, formed of huge unhewn blocks of stone, each of a ton weight or more, remaining in position to a height of three courses in some places, in others of two. Within this outer massive enclosure there was a circle formed of smaller stones, 12 feet in diameter, and in the centre of this circle was a single stone, but this consisted now of a large splintered fragment about 3 feet high, and it was difficult to form from it an idea of the original shape of the stone. There were also in the neighbourhood what

appeared to be alignments of stones, and numerous cairns. The spot, as nearly as I can judge, is about two miles to the south-east of El Mugheir. Near that place there is a very good Arab stone circle, with a miniature doorway about 2 feet high, and a horizontal club or lintel, facing west.

II. A SARCOPHAGUS AT ZIMMÂRÎN.

A few days ago the Jews of the colony of Zimmârîn, in excavating at the base of what appeared to be an artificial mound, suddenly struck a block of cement. Further investigation proved it to be a portion of a thick coating of that material, in which a leaden sarcophagus had been embedded. This was extracted and opened, and found to contain the bones of a human skeleton, and a quantity of dust, which was described to me by a colonist who had seen it as having the appearance of dust mixed with shining particles, which to his imagination resembled gold dust. I have had no opportunity of examining any of this dust, some of which is said still to have been preserved at Zimmârîn, where more accurate information could be obtained as to what actually was found in the coffin, about which there are conflicting accounts. On rumours of the discovery reaching the Caimakam here, he sent to have the sarcophagus brought to this place, where I have examined it. It weighs 250 pounds, is 6 feet 8 inches long, and 1 foot 8 inches in width. Down the whole length of the centre of the lid is an ornamental scroll $2\frac{1}{2}$ inches wide, including the narrow bands which border the design. This is very beautifully executed, and consists of a representation of grape vines, with fruit and leaves and other floral devices. All round the upper edge of the sides of the coffin is a similar border, but it is nearly $3\frac{1}{2}$ inches wide. The artist has avoided repeating himself, and has varied the design, which is in a good state of preservation, so that no two sections of it are similar. The leaden bottom is in places much corroded.

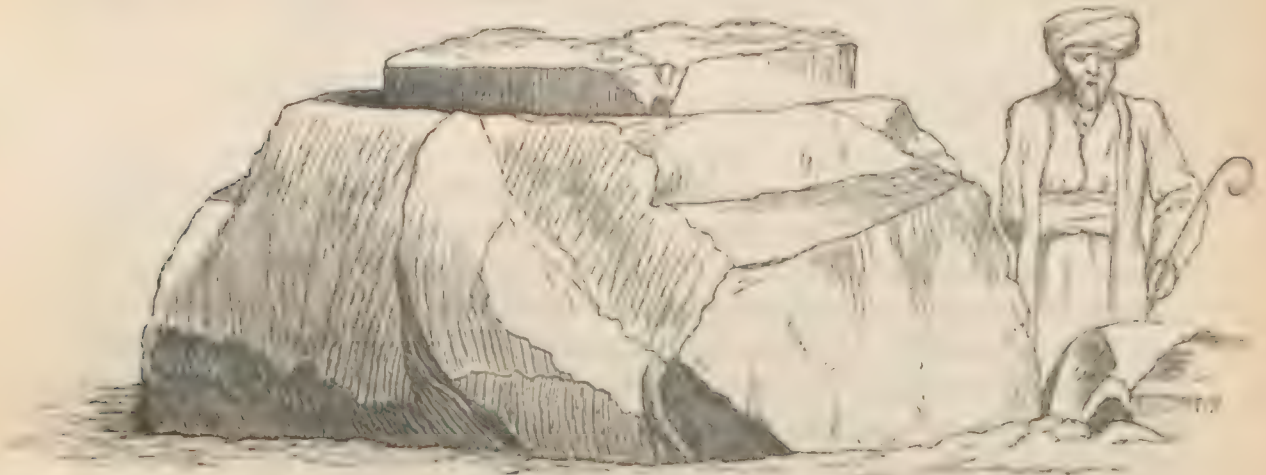
In accordance with the general order regulating the discovery of antiquities, this sarcophagus will be sent to Constantinople. I have every reason to believe, however, that the mound in which it was found contains more, and I hope to be present in the event of further excavations in it taking place, when I shall also have an opportunity of examining the dust which has been already found.

LAURENCE OLIPHANT.

THE ROCK ALTAR OF ZORAH.

ABOUT two years ago Herr Baurath Schick discovered at a deserted site called Marmeta, situated about a mile to the *east* of the Jewish Refugee Aid Society's settlement at 'Artûf, a remarkable monolith which he believed to be the remains of an old altar.

Some days ago, whilst at 'Artûf, I happened, incidentally, to hear from one of the settlers that another such stone had been recently noticed

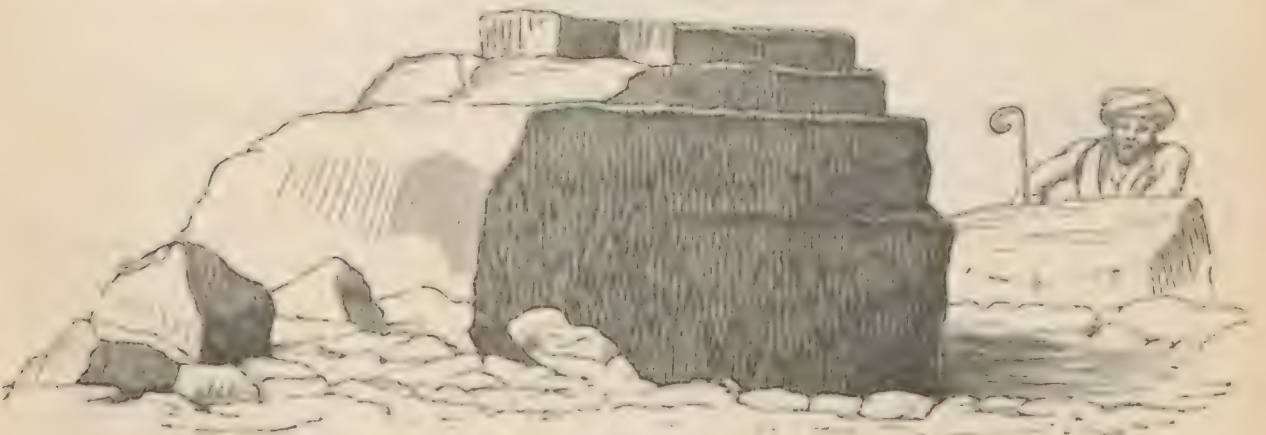


ALTAR AS SEEN FROM N.W.

on a hill-side to the *west* of 'Artûf, and during the afternoon of Friday, May 8th, 1885, I visited the place with Baron von Ustinoff.

Our delight at discovering at the spot indicated a battered and weather-worn but otherwise well-preserved *rock-altar* with *steps* may be imagined.

It has on the top hollows connected by grooves like Mr. Schick's Marmitah stone. The top is at present from four to five feet above



ALTAR AS SEEN FROM S.E.

ground, but as some heavy blocks of stone which we could not move lie round its base it would not be safe to state any measurements till these and the earth at its base be cleared away.

Zorah, now called Sūrah, the home of Manoah and the birth-place of Samson, is in full view of the spot, at a distance (measuring on an air-line) of, say, a quarter of a mile. Whether or not this remarkable monument be the identical rock-altar of Manoah (Judges xiii, 19, 20), its existence in such a suggestive situation cannot, I think, fail to rouse the interest of Bible readers.

I am, Sir, yours truly,

J. E. HANAUER.

THE ORIGIN OF THE NAME *EN ROGEL*.

Sir,

Without presuming to express any opinion on the probable correctness of C. R. C.'s suggestion that the name *En Rogel* means "the Spring of the Channel," I wish to point out that in writing the last two lines of his note on the subject in *Quarterly Statement*, January, p. 20, *There must have been a nodding*; for in making the statement that "the name is evidently derived from the famous rock-cut channel leading from the back of the cave in which the spring rises," C. R. C. has evidently overlooked the fact that *all* the passages in which the name occurs relate to a time antecedent to the earliest date hitherto assigned to the rock-cut channel, and two of them mention the name *En Rogel* as existing in *the time of Joshua*. Or does C. R. C. really mean to imply that "the famous rock-cut channel" was in existence in Joshua's time?

If not, then the *name* cannot be derived from the *underground* channel.

Perhaps it came from the surface channel whose prior existence is so earnestly contended for by the Rev. W. F. Birch?

H. B. S. W

BETH HABBECHEREH, OR THE CHOSEN HOUSE—

continued.

CHAPTER VI.

1. THE whole Sanctuary was not on level ground, but on the rising of the mountain. A person entering at the eastern gate¹ of the mountain of the

¹ Rashi commenting upon the passage "no man might indulge in any levity opposite the eastern gate," remarks that this gate was "outside the mountain of the house, in the low wall which was at the foot of the house, on the east, because all the gates were set one opposite the other, the eastern gate, the

house went as far as the end of the rampart (*chal*) on a level, and ascended from the *chal* to the court of the women by twelve steps, the height of each step *being* half a cubit and the breadth half a cubit.

2. And he went along the whole court of the women on a level, and ascended from it to the court of Israel, which was the beginning of the "court," by fifteen steps, the height of each step *being* half a cubit, and the breadth half a cubit.

3. And he went along the whole court of Israel on a level and ascended from it to the court of the priests by a step a cubit high, and upon this was the *dochan* [or desk], and in it three steps, the height of each step *being* half a cubit and the breadth half a cubit, so that the court of the priests was two and a half cubits higher than that of Israel.

4. And he went across the whole court of the priests, and past the altar, and between the porch and the altar on a level, and ascended thence to the porch by twelve steps, the height of each step *being* half a cubit and the breadth half a cubit. And the porch and the Temple (היכל) were all on a level.

5. The floor of the Temple was therefore twenty-two cubits higher than the floor of the eastern gate of the mountain of the house. And the height of the gate of the mountain of the house was twenty cubits, so that a person standing opposite the eastern gate could not see the door of the Temple, and on this account they made the wall which was above that gate low, in order that the priest standing on the Mount of Olives might see the door of the Temple when sprinkling the blood of the heifer towards the Temple.

6. There were there chambers under the court of Israel opening to the court of the women, and there the Levites placed the harps, psalteries, cymbals, and all instruments of music. And upon the *duclata* [pulpit], which went up from the court of Israel to the court of the priests, the Levites stood when they recited songs at the time of the offering.²

7. The chambers that were built in the holy part and opened into the profane, if their roofs were even with the floor of the court their interior

gate of the court of the women, the gate of the court of Israel, the doorway of the porch and the temple היכל, and the Holy of Holies in the days of the first Sanctuary, when there was *between the holy place and the most holy*, טרקסין, a partition wall of one cubit (Berachoth 54 a). The question whether there were steps up to the eastern gate from the outside or from the gate to the mountain of the house on the inside is not touched by this account of Maimonides. He supposes a person to start from the inner side of the eastern gate, being already on the paved floor of the mountain of the house.

² The contents of these paragraphs are from Middoth i, 3; ii, 3, 4, 5, 6, and iii, 6. The *dochan*, דוכן, *suggestum*, was a kind of bench with steps, upon which the Levites or priests stood to sing or read or pronounce the blessing (cf. Nehem. viii, 4; Esdras i, 9, 42; Eruehin ii, 6; Sotah 38 b). In the modern synagogue the bench in front of the cupboard, where the rolls of the Law are deposited, upon which the priest stands to say the blessing, is still called *dochan*. (See Rubric for the Daily Service and the Service of Rosh Hashshannah.)

was profane and their roofs holy, and if not even *with the court* their roofs also were profane, because the roofs that were raised *above the court* were not hallowed, and hence they might not eat the most holy offerings nor slaughter the less holy upon those roofs.

8. If built in the profane *part* and opening to the holy, their interior was holy for eating the most holy things, but they did not slaughter there the less holy, and the entering there when in a state of ceremonial impurity was permitted, and their roofs were profane for all purposes.

9. Cavities [interiors] opening to the court were holy, and those opening to the mountain of the house profane.³ The windows and the thickness [*i.e.*, the top] of the wall were like the inside,⁴ both with reference to eating the most holy offerings and with reference to impurity.

10. If the consistory⁵ desired to add to *the city of Jerusalem*, or to add to the court, they had power to do so. And they might extend the court as far as they chose within the mountain of the house, and extend the wall of Jerusalem to any place they chose.

11. *But* they might not add to the city or to the court, except with the authority of the king, or of a prophet, or by Urim and Thummim, or with the authority of the Sanhedrim of seventy-one elders, as it is said (Exodus xxv, 9), "according to all that I show thee, . . . even so shall ye make it," for *future* generations, and Moses our master was a king.⁶

12. And how did they add to the city?⁷ The consistory made two

³ The question of the holiness of the chambers, roofs, &c., is discussed in M'aasa Shene iii, 8; Pesachim vii, 12; the Gamara of the latter (S5 b, S6 a), and Zevachim 56 a. See also Yoma 25 a.

⁴ This passage is from the Mishna of Pesachim vii, 12, where (according to Rashi and others) it has reference to the wall of Jerusalem, but the Gamara connects it with the *chel*, and quotes Lam. ii, 8, "he made the rampart and the wall to lament." "The wall," says Maimonides, "was the wall of the court" (*vide supra*, v, 3). The Bar Sora, בַּר שׁוֹרָה, "son of a wall," is explained by Rashi to have been "a little wall inside the great wall, and on a level with the court." This little wall was doubtless that alluded to by R. Solomon, on Lam. ii, 8, as connected with the *chel* (Lightfoot 1089). The expression in the Gamara (Pesachim S6 a) is שׁוֹרָה יֶבֶר שׁוֹרָה, "a wall, and the son of a wall," and lends support to the opinion expressed in a former note that the *chel* may have had a rampart and low wall outside the wall of the court. The subject has here reference to the rules forbidding the most holy sacrifices, the less holy sacrifices, and the Paschal Lamb to be eaten if carried beyond certain prescribed limits (*vide infra*, 15). "As anything which should be eaten in Jerusalem became unlawful if taken out of it, so anything which should be eaten in the court became unlawful if taken out of it" (Shevuoth 15 a).

⁵ Beth Din, בֵּית דִּין, "House of Judgment."

⁶ Sanhedrin i, 5, and 16 b; Shevuoth ii, 2, and 16 b.

⁷ Shevuoth ii, 2. "They added to the city in no other way than . . . by two thank-offerings, and by music, and by the Beth Din going *in processions*, with the two thank-offerings behind them, and all Israel behind them (the thank-offerings). The inner thank-offering was eaten, the outer burned." The

thank-offerings, and took the leavened bread which belonged to them (Lev. vii, 13), and walked *in procession*, the consistory being behind the two thank-offerings and the two thank-offerings one behind the other, and they stood with harps, and psalteries, and cymbals at every corner, and at every *large* stone which was in Jerusalem, and chanted "I will extol thee, O Lord; for thou hast lifted me up" &c.⁸ (Psalm xxx, 1), *and thus they went* until they reached the end of the place which they consecrated, where they stood and ate the bread of one of the two thank-offerings, and the other was burned. And by the mouth of a prophet they burned the one, and ate the other.⁹

13. Likewise if they added to the court, they hallowed it with the remains of the meat-offering. As the *city of Jerusalem* was hallowed by the thank-offering, which was eaten in it, so the court was hallowed by the remains of the meat-offerings, which could not be eaten elsewhere than in it, and they ate them at the end of the place which they hallowed.¹⁰

14. Every place in the dedication of which all these things and this order were not observed was not completely dedicated. And the two thank-offerings which Ezra made were *merely* a memorial, and the place did not become hallowed by what he did, because there was neither king nor Urim and Thummim. And by what did it become hallowed? By the first dedication which Solomon made, because he consecrated the court (1 Kings viii, 64) and Jerusalem both for that time and for the time to come.¹¹

15. Therefore they offered all the offerings, even though there was no house built there, and they ate the most holy things in all the court, even though it was destroyed and not surrounded by a wall, and they ate the less holy things and the second tithes in all Jerusalem, even though there were no walls there, because the first consecration hallowed *both* for that time and for the time to come.¹²

16. And why do I say in reference to the Sanctuary and Jerusalem, that the first dedication hallowed for the time to come, and in reference to the hallowing of the rest of the land of Israel, for the purposes of the

arrangement of the procession is discussed in the Gamara (15 *b*). It is doubted whether the thank-offerings went side by side, or one behind the other: if side by side, the inner one was that next the wall; if one behind the other, the inner one was that next the consistory.

⁸ In Shevuoth 15 *b*, from which this passage is taken, the word גְּדוּלָה, *large*, occurs after stone, but is wanting in Maimonides, probably from an error of the transcribers.

⁹ *Ib.* 16 *a*. R. Judah said "by the mouth of a prophet *one* was eaten, and by the mouth of a prophet *one* was burned." The meaning is that a prophet instructed them which to eat and which to burn.

¹⁰ Shevuoth 15 *a*. Rashi notes that the remains of the meat-offering, מְנוּחָה, were the cakes which were to be eaten by the priests (Lev. ii, 3, 4, 10).

¹¹ Shevuoth 16 *a*.

¹² *Ib.* Edioth 14 *a*; Megillah 10 *a*; Zevach. 107 *b*. The Rabbis disputed much as to the perpetuity of the first consecration.

seventh years and tithes and things connected with them, it did not hallow for the time to come? Because the hallowing of the Sanctuary, and of Jerusalem, was on account of the Shekinah, and the Shekinah did not cease. And lo, it says "I will bring your sanctuaries unto desolation" (Lev. xxvi. 31); and the wise men say that notwithstanding that they were desolated, *yet* in respect of their holiness they were yet standing.¹³ But the obligations of the land in reference to the seventh years and the tithes were only because it had been subjugated, and after the land was taken from their hands the subjugation ceased, and it became free from the law of tithes and seventh years, for lo, it was no longer the land of Israel. And when Ezra came up and hallowed it, he did not hallow it by subjugation, but by the right of possession, which they had in it, and therefore every place of which those who came up from Babylon had possession, and which was hallowed by the second hallowing of Ezra, that *remains* hallowed to this day, and notwithstanding that the land has been taken from them, it is still liable in respect of seventh years and tithes, for the reasons which we have explained in the treatise "Terumah" (offering).

CHAPTER VII.

1. It is an affirmative command to reverence the Sanctuary, as it is said "ye shall reverence My Sanctuary" (Lev. xix, 30). And not the Sanctuary shalt thou reverence, but Him who gave commandment that it should be revered.¹

2. And what was the reverence due to it? A man might not enter the mountain of the house² with his staff, or with shoes upon his feet, or with his girdle,³ or with dust upon his feet, or with money bound in his

¹³ Megillah iii, 3, 28 *a*.

¹ Yevamoth, 6 *a*, *b*.

² Yevam. 6 *a*, *b*; Berachoth 5 and 62 *b*; Yerushal Berach xiii, *a*, *b*, 1.

³ באפונדתו. The Mishna of Berachoth (ix, 5) and Yevamoth 6 *b*, have בפונדתו. The fundah, פונדה פונדה or פונדה, is frequently mentioned in the Talmud. In Shabbath 120 *a* it is enumerated amongst the eighteen garments which it is lawful to put on or off on the Sabbath. In the gloss on Kelim xxix, 1 (*cf.* Bartenora), it is explained to be an under garment worn next the skin to guard the other garments against the perspiration; and Baal Aruch says פונדה was "an article of dress, a small shirt in which were sewn many places where they put anything they met with," and from Shabbath x, 2, it appears to have been either a bag or some piece of clothing furnished with one or more pockets. Rashi thought it was "a hollow girdle in which they put money." The expression in the Jerusalem Talmud (Berachoth xiii, *b* 1), that a person might not enter the mountain of the house, אפונדתו עליו מבחוץ, "his fundah being on him outside," is suggestive of an outer garment of some kind. It may have been a jacket or spencer worn over the other clothing, or a girdle in which money and other articles were carried, like the *kumār*, كمر, of the modern inhabitants of

linen. And it is unnecessary to say, that it was unlawful to spit in all the mountain of the house, but if one should be obliged to spit, he must do so in his garment. And one might not make the mountain of the house a thoroughfare,⁴ entering at one gate, and going out at an opposite one in order to shorten the way, but go round on the outside, and not enter, except for religious purposes.

3. All who entered the mountain of the house entered on the right hand, and went round and passed out on the left, except one to whom an accident happened, who turned to the left. Wherefore they asked him, "what ails thee that thou turnest to the left?" "Because I am mourning." "May He who dwelleth in this house, comfort thee." "Because I am excommunicated." "May He who dwelleth in this house, put into thy heart, that thou mayest listen to the words of thy fellows, that may restore thee."⁵

4. When a man had finished his service and was leaving, he did not go out with his back to the Temple, but walked backwards slowly and went gently sideways,⁶ until he issued from the court, and so likewise the watchers and standing men, and Levites from their pulpit, דָּוָק, went out from the Sanctuary like a person stepping backwards after prayers;⁷ all which was to show reverence to the Sanctuary.⁸

5. One might not indulge in levity⁹ opposite the eastern gate¹⁰ of the court, which was the gate Nicanor, because it was set opposite the Holy of Holies. And every one who entered the court must walk gently in the place where it was lawful for him to enter, and demean himself reverently as became one standing before Jehovah, as is said "mine eyes and my heart shall be there perpetually" (1 Kings ix, 3), and he went with

Palestine. The word has been supposed to be derived from *επειδυτης* (John xxi, 7), translated in the A.V. a "fisher's coat." The meaning of the passage which Maimonides has here taken from Berachoth (Jerus. and Bab.) is that no worshipper might enter the mountain of the house either with his girdle or other garment in which he carried his money upon him, or with his money tied in a corner of his linen garments, a custom very common amongst the natives of the country at the present day.

The word for "linen" is *סָדֵי*, translated in the A.V. (Isaiah iii, 23) "fine linen." The English word "satin" is derived from it.

⁴ Megillah iii, 3, and the Gemara 29 a, where it is said of a synagogue that a קַפְנֵרִיא, a short way, may not be made through it.

⁵ Middoth ii, 2.

⁶ That is, he must walk differently from his ordinary mode of walking (R. Abraham).

⁷ As the custom of the Jews now is.

⁸ Yoma 53 a.

⁹ Literally, might not raise his head in lightness.

¹⁰ Berachoth ix, 5. "One might not raise his head lightly opposite the eastern gate, because it was set opposite the Holy of Holies." Rashi remarks that it was the eastern gate of the mountain of the house. See Note on vi, 1.

fear and reverence, and trembling, as is said, "we walked in the house of God in tumult" (A. V. *in company*, Psalm lv, 14).

6. It was unlawful for anyone to sit in any part of the court. No one had the right of sitting in the court, except kings of the house of David only,¹¹ as it is said "and David the king came and sat before the Lord" (1 Chron. xvii, 16). And the Sanhedrim who sat in the chamber Gazith sat only in the profane half.¹²

7. And although the Sanctuary is now desolated, on account of our sins, one is still bound to reverence it, as was the custom when it was yet standing. One may not enter except where it was then lawful for him to enter, and may not sit in the court, nor raise his head lightly opposite the eastern gate, as is said, "ye shall keep my Sabbaths and reverence my Sanctuary" (Lev. xix, 30); as the keeping of the Sabbath is perpetual, so likewise the reverencing of the Sanctuary is perpetual,¹³ and notwithstanding that it has been desolated, in respect of its holiness it is still standing.

8. At the time when the Sanctuary was standing¹⁴ it was unlawful for a man to raise his head lightly from the *place called* Tsofim (which was outside of Jerusalem), and inwards, and whoever could see the Sanctuary with no wall intervening between him and it.¹⁵

9. It was unlawful for a man ever *evacuate aleum*, or to sleep between

¹¹ Tamid 27 *a*; Sotah 41 *b*; Yoma 25 *a*; Kedushin 78 *b*; Sanhedrin 101 *b*. In the latter place it is "Kings of the House of Judah." It was customary for the king to sit in a pulpit erected for him in the court of the women when reading a portion of the Law to the people towards the end of the first holy day of the Feast of Tabernacles at the termination of the seventh year. It is related (Sotah vii, 8) that King Agrippa "read standing, and the wise men praised him for so doing, and when he came to 'thou mayest not set a stranger over thee,' his eyes overflowed with tears (because he was not a true Israelite), and they said to him, 'fear not Agrippa! thou art our brother! thou art our brother!'" (because his mother was of the seed of Israel), *cf. Sifri*, שׁוֹפְטִים, 105 *b*.

¹² Yoma 25 *a*. The elders sat in the western half which opened into the *chel*, חֵיל, and was consequently profane.

¹³ Yevamoth 6 *b*; *cf. Megillah* iii, 3, and 28 *b*.

¹⁴ בְּנוּי, built.

¹⁵ "Tsofim was a place from which they could see the mountain of the house, and from beyond which they could not see it" (Tosefoth Berachoth 61 *b*; *cf. Pesachim* iii, 8). "A person who went out of Jerusalem and remembered that he had with him holy flesh, if he had passed *tsofim* he burned it in the place where he was." Rashi on this passage remarks that *tsofim* was the "name of a village, שׁוֹפְטִים, from which one could see the Sanctuary." "What was *tsofim*? Seeing with nothing intervening. Every place around Jerusalem from which one could see the Sanctuary" (Tosefoth Pesach. 49 *a*). The word is from the root, שָׁפַח, to look around, to watch (whence מִצְפָּה, *mizpah*, a watch tower). The Greek σκοπη is its exact equivalent. Doubtless the hill called Scopus, north of Jerusalem, is one of the places here referred to. There was a place called Tsofim famous for its honey (Sotah ix, 12).

east and west;¹⁶ and it is unnecessary to say that they did not erect a privy between east and west in any place, because the Temple was on the west. Therefore they did not ease nature *with the face* to the west, or to the east, because that is opposite the west, but they relieved nature and slept between north and south. And every one passing water from the *tsolim* and inwards, did not sit with his face towards the Temple, but to the north or to the south, or placed the Temple at his side.¹⁷

10. And it was unlawful for a man to make a house after the pattern of the Temple, an *achedra* after the pattern of the porch, a court resembling the court, a table of the form of the table of *shearbread* or a candlestick of the form of the candlestick. But he might make a candlestick of five branches, or of eight branches, or a candlestick of seven branches, provided it was not of metal.¹⁸

11. There were three camps in the wilderness: the camp of Israel, which included four camps; the camp of Levi, of whom it is said "they shall encamp round about the tabernacle" (Numbers i, 50), and the camp of the Divine Presence (Shekinah, שכינה), which was from the door of the court of the tent of the congregation inwards. And corresponding to them from the gate of Jerusalem to the mountain of the house *was* like the camp of Israel; from the gate of the mountain of the house to the gate of the court, which was the gate Nicanor, *was* like the camp of Levi; and from the gate of the court and inwards *was like* the camp of the Divine Presence. And the rampart (*chel*) and the court of the women were an additional excellence of the eternal house.¹⁹

12. The whole of the land of Israel was more holy than all other lands. And what was its holiness? That they brought from it the sheaf, and the two leaves, and the first fruits, which they did not bring from other lands.²⁰

13. There are ten holinesses to the land of Israel, the one higher than the other. Cities *in it* surrounded by walls were more holy than the rest of the land, because they sent away the lepers out of them, and they did not bury the dead in them unless seven good men of the city, or all the men of the city, desired it. And if a corpse had been carried out of the

¹⁶ That is, with his face to the east and his back to the west, or the reverse.

¹⁷ Berachoth 62 a; Berach.-Yerushal 13, a 2, and 61 (60 a).

¹⁸ Avodah Zarah 43 a. It is doubtful whether it was lawful to make a candlestick of seven branches, even though of wood. R. Jose bar Jehudah said it was not lawful, because the Asamoneans had made one of that material for the Temple. Maimonides gives what he considers to be the decision. His words are עושה מנורה שאינה של מתכת אפ"ע שיש לה שבעה קנים, literally, "a candlestick which was not of metal even though there were in it seven branches." The Talmud allows a candlestick of six branches (*loc. cit.*).

¹⁹ Zevachim 116 b; Tosefta Kelim 1; cf. R. Shimson in Kelim 5 b. Also Maim. on the same passage; Rashi in Sanhedrim 42 b. The meaning of the last sentence is, that there was nothing in the camp in the wilderness corresponding to the rampart and court of the women in the Temple.

²⁰ Kelim i, 6; cf. Levit. xxiii, 10, 17.

city they might not take it back again, even though all should desire to take it back. Should the inhabitants of the city desire to remove a tomb to without the city, they might remove it, and all tombs might be removed except the tomb of a prophet or a king. A tomb which the city surrounded, whether on four sides or two sides, one opposite to the other, if there was between it and the city more than fifty cubits on this side and fifty cubits on that side, they did not remove it unless all desired *its removal*; if less than that they might remove it *without* the sanction of all.²¹

14. Jerusalem was more holy than other walled cities, because they ate the lesser holy offerings and the second tithes within its walls.²² And these things are spoken of Jerusalem: they did not allow a dead body to remain all night in it, they did not carry human bones through it, and did not let out houses nor give a place to a sojourning proselyte in it. Also they did not erect tombs in it, except the tombs of the house of David, and the tomb of Huldah, which were there from the day of the former prophets. They did not plant gardens or orchards in it, nor was it sown or ploughed lest it should stink. They did not raise trees in it except the gardens of roses, which had been there from the times of the former prophets, and they did not place dunghills in it, on account of creeping things. They did not make beams or balconies projecting into the public streets on account of the tent of defilement, and did not make furnaces in it on account of the smoke.²³ They did not nourish cocks in it on account of the holy things,

²¹ Kelim, i, 7, and the notes of R. Shimson and Maimonides; Jerus. Nazir 57, *b* 2; Tosefta Baba Bathra, 274 *b*. Rabbi Akibah maintained that the tombs of kings and prophets might be removed (*vide infra*). The Jerus. Talmud and the Tosefta allow tombs to be removed if surrounded on four, three, or two sides by the city, and the distance given in the former (Nazir, *loc. cit.*) is seventy cubits and two-thirds of a cubit (Abal Rabathy 14). R. Abraham raises an objection to the opinion of Maimonides that if seven good men of the city desired it, a dead body might be buried within the walls, and says that they did not bury in the cities, but might carry a corpse about the city to do honour to it and increase the mourning, and this latter opinion is supported by the Mishna (*loc. cit.*), מסבבין לתוכן מת.

²² Kelim i, 8, and the gloss of R. Shimson.

²³ Baba Kama 82 *b*; Yoma 12 *a*; Negaim xii, 4; Tosefta Negaim, 6; Megillah 26 *a*. The reason why Jerusalem could not become unclean from leprosy is that it was not divided among the tribes, and was therefore like cities out of the land of Israel (Negaim, *loc. cit.*); but Rabbi Judah disputed this opinion, urging the tradition that part of the mountain of the house was in the tribe of Judah and part in Benjamin. The tombs of the house of David and of Huldah the prophetess are spoken of in Jerush.-Nazir 57, *b* 2; Tosefta Negaim 6, Tosefta Baba Bathra 274, Avoth Rabbi Nathan 35. R. Akibah said that there was a hollow way or tunnel, מַהֲלֵה, to these tombs, by which the "uncleanness" was conducted out to the valley of Kedron, and that because of the existence of this the tombs were allowed to remain in opposition to the general law, which, according to him, permitted or required the removal of the tombs of kings and

and also in all the land of Israel the priests might not nourish cocks on account of purity.²⁴ And there was in it no house for persons condemned as lepers, and it did not become unclean from leprosy. It did not become a city cursed for idolatry, and did not furnish a heifer to be beheaded because it was not divided among the tribes.

15. The mountain of the house was more holy than it (Jerusalem), because men and women that had fluxes, and women at the time of their separation, and after childbirth, could not enter there.²⁵ It was permitted to take a dead body itself into the mountain of the house, and it is therefore unnecessary to say that a person defiled by contact with the dead might enter there.²⁶

16. The rampart (*chel*) was more holy than *the mountain of the House*, because Gentiles and persons defiled by contact with the dead or to whom a certain impurity had happened²⁷ might not enter there.²⁸

17. The court of the women was more holy than the rampart because **יום טבול**, *tibbul youm* (a person who required washing and the sun going down to purify him from an uncleanness, and who had washed and was awaiting the going down of the sun), might not enter there.²⁹ And this prohibition is from the words of *the wise men*, but by the Law, **הרתורה** it was permitted to a *tibbul youm* to enter the camp of Levi.³⁰ And if a person defiled by contact with the dead entered the court of the women, he was not obliged to offer a sin offering.

18. The court of Israel was more holy than the court of the women, because **ביחסי כפורים**, a person whose atonement had not been made after his cleansing from an uncleanness might not enter there.³¹ And an

prophets out of the city. (Tosefta, *loc cit.*, Magin Abraham appended to the Tosefta; *cf.* Tosefoth Berachoth 19 *b*, middle of page **רוב ארונות**.) The sum of the Jewish traditions in reference to these tombs appears to be—(1) that they remained and their locality was known up to the time of the destruction of Jerusalem by Titus (*cf.* Acts ii, 29); (2) that they were within the city; and (3) that they were so situated that a tunnel or gallery or pipe could pass from them to the valley of the Kedron. A garden of roses at Jerusalem is mentioned in Maaseroth ii, 5, the owner of which would allow no one to enter lest the roses should be spoiled (Tosefoth), and who also gathered and sold some figs which grew in the garden, three or four for an *assar*, without paying tithe or bringing an offering from them.

²⁴ Baba Kama vii, 7.

²⁵ Kelim i, 8.

²⁶ Pesachim 67 *a*; Nazir 45 *a*; Sotah 20 *b*; Tosefta Kelim, 1.

²⁷ **בוועל נדה**.

²⁸ Kelim i, 8; Tosefta Kelim, 1.

²⁹ Kelim i, 8.

³⁰ *Cf.* Yevamoth 7 *b*.

³¹ Kelim i, 8. The Mishna enumerates four classes of persons who might be **ביחסי כפורים**, wanting atonement, viz., men or women with fluxes, women after childbirth, and lepers. R. Eleazer ben Jacob added two others (Kerithoth ii, 1).

nuclear person who should enter there was liable to the penalty of cutting off.³²

19. The court of the priests was more holy than *that of Israel*, because the laity might not enter there, except when it was necessary for them to do so to lay their hands on a sacrifice which was to be slain, or to make atonement, or to slay a sacrifice, or to wave a part of it.³³

20. Between the porch and the altar was more holy than *the court of the priests*, because priests who had blemishes, or whose heads were bare,³⁴ or whose garments were torn might not enter there.

21. The Temple, **היכל**, was more holy than between the porch and the altar, because none might enter there who had not washed their hands and their feet.³⁵

22. The Holy of Holies was more holy than *the rest of the Temple*, **ההיכל**, because none might enter there except the high priest on the Day of Atonement at the time of his service.³⁶

23. To the place in the upper chamber which was over the Holy of Holies they did not enter except once in seven years to ascertain what repairs were required! When the builders entered to build or make repairs in the Temple **היכל**, or to remove thence the uncleanness it was commanded that the persons entering should be perfect priests; if perfect priests could not be found, priests with blemishes might enter, and if there were no priests there, Levites might enter; if Levites could not be found, laymen might enter. The commandment is that they be ceremonially clean. If none in a state of purity could be found, unclean might enter. If the choice lay between an unclean person and a person with a blemish, he with a blemish entered, and not he that was unclean, for uncleanness unfits for service in the congregation.³⁷ And all who entered the Temple, **היכל**, to make repairs entered in boxes. If there were no boxes there, or if it was not possible for them to do the work in boxes, they entered by way of the doors.³⁸

³² Tosefta Kelim I. There were thirty-six offences by which the penalty of cutting off was incurred (Kerithoth i, 1).

³³ Kelim i, 8.

³⁴ Kelim i, 9.

³⁵ Kelim i, 9.

³⁶ Kelim i, 9; Pesachim 86 a.

³⁷ Tosefta Kelim 1; Pesachim 86 a, where it is disputed whether these chambers were visited once in seven years (in the year of release, Rashi), or twice in seven years, or once in the *year of Jubilee*.

³⁸ Erubin 105; Tosefta Kelim 1; Yoma 6 b.

³⁹ Middoth iii, 5, where it is said that the workmen were let down from above into the Holy of Holies in boxes. In Tosefta Kelim I, this rule appears to be applied to the holy place as well as the Holy of Holies (see note to the works of Maimonides, *in loc.*). "To make repairs," תקן, *aptare, proparare, stabilire*. The word sometimes corresponds to הִיטִיב in Hebrew, and is used here in contradistinction to בנה, to build. Perhaps it should be rendered to "ornament."

CHAPTER VIII.

1. The guarding of the Sanctuary was an affirmative command, notwithstanding that there was no fear of enemies or robbers, for the guarding of it was only for its honour. A palace over which there is placed a guard is not like a palace over which there is no guard.

2. And this guarding was commanded for the whole night. And the watchers were the priests and Levites, as it is said "thou and thy sons with thee before the tabernacle of witness" (Num. xviii, 2), which is as if it were said "ye shall guard it," and lo, it is said "and ye shall keep the charge of the tabernacle of the congregation" (*ib.* xviii, 4); and it is said "but those that encamp before the tabernacle towards the east, *even* before the tabernacle of the congregation eastwards, shall be Moses, and Aaron, and his sons, keeping the charge of the Sanctuary" (*ib.* iii, 38).

3. And if they ceased guarding, they transgressed a negative command, as it is said, "and they shall keep the charge of the Sanctuary." And the import of the word, שְׁמִירָה, *guarding*, is אֲזָרָה, an admonition, so thou mayest learn that its guarding is an affirmative command, and the neglect of its guarding a negative command.¹

4. The law of its guarding was that the priests should keep guard inside, and the Levites outside. And four and twenty guards watched it the whole night continually, in four and twenty places; the priests in three places, and the Levites in one and twenty places.

5. And where did they watch? The priests watched in the house Abtinus, and in the house Nitzus, and in the house Moked. The house Abtinus and the house Nitzus were upper chambers built at the side of gates of the court, and the boys² watched there. The house Moked was arched, and it was a large room surrounded by stone benches, and the elders of the family whose turn of service was on that day³ slept there and the keys of the court were in their charge.⁴

6. The priests who watched did not sleep in the priestly garments, but folded them up and put them opposite their heads, and put on their own garments, and they slept upon the ground, like all watchers in the courts of kings, who do not sleep upon beds.

7. If an accident happened to one of them, he went along the gallery which was under the surface of the court (because the hollow places which opened to the mountain of the house were not sanctified), bathed and returned, and sat beside his brethren the priests, until the gates were opened in the morning, when he went out and departed.

¹ According to a rule of Talmudical interpretation. *Cf.* Menachoth 36 *b*, Makoth 13 *b*, &c., שְׁלֵא לִבְטֹל שְׁמִירַת הַמִּקְדָּשׁ, not to intermit the guarding of the Sanctuary, is enumerated among the 365 negative precepts.

² Sons of the priests not yet thirteen years of age.

³ The guard was divided into seven houses of fathers (families) according to the days of the week, one for each day (Bartenora in Tamid i, 1).

⁴ Literally, in their hands.

8. And where did the Levites watch? At five gates of the mountain of the house, and at its four corners within, and at the four corners of the court outside (because it was forbidden to sit in the court), and at five gates of the court outside of the court, for lo, the priests watched at the gate Moked, and at the gate Nitzus. Lo, *these are* eighteen places.

9. And moreover they watched at the chamber of the offering, and at the chamber of the veil, and behind the house of atonement.

10. And they placed a prefect over all the guards who watched. He was called the man of the mountain of the house, and went round all night to every guard in turn, with lighted torches before him, and to every guard who was not standing, the man of the mountain of the house said "peace be upon thee." If it appeared that he slept, he beat him with his staff, and he had authority to burn his cloak, so that they said in Jerusalem "what is the voice in the court? It is the voice of the Levite being beaten and his garments burned, because he slept in his watch."

11. In the morning, shortly before daybreak,⁵ the prefect of the Sanctuary came and knocked *at the door of the* house Moked, where the priests were, and they opened to him. He took the key and opened the little gate which was between the house Moked and the court, and entered from the house Moked to the court, and the priests entered behind him. There were two lighted torches in their hands, and they divided into two companies, one going towards the east, and one towards the west, and they searched, and traversed the whole of the court, until the two companies reached the place of the house of the pancake-maker. Having reached it, both companies said "Is it peace?" and they placed the maker of the pancakes to make the pancakes.

12. According to this order they did every night, except the night of the Sabbath, when they had no light in their hands, but searched by *the light of* the lanterns which were lighted here, on the eve of the Sabbath.⁶

⁵ קודם שיעלה עמוד השחר סמוך לו, before the pillar of the morning rose *and* near to it. Cf. Genesis xxxii, 26, which in the Jerusalem Targum has יִהְיֶה עָרוֹם סְלִיק עֲמוּד for the column of the morning arises (Buxtorf.).

⁶ For the contents of this chapter, consult Tamid i and Middoth i.

YOMA, OR THE DAY OF ATONEMENT.

WITH THE COMMENTARY OF RABBI OBADIAH OF BARTENORA.

CHAPTER I.

1. SEVEN days before the day of atonement, they separated the high priest¹ from his house, to the chamber *Palledrin*.² And they appointed another priest in his stead,³ in case any defilement should happen to him. Rabbi Judah said "also they appointed for him another wife, in case his wife should die,"⁴ as is said (Levit. xvi. 17), 'and have made an atonement for himself and for his household: his household, that is, his wife.' They said to him, "if so, there *would be* no end to the matter."

2. All the seven days, he sprinkled the blood,⁵ and burned the incense, and dressed the lamps,⁶ and offered the head and the leg. And on all

¹ Because all the services of the day of atonement were not lawful unless performed by him, as is said, in reference to the day of atonement (Levit. xvi, 32), "and the priest, whom ye shall anoint shall make an atonement." And this separation we infer from what is written (Levit. viii, 33), "the seven days of their consecration," and "ye shall not go out of the door of the tabernacle of the congregation *in seven days*," and what is written afterwards (v, 34) "as he hath done this day, so the Lord hath commanded to do, to make an atonement for you." And our rabbis have expounded "to do" as referring to the ceremonies connected with the red heifer (Numbers ix): and "to make an atonement for you," as referring to the day of atonement, because the priest who burnt the red heifer, and the priest who officiated on the day of atonement, were both of them obliged to be separated from their houses seven days, as Aaron and his sons were obliged during the seven days of their consecration.

² The king's officers were called *palledrin*, and because the high priests of the second Temple, after Simeon the Just, gave money to serve in the high priesthood, and because they were wicked men, they did not complete their years, but were changed every twelve months, like the officers of the king, whom the king changes every year, therefore they called this chamber, the chamber *palledrin*.

³ They prepared another priest to be high priest in his stead if *קָרַח*, or other uncleanness, happened to him.

⁴ If thou takest the question of death into consideration, there is no end of the matter; because this one also might die. But an uncleanness, which is of common occurrence, we take into consideration, and therefore they appointed for him another priest: death, which is not of common occurrence (as death happening suddenly and instantaneously) we do not take into consideration, and therefore they did not appoint for him another wife. The decision was according to the wise men [not according to Rabbi Judah].

⁵ Of the continual sacrifices, in order that he might be accustomed to the service.

⁶ He cleansed them from the ashes of the wicks which were extinguished.

other days,⁷ if he desired to make the offering, for the high priest had the preference with respect to the part he might wish to offer,⁸ and the preference in taking a portion⁹ of the sacrifices for himself.

3. They set apart for him elders of the elders of the house of judgment, who read before him¹⁰ from the order of the day,¹¹ and they said to him, "my lord,¹² high priest, read thou for thyself, lest thou may'st have forgotten, or least thou hast not learned."¹³ On the day preceding the day of atonement, at daybreak, they caused him to stand at the eastern gate, and caused to pass before him bulls, goats, and sheep, in order that he might become acquainted with and accustomed¹⁴ to his service.

4. All the seven days they did not restrain him from eating and drinking, *but on* the eve of the day of atonement at dusk, they did not let him eat much,¹⁵ because eating induces sleep.

5. The elders of the *beth-din*,¹⁶ delivered him to the elders of the priesthood,¹⁷ and they took him up to the upper chamber Beth Abtinah,¹⁸ and imposed an oath upon him,¹⁹ and departed and went their way. And

⁷ If he desired to make the offering, he offered every offering that he pleased; nor had the men of the watch power to stay his hand.

⁸ He had the right to offer any part that he chose.

⁹ In the division of the holy things, he took the portion which he selected as the best. These words refer to the holy things of the altar (Sanctuary), but the holy things of the country, both the high priest and the ordinary priest divided equally.

¹⁰ All the seven days.

¹¹ In the section *achare moth* (Levit. xvi).

¹² אֲדֹנָי = אֲדֹנָי, my lord.

¹³ In the second Temple this was necessary, because at the command of the kings they appointed high priests who were not fitted for the office; but those of the first Temple did not appoint as high priest any one who was not distinguished amongst the priests for wisdom, for beauty, for strength, and for riches; and if he was not rich, his brethren the priests made him so from their own means, as is said (Levit. xxi, 10) "the high priest among his brethren:" they made him great, from what belonged to his brethren.

¹⁴ They caused him to observe the beasts which passed before him in order to impress upon him the rules of the service of the day.

¹⁵ Even of such kinds of food as do not produce heat; and they restrained him altogether from all food which might produce heat or defilement, אֲרָק, such as milk, eggs, meat, oil, old wine, and the like.

¹⁶ Who had read before him from the order of the day.

¹⁷ To teach him how to fill his hands with the incense, as is said (Levit. xvi, 12) "and his hands full of sweet incense," which was a difficult part of the service.

¹⁸ It was they who made the incense, and pounded it and mixed the gums.

¹⁹ That he should not be a Sadducee to put the incense on the censer outside of the Temple and then to enter. For they [the Sadducees] explain "I will appear in the cloud upon the mercy seat" (*ib.* 2), that in a cloud of smoke of the incense he should come, and then appear upon the mercy seat. But the thing is not so, for the Scripture says (*ib.* 13) "and he shall put the incense upon the fire before the Lord."

they said to him, "my lord high priest, we are the delegates of the *beth-din*, and thou art our delegate, and the delegate of the *beth-din*, we adjure thee, by Him whose name dwelleth in this house, that thou change nothing of all that we have told thee." He retired and wept,²⁰ and they retired and wept.²¹

6. If he were a wise man, he expounded,²² and if not, the disciples of the wise men expounded before him. If he were accustomed to read, he read; and if not, they read before him. And in what did they read before him? In Job, or Ezra,²³ or Chronicles. Zachariah ben Kabutal said, "many times I read before him in Daniel."

7. If he were inclined to fall asleep, the youths of the priesthood²⁴ struck before him with the forefinger,²⁵ and said to him, "my lord high priest, stand up,²⁶ and cool thyself a little upon the pavement,"²⁷ and they kept him occupied until the time for slaying *the morning sacrifice* arrived.

8. Every day they cleansed the altar²⁷ at cock-crow, or near it,²⁸ either before or after. And on the day of atonement after midnight,²⁹ and at the feasts after the first watch.³⁰ And cock-crow did not happen until the court was filled with people [*lit.*, Israel].³¹

²⁰ Because they had suspected him of being a Sadducee.

²¹ Because they had suspected him, for Mar said, whoever suspects the righteous is to be beaten in his body.

²² In things pertaining to the decisions of the law (הלכה); all the night of the day of atonement, so that he shall not sleep and defilement happen to him, and if he were a disciple, and not a wise man, and knew to hear and understand the law, but not to expound, they expounded before him.

²³ Because these attract the attention so that sleep did not overcome him.

²⁴ פרחי כהונה young men, the hair of whose beards was beginning to grow, were called פרחי, *pirchy* = young shoots, buds.

²⁵ באצבע צרדה, the finger nearest the thumb. The meaning of צרדה is צרתה דדה, "near to it" [Yoma 19 b], that is to say, near to the thumb which adjoins it. They joined the thumb and the finger next to it, and struck the palm of his hand and produced a sound, in order that he should not sleep.

²⁶ Upon thy feet and cool thyself a little upon the pavement of marble to take away the heat, for cooling the feet takes away sleep, and הפס has the signification of taking away, as כפינין טעמן, "lessen or change its taste" (Pesachim 41 a).

²⁷ He took some of the ashes (תרויטה, *cleansing*, is the same as taking away), either more or less, in the censer, and put them on the east of the ascent to the altar, and they were swallowed up there in their place (ברוך נס). This was the beginning of the morning service.

²⁸ Near cock-crow, either before or after.

²⁹ On account of the weakness of the high priest. Because upon him alone was imposed the whole service of the day, it was necessary to rise very early.

³⁰ The multitude of Israel, and the multitudes of offerings, and the great amount of ashes in the place of the pile and the necessity of taking up the ashes from the pile to the place in the middle of the altar which was called *tapuach* [an apple], in which place a great heap of ashes was collected and arranged like an apple, made it necessary to rise very early; and they rose after the first watch, which was the third part of the night.

³¹ At the feasts, cock-crow did not come until the court was full of Israel bringing their offerings, to offer them immediately after the morning sacrifice.

CHAPTER II.

1. At first every priest who wished to remove the ashes from the altar,¹ did so; and when there were many,² they ran and ascended the incline,³ and he who got before⁴ his fellows, to within four cubits *of the top*, obtained the right to perform the service. If two were equal,⁵ the warden said to them, "extend the fingers." And how? They extended one, or two.⁶ And in the Sanctuary they did not extend the thumb.⁷

2. It once happened, that two of them being equal, ran and ascended the incline, and one of them pushed the other, so that he fell, and his leg was broken. And the *beth-din* saw that they came into danger *through this practice*, they ordained that they should not remove the ashes from

¹ Every priest who was of that house of the fathers and who wished to remove the ashes in the morning did so, and there was no lot cast in the matter.

² Of those who came to take away the ashes, this one said "I wish to take away the ashes," and the other said "I wish to take away the ashes." This was their custom. They ran and ascended the sloping ascent of the altar, which was thirty-two cubits long.

³ He who was the first to get within the four upper cubits of the ascent, which were near the top of the altar, obtained the right to remove the ashes. This was their lot.

⁴ In getting within [these four cubits] neither of them obtained the right, but now they all came and cast lots. And how was the lot cast? The prefect said to them all, "hold up your fingers" [*micate digitis*], that is to say, "put forth your fingers," and every one showed his finger. Because it was unlawful to count the men of Israel, therefore it was necessary for them to put forth the fingers, in order that the fingers, and not the men, might be counted. And how did they do it? They stood round in a circle, and the prefect came and took the cap from the head of one of them, and from this one the lot began to count. Each one extended his finger, and the prefect mentioned a number—a hundred, or sixty, some number much higher than the number of the priests present—and said, "he at whom this number finishes shall have the right [to perform this service]." And he now began to count from him, from whose head he had removed the cap, going round again and again, and counting the fingers until he came to the end of the number, and he at whom the number terminated obtained the office. And this was the manner of all the lots in the Sanctuary.

⁵ One finger if he were a healthy man, and two if he were sickly. Because a sick person is not able to restrain his fingers, and when he extends one, that next to it comes out with it. But only one of the two was counted.

⁶ Because of deceivers. For when the number came near finishing, and they could tell at whom it would finish, he who stood before him might put out two fingers in order that he might be counted as two persons, and thus the number might prematurely be completed at him. And the prefect might not perceive this, because a man can stretch the thumb to a great distance from the finger, so that they might appear like the fingers of two men, which it is impossible to do with the other fingers.

the altar except by lot.⁷ Four lots were there,⁸ and this was the first lot.

3. The second lot was, who should kill *the sacrifice*,⁹ who should sprinkle the blood, who should take the ashes from the inner altar, who should take the ashes from the candlestick, who should take up the pieces of the *sacrifice* to the incline, the head and the leg,¹⁰ and the two fore-legs, the end of the spine and the leg, the breast and the throat, and the two sides, and the inwards, and the fine flour, and the pancakes and the wine. Thirteen priests obtained it. The son of 'Azai said before Rabbi Akibah, in the name of Rabbi Joshua, "as the animal walked,¹¹ so it was offered."

⁷ That [lot] which we have explained.

⁸ Four times a day they were assembled to cast the lot. They did not cast the lots for all at one assembly, in order to make it heard four times that there were many people in the court. And this was for the honour of the king, as is said (Psalm lv, 14), "we walked into the house of God, בְּרִגְזָא, in tumult" [the tumult of a large assembly].

⁹ Who should slay the daily sacrifice, who should sprinkle the blood, &c. All these offices were decided by one lot. He at whom the number terminated (as we have explained) obtained the right, and sprinkled the blood upon the altar after he had received it in the vessel for the purpose, for he who sprinkled the blood received the blood. The next priest to him killed the sacrifice, and this, notwithstanding that the slaying preceded the receiving of the blood, because the office of sprinkling was higher than that of slaying, for the slaying was lawful if done by a stranger, which was not the case with the sprinkling. For from the receiving of the blood and afterwards it is commanded that all the service be performed by priests. And hence he to whom the first lot fell obtained the office of sprinkling, and the next to him that of slaying, and the next to him who slew the lamb cleansed the altar from the ashes, and the next to him who cleansed the altar from the ashes, removed the ashes from the candlestick, and so with all.

¹⁰ The head and right [hind] leg by the first priest; the two fore-legs by the second; the end of the spine (which is the tail) and the left [hind] leg by the third; the breast (that is the fat of the breast, the part looking towards the ground, which they divided on either side without the ends of the ribs) and the throat (the place where animals chew the cud, that is the neck, and joined to it the windpipe, with the liver and the heart), the breast and the throat by the fourth priest; and the two sides by the fifth priest; and the inwards by the sixth; and the fine flour, a tenth deal for the meat and drink-offering of the continual sacrifice (Exod. xxix, 40) by the seventh; and the pancakes, a half tenth deal for the meat-offering of the high priest, which he offered every day with the daily sacrifices, as is said (Levit. vi, 20), "half of it in the morning, and half thereof at night," by the eighth; and the wine, three logs for the drink-offering of the daily sacrifice, by the ninth. Thirteen priests obtained by this lot thirteen priestly functions, numbered to them according to the order stated in the Mishna.

¹¹ As it walked during its life the continual sacrifice was offered. The first doctor thought the good and comely parts were offered first, and Ben 'Azai thought it was offered as it walked; the head and the hind-leg, the breast and the throat, and the two fore-legs, and the two sides, the end of the spine and the (other) hind-leg. The decision was not according to Ben 'Azai.

4. The third lot *was* "those who have never offered the incense, come and cast lots."¹² And the fourth was for those who had, and those who had not before performed the function¹³ to *decide* who should take up the pieces of the sacrifice from the incline to the altar.¹⁴

5. The continual sacrifice was offered¹⁵ by nine *priests*, by ten, by eleven, by twelve, no less and no more. How? *The lamb* itself by nine.¹⁶ At the Feast of Tabernacles,¹⁷ the vessel of water *was brought* by the hand of one, making ten. In the evening¹⁸ by eleven; the lamb itself by nine, and two with two pieces of wood in their hands. On a Sabbath by eleven; the lamb itself by nine; and two with two vessels of frankincense for the shew-bread in their hands. And on a Sabbath which occurred in the middle of the Feast of Tabernacles, a vessel of water, by the hand of one.

6. A ram was offered by eleven *priests*; the flesh by five,¹⁹ the inwards, and the flour²⁰ and the wine by two *and* two.

7. A young bullock was offered by twenty-four *priests*. The head and the leg: the head by one, and the leg by two. The end of the spine and the leg: the end of the spine by two, and the leg by two. The breast and the throat: the breast by one, and the throat by three. The two fore-legs by two. The two sides by two. The inwards, the fine flour, and the

¹² Thus they cried out in the court. That is to say, he who has never yet obtained the office of offering the incense come and cast lots. And they did not allow one who had once obtained that office to repeat it, because it made rich, for it is written (Deut. xxxiii, 10, 11), "they shall put incense before thee" "bless, Lord, his substance," and because every priest who offered incense became rich and was blessed thereby, therefore they did not allow any one to do it a second time, in order that all might become rich and be blessed by it.

¹³ "New and old." He who had obtained this lot on other occasions, and he who had never obtained it, come and cast lots.

¹⁴ When they took the pieces from the slaying place they did not take them to the altar, but put them on the middle of the incline below on the east, and cast another lot who should take them up from the place where they had been placed on the incline to the altar; and they did so because "in the multitude of people is the king's honour" [Prov. xiv, 28].

¹⁵ He reckons from the time of taking the pieces of the sacrifice and onward.

¹⁶ Six for the pieces and the inwards, as we have said above, and one for the flour, one for the pancakes, and one for the wine.

¹⁷ Because two drink-offerings were required, one of wine and one of water. The vessel of water was brought by the hand of a priest.

¹⁸ The daily evening sacrifice. Two carried in their hands two pieces of wood to add to the wood of the pile, for it is written (Levit. i, 7), "and they shall lay the wood in order upon the fire." This does not refer to the morning sacrifice, for it is written in Levit. vi, 12, "and the priests shall burn wood on it every morning," which teaches that it refers to the evening sacrifice when two pieces of wood were added.

¹⁹ As the pieces of a lamb, so the pieces of a ram.

²⁰ Two tenth deals were offered by two priests.

wine, by three *and* three. To what do these words apply? To offerings of the congregation. But an offering of an individual if he wished to offer it *himself*, he might offer it. The skinning and eating up²¹ of both the one and the other were alike.

CHAPTER III.

1. THE prefect¹ said to them "go out and see² whether the time for slaying³ the sacrifice has arrived." If it had arrived, *the priest who went out to see*, said "it lightens."⁴ Matathiah ben Samuel said "it is becoming light along the whole east."⁵ "As far as Hebron?"⁶ and he said "yes."

2. And why did they find this necessary? Because it once happened that the light of the moon ascended, and they thought it was daybreak,⁷ and slew the sacrifice and took it out to the place of burning. They conducted the high priest down to the bathing room.⁸ This was a general rule in the Sanctuary: whoever "covered his feet"⁹ was required to bathe his whole body *afterwards*, and whoever made water, was required to wash [*lit.* sanctify] his hands and his feet.

3. No man might enter the court for the service¹⁰ even though clean,

²¹ In reference to all these priests for one beast, and in reference to the lot.

²² One priest might offer the whole and without casting a lot.

²³ The skinning and cutting up of the bullock offered by an individual, and that offered on behalf of the congregation were alike [יְשׁוּׁ, equal] in that both were lawful by a stranger, and did not require a priest.

¹ He was the *sagan* (or vicar of the high priest).

² To a high place which they had in the Sanctuary.

³ Because it was unlawful to slay the sacrifice by night, as it is said (Levit. xix, 6), "on the day ye offer it."

⁴ It is becoming light and the morning breaks.

⁵ This was after the lightening spoke of by the first doctor. The *halachah* was according to Matathiah ben Samuel.

⁶ Those standing below asked him whether the light reached to Hebron, and he replied yes. They mentioned Hebron in order to call to mind the merits of the fathers.

⁷ This is not said to have been on the day of atonement, for it is not possible for the light of the moon to ascend near the morning on the day of atonement, because that is at the third part of the month, but at the end of one of the months, when the moon rose near the rising of the morning, this mistake occurred; and they were anxious lest on the day of atonement another mistake of the like kind might happen, and therefore considered all this necessary.

⁸ This [that is said about the moon] is parenthetical, and now [the Mishnah] returns to what we are taught above, "as far as Hebron?" and he said "Yes." And after that the priest who went out to look said "yes," they conducted the high priest down to the bathing-room, because he was required to bathe before he slew the continual sacrifice.

⁹ An euphemism for the *excrementa majora seu crassa*.

¹⁰ Or for any other purpose.

until he had bathed.¹¹ On *this* day the high priest underwent in it five immersions and ten washings [*id.* sanctifying], and was sanctified, and all of them *were* in the holy part of the Temple upon the house Parvah,¹² except this one only.¹³

4. They spread a linen cloth¹⁴ between him and the people. He stripped, descended and immersed himself; came up and wiped himself.¹⁵ They brought to him golden garments. He dressed and sanctified his hands and his feet.¹⁶ They brought to him the lamb for the sacrifice, which he partly slaughtered,¹⁷ and another¹⁸ *priest* completed the slaughtering for him.¹⁹ He received the blood and sprinkled it. He went in to offer the morning incense, and to dress the lamps, and to offer the head and the pieces, and the pancakes, and the wine.

5. The incense of the morning was offered between *the sprinkling of the blood*, and *the offering of the pieces of the sacrifice*:²⁰ *that* of the evening between *the offering of the pieces of the sacrifice*, and *the pouring out of the*

¹¹ The matter is *à fortiori*: for as the high priest changing from holy to holy, from service without [the Temple itself] to service within, and from service within to service without, was obliged to bathe between one service and another, much more as he now came from his house, which was profane, to the holy place, he was obliged to bathe.

¹² Upon the chamber of the house Parvah.

¹³ The first, which was in the profane part of the temple, over the water gate beside his chamber.

¹⁴ To keep in mind that the service of the day was performed in linen garments, because the high priest was accustomed to serve all the year in golden garments.

¹⁵ Wiped clean.

¹⁶ At the laver, because at every change of the garments of the day it was necessary to sanctify at taking them off, and again at putting them on, and this first bathing, which was on taking off the profane garments, did not require sanctifying of the hands and feet at the taking off.

¹⁷ He cut the greater part of the two "signs" [the gullet and windpipe], which alone makes the slaughtering lawful.

¹⁸ Another priest completed the slaughtering, because the receiving of the blood was not lawful except by the high priest, and it was necessary to hasten to receive it.

¹⁹ על יד, "on his account," or, perhaps, by the hand of another near to him, as in Nehemiah iii, 8, על ידו החזיק, "next unto him repaired," &c.

²⁰ Not exactly so. For we are taught above [i, 2] "he received the blood and sprinkled it, *and* entered to offer the incense, and to dress the lamps, and to offer the head and the pieces," so that the incense was offered between the sprinkling of the blood and the dressing of the lamps, and not between the sprinkling of the blood and the offering of the pieces of the sacrifice. But the doctor is not now speaking of the order of the offerings, that this one was after that, and so on, but he only desires to say that the sprinkling of the blood and the offering of the pieces did not immediately follow the one after the other, for the incense came between them, and also the dressing of the lamps was between them, after the incense, *and* before the offering of the pieces.

drink-offerings. If the high priest was old or weak,²¹ they prepared for him hot water,²² and put it²³ into the cold *water*, in order to take away²⁴ its coldness.

6. They led him to the house of Parvah,²⁵ which was in the holy part of the Temple,²⁶ and spread a linen cloth between him and the people. He sanctified [washed] his hands and his feet, and stripped. Rabbi Meyer said he *first* stripped, and then sanctified his hands and his feet.²⁷ He went down into the bath and immersed himself, came up, and wiped. They brought to him white garments,²⁸ he dressed and sanctified his hands and his feet.

7. In the morning he put on garments of Pelusium²⁹ manufacture, of the value of twelve *manim*, and in the evening Indian³⁰ garments, of the value of eight hundred *zuzim*. The words of Rabbi Meyer. And the wise men said "in the morning he put on garments worth eighteen *manim*, and in the evening³¹ worth twelve *manim*; ³² the whole of these thirty *manim* were the property of the community, and if he wished to add to them, he added from those belonging to himself."³³

8. He came now to his bullock; and his bullock stood between the porch and the altar,³¹ its head to the south and its face to the

²¹ So that his body was cold and frigid.

²² On the eve of the day of atonement.

²³ On the day of atonement they put it into the pit built in his bathing-room.

²⁴ To take away its coldness somewhat. *מפיגין טעמן שתפיג* is like *מפיגין טעמן*, "they change or lose their taste" [Pesachim 41 a].

²⁵ A certain magician, whose name was Parvah, built it, and it was called after his name.

²⁶ Because this second immersion, with all the other immersions, except the first, must be in a holy place, as it is written (Levit. xvi, 24), "and he shall wash his flesh with water in the holy place."

²⁷ R. Meyer said, he stripped first and afterwards sanctified. The decision was not according to Rabbi Meyer.

²⁸ The shirt, the breeches, the girdle, and the turban, which are mentioned in Leviticus xvi, 4, for all the services which were within were performed in them, but the services which were without (as the continual sacrifices and the additional sacrifices) were in golden garments, in which he ministered the whole year. And between each change of garments immersion and two sanctifyings of the hands and feet at the laver were required.

²⁹ Fine and beautiful linen brought from the land of Ramses. In the Targum Yerushalmy Ramses is Pelusa [Pelusium].

³⁰ From the land Hodo [India].

³¹ Those which he put on to bring out the kaf and the censor.

³² He here repeats the aggregate value, and teaches us to understand that thirty *manim* were the sum of the whole; to tell thee that it was of no consequence if he diminished from those of the morning, and added to those of the evening [provided the whole was thirty *manim*].

³³ Only he must give those added as a gift to the Sanctuary.

³⁴ By law all the northern part of the court was fit for the bullock to stand in, for it was all "before the Lord." And they did not place the bullock between

west.³⁵ And the priest stood on the east, with his face to the west,³⁶ and laid his two hands upon it and confessed. And thus he said: O God! I have done wrong, I have transgressed, I have sinned before Thee, I and my house. Forgive now, O God, the wrong and the transgression and the sins which I have done, and transgressed and sinned before Thee, I and my house, according as it is written in the law of Moses, thy servant (Levit. xvi, 30), "for on that day shall *the priest* made an atonement for you," &c., and they repeated after him, "blessed be the glorious Name of His kingdom for ever and ever."

9. He now came to the east of the court,³⁷ to the north of the altar, the sagan *being* on his right hand and the chief of the house of the fathers on his left. And two goats were there, also a box,³⁸ in which were two lots of boxwood;³⁹ Ben Gamla⁴⁰ made them of gold, and they were accustomed to commemorate him with praise.

10. Ben Katin⁴¹ made twelve cocks⁴² to the laver, there having *before* been only two, and also he made a machine⁴³ for the laver, that its water might not become defiled by remaining all night. Monbaz, the king, made all the handles of the vessels of the day of atonement of gold. Helena, his mother, made a golden lantern⁴⁴ for the door of the Temple, also she made a golden tablet upon which was written the section of the law the porch and the altar near to the Temple, but on account of the weakness of the high priest, that he should not be oppressed by the burden of carrying the vessel for sprinkling the blood to a distance.

³⁵ It was ordained by the law that its head should be towards the temple, which was on the west, and its hinder part towards the altar; but lest it should drop its dung, and because it was a shame that its hinder part, *בית הרעי*, should look to the side of the altar, its head was put towards the south and its tail towards the north, which was very suitable, and the middle of its body between the porch and the altar, and its head was turned until its face was towards the west.

³⁶ And his back to the east.

³⁷ Because they did not take the goats in to between the porch and the altar when it was wished to put the lots upon them, but they remained in the court till the time of slaying.

³⁸ A perforated vessel of wood.

³⁹ Buso [buxus] in Latin, a kind of wood. This is only a supposition.

⁴⁰ Joshua ben Gamla, when he was chosen to be high priest, made them of gold.

⁴¹ He was a high priest.

⁴² In order that the twelve priests to whom the lots had fallen to perform the continual sacrifice of the morning might sanctify all at one time, and notwithstanding that there were thirteen priests engaged in this service, as we have said in Chapter II, no cock was made for the slayer of the sacrifice, because the slaying was lawful by a stranger.

⁴³ A wheel to immerse it in the cistern [or well] that its waters might be mingled in the cistern and not become defiled by remaining all night [in a sacred vessel].

⁴⁴ Or candlestick [*candelabrum*].

referring to a suspected wife⁴⁵ [Numbers v, 12]. To the doors of Nicanor⁴⁶ there happened miracles.⁴⁷ And him they commemorated with praise.

11. And these were commemorated with shame : the family of Garmu, *who* were unwilling to teach the way of making the shewbread ;⁴⁸ the family of Abtinas, who were unwilling to teach the manner of making the incense ;⁴⁹ Hagros ben Levi, *who* knew a portion of song⁵⁰ and would not teach it ; Ben Kamtsar *who* was unwilling to teach his method of writing.⁵¹ In reference to the former,⁵² it was said "the memory of the just is blessed," and in reference to the latter⁵³ "the name of the wicked shall rot."

⁴⁵ That it might not be necessary to bring [the roll of] the law, to write from it the section referring to a suspected wife.

⁴⁶ The name of a man.

⁴⁷ He went to Alexandria of Egypt to bring the doors. On his return there arose a great storm at sea, which threatened to sink them. They took one of the doors and threw it into the sea, in order to lighten the ship, and when they sought to throw overboard the other, he said to them, "throw me with it," and immediately the sea ceased its raging. When they arrived at the port of Acca the door which had been thrown overboard came out from under the side of the ship.

⁴⁸ The other workmen did not know how to take it from the oven without breaking it, because it was made like a kind of open box.

⁴⁹ They knew a certain herb whose name was "the ascending of smoke," and when they mixed it with the aromatics of which the incense was composed, the smoke of the incense formed a column and ascended in the form of a staff without bending to one side or the other.

⁵⁰ An agreeable modulation of the voice.

⁵¹ He bound four pens to four of his fingers, and wrote the *nomen tetragrammaton* as if it were of one letter.

⁵² Ben Gamla, Ben Katin, Monbaz, and Helena his mother, and Nicanor.

⁵³ The family of Garmu, and the family of Abtinas, Hagros ben Levi, and Ben Kamtsar. And although the family of Garmu and the family of Abtinas explained their words, "that they did not wish to teach," to mean that they would not teach a person who was not honest and might go and practise idolatry thereby ; the wise men did not accept their words.

THE CITY OF DAVID.

(Continued.)

I. ZION, SOUTH AND NOT WEST OF THE TEMPLE.

In his Handbook Captain Conder places "Acra or Millo" and the "Tomb of David" further west than Sir Charles Warren's site, and (p. 333) has "little hesitation in identifying that hill (Acra) with the knoll of the present Sepulchre Church." He concludes that the term, the City of David, was applied to this part because (as he urges) Millo was in the City of David, and Millo is rendered by *Acra* in the LXX, and next because Josephus (p. 338) seems by Millo to understand the Lower City ("Ant.," VII, iii, 2), which he identifies with Acra ("Wars," V, vi, 1); and, as already stated, Captain Conder takes Josephus to place his Acra west of the Temple. It will be seen that the argument is this: Where Acra was, there was also the City of David. But it has been proved above that Acra was *south*, not west, of the Temple. Therefore the City of David was not on Captain Conder's site, near the Church of the Holy Sepulchre.

Another point may be noticed. As Captain Conder is ready to identify the Acra of the LXX with the Acra of Josephus, and the Lower City in the "Antiquities" with the Acra in the "Wars," he cannot fairly refuse to identify the Lower City and the Acra of the "Antiquities" with the Lower City and Acra of the "Wars," while the expression in "Ant.," XII, v, 4, he "built the Acra in the Lower City," shows that sometimes the Acra only means a part of the latter. Now in "Ant.," VII, iii, 1, Josephus says that David *took first the lower city and next the Acra*, and so captured the whole of Jerusalem. Now it is obvious that the *Upper* City on the south-western hill could not be either the *Lower* City or the Acra within it. Therefore, according to the "Antiquities," the Upper City was not the City of David.

Accordingly, when Captain Conder ("Handbook," 336) wants to shew that the Upper City was Zion, or the City of David, he appeals to "Wars," V, iv, 1, where Josephus says that the Upper City was called *φρούριον* (the citadel) by David, evidently as equivalent to "the fort" (Heb. Metzad) of Zion, which was afterwards called the City of David (2 Sam. v, 7).

Josephus wrote the "Antiquities" after the "Wars," and was of course at liberty to correct his own mistakes as far as he could. Since then, in his later and fuller account, Josephus speaks of David taking the Lower City and the Acra, and after the expulsion of the Jebusites from the Acra, of his rebuilding Jerusalem and calling it the City of David, it is obvious that the casual remark in the "Wars" is set aside as worthless by Josephus himself. After this exposure I hope no one will maintain that the abandoned statement of "Wars," V, iv, 1, proves that the Upper City was ever the stronghold of Zion, or the site of the City of David. For myself I decline to depend on the conjecture in the "Wars"

or the paraphrase in the "Antiquities," as one can go directly to 2 Sam. v, where the Biblical account says nothing whatever about an *Upper* or *Lower* City, but simply mentions the fort of Zion.

Thrupp (Jerusalem, 56) thinks that Acra in "Ant.," VII, iii, 1, may and does mean the Upper City because (1) the Acra in that passage is "not to be identified with the Lower City, the Acra of later times," and (2) because Josephus in "Ant.," XII, x, 4, speaks of an Acra which Thrupp takes to have been in the Upper City.

The answer to (1) is, that the later Acra (as already pointed out) sometimes means only a part of the Lower City, and therefore, in "Ant.," VII, both the Acra and Lower City, without being identical, may be named, just as both are mentioned in "Ant.," XII, v, 4; and to (2) that the passage in Josephus is corrupt, and that a reference to the parallel account in 1 Macc. vii, 32, shows that the Acra named was not in the Upper City, but was the one commonly so called.

Further, in attempting to prove that the Acra of Josephus was west of the Temple, Captain Conder shows but little respect for the statements of his great authority.

In "Wars," V, iv, 1, 2, Josephus says, "Over against this (Acra) there was a *third* hill (obviously the Temple hill), but naturally lower than Acra, and formerly parted from it by another *broad* valley. . . . The Hasmoneans filled up the valley, wishing to join the City to the Temple: and they levelled the summit of Acra and reduced its elevation in order that the Temple might be seen above it in this direction, . . . a *fourth* hill which is called Bezetha (*i.e.*, the new city)."

Compare with this Captain Conder's statements. He says ("Handbook," 332, 3) the "*third* hill was covered by the new city," (!) or Bezetha. The third hill (Bezetha !) was separated from Acra by a *deep* valley afterwards filled up by the Hasmoneans. But if they had wished to join the city (Acra) to the Temple, why should they have filled up the valley between Acra and a different hill, Bezetha, north of the Temple (332)? And, lastly, Captain Conder tells us that his Acra (contrary to the statement of Josephus) is still *above* (instead of lower than) the highest point on the Temple ridge.

Sir Charles Warren's site at any rate satisfies this requirement, and so, of course, does the true site for Acra south of the Temple.

It is one thing for Josephus to have made a mistake about a height being lowered and a valley filled up two hundred years before his day, when in his time neither existed to be seen; and quite a different thing for him not to have known which of two hills was the higher, when he had probably observed both of them daily during the siege. It seems to me, however, that Josephus may have meant that the *Upper City* was joined to the Temple in the line of Wilson's Arch.

Having thus cleared of all obstructions the ground north of the Upper City, the way is now open for me to attack the traditional site.

II. ZION NOT ON THE SOUTH-WESTERN HILL.

The defenders of the Upper City are many and mighty. They are further agreed that their site is the true one, but hopelessly at variance as to the way of proving it. Nehemiah ii, iii, and xii is to them a crucial test.

One (Mr. Tenz) thinks that the words (*supra* 122) "from the dung gate to the fountain gate" give an order from east to west; another (Captain Conder) from west to east; another changes his mind within ten pages ("Murray's Handbook," 172, 181); another protests against thinking about it at all. He writes to me: "I won't consider it any longer, as I nearly went off my head a dozen years ago over it. Of all the subjects I know, there is none more bewildering. I cannot understand how Sion can be anywhere but on the western (*i.e.*, S.W.) hill, and yet your arguments are very strong."

Mr. Tenz, the constructor of a most interesting model of Jerusalem, objects to the Ophel site on page 121 above, and thus defends the traditional one:—

1. He both says he "may justify the remarks made by Captain Conder against the Ophel site" (*Quarterly Statement*, 1883, p. 194), and adds that Josephus "is yet the most reliable authority." Captain Conder there asks, "If David and Solomon did not build a wall round the Upper City, why does Josephus say ('Wars,' V. iv, 1) that *the old wall built by David and Solomon began on the north at Hippicus?* Is this another false statement, or is Hippicus on the Temple spur, and is the Upper City *post* Herodian. And if they did, why should the 'City of David' be applied to a hill which was only walled in by later kings?" I have no objection to the idea that David and Solomon had to do with the wall here spoken of. I would, however, point out that while Captain Conder says Ophel "was only walled in by the *later* kings," Josephus himself in this passage says that the old wall built by David and Solomon and the later kings not only began at Hippicus, but also "had a *bend above Siloam, reached to Solomon's pool and Ophel, and ended at the eastern cloister of the Temple.*" Thus, according to Josephus, David and Solomon had as much to do with the wall in Ophel as that on the hill of the Upper City, and so Captain Conder's notion about the later kings is wrong. Surely Mr. Tenz, as an admirer of Josephus, ought to have justified him and me and not deserted both of us for Captain Conder.

2. Next, he thinks that the towers, bulwarks, palaces in Psalm xlviii were too many to have been on Ophel, and that therefore Zion must mean the Upper City. The question, however, is not what Zion or Mount Zion may mean in the Psalms (where they sometimes seem to be equivalent to Jerusalem), but what in *historical* passages is meant by *Zion* and the *City of David*. (*Quarterly Statement*, 1881, p. 94.)

3. He thinks the Upper City must have been Zion, because the valley of Hinnom went up on the south side of it. I have shown, however, that the Tyropæon was the valley of Hinnom, and as it is not south of the

Upper City, this very argument shows that the Upper City was not the stronghold of Jebus, *i.e.*, Zion.

4. He thinks Nehemiah went out near the Virgin's Fount, by the valley (*ge*) gate leading to the brook (*nachal*) Kidron, and that when he went up by the brook (*nachal*), he went up *his* (Mr. Tenz's) valley (*ge*) of Hinnom. Here once more *ge* and *nachal* (see 101 *supra*) are confused, and so a hopeless chaos ensues, as will be seen in the next point.

¶ 5. By placing the valley gate near the Virgin's Fount, and David's tomb at or near the present traditional site, it will be seen on reference to Nehemiah iii, and xii, 31-40, that Mr. Tenz sends one procession almost round Jerusalem, first south, then west, next north, afterwards east, and finally south, until Ophel and the Horse Gate are passed in the *wrong* order, a distance of about 10,000 feet, and the other party only march a ridiculously short distance, about 500 feet, and into this short distance he has further to cram the sheep gate, the fish gate, the old gate, the Ephraim gate, and the valley gate—five gates in about five hundred feet, which is of course absurd, but inevitable with his theory.

The argument from military considerations, too hastily supposed to show that Zion was the Upper City, really points to a contrary conclusion.

It is said that as the south-western hill was by nature the strongest position, it must have been chosen for the site of the fort of Zion. But when Antiochus Epiphanes had the whole of Jerusalem in his possession, fortifying the Upper City is just what he did *not* do. He deliberately (1 Macc. i, 33) placed his garrison in the City of David, in the Acra, in the Lower City, where it held its own for twenty-six years, and was at last only reduced by famine. It is clear that what was taken to be the best position by Antiochus might well have been chosen by others before him.

I have shown above how Captain Conder's defence of the Upper City fails, but I must also show how his attack on my Ophel site ends in smoke. He does not admit with Sir Charles Warren that Nehemiah actually places the stairs of the City of David, and the Sepulchres of David, and the House of David, on Ophel, and so is put to great straits in order to avoid this concession.

(*a*) He draws ("Handbook," p. 345) the stairs either on the side of the Upper City or up the Tyropoon, though the natural course for the procession at the dedication of the wall would be as at other points, along the wall, which confessedly was on Ophel.

(*b*) He admits that the sepulchres of David are placed by Nehemiah on Ophel, but pleads that the expression means the sepulchres of (some of) the sons (or descendants) of David who were not buried in the City of David.

(*c*) He also admits that "the House of David" is placed by Nehemiah (xii, 37) on Ophel, but contends that the expression means the sepulchre, &c., as in (*b*).

This is certainly using the *lucus a non lucendo* principle with a

vengeance. But a new idea! Why not argue that the tomb was Saul's and that "the House of David" simply means "the tomb of the *father-in-law* (!) of David. For was not Saul buried in Zelah? and by some, I believe, "Zelah, Eleph" has been connected (*Quarterly Statement*, 1881, p. 147) with the eastern hill at Jerusalem.

I now claim to have disposed of the myth that the Upper City was Zion. Jerome seems to have been the publisher of this greatest work of fiction ever produced, for it has had a run of fifteen centuries, and is still in demand. It has not only imposed too long on unsuspecting folk, like myself, of cramped imagination, but it has also bewitched the writer of an impossible story whom I used to think too shrewd ever to mistake such fiction for fact. A few perhaps will be thankful for the dispelling of this patriotic concoction; most, however, will probably choose to believe an error rather than weary themselves in investigating the truth.

If any one wishes to defend either of the pseudo-Zions that I claim to have annihilated, let him do so.

"Vive, vale. Si quid novisti rectius istis
Candidus imperti; si non his utere mecum."

W. F. BIRCH.

THE DEAD SEA.

SOME observations which seemed to point to one conclusion claiming my interest in the autumn of 1854, when I was twice at the southern end of the Dead Sea for the purposes of my Art, have since remained in my mind as indications of peculiar features in its geological formation, and as I have never met with references to them, I will now beg your permission to invite the attention of Mr. Hull, or of any future investigator of the district, in order to have the truth on the point raised satisfactorily explained.

I will tell the facts as they came to my notice. My first journey to the district was made from Jerusalem with Mr. W. Beamont, of Warrington, who wrote a very interesting diary of his visit to the Holy Land, entitled "Journey in the East." A third friend was his son, the Rev. W. J. Beamont, of Trinity College, Cambridge, since deceased. We arrived and pitched our tent on the plain amid the trees, which, as the lake widens two miles or so northward of Usdûm, are thick and about 20 feet or more in height. As there was still enough daylight remaining, we set off to the border of the sea for a bathe. On approaching the coast it was noticeable that the trees on the north-eastern curve of the bay stood closer to the margin of the water than they could have been when first they emerged from the soil, and that into the water itself the whole of the once living forest of tamarisks, junipers, acacias, &c., descended, leafless, dead, and stark. But although the engulfment had

been gradual, and probably the work of some seasons, the trees furthest away from the shore were still with branches unbroken, and even with stems and upper twigs intact until the depth hid them. It was a sight with immediate caution to the swimmer, and we took the hint to go two or three hundred yards more to the north. None of us had bathed before in the waters.

I think we were all good swimmers, but when I dashed in and threw myself forward to get out of my depth, there was enough to do without observing my friends. The unusual degree of buoyancy in the briny liquid threw me off my balance, the salt stung my eyes, ears, and every abrasion on my skin, and I could scarcely tell in what direction I was striking out until I found myself carried by a current into a mass of stiff boughs of trees far off from and still deeper engulfed than those visible from the land.

Making allowance for decrease of height from the carrying away by the waters of the upper twigs, the depth here to the bottom on which the trees stood must have been about 25 feet. The land had therefore sunk thus much since the trees were flourishing. So far, the fact was not for the neighbourhood a startling one. It was an encroachment of the sea on the land by the sinking of the latter.

Two months later I came to the same neighbourhood again to paint at the spot chosen for my landscape, which was two miles more to the south than the point where we had bathed. This time, for considerations of health, and being without friends with independent interests, I encamped under the castle built on the high crag between the divided torrent bed in the Wady Zurahthahta. Before sunrise each morning I started with one Arab, Suleiman, to cross the plain to the shore of the narrowest part of the sea. It was in a line drawn from the mouth of the wady to the north-eastern base of Usdûm, only deflected slightly at this spot to escape the irregularities near the foot of the mount as it passed on somewhat more southwardly to the margin of the lake.

Varying our path to some degree one morning, my attention, about midway between the wady and the mount, was arrested by a circular opening in the earth, 7 or 8 feet in diameter. It was clearly not a well, its position forbade such idea; but what would in any case have made this evident was that the aperture was not vertical, but oblique, sloping from north-west to south-east. The perforation was so clearly made that the layers of the alluvial soil, some of larger and some of smaller pebbles, were clearly defined in the sectional surface of the circumference. I asked Suleiman what this aperture was. He answered unhesitatingly that it had been caused by a falling star, and after the raw suspicion that he spoke thus with the ordinary love of the marvellous for matters beyond Arab ken, I saw that no other theory could amount for the conditions of the case. Time was too precious for me then to linger long, but on closer scrutiny on that occasion, and on subsequent mornings, I observed that the perforated earth was only a crust of upheaved sand of about 10 feet or so in thickness, and that below in all directions was a hollow

cave about 20 feet in depth without water at the bottom, where I could see the *débris* of the pierced alluvial crust. Unfortunately, my task was too difficult a one to allow me to spare the time for descending into the pit, and thus I could not investigate it except from above; but what I saw of the cavity suggested that the whole plain, having been formed by alluvial washings, had been raised from the bed below by volcanic force; that it remained thus while underwood and trees grew upon it; that it probably was impervious to the water of the Salt Sea, but that the weight of this was gradually pressing it with its growth down, as I had found was already done at the spot where my friends and I bathed two miles or so further north.

When I left the neighbourhood I had the intention of returning there to paint more of the extraordinary and grand scenery of the Dead Sea, but the Art world are slow to exhibit interest in what is not "stale as chimes to dwellers in the market place," and therefore I have never since found myself near enough to the beach of Usdûm to make further investigations into the facts given above. It will be a great satisfaction to me now if some one competent to determine their true significance and value will direct his attention to them.

London, June 1st, 1885.

HOLMAN HUST.

THE
PALESTINE EXPLORATION FUND

NOTES AND NEWS.

THE packet of papers and plans mentioned in the July *Quarterly Statement* as having been received from Herr Schumacher has been placed in the hands of the printers and engravers. The text has been carefully revised by Mr. Guy Le Strange, not in order to add anything to it or to subtract anything, but in order to anglicise a manuscript written in German-English. The volume is not yet quite ready, but may be expected in a few days. One copy will be forwarded to every subscriber who has already signified, or who will on the receipt of this *Quarterly Statement* signify his desire to possess it. It will be sent, post free, in order of application. A closer examination of Herr Schumacher's map and of his manuscript, together with an urgent request from the author, has made it necessary to change the title originally proposed. It will not be called "The Land of Jaulan," because that title, it is now perceived, would convey an incorrect impression of its contents, but "Across the Jordan," with a sub-title explaining that it is a record of exploration in parts of the Hauran and the Jaulan.

As regards the map, it should be mentioned that Herr Schumacher executed at the same time another survey of a district of equal extent to that done for us. This map, lying north of our portion, he has sent to the German Society for the Exploration of Palestine.

These explorations were made possible to Herr Schumacher by a permission to survey for a proposed railway, the observations, notes, drawings, and memoirs being executed during the course of his work. The triangulation has been found by Mr. Armstrong to fit very well with that of our own Surveys, and there has been no difficulty in laying down the map upon our sheets. A reduced map will be issued with the volume. The number of plans and drawings which illustrate the volume amount to nearly a hundred and fifty. With the volume will be reprinted Mr. Oliphant's and Mr. Guy Le Strange's papers on the country east of Jordan.

The Committee earnestly desire to draw attention to the very important Circular which has just been prepared and issued. It will be perceived that an opportunity is here presented for doing on a large and exhaustive scale what has hitherto hardly been attempted at all, namely, the collection of modern Syrian customs, usages, traditions, languages, legends, and manners. It is an inquiry

which will without doubt prove fruitful in Biblical illustration; the value of the results will depend entirely on the character of the question proposed; and it is *most earnestly hoped that every one interested in the subject, and able to assist*, will help the Committee to make this inquiry thoroughly comprehensive, and, with that view, will forward suggestions for questions. These should embrace everything, however apparently trivial, which concerns daily life, religion, tradition, arts, industries, and customs. A sub-committee will receive and arrange them under their various headings, and a beginning will be made as soon as possible. The results, if the Committee receive the support which they anticipate in this most important undertaking, should be to pour light upon many points which are at present obscure. The expense of the work will not, it is anticipated, be very great. On this branch of inquiry, as of the Survey, it may be most truly said that the old things are fast passing away, and that if they are not very soon collected and published they may be forgotten and hopelessly lost. The following is the Circular:—

“The Committee have long had under consideration the collection of all that has to do with the manners and customs of the present inhabitants of Palestine and other parts of Syria. Attempts have been made from time to time, by residents of the country, to do this, especially by M. Clermont-Ganneau, the Rev. A. Klein, the Rev. James Niel, Mrs. Finn, Miss Rogers, and the officers of the Survey. These attempts have been necessarily incomplete, and have done little more than indicate the extent and depth of the treasures which lie hidden among the peasantry of these lands.

“Before a serious attempt could be made to carry out this inquiry successfully, it was necessary first to find an organised machinery of agents, who should be directed by some competent persons in the country, under the Committee at home. It was next necessary that these agents should speak the language of the natives perfectly, so as to note differences and peculiarities of idiom; that they should be able to command their confidence, so that the women would converse with them and answer their questions; and that they should be persons of trained intelligence, who would know the questions that should be asked and the reasons for asking them.

“This machinery, with a large body of agents highly educated and intelligent, has now been placed at the disposition of the Committee.

“It remains, therefore, to draw up questions which these agents will be invited to ask.

“It will be possible to extend the inquiry simultaneously over the whole of the land covered by the Bible. That is to say, we may carry on our inquiry at the same time over Syria, Egypt, Cyprus, Asia Minor, the Hauran, the Valley of the Euphrates, and Armenia. It is, therefore, desirable to draw up the questions with as much fulness and covering as wide an area as possible.

“The subject divides itself into the following branches:—

1. Religion and Morals.
2. Land Tenure, the Village Commune, &c.
3. Archæology.
4. Ethnology.
5. Health and Disease.
6. Superstitions.

7. Legends and Traditions.
8. Language.
9. Agriculture, including Botany, &c.
10. The Daily Life.
11. Industries.
12. Arts and Architecture.
13. Amusements and Sports.
14. Birth and Marriage, Death and Burial Laws and Customs.
15. Usages still surviving, which illustrate the Bible.
16. Traces of the successive occupants of the Holy Land.
17. Modern and ancient Literature.
18. Proverbs.
19. Science.
20. Music.
21. Natural History.
22. Peculiar manners and customs not included under any of the above headings.

“The Committee, in the work of drawing up these questions, have resolved upon asking the assistance of the following scholars and Societies:—

1. The Companies of Revision of the Old and New Testament.
2. The contributors to Smith’s and Kitto’s Bible Dictionaries.
3. The British and Foreign Bible Society.
4. The Scottish National Bible Society.
5. The American Bible Society.
6. The Trinitarian Bible Society.
7. The Missionary Societies.
8. Zion College.
9. The Society of Biblical Archæology.
10. The Royal Geographical Society.
11. The Society of Antiquaries.
12. The Archæological Institute and the Archæological Association.
13. The President of the late American Society for the Exploration of Palestine.
14. The Universities of Great Britain and Ireland and the Colonies.
15. The Heads of Departments in the British Museum.
16. The Department of Science and Art, South Kensington.
17. The Royal Institute of Architects.
18. The Anthropological Institute.
19. The College of Physicians and the College of Surgeons.
20. The Folk Lore Society.
21. The Cambridge Philological Society.
22. The Royal Agricultural Society.
23. The Royal Horticultural Society.

“To these will be added the Archbishops and Bishops of the Church of England, those of the Episcopal Church in Scotland and Ireland, the Colonies and the United States, the Presidents of the Established Church of Scotland the Free Church, and the United Presbyterians, the Presidents of the Wesleyan, Congregational, Baptist, and other Nonconformist bodies in Great Britain, Ireland, the Colonies, and the United States, and the Chief Rabbi of Great

Britain, and, lastly, all scholars, archaeologists, and Biblical students who may be willing and able to render assistance and advice, with other societies, colleges, and institutions not included in the above which may also be usefully approached.

"We have, therefore, in communicating to you this preliminary announcement, to ask for your assistance and co-operation. We have also to call your attention to the magnitude of the enterprise, and to its great importance, whether considered from a Biblical or from any other point of view.

"We enclose a specimen page of questions. A form will be immediately prepared, and will be forwarded to you on application, and a sub-committee will be appointed for receiving, arranging, and finally preparing the questions.

W. EBOR, *President.*

JAMES GLAISHER, F.R.S., *Chairman of the Executive Committee.*

WALTER MORRISON, *Treasurer.*

WALTER BESANT, *Secretary.*"

Dr. Selah Merrill writes, on September 2nd :—

"The open space in front of the Mediterranean Hotel and the Barracks, or Castle, has been dug over during the past summer for the purpose of repaving the street, and some very interesting remains have been brought to light. The most interesting of all, however, is what I consider to be the actual remains of the second wall found between Duisburg's Store (formerly Spittler's) and the Jaffa Gate, at a depth of 15 feet below the surface of the ground; the stones are similar to the large bevelled stones in the Castle opposite. I will send you a plan of these ruins in a few days, perhaps by the next mail."

New editions of "Tent work in Palestine" and "Heth and Moab," Captain Conder's popular works, have been issued at 6s. each. Professor Hull's "Mount Seir" is also now ready at the same price.

Professor Hull's scientific Memoir on the Geology of Palestine is now in the press, and will be shortly issued. It will be uniform with the "Survey of Western Palestine."

Mr. H. Chichester Hart's Memoir on the Flora and Fauna of the Wâdy Arabah will also be issued as soon as possible in the same form and size.

A paper by the Rev. W. F. Birch on Acra has been unavoidably kept back until January.

As regards the copies which remain of the "Survey of Western Palestine," the friends of the Society are urged to get them placed in public libraries. The work will not be reprinted, and will never be sold by the Committee at a lower price; and as it becomes known, for the *only* scientific account of Western Palestine, it will certainly acquire a yearly increasing value. Five hundred were printed, and the type is now distributed.

The Palestine Pilgrims' Text Society has now in hand—(1) A translation of Procopius, that is to say, such parts as concern the buildings of Justinian. This has been annotated by Professor Hayter Lewis. It will also be illustrated by numerous drawings. (2) The Bordeaux Pilgrim, which is receiving notes from Sir Charles Wilson. (3) The Pilgrimage of the Abbot Daniel, which is translated and ready for the press. (4) The Travels of an early Persian Pilgrim, translated by Mr. Guy Le Strange.

The income of the Society, from June 17th to September 21st inclusive, was—from subscriptions and donations £168 12s., from all sources £247 5s. 5d., The expenditure during the same period was £498 12s. 10d. On October 1st the balance in the Banks was £167 16s. 7d.

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

- (1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects:—

The Survey of Western Palestine, as illustrating Bible History.

Palestine East of the Jordan.

The Jerusalem Excavations.

A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."

- (2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows:—

The Survey of Western Palestine.

Jerusalem.

The Hittites.

The Moabite Stone and other monuments.

- (3) The Rev. James Neil, formerly Incumbent of Christ Church, Jerusalem.

- (4) The Rev. George St. Clair, formerly Lecturer to the Society, is about to organise, by arrangement with the Committee, a course of lectures this winter on the work of the Society.
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PROFESSOR SOCIN ON THE SURVEY OF WESTERN PALESTINE.

IN the October number of the *Expositor*, Professor Socin, of Tübingen, contributes a paper called a "Critical Estimate of the Work of the Palestine Exploration Fund." It is not customary with us to reply to criticisms on our work, and in this case we should have refrained from comment on Professor Socin's remarks, except for the fact that certain observations of his, made in the most excellent spirit and with the best intentions, will, if not noted and answered, mislead his readers and our supporters. Professor Socin begins and ends his paper with a most courteous and friendly acknowledgment of the importance of the Society's work. "The Memoirs," he says, "by reason of the new material which they afford, will continue for decades to be the standard work from which Palestine research must set out."

Professor Socin's remarks deal first with the accuracy of the map; next with the Name Lists; thirdly, with Canon Tristram; fourthly, with Captain Conder; and lastly, with what he calls the Results of the Survey. He also touches on the discussions carried on in the *Quarterly Statement*.

(1.) As regards the accuracy of the map. It does not appear, when Professor Socin compares our map with that of M. Guérin, as if he exactly understands the main difference between our map and all other maps of Palestine. Ours is surveyed by triangulation; all others are constructed by some system of "dead reckoning." Now a triangulation is subject to an almost infallible test of accuracy. It is this. At the outset a base line is measured; at any part of the triangulation it is possible to measure by chain any of the lines the lengths of which have been obtained by calculation. The actual measured length should correspond with the calculated length. This has been done by our surveyors, and with most satisfactory results. As a matter of fact M. Guérin's book, which contains a few details not noted by our officers, does not contain one-half the number of names and places; while his map cannot pretend to scientific accuracy as to position, and as to watercourses, hills, and streams it is, and must be, practically useless. It is, in fact, impossible that one man working alone, and without scientific method, should produce a map in any way comparable to that surveyed by Royal Engineers.

(2.) Next as to the Name Lists. Professor Socin states that the "members of the Survey, who manifestly were not Arabic scholars, repeated the names which they had gathered to the scribe Kassatly, instead of his collecting them from the lips of the guides and natives." This is not by any means a correct way of describing the method followed, which was as follows:—The surveyors, in the course of their day's work, collected and wrote down in their own way—the guide being present—the names which they got from the natives. In the evening, on their return, each of them handed in to Captain Conder the day's list, which was gone through by Kassatly, *with the native guide*, and written down by him, or by Captain Conder at his dictation. The surveyors, therefore, had nothing to do

with the spelling of the names, for which Kassatly and the guides are responsible.

Next, as regards the list of the common place appellatives, which, according to Professor Socin, "must have been drawn up by one who had no knowledge of Arabic grammar." It was *drawn up by Professor Palmer himself*. It must, however, be understood that he set down, as was done in the map, not the literary Arabic at all, which was not wanted, but the fellahin Arabic. Thus, to take in order each one of the cases mentioned by Professor Socin. It is true that the plural of "Bâb" is not "buwâb;" it is "bawwâb." But the natives of Palestine, like the English, are not good at the double consonant. They do not say "bawwâb," but "buwâb." So also of the plural of *bickch*: they do not say *barak*, but *barâk*, and the popular plural of *tell* is, as stated in the list, *tollâl*. The ending *ch* is also given on the map as it was pronounced, which accounts for an occasional variation. And as regards the word *Sh'ailb*, it is written, as nearly as possible, as pronounced. The literary way would have been to write it *Shū'aib*, but in common speech the vowels at the beginning of a word are generally slurred over. The surveyors, in fact, set down the names as the people pronounce them. Thus, to take the last of Professor Socin's instances, *Khurbch*, or *Khurbet*, the literary name would be, *e.g.*, *Khurbeta Ainab*, which in the vulgar speech becomes *Khurbet Ainab*, and when the word is used by itself simply *Khurbch*, and as a rough rule for travellers who are not Arabic scholars it is quite correct to say that *Khurbch* in Palestine becomes *Khurbet* before a vowel.

A corresponding example has been suggested to me. On the Ordnance Survey of Oxfordshire will be found a place called *Shotover*. It is so set down because the people call it *Shotover*. Its original name is supposed to have been *Chateau vert*. Yet surely the surveyors were right in setting down the popular name. Again, on Dartmoor is a mountain called on the Survey maps *Hamilton Down*. The people call it *Hamildon*, or *Hamilton*, and so misled the surveyors, because its real name is *Hamil dun*, *i.e.*, I believe, the *Black Down*.

As regards Professor Socin's strictures on the etymologies proposed by Professor Palmer, the identifications proposed by Captain Conder or M. Ganneau, the Hebrew and Arabic of Canon Tristram, or the Tribe boundaries laid down by Mr. Trelawney Saunders, we have nothing at all to say. These gentlemen are, with one exception, quite able to defend themselves against any attacks which may be made on them. As regards that one exception, Professor Palmer's etymologies are on record, as his opinion, and will stand or fall as they are right or wrong, and as the common speech of the Syrian natives becomes better known. In his lifetime there was no better authority on the modern Syrian dialects. Professor Socin, however, raises one other point which commands attention from us. It has been the custom of the Committee to open the pages of its Journal to the free discussion of all points connected with the topography of the Holy Land, routes, itineraries, &c., connected with its history. The Journal has become the recognised—almost the only—organ

for the discussion of these points. It therefore happens that a great many pages may be devoted to the site, say, of Emmaus. This practice, Professor Socin points out, may lead to the general adoption of a wrong theory, or at all events of sites and routes which do not commend themselves to many scholars and students. This may possibly happen. But the best way to prevent it from happening is for every opinion to be represented. The *Quarterly Statement* is read by Palestine students over the whole world. If this is borne in mind by Professor Socin, he may himself perhaps be minded to prevent the spread of what he considers error.

The *work* of the Society, properly so-called—all that the Committee are called upon to defend—is the mass of *facts* which it has been able to amass and is still amassing. A practically impregnable map, for instance; an immense Name List, which may be added to and even revised: great discoveries in Jerusalem and elsewhere: a Geological Survey, not yet published: thousands of ruins sketched and surveyed,—this constitutes the work that has been done. But theories, etymologies, illustrations, tribe boundaries, and speculation generally do not constitute the work of the Society, and must not be criticised under that name. W. B.

NEW DISCOVERIES IN JERUSALEM.

BY SELAH MERRILL, D.D., LL.D.

DURING the past two or three months some very interesting tombs have been discovered in the western slope of the hill above Jeremiah's Grotto. As these appear to have direct connection with the church in that vicinity described by Captain Conder and Lieutenant Mantell in the *Quarterly Statement* for April, 1882, pp. 116-120, and further described by myself in the *Quarterly Statement* for October, 1883, pp. 238-242, the reader is referred to those two articles for the previous history of excavations in this quarter.

On page 241 (as above) I stated that the ruins appeared to extend under ground to the south-east and east of the point where the Mosaic floor (see page 239) was found, and spoke of the desirableness of the work of excavation being extended in those directions. During the past year (1884) this work has been done to a certain degree, and my supposition has been confirmed by the new facts disclosed.

There was found a short distance south-east of the Mosaic floor, the threshold of a door. This was 8 feet long and 4 feet above the level of the Mosaic floor, and may have belonged to a later structure, unless it was a window in the older structure, which does not seem possible. Its size and the work upon it give the impression that it formed an important part of some large building.

The watercourse described on page 239 was found to extend much farther to the east, and in fact it disappears again in the mass of rubbish beyond the limit of the excavations in that direction. Before it disappears it turns by nearly a right angle to the south, and at the angle there is a large basin, or rather a small reservoir, still quite perfect.

Some 30 feet east of the Mosaic floor, and beyond a thick wall which belonged to the later structure, the base of a column, in position, was found, and this, I should judge, evidently formed a part of the older of the two churches which I have described.

Just north of the point where this base of a column was found, the large roof of a later structure has fallen in, and above the centre of its arch, which in the collapse of the building was inverted, the *débris* is fully 10 feet deep. This ruined building, whatever it was, now forms part of the mound which has yet to a large extent to be excavated.

Twenty feet south-east of this base of a column a deep channel or passage was found to have been cut in the solid rock, apparently coming from the north, and turning a right angle towards the east, in both of which directions it is covered by the great mound of *débris* just mentioned. This passage has been followed down 10 or more feet. The rock walls are vertical, and the passage, which is uniform in width, is 2 feet wide. The rubbish or mound above the surface of the rock is 10 to 15 feet in depth. It will be very interesting to learn the object of this deep channel, and where it leads to. It will be understood that as the bottom of the channel has not yet been reached, I report only the depth to which the clearing has already extended. Perhaps I ought to say that excavations in this particular part of the ruin were suspended nearly a year ago.

Among other things brought to light is a section of a column 15 feet long, 33 inches in diameter, and of the same character as those described on page 241.

The distance from the Mosaic floor to the place where the newly discovered tombs are found is about 60 yards in a south-east direction. They were really discovered by accident. To enclose this large plot of ground, and thus separate it from the road leading up the Jeremiah-Grotto Hill, a high wall was built, and in digging for a foundation for this the workmen dug into the tombs in question. In fact, where the wall passes over them they are very near the surface of the ground, although the *débris* on their west side was 10 feet deep.

The five accompanying plans will give a pretty correct idea of the character of these tombs.

Figure No. 1 is a ground plan of the tombs, of which there are two storeys. The lower storey was covered partly by a roof and partly by the side tombs being cut under the overlying rock.

Figure No. 2 is a ground plan of the lower storey of tombs.

Figure No. 3 shows the vertical wall at the west end of the lower storey of tombs, and how the roof was fitted into the rock.

Figure No. 4 shows the form of the separate rooms, a side, the top, and the front of one of the rooms being removed for that purpose.

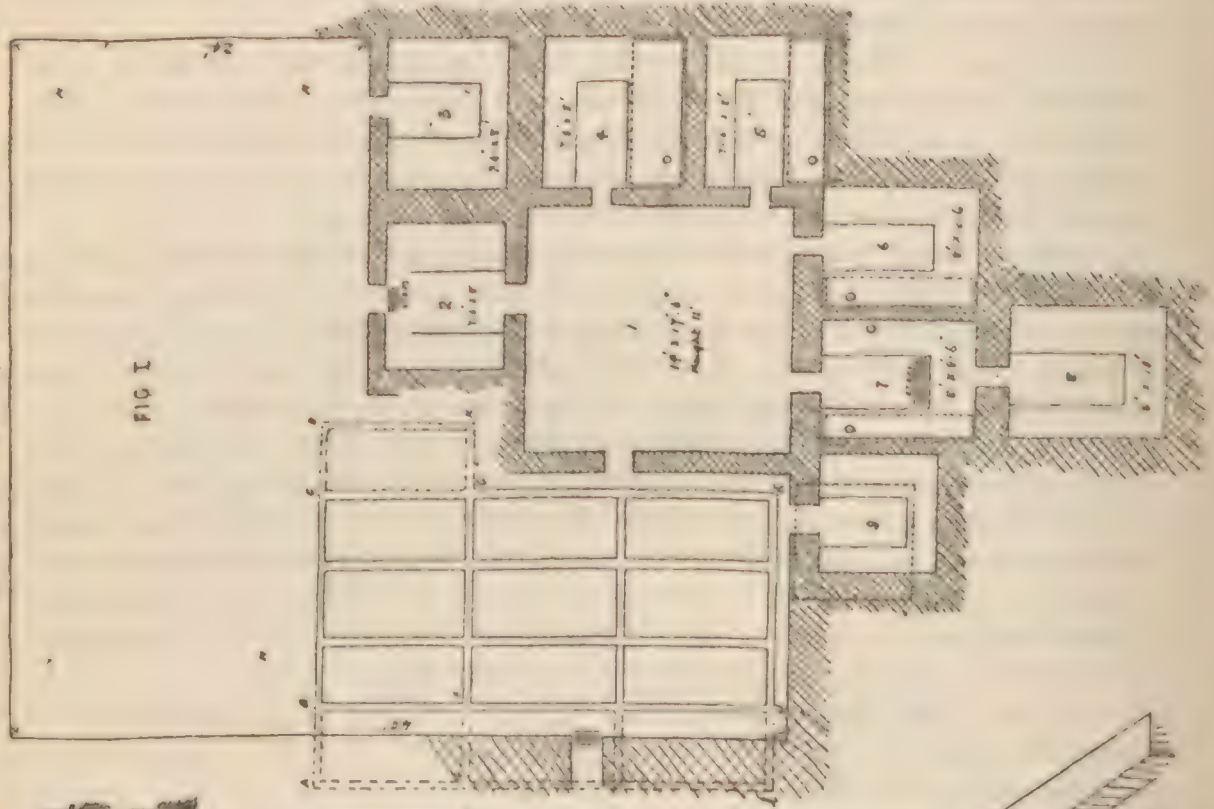
Figure No. 5 shows a curious device found in one or more of the tombs (but not in all, namely, a kind of wreath in relief where the head would naturally be placed. Singularly enough, in tomb No. 7 they are found both at the head and the foot. The tombs being of such unusual size it is possible that two bodies were laid on one side, or bench.

GROUND PLAN OF ROCK-CUT TOMBS RECENTLY DISCOVERED ON THE SKULL HILL, JERUSALEM.

FIG 3



FIG I



GROUND PLAN OF LOWER STOREY
FIG II

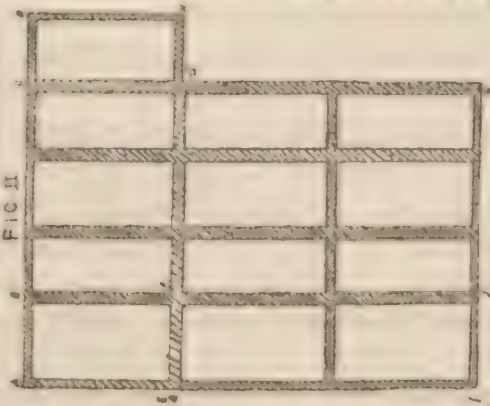


FIG 4.

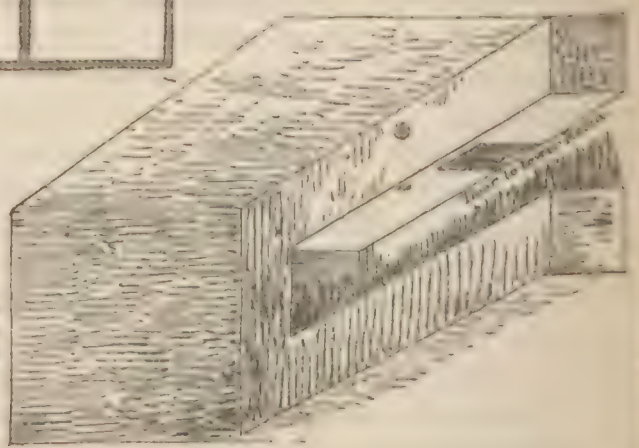
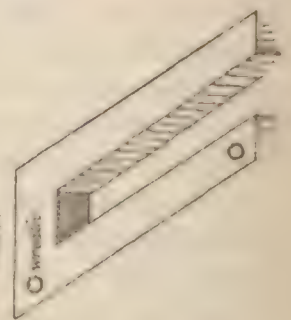


FIG 5.



Room No. 1, Fig. I, seems to have been a large hall or chapel from which the rooms surrounding it led off in different directions. These are numbered from 1 to 9, Fig. I. Underneath these, or portions of them, are other rooms, represented by dotted lines, which are not numbered. The floors of the different rooms are all on a level with the floor of the chapel, with the exception of 2, which is not certain, and No. 8. A person would leave room No. 1, enter the door of room No. 7, and after a few feet ascend four steps and enter room No. 8, which is on a higher level than the others. Room No. 8 is the largest of all the rooms surrounding No. 1, or the chapel.

Between rooms No. 3 and 4 there was a hole or passage, but it seems to have been caused by a subsequent breaking away of the rock rather than to have been a doorway in the original structure.

Underneath a portion of the structure there was a vault for thirteen bodies or sarcophagi, represented in Fig. I, partly by solid and partly by dotted lines, and marked by the letters *A, B, C, D, E, F, G, H, I, J, K*. This vault was so constructed that the portion *B, C, J, K*, was roofed over (*MM*, Fig. 3), while the parts *A, B, I, J*, and *C, D, G, H*, were cut under the rock as seen on the right and left in Fig. 3. These thirteen graves were arranged in three rows, five in the western row and four in each of the two others. On the right hand side (see Fig. II and Fig. 3), only one tomb, *C, D, G, H*, was cut under the rock. The reason doubtless was that the designers did not wish to weaken the walls and floor of room No. 1, Fig. I. The roof stones over *B, C, J, K* (Fig. i), were nicely fitted into the rock as seen in Fig. 3.

At *L* there was a large door, 3 feet wide and 6 feet high, with steps leading from the outside down upon the roof (*MM*, Fig. 3) over the vault *B, C, J, K*, Fig. I. This roof was on a level with the floor of room No. 1, Fig. I. The door at *L*, and that of room No. 1, were nearly opposite to each other. The roof over the vault being now broken in, we cannot say how one descended to it. This roof was 6 feet or 6½ feet above the floor of the vault.

In the vertical wall of the western end of the vault (Fig. 3), over the middle place or receptacle, there is a niche, and a corresponding niche in the eastern wall. These niches were directly opposite to each other, but there being only four receptacles in the eastern row, the niche in the eastern wall must of course have one receptacle on one side of it and two receptacles on the other side.

The south wall of room No. 2 has been broken away, but being so much above the level of the vault, neither the roof of that nor any portion of *C, D, G, H* were in any manner affected by it.

The large space on the west, *N, N, N, N*, appears like the bed of a quarry, the general level of which being the same as that of the roof over the vault. This bed slopes considerably, however, towards the south-west. The *Sibris* over this portion was 10 feet deep, and sloped upwards towards the hill above Jeremiah's Grotto. These tombs were excavated in the western or north-western slope of the Jeremiah-Grotto Hill, and the road by which one ordinarily ascends this hill passes over rooms No. 6, 7, and 8, Fig. I.

Underneath rooms No. 4, 5, 6, 7, and 9, Fig. I, smaller rooms are shown by dotted lines. That under room No. 9 is different in shape from the rest, and not quite perfect. With this exception these rooms are 4 feet wide, 3 feet high, and of the same length as the rooms above them. They are in each case on the right hand of the person entering the rooms. They were entered by doors $2\frac{1}{2}$ feet high, and of nearly the same width, cut in the vertical walls of the benches above them (Fig. 4). In the benches above the small rooms there was in each case a large hole marked by a circle in rooms Nos. 4, 5, 6, and 7, Fig. I. The actual arrangement is best seen in Fig. 4, which shows the interior of one of these rooms, the top, one side, and the front being removed so that the three benches for bodies or sarcophagi can be seen, also the passage into the room, the door in the vertical wall of the bench at the right hand leading to the small room and the hole in the bench above the small room. Room No. 7 has two such holes. (For what were these holes designed?—for ventilation? The Arabs say that they were made so that the dead could speak to each other.)

The walls in all the rooms are vertical, and the ceilings horizontal. This remark is intended to imply that there are no arches lengthways of the rooms, as are found in some tombs, over the benches where the bodies or sarcophagi were placed.

Room No. 8, Fig. I, is noticeable by its size, being larger than any of the others surrounding the chapel. I have explained above that it is on a higher level than the others. Moreover, the places for bodies in front and on the right and left hand were not benches as in the case of the other rooms (see Fig. 4), but open boxes like very large sarcophagi. The lids had been removed, whether by the present workmen or in former times I cannot say. Sarcophagi with their own proper lids may have been placed in these stone boxes.

It is reported that crosses have been found, but I saw none, and none were pointed out to me. Likewise, that inscriptions were found in connection with the broken sarcophagi. These had been removed and taken out of the country (so I was told). It may be, however, that, if they really existed, they were simply concealed in Jerusalem, and jealously guarded by the Latins to whom the place now belongs. I may say in passing that my visits, I felt, were looked upon with suspicion, hence I made my observations as quickly as possible and withdrew so as to avoid giving offence.

Great quantities of bones were found and carefully preserved in boxes. They may hereafter serve some priestly or churchly purpose when the place and time have been prepared for their use.

In the middle receptacle of the western row of graves, over which I have said that there existed a niche, there is a part, perhaps one-half, of a sarcophagus still remaining, and it may be that sarcophagi were placed in all these thirteen receptacles. Perhaps it will be understood without my saying it that what I have called receptacles are sunk in the solid rock.

Owing to a fact which I have alluded to above, my measurements were not minutely exact, but sufficiently so, I trust, for all practical purposes, and I will give some of them in detail. Room No. 1, which I have called a chapel,

is 14 feet by 17 feet 6 inches, and 11 feet high. Room No. 2 is broken, and the same is true of room No. 3, but the latter was 7 feet 6 inches by 8 feet. There was here also, as in some of the other rooms, the small room under the right hand bench. This I have indicated by dotted lines because the room was not absolutely perfect. Its construction, however, was like the others. Rooms No. 4 and 5 were each 7 feet 6 inches by 8 feet, and 6 feet high. Rooms No. 6 and 7 were a little larger, being 8 feet by 8 feet 6 inches, and 8 feet high. Room No. 8 was 8 feet by 10 feet, and 9 feet high, being, as I have said, the most spacious of all those surrounding the chapel. The doors of these different rooms were 6 feet high and about 3 feet wide. The width from wall to wall across the western row of receptacles (see Fig. 3) was 17 feet 6 inches. The entire length of the three rows of receptacles I did not get. The distance from the broken western wall of room No. 3 to the western side of the space marked *N, N, N, N*, is 24 feet, and that from the north to the south side of the same space is 48 feet.

Since the 1st of July of the present year the work of clearing away the rubbish has ceased, and forty or fifty workmen have been busily employed in erecting some sort of a chapel or church over the entire space marked in the plan. My plan, however, is of the ruin as I saw it before the building was commenced. Some parts will necessarily be walled in, but doubtless the idea is to preserve the tombs intact as far as possible.

It may be that some of those who read this article will have seen the model of the Golgotha Hill prepared by General Gordon, and if so they will be interested to know that the tomb represented on the side of that model is only ten yards distant from room No. 8 in my plan. Otherwise the tombs have no apparent connection.

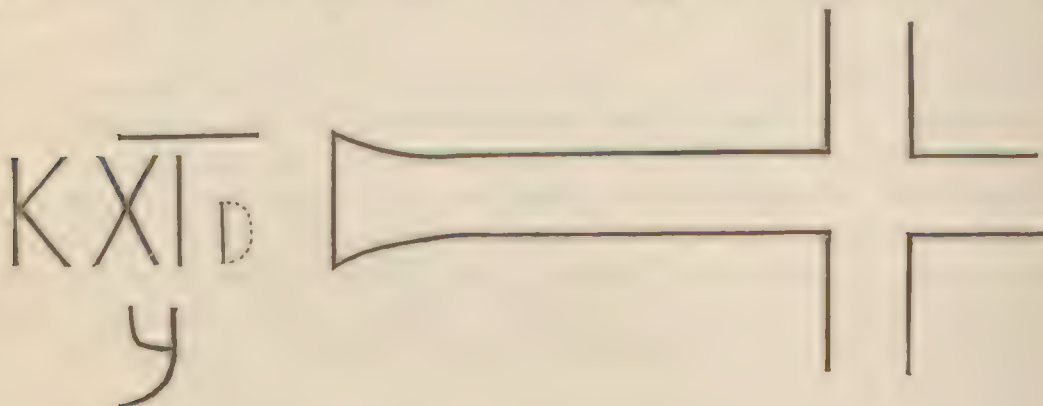
These newly discovered tombs appear to be Christian and not Jewish. It is well known that after the reputed discovery of the body of St. Stephen a magnificent church was erected to his memory by the Empress Eudocia, the wife of Theodosius the younger. The church was dedicated in A.D. 460, and the Empress herself was buried in it. This church was on the north of the city not far from the present Damascus Gate, which for ten centuries subsequent to this event bore the name of St. Peter's Gate. The church was built on the supposed place of the martyrdom of St. Stephen.

Jerusalem, August 18th, 1885.

POSTSCRIPT.

Since excavations in this particular quarter are assuming, as will be seen by the foregoing article, special importance, I would like to add a note to my description of the two churches which appeared in the *Quarterly Statement* for October, 1883; for the reason that on page 240 a singular mistake has somehow been made. It is in connection with the inscription which I found in the tomb near the Mosaic floor. As printed, two horizontal bars appear before, that is, on the left hand of the inscription, which I certainly did not place there. Two lines below the inscription I wrote: "extends from the 'X' to the small character at the end;" and instead

of inserting the letter or character "X," the printer has substituted the word "cross," which makes a bad mess with the sense I intended to convey. To set matters right it will be necessary to reproduce the inscription and the left hand bar of the cross as follows. It will be understood that the large cross was on the right hand of the inscription to one facing it.



NOTES BY CAPTAIN CONDER.

I HAVE just got the *Quarterly Statement* for July, and though very busy with boundary and land questions here, I should like to send you a note or two. It is a valuable number, and I am only sorry not to have seen the two preceding.

On page 154 I should like to say that though the proposed sites for Golan and Alema are possible, the suggestion of *'Arküb or Rahwah* for Argob is inadmissible. It has only the B and the R in common, and *'Arküb* is the common word for a "ridge." The Arabic for Argob would be Arjib or Rujib, and such places as Kefr Arjib and the northern Rujib are more suitable. Argob was, however, east of Golan to the best of my remembrance.

On page 159, I think the hot springs near Pella were probably some of those further north at Gadara. The whole of the paper by Mr. Guy le Strange is most interesting. Perhaps he may have noticed whether there are any mason's marks on the masonry at Kala't er Rubud, which would settle the Crusading origin which I always attributed to this castle, which I have only seen in the distance, but which Mr. Tyrwhitt Drake visited and considered Crusading.

Page 183.—The so-called altar at Zorah resembles many rock cuttings familiar to explorers in Palestine, which result from the quarrying of stone. Manoah would hardly have used an altar of cut stone.

Page 184.—The objection as to En Rogel raises the question of the dates and authorship of Old Testament books, which is evidently not one to be discussed in the *Quarterly Statement*.

Page 181.—Mr. Drake and I, in 1873, found what we took to be an overturned Dohmen in Judea, near the village of Jeb'a (Gibeah of

Benjamin), and I have noticed possible traces of others in "Heth and Moab."




I find some difficulty in bridging the gap which seems to me to occur so often in Mr. Birch's arguments between the proposition and the "therefore." He says I am wrong in saying that later kings built a wall round Ophel, but I think the Bible mentions these kings by name. He says he has proved Hinnom to be the Kedron, but if he has done so to his own satisfaction, he has not convinced other writers. Mr. Birch seems to me to forget how often he has changed his own views when he is severe on others for inconsistency. He might, perhaps, not think it worth while to read what I have recently said on the controversies, in the Jerusalem volume, and in my Primer of Bible Geography. At any rate, Mr. Birch admits the impossibility of confining ancient Jerusalem to the small area on Ophel, and if he agrees that David and Solomon walled in the Upper City, his views as to the limitation of the words Zion and City of David are of secondary importance. I hold Zion to be the poetical name of Jerusalem, and the City of David to be the Jerusalem of David's time. All I am really interested in is the defeat of a new heresy which seems to me mischievous and absurd, namely, that the Jerusalem of David and Ezra was confined to the narrow ridge south of the Temple. Such an idea cannot be reconciled with the Book of Ezra, or with earlier biblical books, and represents the *reductio ad absurdum* of Jerusalem controversy.







C. R. CONDER, *Captain R.E.*

Taunys, Bechuanaland,
August 18th, 1885.

NOTES.

I. THROUGH the kindness of Professor Maspero I am able to correct one point in my note (*Quarterly Statement*, 1885, p. 108) on the identification of the important point Berothah or Berothai, on the northern frontier of David's kingdom.

The name of the place No. 141 in the Karnak List, as given by M. Golenischeff in his corrected readings (*Zeit. f. Ägypt. Spr.*, 1882, p. 145 *and plate*) is imperfect in its first hieroglyphic sign, which appeared to me to be  = *b*. But M. Maspero has since read it on the pylon at Karnak as , *i.e.*, , so that the name is not Buresu, but Zuresu. This, however, does not affect my proposal to identify Berothah with Brist in the wady where M. Pognon found the rock-inscriptions of Nebuchadrezzar.

II. In my short article in the April *Quarterly* on Exploration in the Nile Delta there are a few insignificant misprints which every reader will correct for himself; but one needs explicit notice. On page 115, for    read   , the last sign being the determinative, a serpent,

HENRY GEORGE TOMKINS.

I LAST week forwarded you tracings of plan of the recently discovered Zorah altar. That it is "strongly suggestive" of the passage Judges xiii, 19, 20, is undeniable.

I would now merely call attention to the fact that "the great stone of Abel," which appears to have marked the limit or boundary between the Beth Shemesh lands and the Philistine territory (1 Sam. vi, 12-19) could not have been far distant. The shrine of Abu M'asar at Ain Shems (Beth Shemesh) is boldly visible from the altar, and about three-quarters of an hour's walk distant (at the furthest) in a south-west direction.

Standing on the hill-sides close to Zorah, with the altar and Ain Shems in full view, the two old narratives seem to assume new and living proportions, and blend and dovetail wonderfully at the spot where stands the lately found sacrificial monument.

In conclusion, I would mention that the German Exploration Society have excavated the altar, the total height of which is 2 metres. I believe that excavations are still being carried on at Artouf for the same Society.

J. E. HANAUER.

A FEW weeks ago I had to survey a part of the interior of *Tiberias*, and found by chance a small column of white marble 1 foot 5 inches long and 9 inches in diameter, which was just dug out in the garden of the Greek convent in the extreme south of the town, and which bears the following Hebrew inscription:—

זאתם צבת אלהים
 ריזאזע נפואה נח
 לחתם נזשת קמ

I am not a Hebrew scholar, but I was told that it bears the date 4148, and was a gravestone.

I have also looked with interest into the large circular vaults which border *Tiberias* from the sea side, and are built close to the city wall of the east and south. They are not built very carefully, but are strong and very spacious. Their building area must be that of this last city wall and fortress. The city wall on the sea side is generally 10 feet 2 inches thick. The new Greek convent will now be built on top of its south-eastern corner, and the partly sunk round corner tower there will be restored.

Haifa, July 31st, 1885.

G. SCHUMACHER.

A NATURALIST'S JOURNEY TO SINAI, PETRA, AND
SOUTH PALESTINE.

BY H. CHICHESTER HART.

CHAPTER I.

INTRODUCTORY.

EARLY in the summer of 1883 my friend Professor Hull, Director of the Geological Survey of Ireland, proposed to me that I should accompany him as a volunteer on a geological and surveying expedition to Sinai and the Dead Sea, of which he was about to take the leadership under the auspices of the Palestine Exploration Society.

With the main object of studying the botany of this region, and as far as possible also other branches of its natural history, I accepted this friendly offer. I was chiefly induced to do so by the assurance I received from Professor Oliver, of Kew, that, whatever our Continental brethren may have accomplished, few British botanists had as yet turned their attention to Sinai. He at the same time promised his valuable assistance in the determination of my specimens upon my return—a promise since fulfilled in a manner which entitles him to my sincerest thanks. Another welcome consideration which helped to determine me was that of a grant of money from the Scientific Fund of the Royal Irish Academy.

I feel bound to take this earliest opportunity of expressing my grateful sense of the courtesy of the Rev. Canon Tristram, the well-known authority on the Natural History of Palestine, who has helped me with his advice before starting, and his scientific assistance since my return. To him the determination of my species of birds, as well as of land and freshwater molluscs, is almost entirely due, and his recent work on the "Fauna and Flora of Western Palestine" has been continually consulted in preparing the present account.

To Dr. Gunther, F.R.S., and to Messrs. Waterhouse and Thomas, of the British Museum, my thanks are due for the naming of other smaller collections of mammals, reptiles, and beetles. Mr. Edgar Smith, of the Conchological Department, has also been good enough to render me as much assistance as his duties would permit in searching for information on the Mollusc-fauna of the Red Sea.

To Mons. Edmond Boissier, the eminent Swiss botanist and author of the invaluable "Flora Orientalis," I desire to tender my warmest acknowledgments. He has very kindly determined for me some of the more intricate genera, which his unrivalled knowledge and extensive Oriental herbarium enable him to deal with satisfactorily. Of Mons. Boissier's "Flora Orientalis" I have constantly availed myself in dealing with the flora of Sinai. Botanists whose inclinations turn, as mine do, to the geographical distribution of plants will find this work, which is now complete, a perfect storehouse of information.

Reference must here be made to the Ordnance Survey of Sinai, published in 1869, where much valuable information on the physical features and natural history of the Peninsula will be found, especially in the appendices by Mr. Wyatt. An interesting paper by Mr. Lowne, on the Flora of Sinai, in the *Journal of the Linnean Society* for 1865, may also be referred to; his nomenclature, however, differs widely from that at present adopted. There is little other botanical literature available; Decaisne's *Florula Sinaitica*, published in the "*Annales des Sciences Naturelles*" in 1836, in which many new species are described, is difficult to obtain separately; it is, however, very valuable, but the collections of Schimper and others, distributed throughout the herbaria of Europe, and duly recorded in Boissier's "*Flora Orientalis*," have nearly doubled Decaisne's original total.

I desire also to express my gratitude to Mr. A. G. More, the well-known naturalist in charge of the Natural History Department of the Museum of Science and Art in Dublin, who has been always most good-natured in rendering me advice and assistance as far as lay in his power.

I must not omit to acknowledge the judicious and kindly guidance by which (with the assistance of our most efficient interpreter and conductor, Bernard Heilpern) Professor Hull brought our travels to a safe conclusion. In a volume recently published by the Society, Professor Hull has given the public an account of our experiences, and to it, and its Appendix by Major Kitchener, the reader may turn for fuller geological, geographical, and other information relative to our explorations. To the other members of our party, for their continual kindness in obtaining specimens for me, I shall feel for ever grateful.

In these pages, which owe their appearance to the liberality of the same Society, I propose in the first place to give a running account of the collections made in the order in which they were gathered, with such extracts from my journal as may serve to illustrate them. Afterwards I will enumerate in detail the various species which I have identified, and conclude with an endeavour to give a full account and analysis of the Flora of Sinai, or rather of the Sinaitic peninsula of Arabia Petraea.

For the systematic list of plants, with their localities, I refer my readers to the Transactions of the Royal Irish Academy, where descriptions of the new species with figures will be found. The specimens themselves are in the Herbaria of Kew and the British Museum.

CHAPTER II.

AIN MUSA TO WÂDY LEBWEH.

HAVING left Suez on Saturday, November 10th, 1883, we took up our quarters till Monday at Ain Musa, the usual starting place for Sinai. A description of the gardens here, with the introduced plants found about them, has been given by Mons. Barbey, in his recent volume "*Herborisations au Levant*," who visited them at a more auspicious season. His tour did not elsewhere cover the ground we visited till reaching Bir es Seba.

At Ain Musa my hopes fell to a low ebb. With the exception of a couple of showy flowering shrubs (*Lantana camara* Linn., and *Cassia bicapsularis* Linn.) in the gardens of date palm, bounded by prickly pear, there appeared to be hardly a vestige of unwithered vegetable life. Closer inspection, however, yielded dead flowers and ripe seed capsules of several species, all of which were carefully preserved for comparison with subsequent gatherings. One species, *Ceratophyllum demersum* L., found drifting in the gulf, and probably derived from the canal, was not met with again. A prostrate prickly grass in the sandy stony flat between the wells (*Ain Musa*) of Moses and the gulf has been named for me by Mons. Boissier, *Sporobolus spicatus* Vahl.

In these enclosures, and around their edges, were bushes of tamarisks and "ghurkūd," *Tamarix nilotica* Ehr., *T. articulata* Vahl. (l), and *Nitraria tridentata* Desf. The latter is a prickly, fleshy-leaved shrub with small orange berries, greedily eaten by camels. It belongs to the "bean-caper" family (Zygophyllaceæ), well represented in the desert.

From one of the wells numerous univalves, all of one species, *Melania tuberculata* Mull., were obtained. The net produced nothing else except the larvæ of a gnat. A chameleon (*Chamaeleo vulgaris* Linn.) and a small very nimble brown lizard (*Eremias gutta-lineata*) were captured close by. The former was pointed out to me by a Bedouin on a stunted palm-tree, else I should assuredly have passed it by, so closely did it resemble the branch along which it clung.

The chief attraction at this oasis was in the birds, of which several species were obtained. Amongst these were the white wagtail and the willow-wren (*Motacilla alba* Linn., and *Phylloscopus rufus* Bechst.) A buff-backed heron, *Ardeola russata* Wagl., was seen but not shot: this is the bird which does duty for the "white ibis" amongst visitors. A little cock-tailed warbler with a song and habit of a wren, *Drymonia inquieta* Rapp, as well as the blue-throated robin, *Cyanocula cyaneoculus* Pall. (the one with the entire blue throat), was shot here.

Across the sand to the shores of the gulf many kinds of sea shell were gathered. A detailed account of these, as well as of those obtained at Akaba, will be given later on. Few specimens worth preserving were met with, but they were for the most part identifiable. At the water's edge a stork gave me a long shot, and several dunlins were flying about.

At evening the air was filled with the attractive notes of species of cicada, and the quaint call of an owl (*Athene meridionalis* Risso.), the "boomey" of the Arabs, was for the first time heard.

Insect life was almost suspended, but a few small beetles (*Adesmia*, *Acis*), ants (*Camponotus*), and a spider or two, as well as a torpid scorpion, were captured about here, and between this and Wādy Nusb.

Excepting at wells, met with at rare intervals, life of all kinds was very scarce in this lower desert portion of Sinai. The appearance of a bird within a quarter of a mile in these wastes was a signal for a general call to arms amongst the gunners, and the gurgling sound of the Bedouin camel-driver summoned his obstinate beast to kneel and let

his rider dismount and stalk a distant Egyptian vulture or a raven. These two birds, *Neophron percnopterus* Linn. and *Corvus ambrinus* Hebnb., were frequently in sight, but rarely in range.

After a day or two, when my Bedouin lad, Khalil, had discovered which of us two was master, I generally travelled on foot, letting my camel-driver keep me in view till wanted. For this interesting and faithful son of the desert I conceived a great liking. This feeling towards the Arabs is very frequently indulged in by inexperienced travellers in the East.

As fast as I made gatherings, I was able to deposit them on the back of my admirable beast of burthen. For this purpose I had two sets of camel bags and drying boards, as well as multifarious swinging gear; guns, spy-glass, water-bottle, shoulder-bag, spirit cylinder, portfolios, insect box, *et hoc genus omne*.

The country traversed was of gravel and sand, with occasional outcrops of limestone. This limestone sand is sometimes finely and regularly granulated, as near Wady Sudr, a condition not observed by us in other parts of Sinai. The view of the Jebel Rahah mountains across the Gulf of Suez was superb.

Our direction lay nearly parallel to this arm of the Red Sea, gradually widening the distance between us and the coast-line. The sky was of a brilliant blue, and the temperature rarely hot enough to make walking disagreeable. The following plants were observed in Wady Sudr:—*Zilla myoprioides* Desf., *Retama retam* Forsk., *Alhagi maurorum* D.C., *Acacia Seyal* Del., *Desorra tortuosa* Gortn., *Anabasis articulata* Forsk., *Resamaria vermicularis* Linn. (*R. palestina* Boiss.), *Fagonia cretica* Linn., var. *glutinosa* et vars., *Erodium glaucophyllum* Ait., *Citrullus colocynthis* Lohr., *Artemisia judaica* Linn., *Ochrosperma gracilens* S. Bip., *Gymnocarpus fruticosus* Pers., *Paronychia desertorum* Boiss., *Atrua javanica* Juss., *Hediotropium lateum* Poir., *Aristida obtusa* Del. Most of these are strictly desert species of continual occurrence in the lower parts of the peninsula, and will seldom again be referred to. In Wady Sudr *Farsolia aegyptiaca* Turr. and *Anabasis setifera* Moq. were also obtained.

The *Citrullus* bore its ripe fruit, orange coloured and about the size of a billiard ball, trailing on the gravel and sand in many places.¹ The felted *Atrua* was laden with tassels of wool, the remains of its withered inflorescence; the variety, with narrower leaves and more rigid habit,

¹ The Arabs use this species (the colocynth) as a purgative. A fruit is split into halves, the seeds scooped out, and the two cavities filled with milk; after allowing it to stand for some time, the liquid, which has absorbed some of the active principle of the plant, is drunk off. I refer my readers for further valuable information of this nature to an article in the *British Medical Journal* of April 11, 1885, by my friend and companion, Dr. Gordon Hull. I trust he will forgive me for correcting an error into which I unfortunately led him. The plant which he speaks of "with short succulent jointed segments" as being very common and used for sore eyes is not *Zygophyllum* but *Anabasis* (*Salsola*) *articulata*.

occurred later on. *Acacia Seyal* was a revelation of spinousness whose branches even the camel can only nibble with care. It is a low flat-topped bush, often only 4 or 5 feet high, but with a trunk of considerable thickness.

A *Matthiola*, probably *M. arabica* Boiss., occurred, and a large cabbage-leaved sticky *Hyoscyamus*, *H. muticus* Linn., with showy yellow and purple veined flowers, was pointed out to me as the "Sekkaran" which the Arabs are said to inhale in their narghilis as an intoxicant.

The pretty little woolly *Reaumuria*, with its densely imbricated leaves, was, after much searching, found in blow at last. A wiry, nearly leafless *Deverra* was in full flower and seed, with a strong but not unpleasant smell of fennel.

The marked characteristics of these desert plants soon become familiar. They have usually a whitened appearance, which was perhaps somewhat heightened at the season of my visit. This is due to woolliness, or scabiness, or some other colouring integument, and is frequently accompanied by heavy odours, succulent or glaucous foliage. Spines, prickles, hooked or clinging hairs are also characteristic, and the whole plant is not unfrequently found to be steeped in a strong viscid exudation. Noteworthy instances of the above peculiarities will be given farther on.

Of the Sinaitic mountains, no part was as yet visible; we were however gradually rising above sea-level, and with the cooler atmosphere there was a steady increase also in the quantity of vegetation. A very fragrant bushy *Artemisia*, *A. santolina* Linn., had become frequent, and is subsequently one of the most characteristic plants of the flat wâdies.

In Wâdy Sudr *Cleome arabica* Linn., *Pennisetum dichotomum* Del., and *Elionurus hirsutus* Vahl. were secured in good condition, except the latter grass, which is so closely eaten by camels that it is hard to obtain good specimens.

Anabasis articulata Forsk. is a prevalent low-sized species; its dried twigs are always topped by a few scales, the remains of the floral envelopes. These are occasionally a showy red or claret colour, and give a brilliant effect, sometimes equalling that of red heather at a distance. It is perhaps the commonest species throughout Sinai; *Gymnocarpum fruticosum* Forsk., however, is nearly as abundant. The *Anabasis*, whose slenderer twigs are, I believe, all lost and withered at this season, accumulates round its roots blown hillocks of sand a couple of feet high, favourite hiding places for lizards, and burrowing ground for ants and the smaller rodents. The Bedouins called this plant "Erimth."

The vegetation is scattered in tufts amongst the sand and gravel; except in the occasionally moistened wâdy beds these tufts are usually isolated and often far apart.

On the 13th, at about 350 feet above sea-level, we entered a bed of chalk intermixed with white marls strewed with chert, fossils, and selenite. We reached Ghurundel by moonlight. Tamarisks and palms (*Tamarix nilotica* Pall., *Phoenix dactylifera* Linn.) form here a pleasant grove; Zilla, *Nitraria*, and most of the species above mentioned, are plentiful.

At Wâdy Ghurundel ("Elim")¹ I obtained some fresh species of birds. Of these *Saricola isabellina* Rapp (Menetries' Wheatear) was several times seen and shot. The "Persian lark" (*Certhilauda alaudipes* Desf.) and the striolated bunting (*Emberiza striolata* Licht.) were obtained, only single specimens being as yet seen and secured of each. Ravens and willow-wrens tenanted this wâdy.

The first large quadruped's tracks were pointed out by the Arabs; they exclaimed "dhaba"—that is to say, "hyæna."

Another lizard, *Agama ruderata* Riv., and a skink, *Sphaerops capistratus* Wagl., were captured here. The latter I found on kicking to pieces an ant-hill, the home of a species of *Camponotus*, *C. pubescens*. This lizard was afterwards very common throughout Sinai to the Dead Sea. He was easy to catch, and his comical habit of standing at bay with his tail cocked and his disproportionately large jaws wide open was instructive; no doubt it terrified troops of smaller foes. Like most true natives of the desert he was sand-coloured, though the tail has some dull blackish rings. Another lizard, *Eremias guttata*, was most difficult to catch; by pelting him with handfuls of sand, which confuses and stops his movements for an instant, combined with a sudden rush, it may be done.

The rock here is a white cretaceous limestone. The bed of the wâdy is cut deeply into marly deposits, leaving sheer mud-banks sometimes 8 feet high. The bed of this periodic stream was now perfectly dry. From the appearance of these deposits, and those in other places, Professor Hull considered there was evidence of a much greater rainfall in recent times.

On the tamarisk branches a curious buff-coloured chrysalis-like appendage was frequently observed. It was about the consistency of tough paper half an inch long, but more brittle, and proved to be the egg case of a species of Mantis. A large black beetle, *Prionotheca coronata* Oliv., was the only large insect found in Wâdy Ghurundel.

Several plants were here first met with; the most conspicuous were a shrubby mignonette, *Ochradenus baccatus* Del., thenceforward characteristic of the lower desert wâdies, and sometimes, where protected by acacia trees from camels, 6 or 8 feet high.

Here or nearer to Wâdy Useit I noticed for the first time a second species of acacia, *A. tortilis* Hayne, less spiny and usually larger and more upright than *A. Seyal* L. I met only these two acacias in the peninsula, but I found a third and much finer one (*A. lata* R. Br.) at the south end of the Dead Sea. *A. nilotica* Del. also occurs in Sinai. *A. tortilis* is commoner in the Arabah than elsewhere.

Other species were—*Cucumis prophetarum* Linn., *Polycarpha fragilis* Del., *P. prostrata* Dene., *Zygophyllum album* Linn., *Fagonia cretica* Linn.,

¹ This wâdy must not be confounded with others of the same name in Sinai and Edom. A notable instance of confusion occurs in the ninth chapter of the English translation of Laborde's "Arabia Petraea," 1836, where the translator quotes several pages of description of the present wâdy from Burchhardt, to illustrate Laborde's short and correct mention of Wâdy Ghurundel near Petra.

var. *arabica*, *Lithospermum callosam* Linn., *Cressa cretica* Linn., *Euphorbia cornuta* Pers., *Juncus maritimus* Linn., β *arabicus*, *Typha angustata* B. & C., *Cynodon dactylon* Pers., *Phragmites communis* Linn., var. *gigantea*. This latter species, which reaches a height of 10 or 12 feet with its erect plume of floescence, is a truly handsome grass. It appears to have frequently done duty for *Arundo Donax* L. in Sinai.

Many withered Chenopods occurred here, the identifiable species being *Suaeda vermiculata* Forsk., *Atriplex leucoclada* Boiss., *A. halimus* Linn., *Anabasis setifera* Moq., and *A. (Salsola) articulata* Forsk. At Wady Useit occurred a little grove of date palms, some of them at least 40 feet high. There is only one other species, the doum palm (*Hyphane thobaica* Del.), in Sinai. It occurs near Akaba and at Tor.

From about Wady Saal small burrows, from the size of a small rabbit-hole to the little perforation of a species of ant, *Crematogaster compressa* Fab., become numerous. These belong chiefly to species of *Acomys*, *Gerbillus* and *Psammomys*, but it was some time before I succeeded in capturing any of these animals. On several occasions I saw individuals of the Gerbille genus of sand-rats. These animals usually burrowed in the sand-hills accumulated about the stumps of anabasis and tamarisk; their abundance here was as nothing compared with their numbers in the Wady Arabah later on. Jerboas were not seen in Sinai.

At night in the dinner tent our lights usually attract a few nocturnal insects, which I capture from time to time.

A hornet, *Vespa orientalis* Linn., is the only insect frequently to be seen in the day-time. Nature rests herself in the desert almost as thoroughly as in an Arctic winter; in the latter case she sleeps during an excessive cold, in the former she exhausts her strength during an extreme heat. Nevertheless many late flowering plants still occasionally hold their petals and it will not be many days ere we gather the first harbingers of spring. Possibly these latter should be called hybernal. A few species, as *Cleome arabica* Linn., are in their prime at present for examination, being in full flower and fruit. This *Cleome* is one of the most viscid plants met with, taking many weeks to dry, and never shaking off the adhering sand. It has small deep purple flowers and longish pods.

A black snake, probably *Zamenis atrovirens* Shaw, var. *carbonarius*, was killed here, but I was informed it was last seen with the cook. Whether it subsequently passed under examination in the dinner tent I cannot say, but I never succeeded in identifying it.

Desert larks representing three genera have been obtained; one of these, *Certhilauda*, has been already mentioned. Other two, *Ammomanes deserti* Licht., and *Alauda isabellina* Bonap., were also shot. The latter is one of the most frequently met with of the true inhabitants of the desert. The Persian lark (*Certhilauda desertorum* Rupt.), a bird about the size of our song-thrush, has a low sweet song, uttered while on the ground, and not much stronger than or unlike our robin's winter warble. A large and handsome black and white chat (*Sarricola monacha* Temm.) was shot in Wady Humr. Tracks of gazelles were here first observed.

At Wady Humr we are crossing beds of a highly coloured red sandstone, which has replaced the white and black weathered limestone. The black and white chats are more conspicuous amongst these rocks; when at rest on a chalky surface dotted with fragments of chert these birds are not quickly seen. The desert larks are, however, the most securely assimilated to the soil. The females of some chats (*e.g.*, *S. monacha*) are more protectively coloured than the males.

The sandstone which we are now traversing is the regular inscription rock of the desert, on which the Bedouins of all ages have delighted to air their calligraphy, and not unfrequently impose upon travellers with their rude tribe-marks.

Our direction is mainly south-east, and steadily rising. At the head of Wady Humr, about 1,300 feet above the sea-level, we obtained our first view of the Sinaitic mountains. Jebel Serbal stood out, grand and rugged, straight ahead of us, looking about one-half of his real distance from us, so excessively clear was the atmosphere.

Leyssera capillifolia D.C. was gathered here for the first time, and the favourite camel grass, *Elyonurus* (*Calorachis*) *kirzuta* Vahl., was gathered in flower.

Having left Wady Humr, and crossed Sarbut el Jemel at a height of about 1,700 feet above sea-level, we came out on a wide sandy plain, Debbet er Ramleh, lying about 1,700 to 1,850 feet above sea-level. This is the largest expanse of sand in Sinai, and covers about thirty square miles. Some very interesting species were gathered here. The two species of *Polycarpæa* already mentioned, with the *Cleome*, abound.

Settonia orientalis Desv., *Giliastrum latoides* Linn. (not in flower), *Mossomia nigra* Desv., *Pancreatium Sickembergeri* A. & S., *Danthonia Forskahlîi* Linn., *Aristida plumosa* Linn., and *A. obtusa* Del. These were all obtained in flower, and the white and perfect *Pancreatium* was at its best. It is a lovely flower, and I secured many bulbs here and elsewhere. No leaves were yet in sight, but in some cases the petals had fallen, and the seed pod was filling, showing that the leaves are certainly not synanthous, though appearing soon after the flowers. Plants of this species now growing with me do not exhibit the remarkable twisting described as characterising their leaves. On this *Pancreatium*, which was first discovered by Sickemberger near Cairo, some interesting remarks will be found in Barbey's "Herborisations" already mentioned.¹

The *Aristide*, small glaucous grasses with long feathery awns, are amongst the prettiest of desert forms.

At a lower level near this, *Lycium europæum* Linn. was plentiful, and in full flower. It is visited by a small copper butterfly, the first of its family met with, which is poorly represented in this dry region. Formicidæ and Acrididæ (ants and locusts) are perhaps the most abundant insects.

In Wady Nusb several fresh species occurred. Unrecognisable fragments awoke my regrets at the season selected from time to time.

¹ "Herborisations au Levant," par C. and W. Barbey (Lausanne, G. Bridel, 1882).

The following were determined: — *Morettia canescens* Boiss., *Astragalus siebrii* DC., *A. trigonus?* DC., *Crotolaria aegyptiaca*, Bth., and *Convolvulus lanatus* Vahl.

These Astragals were quite withered, and simply well-rooted bunches of strong sharp spines, 2 to 3 inches long, set closely round a stumpy stem; the spines being the hardened woody mid-rib of the pinnate leaves. The only evidence of their past condition lay in the slight cicatrices in the spines marking the points of attachment of the fallen leaf-pinnæ. Of the convolvulus, a handsome, erect, shrubby, felted species, with good-sized reddish-purple petals, I obtained a couple of flowers.

Desert partridges were first heard here, but not yet obtained. Chats and larks appeared to be pairing. A shrike, *Lanius fallax* Finsch., was first seen and shot. Afterwards this became a familiar species. The "desert blackstart," *Cercomela melanura* Temm., another very characteristic and prevalent bird of Sinai, was also first met with and obtained here. The chats were *Saxicola leucopygia* Brehm., and Menetries' wheatear already mentioned. The trumpeter bullfinch, *Erythropia githagiensis* Licht., was shot here for me by Dr. Hull, who, as well as Mr. Reginald Laurence, brought me specimens from time to time.

In Wâdy Nusb there is a well, and quite a goodly show of acacias, chiefly of the species *A. tortilis* Hayae, which was in flower sometimes, and usually in leaf. The leaf segments of this species are larger and fewer in number than in *A. Seyal* L., the pods are twisted, and the tree attains a greater size. When old it is less and less spiny, while the reverse seems to be the case in *A. Seyal*.

In this wâdy I gathered *Malva rotundifolia* Linn. and *Amarantus sylestris* Desf. by the well, both probably of human origin. The former is cooked and eaten by the Bedouins. *Lycium europæum* has flowers either white or pinkish-purple. Other species met here first were — *Damia cordata* Br., *Echiochilon fruticosum* Desf., *Lavandula coronopifolia* Poir., *Crotophaga obliqua* Vahl. (a perennial form of *C. verbascofolia* Juss.), and *Zizyphus spina-christi* W. The latter was not native, and occurred in a miserable little enclosure by a Bedouin's hut at the well. It was less thorny than the native species afterwards gathered, and the fruit somewhat larger, but Mr. Oliver refers it to the same plant, no doubt slightly altered and improved by a rough system of cultivation.

As we are gradually increasing our elevation amongst the wâdies derived from the precipitous escarpment of the Tih plateau (4,000 to 5,000 feet), so there are more remains of last summer's vegetation — later in flowering perhaps, and less scorched than the same species below.

Soon after leaving Wâdy Nusb we entered on plutonic formations, a red porphyritic granite, which was thenceforth to accompany us upwards over a large extent of country. The increased quantity of acacias since we left the limestone, and especially on the granite, is noteworthy. Perhaps its ferocious spines require an admixture of silicon.

A locust and a cricket were taken in semi-torpid condition. Scorpions similarly harmless, have been caught from time to time.

A larger species of lizard, with a handsome blue throat and pectoral, was captured, *Agama sinaitica* Heyden. The bright colour was all below, and was no reproach upon the perfect assimilation of its upper parts with the desert sandy hues. This lizard hid himself amongst stones, and it was with difficulty I dislodged him from a hole which he filled with his body and fortified with his distended and savage little jaws.

Having crossed a high ridge of granite, Ras Suwig, at about 2,400 feet above sea-level, from whence Jebel Serbal looked magnificent, we descended into a wady which yielded several new plants. *Pancreatium Sickembergeri* A. & C. was found in flower here also. A small bulb, apparently an *Allium*, was brought to me by some Bedouins, perhaps *A. sinaiticum* Boiss. It is growing now under Mr. Burbidge's care at the College Botanic Gardens, but has not yet flowered. These two bulbs and a *Uropetalum* (*U. erythraum* Debb.) are, I believe, the only ones which support life in this desert. A few others occur, but at sufficient heights, usually very considerable, to bring them into a different zone of plant life.

At the height of 2,200 to 2,400 feet above sea-level the following species appeared:—*Iphiona juniperifolia* Coss., *Sonchus spinosus* Del., and a very fetid species, *Rata tuberculata* Forsk., was here first obtained with its yellow flowers.

Major Kitchener brought me branches here of the first *Capparis* I had seen, *C. galeata* Fresen.

Lichens of two species at least occurred, one on the bark of acacia, and the other on sandstone.

In Wady Khamileh desert partridges, *Caccabis Heji* Temm., were frequent, and some were shot. Two desert plants occurred in some quantity, *Lotononis Leobordea* Linn., and *Pulicaria undulata* D.C.

CHAPTER III.

WADY LEBWEH TO MOUNT SINAI.

Still ascending gradually, up Wady Lebweh, from 2,500 to 3,500 feet, many interesting Sinai plants were gathered. Most of these are true desert species, which reach about thus far, but they are mixed with others of an intermediate elevation about corresponding to the Mediterranean flora. From here come *Glaucium arabicum* Fres., *Caylasea canescens* St. Hil., *Cleome trinervia* Fres., *Fagonia myriacantha* Boiss., *Tribulus terrestris* Linn., *Peganum harmala* Linn., *Neurada procumbens* Linn., *Santolina fragrantissima* Forsk., *Artemisia herba-alba* Asso., et var. *laxiflora* Sieb., *Anarrhinum pubescens* Fres., *Trichodesma africana* R. Br., *Heliotropium undulatum* Vahl., *Gomphocarpus sinaiticus* Boiss., *Ballota undulata* Fres., *Touercium polium* Linn., *β. sinaiticum*, *Stachys affinis* Fres., *Primula boveana* Dene., *Acanthodium spicatum* Del., *Forskahlea tenuissima* Linn., *Andrachne aspera* Spr., *Asphodelus fistulosus* Linn. and others, the specimens too bad

to name. The labiates in the above group are characteristic of the middle and upper zones of Sinai.

On the summit of Zibb el Baheir, at 3,890 feet, a point which all travellers should climb for the sake of the really splendid view, *Gypsophil rokejeka* Del., *Helianthemum Lippii* Pers., *Iphiona montana*, and a *Poa*, *P. sinaitica* St. (?), were gathered. A *Psoralea* occurs here also, not found in a recognisable state. It may have been *P. plicata* Del.

Of the plants just enumerated several are peculiar to Sinai. Others, believed endemic, I found later on Mount Hor in Edom.

In addition to the above it is to be remembered that the majority of the earlier species met with occur throughout. The chief failures are *Cleome arabica* Linn. and Salsolaceæ (except *Anabasis*), which are mostly confined to the lower plain. The variable but always pretty little *Eragrostis* is continually arresting the attention by some new deviation. Sometimes it is glabrous, sometimes viscid, sometimes very leafy, at others a bunch of twigs or thorns, trailing or sub-erect, while the flowers vary much in size. In one form or another it is a very widespread desert form which has received a number of segregational names. The abnormal *Neurada procumbens*, with its curious flat prickly-edged capsule nearly an inch in diameter, was in good condition, but scarce. *Gomphocarpus* was in full flower and fruit; like *Darnia cordata*, already gathered, and now common, it has a sticky, staining, milky juice, very poisonous according to the Bedouins. These two *Aselepiads*, and about five others occurring in Sinai, point to the tropical element in its flora. *Artemisia herba-alba* Aso., in several well-marked forms, is henceforth one of the most abundant and highly aromatic plants.

From Zibb el Baheir, which I ascended with Dr. Hull on Sunday, the 16th November, we had a grand view of the whole mass of Jebel Musa (Mount Sinai) and Jebel Catharine on the south-east, and of Serbal nearer us to the southward. Down Wâdy Berah the foregoing labiates and composites were prevalent in many places. A little further on is a continuous grove of retem bushes, the first bit of almost luxuriant though limited vegetation I had seen except close to the wells. This wâdy, like most others, is flat, and about half a mile wide, with a slight channel wandering from side to side, and marked by a line of grey-green growth, no doubt fresh and delightful after the rain which is almost due.

Hares have been seen once or twice. I saw one here first, a very long-eared and long-legged whitey-grey animal with a little body (*Lepus sinaiticus* Hemp. and Ehr.). He was a perfect fiend to travel; nothing living except a bird ever got out of my sight so quickly. The little southern owl hovered around our camp one or two evenings. A splendid pair of griffon vultures afforded a nearer view here than elsewhere. The Egyptian species is more approachable. Crows and ravens (*C. corax* and *C. umbrinus*) are also tamer in this less frequently traversed route. Indeed the large birds generally seem fully aware of the harmless nature of Cairo powder. The kark, *Alauda isabellina* Bon., is the commonest of the smaller species. White wagtails, *Motacilla alba* Linn., are also very

frequent, continually hopping about our tents and camels quite fearless of man.

The two lizards of the *Agama* genus already mentioned, especially the smaller (*A. ruderata*), are common. I kept some of these alive as far as to Constantinople three months later, but the cold weather there killed the last of them.

The mountains are of red porphyry intersected by numerous dykes of trap. This is surely the proper country for a geologist to come to; no annoying mantles of soil or vegetation conceal the rock masses; all is bare and clear, and a good view reveals as much as a shire full of well-borings and railway cuttings.

The temperature has become much colder, falling to within five or six degrees of freezing point at night, and we find it difficult to keep warm enough in our tents.

Acacia bushes become rare or absent at about 3,500 feet elevation. Acacias may be said to mark the vertical limits of the desert flora, as the date palm does its horizontal geographical distribution. The desert plants which exceed this range upwards will be found to be mostly Mesopotamian or Syrian species, and not confined to that belt which extends from the Cape Verdes to Scinde.

In Wady es Sheikh some large tamarisk bushes (*T. nilotica*) occur, about 15 feet in height. This plant has about the same upward limit as that of the acacia. On these tamarisks were two butterflies, one of which, *Pyraucis cardui* Linn., was obtained; the other appeared to be a fritillary (*Argynnis*).

The Wady es Sheikh is of considerable length, upwards of twenty miles, running east at first, and then south to the base of the Jebel Musa group. It lies high, 3,000 to 4,000 feet, and the chief plants in it are *Artemisia*, *Santolina*, and *Zilla*, except on the northern sides at the base of whatever shelter from the sun there may be. Here most of the plants lately enumerated occur still. Some appear which are less common, as *Zygophyllum album* Linn., *Nitraria tridentata* Desf., *Alhagi Maurorum* D.C., *Crozophora obliqua* Vahl., *Pancratium Sickembergeri* A. and S., and the labiates and composites of Wadies Lebweh and Berah. *Gomphocarpus sinicus* Boiss. often arrests attention, shedding its beautifully silky tufts of hair, ready to whisk the attached seeds about the peninsular plains with every breath that blows. *Phagnalon nitidum* Fres., *Anabasis setifera* Moq., and *Atriplex leucoclada* Boiss., occurred in Wady Solaf, so that the Salso-laceæ only require favourable circumstances to appear in the upper country. In Wady Solaf, a smaller arm of the Wady Sheikh, remarkable sections of marl deposits, many feet in thickness, were examined. These no doubt represent the bed of a large lake of the recent period cut through by streams which once contained a steady supply. Examination of evidence of this nature will form an interesting portion of Professor Hull's results.

At Jebel Watayeh a fine granitic pass connects the eastern and southern prolongation of Wady Sheikh. The summit of this I estimated at 4,150 feet above sea-level. On it I obtained *Dianthus Sinicus* Boiss., *Bufonia*

multiceps Dene., *Arenaria graveolens* Schreb., *Cratægus sinaica* Boiss., *Cotyledon umbilicus*? Linn., *Poa sinaica*,? St., and most of the species of Zibb el Baheir. The withered *Psoralea* (sp. ?) occurred also. The first two of these are peculiar to Sinai. There was a well-marked difference here in the floras of the north and south side of the peak, the *Cotyledon* and grass occurring only on the north side, while the *Artemisia*, *Anabasis*, and other ubiquitous desert species prevailed on the other or southern face.

Laurence caught for me on this crag a locust (*Trypælis unguiculata* Linn.), resembling exactly the withered straw-coloured twigs and sand in which he lived.

Further towards Wâdy Suweiriye grow *Pyrrhæum scutellinoides* D.C., *Centaurea eryngoides* Lam., *Alkanna orientalis* Boiss., *Lithospermum tenuiflorum* Linn., *Suaeda monoica* Forsk., *Piptatherum multiflorum* Beauv., and of rarer kinds, *Echinops glaberrimus* D.C., *Iphiaura montana* Vahl., *I. junij erifolia* Coss. *Anarrhinum pubescens* Fres., *Primula Boveana* Dene., and *Teucrium sinaicum* Boiss.

It was interesting to notice a form of *Cotyledon umbilicus* Linn., the only apparently native British dicotyledon I met with in Sinai. It has been gathered here previously by Bové, according to Decaisne, who recorded it under the present name. Unfortunately my specimens are in too bad a condition to determine, consisting only of young leaves and a withered stem. The root was tuberous. It is plentiful on Mount Hor, and is not unlikely to be identical with the new form Dr. Schweinfurth gathered on mountains between the Red Sea and the Nile Valley.¹

Retama Retem Forsk. is very common in these high-lying wâdies. It quite takes the place of acacia, and was now laden with its one-seeded capsules. It is very pretty and sweet when in flower. The varieties of *Anabasis articulata*, whose bracts wither a showy red and rich claret colour, are common here. This species is quite abnormal at this season, having shed all its more slender twigs, and having more the habit of a *Zygophyllum*. It was not till I reached Wâdy Arabah that it occurred in its natural form.

Lepidopterous insects were more numerous in these cooler stations, chiefly attracted by the tent lights at night. Of the earlier desert plants *Reaumaria* and *Gymnocarpum* are still abundant.

Several grasses, Cucurbitaceæ and Zygophyllaceæ belong to lower districts, but *Fagonia* ranges everywhere so far. *Ruta tuberculata*, with its disgusting smell, is still to be met with.

At Ain Zuweireyeh, where we camped for the ascent of Mount Sinai, there is a poor little garden containing pomegranates, palms, and nabk (*Zizyphus*), apricots, and mallow. *Gomphocarpus* is abundant about this well. It is one of the most remarkable species in Sinai.

I made the ascent of Jebel Musa and Jebel Catharine on the 20th November. On the way to the convent of Mount Sinai occurred *Centaurea scoparia* Sieb., *Celsia parviflora* Dene., and *Alkanna orientalis* Boiss. At the convent garden, where we dismissed our camels, are cypress, orange,

¹ Barbey, *op. cit.*, p. 134.

figs, olives, dates, and vines in cultivation. These I only saw over the garden wall, for the delay in the convent was irksome since the whole thing was to be done in a day. On the garden gate were suspended several dead Egyptian vultures, which surprised me, as I thought the bird was too much valued as a scavenger to be destroyed. *Gomphocarpus* occurred again a little above the convent which stands at 5,024 feet above sea-level. The following were first met with here:—*Asperula sinatica* Dene., *Palicourea crispa* Forsk., *Verbascum sinaiticum* Bth., *Plantago arabica* Boiss., *Phlomis aurea* Dene., *Nepeta septem-crenata* Ehr., *Mentha larundulacea* Boiss., *Teucrium polium* L., var. *sinaiticum*., *Origanum nutu* Linn., β *sinaiticum*, *Ficus pseudosycamoros* Dene., and *Adiantum capillas-ceneris* Linn. A single tree stands near the spring, but I unfortunately lost my leaves of it. It was, I believe, *Salix safsaf* Forsk.

At this height, about 5,500 feet, a couple of palms (across the valley), *Phoenix dactylifera* Linn., and a tall cypress, *Cupressus sempervirens* Linn., var. *pyramidalis*, occur. The latter, which is not native, occurs a little higher in a conspicuous place familiar to all travellers.

Cotyledon umbilicus Linn., *Arenaria graveolens* Schreb., *Scirpus holoschanus* Linn., *Pegaeum harmala* Linn., *Echinops glaberrimus* D.C., *Acanthodium spicatum* Sib., and several mosses were gathered on the ascent. On such occasions as these the Bedouins made wild gestures and howls as I escaped from them into gullies and up cliffs. One reason of this I found to be their horror of boots, which they think most dangerous to the climber. At the second pyramid, that of Cephren, at Cairo, where I stole a march and reached the summit alone, the Bedouins who pursued me made frantic efforts to deprive me of my boots ere the descent began. I need hardly say I valued the skin of my feet too highly to obey.

In spite of the Bedouins I followed the bent of my own botanical inclinations. The mosses were the result of a detour from the beaten track to a less open gully looking north. On or close to the summit, 7,320 feet, were *Crataegus sinatica* Boiss., *Artemisia herba-alba* Asso., *Verbascum sinaiticum* Bth., *Ruta tuberculata* Forsk., *Pegaeum harmala* Linn., *Arenaria graveolens* Schreb., *Buffonia multiceps* Dene., *Poa* sp. (*P. sinaitica*?), and *Ephedra alte* C. A. Mey, and others not recognisable. The ascent to the summit from the convent occupied about two hours.

The most striking feature in the aspect of the flora of the upper parts of Jebel Musa, from the convent upwards, is the prevalence of the Labiate and Scrophulariaceous families. Several fresh species had appeared, some of these peculiar to Sinai, and others met before were very abundant here. As these orders increase, the Compositæ, abundant at intermediate heights, diminish towards the upper zone. The fern and the mosses illustrate the cooler atmosphere of the elevated region, though their immediate existence depends on the unfailing springs of water. Having left our party here I descended rapidly to the convent of Deir el Arbain, about 1,700 feet below, in the bottom of the gorge between Jebel Musa and Catharine. With a nimble Arab as guide we did this in half-an-hour. At the convent I was transferred to another native. There was barely

daylight left in which to accomplish Jebel Catharine. I had arranged that my camel should be in readiness here to bring me back to camp at Ain Zuweiriyeh at night. A quarter of an hour after my arrival the faithful Khalil appeared, and I started at once, 1.30 p.m., for the summit.

At the monastery, or near it, were *Bupleurum linearifolium* D.C., var. *Schimperiænum* Boiss., *Carum* sp.?, *Pteroviphalus sanctus* Dene., *Veronica syriaca* J. & S. (introduced), and *Celsia* and *Anarrhinum* already mentioned. *Salix salsaf* Forsk. occurs here. During the ascent most of the labiates and the hawthorn of Mount Sinai, were met with; but this mountain wore a far more wintry aspect than its lower neighbour. A lack of running water renders it at all seasons more barren. At the spring Mayan esh Shunnâr, "fountain of the partridge," I made another little gathering of mosses, in all from the two mountains ten species, i.e.: *Grimmia apocarpa* Linn., *G. leucophæa* Græv., *Gymnostomum rupestre* Schwæg., *G. verticillatum*, *Tortula inermis* Mont., *Eucalypta vulgaris* Hedw., *Entosthodon templetoni* Schwæg., *Bryum turbinatum* Hedw., *Hypnum velutinum* Linn., *H. ruscifolium* Neck. These are all British species with the exception of *Tortula inermis*, which occurs also on the Morocco mountain at 8,000 to 10,000 feet, and no doubt elsewhere round the Mediterranean. One only in the list, *Gymnostomum rupestre*, is sub-alpine in Great Britain. There are two other mosses also common British species recorded from Mount Sinai by Decaisne.

The remainder of the ascent was over barren and perfectly unvegetated rock. Nevertheless, within a few hundred feet of the summit I was rewarded by finding the exquisite little *Colchicum Steerei* ? Kth., of a delicate pale lilac colour, sometimes white. It had no leaves, and bore either one, two, or three flowers on the scape; usually only one. It occurred again on the extreme summit, and I secured several bulbs. *Colchicum Steerei* was gathered afterwards on Mount Hor, where the flowers were very decidedly smaller. The Jebel Catharine plant may prove to be specifically distinct. This *Colchicum* has been recorded from the Palestine coast as far south as Joppa.

On the summit there was hardly any life. I obtained *Buffonia multiceps* Dene., *Arenaria graveolens* Sch., *Herniaria* sp.? (*H. hemistemon*?), *Gypsophila hirsuta* Led., and *G. alpina* Boiss., and fragments of an *Astragal*, perhaps *A. echinus* D.C. On the ascent I gathered the root and leaves of a sedge looking like *C. distans* Linn.

The summit of Jebel Catharine, 8,536 feet, the highest in the peninsula, was very cold, barely above freezing point. Its mean annual temperature would perhaps about correspond with that of Edinburgh, while Jebel Musa would be nearer that of London. It is a solid hump of syenite with a lower shoulder joining it to a similar prominence about half a mile away. The view was magnificent, including the whole coast-line of Sinai from Suez to Akaba, except the portion intercepted by the Umm Shauner range to the south, whose summit almost equals that of Jebel Catharine. Jebel Musa looks a mere trifle, one of a fierce sea of red pointed and serrated peaks and ridges.

The summit was reached at 3.15, left at 4, and the convent of Deir el Arbain regained at 5. A long camel ride through a wild gorge by moonlight brought a memorable day to a close.

In the gorge I heard a deep clear strange note which my Bedouin called "hōadoō." It seemed to proceed from an owl, and may have been *Bubo ascalaphus*, the Egyptian eagle owl, but, much as my curiosity was aroused, there was no means of gratifying it.

With the exception of a couple of chats (*Sociocela leucophaea* Br. and *S. lugens* Licht.), and the Egyptian vulture, no birds were seen. A single coney (*Hyrax Syriacus* H. & Ehr.) showed himself for a few seconds on the summit of Jebel Musa.

CHAPTER IV.

MOUNT SINAI TO AKABA.

Our journeyings from Mount Sinai lay east of north to Akaba, skirting and occasionally crossing corners of the Tih plateau.

Hares were occasionally seen of the little long-eared Sinaitic kind. Gazelle tracks were very numerous in Wādy Zelegah (Zolakah). The lizards already mentioned are plentiful in this wādy, and several species were captured, which proved to be of two species. A snake, *Zamenis ventrimaculatus*, was safely lodged in my spirit cylinder.

Wādy Zelegah is a noble valley plain about half a mile wide for upwards of twenty miles, bounded by precipitous cliffs and mountains. Several detours were made into the Tih cliffs on the left of our line of march. The chief plants were—*Glaucium arabicum* Fres., *Capparis galeata* Fres., *Cleome arabica* Linn., *Ruta tuberculata* Forsk., *Odontospermum graveolens* S. Bip., *Artemisia herba-alba* Asso., and vars., *Sonchus spinosus* Forsk., *Verbascum sinaiticum* Bth., and for the first time *Moricandia dumosa* Boiss., *Capparis spinosa* Linn., *Iphiona scabra* Del., and *Imperata cylindrica* Beauv.

Frequent bags of fossils were obtained *in situ* for the assistance of the Geological Survey.

In birds, the white wagtail and the little cock-tailed wren-like warbler (*Drymoca*) are the most frequent. Desert larks and shrikes also occur at scattered intervals. A very small warbler, *Sylvia nana*, was shot amongst tamarisk bushes. The song of the *Drymoca* is quite wren-like, but less piercing.

The flora is that of the western side; *Tamarix*, *Caylusea*, *Retama*, *Ochradenus*, *Zilla*, *Santolina*, *Artemisia*, *Erna*, *Ballota*, *Stachys*, *Lavandula*, *Anabasis*, of species already mentioned, predominate. Several of the Mount Sinai groups of labiates are for the present missing, as also are two or three of the *Iphiona* group of composites. The larger *Capparis* is very frequent, growing on the most arid rocks above the wādy flats, where nothing else, except perhaps *Lacunulata coronopifolia* Poir., appears able to

exist. *Capparis galeata* is sometimes an erect shrub 6 or 8 feet high, of a bright green, differing from the slender trailing blue-foliaged species, *C. spinosa*, which often grows with it. The former is now in fruit, the latter barren.

Camels delight in the larger grasses, in *Ochradenus*, *Zilla*, *Nitraria*, *Anabasis*, and tamarisks.

At the head of Wâdy Elain, a grove of tamarisks was plentifully indued with an excrescence or exudation of greyish-white pillules of a viscid substance, with a faint taste of nucatine. This is the so-called "gumma of Sinai," which is, I believe, more plentifully obtained from *Atnagi maurorum* D.C. This gum is said to be due to the puncture of a small insect.

Life became more plentiful. Three butterflies were observed: a pale blue, a sulphur-yellow with brown under wings, and an admiral. Hornets and a long-bodied insect darted about in a broiling sun. I obtained all these except the sulphur-yellow butterfly.

In plants *Sueda monoica* Fres., and for the first time the rare *Linaria macilenta* Dene. This spring species was in flower, but the fugaceous corolla falls at the slightest touch. *Cleome droserifolia* Del. was also here first obtained. A spring supported a stream that moistened the soil for about a mile ere it gradually died a natural death. It led us the way into an unexpected and magnificent fissure in the red granite, the Wâdy Elain. For five or six miles the gorge passes between sheer cliffs of this richly coloured rock, with a height varying from 500 to 800 feet, and from 10 to 50 yards wide. It is in some ways the most impressive natural feature I have ever beheld. The floor is hard and level, and as the sun rarely hits the base of the cleft, many plants remained here in a fresher condition than elsewhere, and some new varieties were found. I will mention the less common species procured in this remarkable sik, or cleft, which has rarely been visited: *Moricandia sinaica* Boiss., *M. danosa* Boiss., *Cleome droserifolia* Del., *Capparis galeata* Fres., *Abutilon fruticosum* G. & P., *Zygophyllum coccineum* Linn., *Tephrosia purpurea* Pers., *Pulicaria* (*Franca erici*) *crispa* Forsk., *Blanca* (*Erigeron*) *Bocsi* D.C., *Iphionia scabra* Del., *Sonchus* (*Microchlochus*) *nudicaulis* Linn., *Scrophularia deserti* Del., *Linaria macilenta* Dene., *Lycium arabicum* Schw., *Hyoscyamus aureus* Linn., *H. matricum* Linn., *Bullata Schimperiana* Bth., *Teucrium sinaicum* Boiss., *Origanum mara* Linn., *β Sinaicum* Boiss., *Atriplex leucoclada* Boiss., *Typha angustata* B. & C., *Cyperus lavigatus* Linn., et var. *junciformis* *Panicum targuium* Forsk., *Pennisetum dichotomum* Del., *Imperata cylindrica* Beauv., and forms of *Reseda pruinosa* Del., *Fagonia cretica* L., as well as other indeterminable remains. Several of the above are peculiar to Sinai, and some mentioned here and elsewhere are now first included in its flora.

It was with misgivings we camped in this wâdy. Had a "seil" like the Rev. F. Holland's memorable one at Feiran visited us, we would have assuredly had a bad time. But the expected rain did not yet arrive.

While we were encamped here we received notice of the arrival of

visitors for whom our ever courteous chief prepared coffee. The party, consisting of engineers, Colonel Colville, I believe, and others, passed us at speed on the opposite side of the narrow valley without a greeting. Suspecting that this impetuous haste, and absence of that courtesy for which Englishmen on their travels are so justly famous, arose from ulterior motives, Professor Hull summoned a council of war, which resulted in despatching our able conductor, Bernard Heilpern, with orders to secure our entitled priority to the Akaba Sheikh's camels and services. Bernard passed the fugitives in the night, and was entirely successful.

It was long ere we got clear of this ever widening, slowly rising Wâdy el Tihyeh, which wound through granite hills and lifted us out of Wâdy Elain. Our height above sea-level varied between 2,500 and 3,000 feet. Acacias are numerous, chiefly *A. seyal*. This small tree, when not too flat-topped, as is commonly the case, has at a little distance a close resemblance to our hawthorn, with its gnarled and twisted stem and rugged bark. The granite hills, usually capped with a stratum of sandstone, are barren in the extreme. *Damia cordata* and *Tephrosia purpurea* are the only noteworthy species.

Hey's sand partridges are frequent, and good to eat. All seen as yet are of the one species. They rarely fly until almost walked on, trusting for escape to their close resemblance in colour to the shingle and rocks they inhabit. Until they run, which they do with rapidity, they would be most difficult to observe. Nevertheless they often betray themselves by their sharp cry of alarm. The Bedouin then, swift, stealthy, and bare-footed, gets easily amongst them, for they seem more alarmed by a noise than by the human figure. The Bedouin flint lock is, however, slow and dignified in its performance, and usually affords abundant time for escape from its uncertain discharge.

Rock-pigeons and martins (*Columba Schimperi* Bp., *Cotyle rapastris* Scop.) were seen in Wâdy Elain.

All about the caper is frequent. The Arabs eat the ripe red fruit and seeds. I tasted it but did not continue to eat it. The skin is like mustard, and the seeds like black pepper.

In a marshy place at the head of Wâdy Elain, amongst palms and tamarisks, *Typha angustata* was 12 to 14 feet high; *Erigeron Bovei* 6 or 7 feet high, well branched and with many flowers, and *Phragmites gigantea* was fully 15 feet high.

The pricklier plants, Acacias, *Acanthodium*, *Gymnocarpum*, &c., are commoner in a general sense on the granite and sandstone than on the limestone.

In a very dirty well, Bir es Sowrah, near the base of Jebel Aradeh, *Chara hispida* Linn. occurred, and with it *Juncus maritimus* Lam., *Barbicans*, palms and capers.

On the summit of Jebel Aradeh there was no vegetation, and in the limestone now lying above the sandstone numerous cretaceous fossils were obtained. A single white butterfly (*Pieris* sp.) was the only living thing. I estimated the height of this mountain 3,400 feet. It is about 1,300 feet

above the plain, and forms a most conspicuous object. Like others, except those of granite, in this region, it is crumbling away and turning to dust on all sides. The beds of chalk and flints are much disintegrated, while all the outer surface of the lower limestone is on the move.

The only plants were *Gymnocarpum*, *Reaumuria*, *Capparis*, *Acanthodium*, and *Lavandula* of the usual kinds.

We are here in a little known and unsurveyed region. Consequently there is abundant work for the engineering section of our party. Very few travellers have passed this way since Laborde's time, and I was sorely disappointed to find on the tableland we were now entering there was little living vegetation, although abundant withered evidence of a sparse but varied flora.

This tableland is called here *Jebel Hirtch*, and is, properly speaking, a portion of the *Tih* plateau which becomes indefinite at its south-eastern border. A fine oval plain, *Wady Hessih*, about three to five miles broad, literally abounded in lizards, and here I killed another *Zamenis*, a sand-coloured snake about 4 feet long. A large-headed Arachnid (*Sparaxis* sp.) is also very abundant, and seems to form food for some of the numerous chats and larks. Small flocks of sparrows, *Passer hispaniolensis Temm.*, occurred here, while there is usually a raven or a vulture in sight.

This wady, now clad with withered scraps, is a favourite pasturing place later on for the Bedouins' flocks. I gathered here *Tribulus aegyptius* D.C., *Anastatica hierochantina* Linn., *Zygophyllum dumosum* Boiss., *Lotus lanuginosus* Linn., *Ilygia spicata* Forsk., *Filago prostrata* Parl., *Linaria floribunda* Boiss., *Verbascum sinuatum* Linn., *Heliotropium undulatum* Vahl., *Micromeria myrtifolia* Boiss., *Plantago ovata* Forsk., *Panicum Teneriffæ* R. Br., and *Aristida cærulescens* Desf. These had not been previously met with. Other interesting species not recently seen were *Farsetia ægyptiaca* Turr., *Reseda pruinosa* Turr., *Polycarpæa prostrata* Don., *Helianthemum Lippii* Pers., *Atractylis flava* Desf., *Zygophyllum album* Linn., and others of commoner sorts.

In these depressions of the plateau, where water and soil are of more frequent occurrence, there is an abundance of greyish scrub, short, thin and interrupted, and composed chiefly of *Zygophyllum dumosum*, *Anabasis* (*Salsola*), *Articulata*, *Ephedra alte* and *Atriplices*, *Nitraria*, *Zilla*, *Retem*, and sometimes tamarisk.

Sonchus nudicaulis Linn., *Damia cordata* Br., *Gomphocarpus* and *Lindenbergia* still occur.

I endeavoured to obtain the Arabic names of the commoner species, and to confirm them from the mouths of two or more Bedouins. These names so obtained rarely agree with those I find quoted in Forskahl, Boissier, Tristram, and others. It is probable that every tribe has its own plant-names.

An Arab informs me that "boothum," a tree growing on *Jebel Serbal* and nowhere else, with a stony fruit, is used, its leaves being boiled as a cure for rheumatism, an infirmity to which the Arabs are martyrs. I suspect the plant to be *Cratægea aronia*. Also that salsaf (*Salix salsaf* Forsk. or

Populus euphratica Linn.) is the wood in demand for charcoal to colour their gunpowder. This they obtain in the valley between Jebel Musa and Jebel Catharine as well as on the latter mountain. The proportions of their gunpowder are—one part sulphur, four parts saltpetre, and a little charcoal to colour.

Anastatica hierochuntina Linn., "Kaf Maryam," or Rose of Jericho, was first seen here, and becomes common to Akaba and northwards to the Ghôr es Safieh. *Ephedra alte* is the most characteristic and abundant species. Acacias are almost absent. We are on a limestone tableland with occasional outcrops of sandstone. Once on such an outcrop a single shrub of *Acacia seyal* occurred. In exposed situations these acacia bushes, formed like a table with its single leg much nearer one side than the middle, point with their overhanging part in the direction of the prevailing wind. On reaching the granite pass into Akaba the acacias again become abundant, but their absence above may be partly explained by the exposed situation.

Camels eat even the milky asclepiads, as *Daemia*, which is said to be highly poisonous. *Heliotropium arbatense* Fres. was first met with by the Haj route from Cairo to Akaba, which we were now close to.

These two especially nauseous species, *Peganum* and *Ruta*, are very frequent. The smell of the former is like that of our hound's tongue, the latter reminded me of some kind of wood-bug, which I collected in an evil moment in the scaffolding of the Milan Cathedral. *Cleome droserifolia* Del. smells like a fox. Other species here are *Malva rotundifolia* Linn., *Linaria macilenta* Desv., *Decorra tortuosa* Gertn., and *Erva jaceonica* Juss.

On the 29th November we descended a magnificent gorge between granite and limestone by the Haj road to Akaba, which takes its name (Akaba, "steep descent") from this entrance. The ever varying peeps of the gorgeously blue gulf of Akaba shining in an intense sunlight were a most refreshing change from the desert. The rich purple colouring of the lofty mountains of Midian formed a noble background.

CHAPTER V.

AKABA.

AT Akaba we remained from November 29th to December 8th. I increased my collection here considerably. The flora displayed several fresh species. Bird life was more plentiful, and a large collection of shells was made on the beach. These, consisting of upwards of 200 species, including those from Suez, I have had determined by Mr. G. B. Sowerby, and amongst them are many which do not appear to have been admitted as inhabitants of the Red Sea.

Akaba, even at this season, was oppressively hot. A swim in the sea, or rather a crawl amongst the coral reefs, about 3 feet below the surface, was delightful. Farther out sharks abound.

The straggling Arab village lies at the south-eastern corner of the

plain which forms at once the head of the gulf and the southern end of the Wady Araba. This is the narrowest part of the wady, being not more than five or six miles across.

A very fine tree of *Acacia tortilis* Hayne stands close by. On the coast are many clumps of the date palm, interspersed with a very few trees of the doum palm (*Hyphantne thebaica* Del.), already noticed here by Mr. Redhead. The doum palm, a native of tropical Africa, Nubia, and Abyssinia, finds its northern limit at Akaba.

In the enclosures here I noticed nubk (*Zizyphus*), henna (*Lawsonia*), palms, tamarinds (*Tamarindus indica* L.), pudding pipe (*Cassia fistula*?), figs, and several kinds of gourds. Most esculents were still invisible or in a seedling state.

There is but one boat at Akaba. Laurence and I succeeded in hiring this with a native fisherman, with two Arabs, nets and lines. There were many flying fish (*Exocoetus*) about. We first rowed across the corner of the gulf and landed on the sandy beach, where the two Arabs landed and with a circular casting net captured some small fish ("Akadi" and "Sahadan") for bait. With these and some loose stones, about a pound weight each, we rowed out a few miles. The bait fish, broken in three, is affixed to the hook and one of these stones is hitched to the line a little above with a slip-knot. On reaching the bottom a couple of violent jerks dismiss the sinker and let the line swing free. We caught fish rapidly, "hedjib," at Suez called "jar," "gamar" (a species of *Chaetodon*?), and one splendid red fish they called "bossiah," without scales, and very good to eat. We also hooked a shark, "Zitani," about 5 feet long, who amused us for a time and then carried off the line.

Before dismissing our Towarah Bedouins I had endeavoured to pump them of what little information they possessed about the feral inhabitants of Sinai. They knew of leopards on Serbal and Umm Shaumer; wolves in Wady Lebweh and neighbourhood; hyenas, ibexes, gazelles, hares, jerboas, rats, and mice made up their total. Their sheep they say were imported from Arabia; they have a few donkeys and camels; their goats are a distinct breed which they are especially proud of. Five kinds of snakes they admitted, all of which were poisonous! The one I caught in Wady Zelegah, *Zamenis ventrimaculatus*, attains a full size of 5 or 6 feet. These remarks I set down to be taken for what they are worth.

Dr. Hull captured a handsome little snake here, and handed it over to me; it proved to be *Zamenis elegantissimus*, and is now in the British Museum.

The birds obtained at Akaba were—*Cercomela melanura* Temm., *Cyrtococcyx cyathoceros* Pall., *Argya spatuliceps* Rapp., *Motacilla alba* Linn., *M. flava* Linn., *Pycnonotus scythopogus* Hemp. & Ehr., *Lanius fulvus* Finsch., *Passer hispaniolensis* Temm., *Agialitis asiatica* Pall., *Tringoides hypoleucos* Linn., and several larks and chats already mentioned. Ravens, crows, martins, rock-pigeons and the little gull, *Larus minutus* L., were also observed. Vultures and English swallows were frequently to be seen, the former usually of the Egyptian species.

Not many identifiable plants occurred here which had not been previously seen. These are—*Cassia acutifolia* D.C., *C. obovata* Coll., *Onobrychis Ptolemaica* Del., *Tephrosia apollinea* Del., *Artensisia monosperma* Del., *Statice pruinosa* Linn., *Salvia deserti* Dene., *Boerhavia plumbaginea* Cae., *Calligonum comosum* Ehrh., *Atriplex crystallina* Ehr., and *Andropogon foveolatus* Del. A few other less common species may also be mentioned:—*Lotomonis Leobordei* Linn., *Tephrosia purpurea* Pers., *Samolus spinosus* D.C., *Cucumis prophetarum* Linn., *Linaria nateidensis* Dene., *Trichodesma africanum*, R. Br., *Heliotropium arbainense* Fres. Forskahlea, Andrachne, Panicum, and others. Along the shore in some places is a close growth of *Nitraria tridentata*, *Atriplex leucoclada* Boiss., *A. halimus* Linn., *Juncus maritimus* Linn., var. *arabica* and others. *Cressa cretica* is a characteristic species along the shore on the saline flats.

Gathering shells where such an abundance of, to me, novel forms occurred was enthusiastically pursued. I shall not here deal with this subject in any detail, but merely mention the principal genera met with. These were mostly univalves, bivalves being scarcer in species, and infinitely fewer in individuals. Great numbers of opercula of a Turbo, pretty polished little hemispherical bodies retaining the spiral lines of structure, pens of calamaries, and the delicate vitreous wingshells of pteropods occurred, as well as a large variety of fragments of coral. *Conus*, *Cerithium*, *Strombus*, *Cypræa*, *Mitra*, *Triton* amongst univalves; *Arca*, *Pectunculus*, *Tridacna*, *Chama*, and *Venus* amongst bivalves, were the best represented genera. Drift shells are rarely disturbed, the tide being apparently not above a foot in range at Akaba.

CHAPTER VI.

AKABA TO MOUNT HOR.

AT Akaba we have left the Sinaitic peninsula; from here we turned northwards up the Wâdy Arabah. Happily we had occasion henceforth to travel more slowly, in order to give the surveying party time to keep pace with us. I was thus enabled to make wide detours east and west out of the Arabah, but my inclination lay chiefly eastwards into the precipitous borderland of Edom.

In the Wâdy Arabah I saw gazelles several times; Wâdy Menaiyeh, on the west, may be mentioned as a good hunting ground. These graceful animals seemed more at home on the west side, abounding on the Judean wilderness, and all over the Tih plateau. Ibexes, on the other hand, appeared more frequently on the higher mountain declivities of Edom to the east. Hyenas, judging from their tracks, must be plentiful; once I had a good view of one, and quickened his lolloping pace with a fusilade from revolver and fowling-piece. At El Taba, on the east side, about twenty-five miles north of Akaba, a fruitful, marshy place with a deep

spring, I saw perfectly fresh tracks of "nimr," or leopard, and subsequently, at Ain Abuweiridch, Laurence came on fresh remains of some beast which had served apparently a meal for these animals. A hare, the Sinaitic species, was killed a few miles north of Akaba. A much larger hare, *L. aegyptiacus*, was seen several times on the eastern declivity of the Tih. My frequent failure in bringing down game and specimens I attributed partly to my having been unable to land English cartridges or powder in Egypt, and being dependent on very worthless and very expensive ones procured in Cairo. I would recommend all sporting travellers to run any risk in smuggling sooner than let this occur to them.

The Wâdy Arabah abounds in rodents. These animals appear to be chiefly nocturnal in their habits, and are very seldom seen. The number of holes and the abundance of their tracks is truly astonishing. Their colours are usually in strict harmony with the desert, for the Wâdy Arabah is some ten to thirteen miles across, and more correctly called a desert than most parts of Sinai. Jerboas were seen a few times, and Gerbilles, of which I trapped one, appear to be most numerous.

Birds have increased in numbers and variety. From El Taba northwards, about twenty-five miles from Akaba, a grove of acacias (chiefly *A. tortilis Hayne*), and a little *Zizyphus*, stretches about ten miles along the eastern edge of the Arabah. A smaller grove occurs nearer Akaba at the mouth of Wâdy el Ithm, where I first met with the "hopping-thrush." In the larger grove the handsome *Loranthus acacia Zucc.* abounds.

Several times I endeavoured to get a shot at a small bird here which uttered a sharp little note, new to me, but I was unsuccessful. Mr. Armstrong, who was with me that day, and is well skilled in Palestine birds, recognised it, having also seen the bird, as the little Sunbird, *Cinnnyris Osee*. Subsequently, when I reached the Ghôr, I obtained several specimens and recognised the note at once. This species has not been detected south of the Ghôr, where it was first made known, like the hopping-thrush, by Canon Tristram.

The Sunbird probably follows the *Loranthus*, to whose flowers it appears attached. Its long bill reaches the base of the tubular flower, searching for honey, and it thus probably secures their cross-fertilization. One was shot in the Ghôr in the act of doing so, its bill being covered with the pollen of the *Loranthus*.¹

The hopping-thrush (*Argyia Squamiceps*) is a remarkably weak flier, hardly leaving the ground except in tremendous jumps, which cause his large fan-shaped tail to overbalance and almost overturn him as he makes a pause. He is a most grotesque bird; nevertheless the mournful cries of one when I had shot his mate impressed me with a different feeling.

Palestine bulbuls were occasionally seen here also. Hooded chats,

¹ Since writing the above I find that Burton has seen the Sunbird, almost certainly this species, about five degrees from this southwards, in Midian. "Land of Midian," vol. ii.

Persian larks, and desert larks were frequent, and large flocks of sparrows assembled about us in several places.

The floor of the wady is sometimes alive with geckos, lizards, and ants, as well as numbers of long-winged males of a Persian species of white ant, *Hocotermes vagans* Hag., not yet able to fly, over which the hopping-thrushes fall into inconceivable excitement.

The first bee I met with was captured here, and small beetles are often sacrificed to the good of science. I spare the reader the enumeration of their scientific names, which will be given fully at the close.

At El Tabah occurred a greensward of *Cynodon dactylon* Linn. In or near the grove already spoken of were *Cocculus Leaba*, D.C., *Fagonia margaritana* Boiss., *Scrophularia deserti* Del., *Loranthus acaciae* Zucc., *Salsola fastida* Forsk., *Eragrostis cynosuroides* Retz., and commoner sorts. In the open sandier wady, *Glaucium arabicum* Fres. *Gypsophila Rokjeka* Del., *Monsonia nigra* Dene., *Microrhynchus nudicaulis*, Linn., *Iphiaea scabra* Del., *Citrullus colocynthis*, Schr., *Cleome droserifolia* Del., *Cucumis*, *Panacratium*, *Danthonia*, *Trichodesma*, *Andrachne*, *Forskahlea*, *Anabasis*, and *Tamarisk* form almost the whole vegetation.

In some places the wady is spanned by rolling wastes of sand dunes 10 to 12 feet high. These appear to have been formed around the bases of clumps of tamarisk and anabasis, which is here very tall, 6 to 8 feet high or more.

Ochradenus baccatus is very abundant, often overtopping the acacias by whose protection from camels it thrives. *Lycium europæum* and one or two grasses escape being cropped in the same manner, and grow to an unwonted size.

On the 7th December a long day's climbing with Laurence brought us to the head of Wady Ghurundel in Edom. This was at a height of about 1,800 feet above sea-level, six miles east from the Arabah. The scenery on the way was superb. Huge blocks of red sandstone, 800 to 1,000 feet high, towered above us, sometimes sheer and tottering in broken masses from the main cliffs behind. We passed a spring with a few date-palms, and a little higher a large bulb with broad leaves (*Urginea scilla* Steinh?) first appeared and soon became abundant. It was not yet in flower. *Dianthus multipunctatus* Ser., *Eryngium* sp., *Odontospermum pygmaeus* Cae., *Cotula cinerea* Del., *Solanum nigrum* Linn. (var. *moschatum*), *Satureia cuneifolia* Ten., forma, *Boerhaavia verticillata* Desf., *Ficus sycomorus* Linn., *Trojanum nudatum* Del., *Aristida ciliata* Desf., appeared for the first time. The *Odontospermum* (*Astericus*), which occurred at a considerable height, was a little woody button representing the hardened flower head, which was usually solitary and close to the ground. This plant, like *Anastatica*, has hygrometric properties, and has been put forward by Michon as the true Rose of Jericho of the travellers of the middle ages. *Anastatica hierochantina* will not, however, be readily deprived of its claims.

Besides the above, which were all gathered farther on, some plants of more limited range occurred: *Moricandia damosa* Boiss., *Abutilon*

fruticosum G. & P., *Varthamia montana* Vahl., *Iphiona scabra* Del., *Centaurea scoparia* Sib., *Iphiona juniperifolia* Coss., *Ballota undulata* Fres., and others already met with.

Judging from the abundance of its bur-like carpels lying in the dry watercourses, *Calligonum comosum* is the most abundant shrub; it is now in a withered condition. Several other bulbous species which occurred here are as yet undetermined. A stiff scramble brought me back to the Arabah by a more northern valley. Amongst land shells, helices of four species were gathered in Wâdy Ghurundel.

CHAPTER VII.

PETRA AND MOUNT HOR; WÂDIES HAROUN (ABOU KOSHEIBEH), AND MUSA; JEBEL ABOU KOSHEIBEH.

THE last valley has shown us some characteristic Sinaitic species extending their range north-eastwards across the great valley of the Arabah. Several more will appear in the group of localities now to be considered. Were I to hazard a suggestion here, it would be that these plants, formerly considered peculiar to Sinai, have had their origin more eastwards, and have spread, like many other Arabian plants, in a westerly direction.

Owing to the greater moisture found in the upper part of some of the valleys of the Edomitic escarpment, there is a greater variety of species and a sprinkling of ferns, mosses, and lichens. These are mostly more northern forms, spreading southwards at high levels.

We are now entering a district which Canon Tristram has somewhat liberally included in Palestine. The flora has its own peculiar plants as well as a large proportion of southern or Sinaitic species, and thus it adds many to the Palestine flora. I will first speak of the wâdies, and then of Mount Hor and Petra. The latter places, I think, have not been botanised previously to my visit, and are visited only with difficulty and expense, owing to the cupidity and lawlessness of the sturdy beggars or Bedouins who dwell there.

Irby and Mangles, Commanders in the Royal Navy, travelling in 1816-1820, were the first Europeans who visited these regions in modern times. Further on I will quote a few remarks from their most interesting volume, since I find no other allusions to the vegetation of the ancient capital of the Nabathæans.

The following plants not previously seen were gathered in Wâdy Abou Kosheibeh (Wâdy Haroun), and on the Jebel or peaked mountain which stands in a commanding position across its head:—*Famaria micrantha* Laq., *Erodium hirtum* Forsk., *Poterium verrucosum* ? Ehr., *Anvillea Garcini* D.C., *Carthamus glauca* M.B., *C. lanatus* Linn., *G. arabica*, J. & S. *Podonosma syriaca* Lab., *Nerium Oleander* Linn., *Pentatropus spiralis*, Forsk., *Baerrosia*, sp. nov., *Salvia ægyptiaca* Linn., *Juniperus phœnicea*,

Linn., *Bellerophila flexuosa* Boiss., *Asparagus aphyllus* Linn., *Asphodelus ramosus* Linn., *Pennisetum cenchroides* Rich., *Clidanthus odora* Sw., and *Nathalaia lanuginosa*, Desf. Of these, *Globularia*, *Podonosma*, *Boucerosia*, *Juniperus*, and the two ferns were obtained above the wâdy amongst the cliffs of *Jebel Abou Kosheibeh*, from about 3,000 to 3,500 feet above sea-level.

The *Globularia* is a pretty compact little shrub, with blue heads of flowers and small entire leaves; the species here is the Arabian form, *G. arabica*, perhaps hardly distinct from *G. algyptum* L. of the Mediterranean.

The two *Asclepiads*, *Boucerosia* and *Pentstemon*, are both frequent; the latter is probably *P. spiralis*, but as it was not in flower, Mr. Oliver would not speak positively. It occurred again at the Ghôr, trailing over acacias.

The *Boucerosia* may be *B. aucheriana* Dene., an insufficiently described plant from Muscat in South-East Arabia, which is also the nearest known habitat for the *Pentstemon*.

On *Jebel Abou Kosheibeh* were also gathered—*Moricandia dumosa* Boiss., *Gomphocarpus sinaiticus* Boiss., *Helianthemum Lippii* Pers., *Cotyledon umbilicus*? Linn., *Livaria macilenta* Dene., *Verbascum sinaitum* Linn., *Phlomis aurea* Dene., and *Boerhavia verticillata*, Poir.

Many desert species of *Reaumuria*, *Ochradenus*, *Zygophyllum*, *Morettia*, *Zilla*, *Acacia*, *Retama*, *Ruta*, *Hloa*, *Lycium*, *Trichodesma*, *Forskahlea*, *Asphodelus*, *Anabasis*, *Ephedra*, and grasses already mentioned, occur also in *Wâdy Haroun*, the name which the Bedouins invariably give this wâdy.

It will thus be seen that there is no appreciable break as yet in the continuity of the Sinaitic flora as we travel up the *Wâdy Arabah*, but an increase of species from eastwards and northwards.

The *Wâdy Haroun* is at first wide and arid, but after a few miles vegetation rapidly increases with moister conditions. The flanks of the Edomitic limestone plateau are better supplied with moisture than the Sinaitic granite. Banks by the edge of this valley at a moderate elevation, 1,000 to 1,500 feet above sea-level, had a sparse coating of mosses and other cryptogams. The mosses were chiefly of the *Tortula* genus, of which five species were collected. Side by side with these grow the desert species above mentioned in great luxuriance. *Demia cordata*, for instance, climbed to a height of 10 or 12 feet in *retem* bushes; the support being as well developed as the climbing plant. In the open desert, *Demia*, as mentioned by Mr. Redhead, lies sprawling on the ground, its several stems sometimes closely twisted into a thong towards their extremity, so that all circulation is stopped, and the young shoots are strangled. This is probably due to changed conditions having deprived it of its normal support, which it rarely finds in the desert, and even seems there to have lost the power of utilising. For I have seen it strangling itself side by side with bushes of the very sort which here gave it so much assistance. The desert plant was more plentifully milky, and

we have here seen at work agencies which are giving rise to a modified form, in better harmony with its environment.

From the summit of *Jebel Abou Kosheibeh*, which I climbed with *Dr. Hull*, an unusual sight was observed: a stream, small in size, but containing a good body of water, rushing down the cliffs about half a mile to the south-eastward. I could distinguish with my spy-glass the growth of arundos and oleanders that fringed its banks, but unfortunately there was no time to examine it more closely. Running water was once seen before on *Jebel Musa*.

The juniper is a well-shaped bush or small tree, with a trunk sometimes a foot in diameter. It gives a considerable area of shade with its dark close foliage. A large specimen occurs immediately below the summit, and I could see it on all the highlands around, even at the summit of *Mount Hor*, which looked but a little distance off.

On the 10th of December we made the ascent of *Mount Hor*, returning to camp the same day by *Petra*. Our camp was fixed near the mouth of *Wady Haroun*. Although having made an early start (4 A.M.), the visit was necessarily a very hurried one. While waiting for a cloud to lift from the summit of *Mount Hor* for the benefit of the theodolite party, I had time, however, to make a good gathering of the bulbous plants, now just showing their leaves, with which the upper part of this mountain abounds.

The view from *Mount Hor*, whose height I estimated by aneroid at 4,400 feet, is a disappointing one, and bears no sort of comparison with those from the *Sinai* peaks. This defect is due to the adjoining high and monotonous tableland of *Edom*, which obscures one side of the horizon. This tableland averages perhaps 5,000 feet in height in the eastern neighbourhood of *Mount Hor*, and is composed of the unvarying and unpicturesque white cretaceous limestone. It lowers northwards, and I afterwards reached its outer edge. In some places it has quite a forest of vegetation.

With regard to *Mount Hor*, *Irby* and *Mangles* write: "Much juniper grows on the mountain, almost to the very summit, and many flowering plants, which we had not observed elsewhere; most of them are thorny and some are very beautiful."

As *Mount Sinai* is a mountain of labiates, so *Mount Hor* is a mountain of bulbs. The number of species and individuals of these orders respectively vividly coloured my impression of the botanical features of each of these sacred peaks. At the same time many of the *Mount Sinai* plants, labiates included, occur on *Mount Hor*. On *Mount Sinai* I procured bulbs of a single species, a total of three perhaps occurring. On *Mount Hor* I gathered at least twenty sorts.

In the upper 1,000 feet of *Mount Hor* a considerable accession of Mediterranean or more northern forms appear. A more interesting group is that of plants which have been considered absolutely peculiar to *Sinai*. Both these lists, which I here append, would no doubt be swelled by observations at a more seasonable visit.

Northern species ranging south to Mount Hor :—

- Dianthus multipunctatus* Ser.
 ? *Geranium tuberosum* Linn.
Pistacia palæstina Boiss.
Rhamnus punctata Boiss., var., barren (sp. nov. ?).
Paronychia argentea Lam.
Bryonia syriaca Boiss.
Galium canum Reg.
Scrophularia heterophylla Willd.
Sternbergia macrantha Gay.
Colchicum montanum Linn.
C. Steveni Kunth. (also on Mount Sinai).
Urginea scilla Sternih.
Bellevalia flexuosa Boiss.
Asphodelus fistulosa Linn.
Asparagus aphyllus Linn.
A. acutifolius Linn.
Arum, sp. ?
Carex stenophylla Vahl.

No doubt many of these occur on the Edomitic plateau, whose botany is practically unknown.

Sinaitic species discovered on Mount Hor :—

- Moricandia dumosa* Boiss.
Pterocephalus sanctus Dene.
Echinops glaberrimus D.C.
Varthamia montana Vahl.
Celsia parviflora Dene.
Origanum maru Linn., β *sinaicum*.
Phlomis aurea Dene.
Teucrium sinaicum Boiss.

These have been considered peculiar to Sinai. They may now be included in the flora of Palestine.

A consideration of the latter group is especially interesting when considering the ancestral origin of the more local or endemic portion of the Sinai flora ; and it also gives us a slight clue to the probable nature of the flora of the little known region east and south-east of Mount Hor. Judging from an appendix of species of plants collected by Burton's expedition to "The Land of Midian," the flora of the upper regions of Sinai is more nearly allied to that of Edom to the north of east, than to that of Midian in the south-east. The Gulf of Akaba has formed a barrier in the latter case.

Of the bulbous species, here as elsewhere, I can only enumerate a portion. The bulk of those gathered were in leaf, and were brought home to Mr. Burbidge, of the College Botanic Gardens in Dublin, under whose care many are now growing, but have not flowered.

The arboreal vegetation of Mount Hor was confined to the summit, and consisted of a bladder-senna, *Colutea aleppica* Lam., a turpentine tree, *Pistacia palestina* Boiss., and a juniper, *Juniperus planifolia* Linn. Each of these was about 10 or 12 feet high. The Rhamnus already mentioned was very much stunted.

At Petra two new species were discovered, which will be described in another place. One was a Galium allied to *G. jungermannioides* Boiss., and pronounced new by Mons. Boissier. It is a low straggling matted species, with the habit of our *Asperula cynanchica*. It occurred in the "Sik." The other new species was a Daphne, an erect shrub 6 or 7 feet high, with long linear leaves, reddish-brown berries, and small cream-coloured flowers. The fibre is remarkably stringy and tough. The Daphne is allied to *D. acuminata* and *D. macronota*, but differs materially from both these species. It occurred, in flower and fruit, on the slopes of Mount Hor, about a mile from Petra, and again at intervals lower down. The Boucerosia, already mentioned as being perhaps an undescribed species, was found on Mount Hor in flower in several places.

Many unrecognisable fragments of Umbellifers, scrophulariaceous plants, grasses, and others were noticed at Petra, and the botany will yield a good harvest to any one arriving at a proper season, and with sufficient leisure. My time in Petra was somewhat under an hour!

The following plants not previously met with, were gathered at Petra and Mount Hor:—*Diplotaxis pendula* D.C. *Ononis vaginalis* Vahl., *Rubia peregrina* Linn., *Inula viscosa* Desf., *Zollikoferia casiniiana* Jaab., *Thymelæa hirsuta* Linn., *Salsola rigida* Pall., *S. inermis* Forsk., *Noaea spinosissima* Moq., *Polygonum equisetiforme* J. & S., *Allium sinaiticum* Boiss. *Asplenium ceterach* Linn., *Andropogon hirtus* Linn., in addition to those already mentioned as reaching here a southern limit, and the About Kosheibeh plants, which also, as a rule, occur on Mount Hor.

The majority of these additions occurred from about 3,000 feet to the summit. I extract a few notes from my journal on this subject.

At 3,000 feet Oleander and tamarisk cease, *Scilla* abundant; at 3,450 feet *Thymelæa* (*Passerina*) first occurs; at 3,750 feet numerous species occur, as *Pterocephalus*, *Globularia*, *Onosma*, *Juniperus*, *Ceterach*, *Cheilanthes*, *Fagonia*, *Cotyledon*, *Capparis spinosa*, *Varthania montana*, *Phlomis*, *Ononis*, *Deverra*, *Moricandia dumosa*, *Rhamnus* as I ascend; at or near the summit (4,400 feet about) are *Geranium*, *Colutea*, *Pistacia*, *Pennisetum cenchroides*, *Hyoscyamus aureus*, *Noaea*, *Poterium spinosum*, *Scilla*, *Malva*, *Carex*, *Ephedra*, *Zollikoferia*, *Echinops*, *Verbascum sinuatum*, *Origanum*, *Ajuga tridactylites*, *Arum* sp., *Bryonia*, *Sternbergia*, and *Colchicum*, of species already mentioned.

Of Wady Musa, in which Petra is situated, Irby and Mangles write: "Following this defile farther down, the river reappears, flowing with considerable rapidity. Though the water is plentiful, it is with difficulty that its course can be followed from the luxuriance of the shrubs that surround it obstructing every track. Besides the oleander, which is common to all the watercourses in the country, one may

recognise among the plants which choke this valley, some which are probably the descendants of those that adorned the gardens and supplied the market of the capital of Arabia: the carob, fig, mulberry, vine and pomegranate line the river side; *a very beautiful species of aloe* also grows in this valley, *bearing a flower of an orange hue shaded to scarlet*; in some instances it had upwards of one hundred blossoms in a bunch.² Several of these were not observed by us. Of the aloe I can give no information.

At Petra, 2,900 feet above sea-level by my aneroid, many of these and others occurred; the most prominent were *Phlomis*, *Ononis*, *Thymelea*, *Rubia*, *Rhamnus*, *Pistacia*, *Inula*, *Sternbergia*, *Bellevallia*, *Rumex roseus*, *Verbascum sinaiticum*, *Ficus sycamorus*, and a stunted pinnate-leaved shrub or small tree, perhaps a *Fraxinus*. The *Ononis*, very viscid, with pretty yellow and claret coloured veined flowers, was very abundant. So also was *Thymelea*. *Sternbergia* (*Colchicum*) *macrantha* was glorious with flowers of golden yellow, as large as a lemon.

Few observations on animal life were obtained in this hurried visit, but these were all of interest.

Ibexes and gazelles were seen on Mount Hor, and a hare of the Egyptian variety fled from Wady Haroun at our approach. Another, seen at Petra, much lighter in colour, may have been the Nubian form.

When climbing *Jebel Abou Kosheibeh*, a clear loud flute-like whistle attracted my attention. The first few times I heard it I was fully persuaded it was a signal to warn those rascally Petra Bedouins that hated Christians were invading their domain. But I presently saw the whistle belonged to a bird, which proved to be *Tristram's Grackle*. This species, originally discovered by *Tristram* about the Dead Sea, has since been found in Sinai at *Wady Feiran* by *Wyatt*, who also met it at Petra. All the time we were on this mountain several of these birds kept flying around us, often displaying the orange spot on the wing as they hovered close by. Their flight is very graceful, sometimes hovering butterfly-like, sometimes swift and undulating in large curves like the chough. Grakles were seen afterwards a little above Petra, and a flock of a dozen or thereabouts circled round the summit of *Mount Hor*, disappearing and reappearing from the corners of the red sandstone cliffs, and giving notice of their presence with their melodious whistle. This is probably a favourite breeding place with these birds. It was not until I reached the Dead Sea that I obtained a specimen.

At Petra also occurred the Palestine bulbul, and the rich musical cry of the fantail raven, *Corvus affinis Rapp.*, was almost incessant while we were there. Nevertheless this bird hardly came nearer than two or three hundred yards, and would be difficult to obtain. By its note and by its size, and by its broad expanded tail seen on the wing, I was assured of the species on referring to *Canon Tristram's* work. This raven and the grackle are two of that author's characteristic birds of the Dead Sea basin.

Hey's sand-partridge, shrikes, and desert larks are also not unfrequent, the latter lower down towards the Arabah.

To *Laurence's* sharp sight I was indebted for two snakes, *Zamenis*

cliffordii Schleg. and *Rhynocaulamus melanocephalus* Guin. The latter species was believed peculiar to the Jordan Valley, where it was found by Tristram, and forms as yet the single representative of the genus founded for it by Dr. Gunther. The former has not hitherto been found outside the African continent.

A centipede (*Scolopendra*) and a black millipede (*Spirostreptus*) four or five inches long, but fortunately torpid, were captured here. The latter seemed to be very common.

Wells, which I often searched with a net, yield, as a rule, no life except small leeches and the larvæ of gnats. Some handsome insects of the grasshopper and cricket sorts were captured from time to time.

Up to this very few mollusca have been collected. *Helix seetzeni* Koch and *H. candidissima* Drap. were found in one or two places in Sinai. The latter was again met with in Wâdy Ghurundel in Edom, where I found also *H. propletarum* Bourg., *H. filia* Mouss., and the handsome species *H. spiriplana* Olic. On Mount Hor this last was frequent, and another fine shell, *Bulimus carneus* Pfr., was here first found. Most of these became commoner down to the Ghôr. At Petra, and in the Arabah, I collected also *Helix caspitum* Drap., a rare species. This scarcity of land shells is paralleled on the eastern side of the Gulf of Akaba in the land of Midian, where Captain Burton speaks of them as very rare, and mentions that he only met with two species in four months. In its natural history this little known country appears to be (judging from Captain Burton's work) almost identical with Sinai.

CHAPTER VIII.

WÂDY HAROUN TO THE DEAD SEA.

THE mouth of Wâdy Haroun into the Arabah is somewhat more than halfway from Akaba to the Dead Sea. The watershed between the Dead Sea and the Gulf of Akaba is nearer to Akaba. We estimated its lowest point at 660 feet above sea-level. It lies on the west side of the Arabah. At the mouth of Wâdy Haroun the Arabah is at its widest, being about thirteen miles across. The total distance from Akaba to the Dead Sea is 112 miles.

My chief detour in this part of the Arabah was on the east side, up a long valley to the Edomitic plateau with Mr. Armstrong. On this occasion we returned to the Arabah by a more northern valley, Wâdy Gluweir, which, from the numerous remains of encampments, tribe marks ("Wasum"), and the well-worn tracks, appeared to be a leading thoroughfare into the Shobek country.

In this wâdy are several springs, appearing, as is frequently the case, at the union of the sandstone and limestone formations. One of these springs supported a jungle of reeds with palms and some interesting

composite species of luxuriant growth. Tamarisks, acacias, and nubk trees (*Zizyphus*) were in some profusion, and on each of these three trees the handsome parasite, *Loranthus acacie* Zucc., with its handsome red flowers, was a conspicuous ornament. It was seen only two or three times on the tamarisk, oftener on the nubk, but much more usually on the acacia. Clinging to the reeds was an Asclepiad, *Cynanchum acutum* Linn., whose range is more Mediterranean than the others met with. Amongst them was the stately *Saccharum egyptiacum* W. and a shrubby composite, *Pluchea dioscoridis* D.C., reached a height of 15 feet. Its flowers were insignificant. A red-barked osier, *Salix acmophylla* Boiss., and a poplar, *Populus euphratica* Linn., which is perhaps the willow of Babylon, occurred along the margin of the short-lived stream. Other species collected were—*Erucaria aleppica* Linn., *Tribulus terrestris* Linn., *Ficus carica* Linn., *Salsola tetragona* Del., and others less noteworthy. A very fragrant savory, *Satureia cuneifolia* Ten., and our early acquaintance the "sekkaran," *Hyoscyamus muticus* Linn., occurred.

At the head of this valley *Juniperus phœnicea* was found to be the tree visible from the Arabah on the white chalky plateau of Edom, and growing abundantly. Burton found this tree luxuriant and abundant at considerable heights in Midian three degrees farther south.

In this wâdy I gathered maiden-hair fern, the first I had seen since leaving Jebel Musa. Caper (*Capparis spinosa*), *Lycium arabicum*, and *Boerhavia verticillata* also occurred. Bushes of nubk were sometimes canopied with this latter trailing plant, with its pretty panicles of blueish small flowers.

The Bedouins told me that with the juniper trees on Edom occur also "halût," *Quercus coccifera* Linn., and "arour," a thorn with a small sweet fruit. This was, I believe, *Rhus oxyacanthoides* Linn., which the above-mentioned traveller found abundantly in Midian. I met it subsequently in the Ghôr.

In Wâdy Ghuweir I captured the first Batrachian I met with, *Bufo viridis* Linn.; running water, the rarest and pleasantest of sights in these regions, was the source of this increased variety of life.

At the Arabah, abreast of the above valley, I examined some large bushes of *Calligonum comosum* L. Her., a desolate, leafless, whitened; scrubby species which often grows in shifting sand. Its roots are beautifully adapted to secure its position. These are woody, springy, and tough, very different from the brittle branches, and about a quarter of an inch in diameter. Some of these are seven or eight yards in length, perhaps much more, and beset with knobs at intervals, which are serviceable in giving them a better grip. These excrescences may have been due to insects, for I afterwards noticed that this plant was much subject to galls; but whatever their origin, they served the purpose of the flukes of an anchor to hold the bush in a sea of shifting sand.

There appears to be a great variety of gall-producing insects in the desert. Almost every woody species is liable to knobs and swellings. One of the most curious of these appendages was that frequently attached

to the common *Salsola*—a shapely little spurred and coloured excrescence like a solidified flower of one of our commoner wild orchids.

A minute cruciferous annual, half an inch high, leafless and with a silicle which formed almost the entire plant, was so fragile that it failed to reach home. The silicle valves had separated, dehiscing from the base upwards, one at either side of the septum.

In this part of the Arabah *Pancreaticum Sickembergeri* was frequently gathered. At the spring of Ain Abou Weirideh, a little south of Wâdy Ghuwair, I obtained many old friends. *Populus euphratica* attains here good dimensions. No less than three running streams maintain a brief but productive existence across the sands. I gathered here *Prosopis stephaniana* Willd., *Pulicaria arabica* D.C., *Statice pruinosa* Linn., *Artemisia monosperma*, Del., *Suaeda asphaltica* Boiss., *Salsola fetida* Forsk., and many more.

Several bulbous species were obtained here. One of these which has flowered since my return has been determined by Mr. Baker, *Urginea undulata* Desf.

Further north, towards the Ghôr, I collected *Eremobium lineare* Del., *Monsonia nica* Dene., *Anastatica hierochautina* Linn. ("Rose of Jericho"), *Astragalus Forskahlii* Boiss., *A. acinaciferus* Boiss., *Rhamnus* sp.?, *Carthamus glaucus* M.B., *Androcymbium palæstinum* Baker, *Allium Sinaiticum* Boiss., *Aristida ciliata* Desf., *A. plumosa* Linn., *Panicum trugidum* Forsk., with the usual desert species.

The most noticeable feature in the animal life in the northern half of the Arabah has been already mentioned. I allude to the extraordinary abundance of small holes and burrows in stone and gravelly sand. The riddled surface reminded me forcibly of the lemming haunts of Discovery Bay, in lat. 81° 45" north, where, however, all were due to one species with the exception of those of a larger rodent, the stoat, who preyed upon the lemmings. One would expect to find a carnivorous rodent subsisting on the abundant supplies here also, but none such has been as yet discovered. The holes in Wâdy Arabah vary from small ant holes and lizard caches to those of rabbit-holes, and one or two fox-holes (?) were also observed. Tracks of various sizes also abound. Jerboas, porcupine mice, gerbilles, and sand-rats (*Psammomys*) are the groups represented, of which it is very difficult to secure specimens during a hurried march like ours. Canon Tristram, however, enumerates a considerable variety. One which I trapped here, *Gerbillus erythrorus* Gr., was sand-coloured and the size of a large rat, and is now in the British Museum. It does not appear in Canon Tristram's work. This gerbille is a wide-spread desert form, from Candahar to Algiers. The holes of this species, and some others, are surrounded outside, besides being well supplied inside, with little heaps of chopped fragments of plants, leaves, seeds, and other remnants of vegetation. Ant-roads are also conspicuous, about an inch wide, and firmly and smoothly pressed down.

Porcupine quills and decomposed remains of hedge-hogs were several times picked up in the north end of the Arabah.

At Ain Abou Weirideh sub-fossil shells were obtained in marl deposits at about 1,400 feet above the level of the Dead Sea, or about 100 feet above sea-level. Two of these, *Melania tuberculata* Mull., *Melanopsis Sauleyi* Bourg., have been figured by Professor Hull at page 100 in his work already referred to. I gathered besides these *Melanopsis buccinoides* Olic., and *M. ermita* Trist. These are fluviatile or lacustrine species, and are all found still living round the Dead Sea in various streams and springs. The last-mentioned species is very rare, and I did not find it alive, but Canon Tristram discovered it at the south-western Ghôr. These marls, in the opinion of geologists, are remaining deposits of an ancient lake or inland sea, of which the Dead Sea is all that now exists. From where we now stood to near the source of the Jordan, about 225 miles northwards, must have been a continuous sheet of water in (geologically speaking) tolerably recent times.

Lower marls are very characteristic at an average level of 600 feet above the present level of the Dead Sea. I searched these marls for similar remains in many places, but always found them absolutely barren in records of the past, and very rarely inhabited by any existing life, vegetable or animal. Trunks of palms, floated to, and then embedded in these marls at the base of Jebel Usdum, form no exception; since these may have been drifted thither in times which are as yesterday compared with the "middle marls." The upper marls are fairly vegetated with the existing flora. The natural conclusion would be that the ancient sea, at first harbouring fresh-water inhabitants, became reduced by a long process of evaporation, or some other cause, to about a mean height between its present and its earliest level, and that it was already so salt that it was almost if not quite uninhabitable.

At this height, judging from the extent of the middle marls, the waters must have remained stationary for a very considerable period, while most of the upper marls became converted into the lower formation by a long process of denudation. From the latter elevation to the present the subsidence has no doubt been very recent, and is still continuing. The most recent deposits of the Dead Sea are of course perfectly barren, except of mixed drift, or where these have been converted into marshes or fertilised by the few small fresh-water streams.

But I anticipate in my anxiety to get down to the fertile Ghôr es Safieh.

At Ain Abou Weirideh a small flock of pintail grouse circled round the wells, but I failed to obtain a specimen. Subsequently I recognised the note and obtained the bird, *Pterocles senegalensis* Linn., at Bir es Seba. Its call is very peculiar, recalling the strange utterance of the Manx Shearwater.

On the night of the 14th we were visited with a thunderstorm and a tremendous downpour of rain. Rain had also fallen on the 3rd December, the day we left Akaba; this was our total from Cairo to the Dead Sea. The thunder on the 14th was grand and continuous for about three-quarters of an hour. Lightning flashed at about every five seconds.

CHAPTER IX.

SOUTH END OF THE DEAD SEA.

ON the 16th of December we obtained our first view of the Dead Sea and descended to the plain at its southern extremity. The whole depression in which the Dead Sea lies, 1,300 feet below sea-level at its surface, is called the "Ghôr," or "Hollow." On the first night we camped in the Ghôr el Feifeh, and from the 17th to the 26th inclusive we were detained at the Ghôr es Safieh while waiting for means of transport from Jerusalem.

This enforced delay in so unique a locality was to me a most fortunate circumstance. Previous visitors do not appear to have obtained more than a hurried peep at the Ghôr es Safieh. The difficulties arise from the hostile character of the adjoining tribes of Arabs, who are constantly engaged in predatory warfare, the Ghôr es Safieh being very frequently the scene of their conflicts. Our imaginations were kept excited by continual reports and warnings of those terrible Kerak Sheikhs, Huwaytats, and others who were about to demolish us. I had also read and heard much of the impossibility of doing any good exploring work where an escort is always necessary, and where the Bedouins were bent on plundering unwary strangers. However, day after day I followed the bent of my inclinations frequently alone, climbing the eastern hills, searching the jungles and marshes, and collecting birds and plants without ever receiving the smallest annoyance.

The Ghôr es Safieh, where we spent ten days, lies at the south-eastern end of the Dead Sea, about 1,250 feet below the level of the Mediterranean. It is watered by the Garahi river as the Feifeh is by the Tufieh, both descending from the eastern highlands. Between these two oases there is a strip of desert. Both these streams were well supplied with water during our visit, and I understood from the Arabs that the Garahi at least was unfailing. The latter is called also El Ahsi, Hessi, and Safi, and the Nahr el Hussein. Smith's Ancient Atlas calls it the Brook Zered. It is distributed into numerous smaller watercourses for purposes of irrigation by the cultivating Ghawarnihch Arabs, by whose tented village we were encamped. There is another smaller village, called, I believe, El Feifeh, of which we obtained a passing view.

The whole distance from the base of the sudden descent from the barren white marls into the plain is about ten miles to the Dead Sea. The Ghôr es Safieh is about three to four miles wide. The upper Ghôr of El Feifeh is, as I have said, cut off from the lower by a strip of desert, an unwatered patch of sand-dunes and Salsolaceæ. On the east the Ghôr is bounded by the highlands of Moab, and on the west by the briny, muddy, barren bed of the Tufieh. Steep marl banks, a couple of hundred feet high, enclose it on the south, while northwards it gradually becomes saltier and swampier, with a diminishing vegetation to the lifeless margin of the Dead Sea.

On the Moab cliffs, as also on the Judæan to the west, the lower

declivities are flanked in many places with saline white marls to an upper limit of 650 feet. These marls are absolutely barren *in situ*, but they are fast being washed down by aqueous denudation, and thus purified they are scattered by irrigation over the Ghôr. A minute beetle, of the genus *Gallolla*, was a slight exception to this barrenness, which is of course interrupted in the beds and by the margins of the occasional watercourses. This new species, whose description will subsequently be given, is most nearly allied to *G. beccari* Gest of Abyssinia.

The upper Ghôr is by no means so fertile as that watered by the larger and more northern stream. The latter issues with a south-westerly direction from a narrow cleft, or "sik," in the red sandstone by which I penetrated for a few miles into that desolate country. The river is here confined to the base of the sharply cut cleft, and confers no fertility on the unaltered marls above. This cleft is 50 to 150 feet in depth or more, and the period required for its formation must place the marls above at a high antiquity. It should be borne in mind, however, that the water supply is probably now at its minimum, and the means of erosion were formerly much greater. The bed of this stream was in places absolutely dangerous from a curious cause. The side being vertical there was no upward escape, and the bed of the stream was so deeply clogged with the soft moving mass of silted fine mud that, although there was not more than 18 inches of water, I was compelled, and with difficulty, to retrace my course. As usual when anything risky is attempted, my native deserted me. At its embouchure from the cleft this remarkable stream passes through the lower gravel and shingle deposits which form the basement of the marls.

On this occasion, when crossing the marls above, I came suddenly upon three ibexes. They whistled or snorted like Highland sheep. I let fly ball cartridge from my fowling piece, but missed them. My shots attracted some wild and villainous-looking mountaineers, who followed me to camp that night, where I first became aware of their existence. They could not make themselves understood, but I fancy wished to know should they hunt the "beden." Almost immediately after I lost sight of the ibexes I came across some very interesting and rather extensive ruins of apparently great antiquity. I brought the whole of our party to the spot the following day. The ruins will be found planned and described in Professor Hull's work at page 121, and again in Major Kitchener's Appendix to the same at page 216. I leave it to future explorers to identify this site with the ancient Gomorrah.

The following observations were obtained from Sheikh Seyd, of the Ghawarniéh, with regard to the Ghôr:—

"Rain generally falls on about ten or twelve days of the year, usually during December and January. Some years there is none. Much more is seen on the highlands on either side, which does not reach the Ghôr.

"They grow wheat, barley, oats, dhourra (Sorghum), indigo (one sort), tobacco, and Indian corn.

"Wheat, barley, and dhourra are sown in January; Indian corn in March. Tobacco is sown in January. Indigo is sown in March. They grow

some white grapes on trellises. They do not know henna (*Lawsonia*) Zukkum (*Balanites*) is common, but made no use of. Mallow is boiled and eaten. Osher (*Calotropis*) is given to women when barren, or to procure milk, the milk of the bush being taken. Water-melons and cucumbers are cultivated. Of the fruit of the *Salvadora* (*arak*) they make a sort of treacle or sweet mixture. Never heard it called 'Khardal;' Khardal is mustard, but they have none.

"They (the Ghawarnihch) mostly leave the Ghôr and go up to the hill country in the hottest weather. Snakes and insects are very bad and very numerous in the Ghôr at that season."

My inquiries about *Salvadora* were made relative to its claims to being the tree of the mustard-seed parable. I could get no corroboration from these Bedouins of this view, first put forward by Irby and Mangles, who are not, however, responsible for the statement that it is called "Khardal" (mustard, nor do they say, as has been misquoted, that they found the "Ghorneys" using it as mustard. The theory has not, in fact, "a leg to stand on."

Mr. Merrill, U.S. Consul at Jerusalem, has kindly made inquiries for me as to the origin of the seed sown by the Arabs. He informs me they save it from year to year, but if they should run short they obtain supplies from Jerusalem. It is to the Mediterranean sea-board westwards, therefore, we must look for the home of any suspicious weeds of cultivation in the Ghôr; and those which are not natives of this region may perhaps be held less open to question as to their being indigenous in the Ghôr.

No sooner has the river Hessi issued from its unfruitful ravine than the scene changes as if by magic. As it moistens the plain, an extensive growth of bushy, low-sized trees almost covers the district.

In the upper Ghôr these are densely tangled and matted, almost to the exclusion of other growth, and afford shelter for multitudes of birds. In the lower Ghôr the trees are more scattered; often no doubt in the more peopled district being consumed for firing, and thinned to admit of pasturage and cultivation. These trees are chiefly *Acacias* (three sorts), *Salvadora*, *Zizyphus*, and *Balanites*. There is also a *Rhamnus* not unfrequent, and Mr. Lowne mentions *Moringa aptera*. This latter writer misquotes the authors (Irby and Mangles), whom he criticizes, when he ascribes to them the remark that the oasis contained "an almost infinite variety of shrubs and bushes." Their words are: "the variety of bushes and wild plants became very great," a phrase which is well within the bounds of the reality.¹

Of these trees the *Salvadora* is the most abundant, and usually occupies a slightly lower region than the *Acacias*. It grows in clumps, several stems arising together, branching at once, and all combining to form a single tree. It is very leafy above, with small entire leathery leaves; below it displays a labyrinth of greyish branches. The flowers and fruit

¹ I quote from Murray's edition in the Colonial and Home Library, vol iv, p. 108, ed. 1884.

are small and numerous. It attains a height of about 20 feet, a stray branch reaching to 25 or 30 feet. The Balanites (Zukikum) is usually a smaller tree, and is now in full fruit. Its fruit is green and wrinkled, somewhat like that of a walnut. Its leaves are few and small. The Zizyphus is the well-known sidr or thorn of the Arabs, the dôm when reaching a large size. Its branches, strewed in lines along the ground, form the fences to protect the grain from cattle.

As the plain slowly lowers to the Dead Sea, becoming at the same time gradually moister, the vegetation changes. The above species decrease in the number of individuals. Tamarisks, Osher, Salsolas, Prosopis, and Atriplices take their place in abundance. Of these, the Osher (*Calotropis procera*) is the most remarkable. It is somewhat like a gigantic small-leaved cabbage bush, with a strong infusion of cactus blood and the bark of a cork-tree—utterly strange-looking to European eyes. Its fruit, the size of a large apple, is full of silk and air, and is probably to be identified with the "apples of the Dead Sea." The drawing of these "trees that beren fulle faire apples, and faire of colour to beholde," by Sir John Maundeville, is by no means unlike the Osher. If the early traveller's figure stands for any real thing it is probably for this bush, which here attains a remarkable size. Of it the writers already quoted say: "We were here (Ghôr es Safieh) surprised to see for the first time the Osher plant, grown to the stature of a tree, its trunk measuring in many instances 2 feet or more in circumference, and the boughs at least 15 feet in length, a size which far exceeded any we saw in Nubia; the fruit also was larger and in greater quantity." This remark is interesting in connection with Captain Burton's, that the Osher in South Midian is "a tree, not a shrub" ("Land of Midian," ii, 206), as though the plant was more at home in the Eastern continent. Castor-oil (*Ricinus communis*) is also very conspicuous and large (20 to 25 feet), chiefly in the same localities as the Osher. Other bushes are the leafless *Leptadenia pyrotechnica*, and the poplar, *Populus euphratica*. All these were seen in the Ghôr el Feifeh also. A tree of the latter, about 50 feet high, near the Dead Sea, is, I think, the largest tree in the whole Ghôr. Oleanders and Osiers are confined to the embouchures of the stream from the mountains or farther up.

As we approach the Dead Sea, occasional swamps produce jungles of various late grasses, chiefly *Arundo Phragmites* (*P. gigantea* J. Gay), *Erianthus Ravenneæ* P. de B., and *Imperata cylindrica* P. de B., mixed with several Cyperaceæ, of which the most interesting were *C. cleusinoides* Kunth., and sparingly, I believe, *C. Papyrus* Linn. Salter patches are given up to *Juncus maritimus* and *Eragrostis cynosuroides* Retz. The former (var. *arabica*) was from 4 to 7 feet high. Tamarisks, *Suædas*, Salsolas, *Salicornia*, and Atriplices are the last to fail. Tamarisk, *Salicornia herbacea*, and a *Ruppia* not in flower, probably *R. spiralis*, L'Her., were the very last; the former all along the inner margin, the latter two where the mud of the sea is in union with that of the Tufileh estuary. The latter two encroach downwards upon the forbidden area here, from

salt swamps to those which are too salt, as they do upwards in our own country, from salt swamps up fresher estuaries until they meet those which are too fresh.

A brief space, fifty yards or more, varying with the slope and the fulness of the basin, is barren saline mud or sand. This foreshore is at other seasons under water, and all which is liable to be submerged is barren, except in the two instances above mentioned on the Tufileh mud.

An interesting assemblage of sea plants is congregated around the Dead Sea. These are *Sonchus maritimus* Linn., *Inula crithmoides* Linn., *Lotus tenuifolius*, Rehb. (*Lythrum hyssopifolium* Linn.), *Salicornia herbacea* Linn., *Salsolæ*, *Suaeda*, *Atriplices*, *Scirpus maritimus* Linn., *Fimbristylis dichotoma*, Rottb., *Juncus maritimus* Linn., and *Ruppia* sp.? (*R. spiralis* E. Her. ?). Some of these at first sight will hardly fail to impress the observer with the idea that the vegetation must recently have undergone distinct maritime conditions; but a little reflection will show that the visits of aquatic birds, and the present suitability of the circumstances, suffice to explain their presence. Moreover, the most conspicuous are of the easily diffused pappus-bearing compositæ.

Several of the most interesting species were obtained by penetrating into the jungles in all directions. In the very heart of these, *Cynanchum acutum* was abundant, trailing convolvulus-like about the reeds. These jungles, and along the banks of the stream, were my best hunting grounds.

The luxuriance of some familiar British aquatic plants may be alluded to. The sea rush, as already mentioned, reaches 7 feet in height, *Inula crithmoides* 4 to 7 feet, and *Lycopus europæus*, 5 to 6 feet in height, while gigantic plants of *Lythrum salicaria* had reached a height of 14 feet!

One of my most interesting "finds" was that of a handsome acacia, *A. læta* Br., in the Ghôr. This species has not been recorded north of Syene (Assouan) in Upper Egypt, seven degrees farther south. There were several trees of this very distinct species, which is much larger and better furnished than the other acacias met with. An Arab to whom I silently pointed out one of this species at once exclaimed "Sunt," and proceeded to show me the difference in its leaves and fruit from that of a *Seyal*, its neighbour. At Akaba an Arab called a large *A. tortilis* "Sunt." It is an Egyptian name, but never applied to the "*Seyal*."

A few other remarkable species not noticed by previous botanists in Palestine may be mentioned:—*Coccolus Laba* D.C., *Sclerocephalus arabicus* Boiss., *Zygophyllum simplex* Linn., *Indigofera paniculata* Del., *Rhynchosia minima* D.C., *Trianthema pentandra* Linn., *Eclipta alba* Linn., *Pentstemon spiralis* R. Br. *Salsolaceæ* (several), *Digera arvensis* Forsk., *Boerhavia verticillata* Poir., *B. repens* Linn., *Euphorbia aegyptiaca* Boiss., *Cyperus cleusinoides* Kunth., and some others. Several of these are distinctly tropical, and add to that most interesting group of these plants already known to inhabit the "sultry Ghôr."

I gathered altogether at the southern end of the Dead Sea about 225 identifiable species of flowering plants. The total there may reach 300.

Many annuals and Mediterranean spring plants, especially of the Leguminous and Cruciferous orders, were still in a young condition.

I defer a fuller analysis for the present, merely remarking that the flora of the Ghôr, a unique locality, is even more interesting, and that in no mean degree, than it has hitherto been shown to be.

The Ghôr has been visited by two competent botanists, Messrs. B. T. Lowne in 1864, and W. Amherst Hayne in 1872, both in Canon Tristram's company. These gentlemen have, however, hardly dealt with the oasis of Es Safieh. Mr. Hayne's essay, appended to Canon Tristram's "Land of Moab," is only enough to make a botanist wish for more of it, while Mr. Lowne's valuable paper, published by the Linnean Society, deals with the south-western extremity of the Ghôr, two dry desert wadies whose flora is the northern wave from Sinai and the Arabah.

Although devoid of life, the sandy beach of the Dead Sea mentioned above was full of interest. On it were strewn salted remnants of a variety of insects, beetles, spiders, locusts, and seeds which had been floated from the Ghôr by the rivers and promptly killed and cast ashore. Several of these were identifiable, although of no value as specimens. A better collection in the same place was that of shells. In some places these were thickly strewn, and I went through these natural museums with the greatest care, obtaining thus several varieties not previously found in Palestine. Amongst these are *Planorbis albus* Mull., *Limnæa peregra* Desf., *Physa contorta* Mich., *Achatina* (*Cionella*) *broublei* Bourg., *Ferrussacina thamnophila* Bourg., and a new species of *Bulinus*.

The tamarisks near this were inhabited by a species of ant. These make their home, in parties of 20 or 30, in a sort of purse of vegetable matter, made out of scraps triturated together and worked into a smooth papery lining. The species is *Polychæthis seminifer* Mayr., belonging to a tropical, chiefly Indian, genus. Multitudes of little fishes, *Cyprinodon dispar* Rapp., as mentioned by Tristram, were seen in the salt pools close by.

Although my visit was too early for many species of plants, yet on my first day in the Feifeh I found at once numerous kinds not seen in Sinai, of which a good many were both in flower and fruit. These must flower continuously, or with a very brief respite; others, chiefly European and Mediterranean species, were rapidly advancing to the flowering stage during our sojourn in the Ghôr.

A good number of Sinai species occur in the Ghôr. An effect of the moister climate on some of the woolly desert plants was noticeable. These became very perceptibly less so in the Ghôr. *Pulicaria undulata*, *P. arabica*, *Tribulus terrestris*, *Verbascum sinuatum*, may be instanced. Possibly the salinity of the atmosphere assists in this; the tendency of plants to become glabrous by the seaside is familiar. On the other hand, excessive dryness appears to provoke pubescence in plants, as well as other striking qualities of pungent odours, gummy exudations, and conversion of leaves to spines, all of which we may expect to find diminished if the species can accommodate itself to moister conditions.

I have hitherto spoken almost entirely of the plants. The district is of as great interest in other branches of natural history. Canon Tristram's various works have made this fact familiar. My prolonged stay at an unusual season must indeed be my excuse for trespassing on a subject he has made so peculiarly his own.

The Ghôr swarmed with birds. About forty species were observed, of which, with two or three exceptions, specimens were obtained. Some, especially doves of two species, and bulbuls of the sort already met, were extraordinarily abundant. The doves were the Indian collared turtle, *Turtur risorius* Linn., and a smaller beautifully bronzed species, *T. smyrnatensis* Linn.

On the Dead Sea mud, redshanks, lapwings, and sandpipers flitted and fed, but they were confined to those parts of the margin which were tempered by fresh water. Snipe, water-rails, and ducks of British sorts were frequently met with. Marsh sparrows in great flocks also kept near the shore. Buntings and larks of three sorts were in vast numbers throughout the stubbles of maize. The two desert partridges occurred on the margins of the Ghôr, where also the thicknee was shot. Shrikes, "boomey" owls, marsh harriers, buzzards, sparrowhawks, and kestrels were all noted. The mellow, loud whistle of Tristram's grackle frequently caught the ear, as did also the excessively discordant craking note of the Smyrna kingfisher. The beautiful little sunbird and the gaudy blue-throated robin were about equally common, the former usually frequenting those acacias which gave support to the handsome Loranthus. Several other warblers were observed, but for most of these, as well as the swifts and others, the season was too early. On the upper ground at the edge of the Ghôr several pairs of desert chats of two or three kinds might be always studied, and the impression the Ghôr gave me was that many migratory species of Palestine who ought to travel south from the Jerusalem plateau in winter found here a conveniently close and sufficiently warm retreat which they utilise in vast numbers.

Burrowing animals still give evidence of their abundance. Traps set for these were, I believe, appropriated by Bedouin lads, for I could never rediscover them. The traps were strong, and I trust they snapped on their meddlesome fingers. Jackals kept up their high-pitched scream throughout the night. Bedouins, bantams, jackals, and jackasses have all peculiarly high notes in the Ghôr. They howl together in a shrill minor key chiefly when they ought to be asleep.

Fresh boar tracks were always visible; on one or two occasions I heard the animals crushing in the jungle close ahead of me. Ibexes were seen in the ravines close by.

There are many cattle scattered through the Ghôr. These are chiefly small pretty black animals with white faces, somewhat like the Highland breed, while goat-like sheep and sheep-like goats with ears hanging 6 inches below their snouts, are herded evening and morning. Donkeys are more numerous than ponies; there are very few of the latter in the possession of the much molested and peaceful Ghawarnihel.

The Bedouins supplied us with poor milk and very small eggs.

Insect life had as yet hardly awakened. About half-a-dozen species of butterflies were observed, of which some were Ethiopian forms. Scorpions were still torpid. Molluses, except fluviatile, were scarce, while Batrachians and Reptilia might have been almost non-existent with the exception of the Lacertidæ.

A very nimble fresh-water or rather marsh crab was very abundant. To this animal was due the multitude of burrows amongst the tufts of *Juncus maritimus* near the Dead Sea. Twice I saw them disappear with incredible swiftness into these holes, which were of various sizes, and of so great a depth or length I could not usually dig them out. Several that I did dig out were blind or empty, and at first these holes puzzled me beyond measure. The total absence of tracks or pads leading to them arrested my attention, while their widely different sizes, both in length and diameter, suggested something altogether new. Those crabs I obtained were by means of the Bedouin lads. The carapace of the biggest was about 5 inches by 3. They are grey in the young state, but attain a reddish tint when full grown. The species is *Telphusa (Potamophilusa) fluciatilis Savign.* One was killed in our camp, showing that they ramble at night away from water or marshy places. This crab extends through Egypt to Algiers, and occurs also, I believe, farther east than Palestine.

At the time of our visit the mean diurnal temperature was about 50° Fahr. There is no universal check to vegetation in the Ghôr. Acacias, Osher, castor-oil, Loranthus, Salvadora, species of Abutilon, Zizyphus, and Balanites were bearing fruit and flower now in the coldest season in true tropical fashion.

Before we left, the sun was just beginning to "braird the lea," and there was a delicate hue of green perceptible across the ill-tilled soil.

The river, Seil Garahi, alias Hessi, was well filled with water, and on several occasions we enjoyed a swim down the swift deep rushes at the inner edge of the plain. Irby and Mangles, I think, found this river dry on their return journey from Petra.

Before bidding farewell to the Ghôr I should mention one striking peculiarity in its flora. I allude to the great number of species compared with the number of individuals. If those few gregarious kinds (chiefly trees, grasses, and shrubs) already mentioned be eliminated, the remaining sorts would very often depend on a few plants for their claim to a place in the list. Hence a brief visit may give rise to many omissions.

CHAPTER X.

GHÔR ES SAFIEH TO GAZA.

On the 27th December we finally struck tents and left our camp in the Ghôr es Safieh. As we passed westward near the south end of the

Dead Sea some interesting features were observed. The waters vary in their surface level about 3 feet between the brief wet period and the minimum level. During our visit they stood at a low level, and the drift of timber and terrestrial shells showed an upper margin at a uniform height in several places. Where the shore slopes very gradually, as in most places round the southern end, this variation in depth is sufficient to leave a wide space of foreshore uncovered. This was very noticeable during our journey along the base of Jebel Usdum, at the south-west corner of the Dead Sea. The water was there about 600 yards from the line of drift. Inside this was the usually traversed track along the base of Jebel Usdum, and above, about 7 vertical feet higher than the present high-water drift, was an older well-marked margin looking very recent and pointing to a still continuing evaporation of its waters in excess of the supply.

Logs of palm-trees frequently marked these margins, and these were seen embedded in a drifted position in the marls of Jebel Usdum as much as 27 feet above the highest level now attained by the waters of the sea. Palm-tree trunks were also seen along the river Tutileh in the Ghôr el Feifeh and lower about its estuary. These were probably, from their appearance, torn out of its bed during a flood in a semi-fossilised condition. Thus the subsidence of this sea has continued and is continuing, and earlier deposits are being continually carried down to form more recent ones and to fill up the cavity. Most parts of the Dead Sea south of the Lisan are very shallow. In two places, when looking for a swim, abreast of Jebel Usdum and north from the Ghôr es Safieh, I waded out several hundred yards without getting water above my knees, and the water, like that at the mouth of the Jordan at the other end, is usually turbid. The work of reclamation steadily proceeds, and as the sea is known to be of very considerable depth (200 fathoms) in other places there is abundant room for the inflowing sediment.

Of Jebel Usdum I have given a description to Professor Hull which has appeared in his account of our expedition. It proved, as it looked, to be of little botanical interest, and I should not have climbed it had I not seen it stated in several places that it was inaccessible. The plants found on its upper portion, 650 feet above the Dead Sea, were very few, the whole being a bare flat with a slight central ridge of barren marl—the cap of the central core of rock-salt. A couple of solitary tamarisks occurred and several Salsolaceæ. The latter were *Noœa spinosissima* Moq., *Atriplex alexandrina* Boiss., *Salsola rigida* Pall., var. *tenaifolia*, *S. tetragona* Del., *S. fœtida* Del., and *S. inermis* Forsk. The “mountain of salt” is, in fact, well characterised by this order. Several of the above are additions to the flora of Palestine. On the western slope a few desert species of the ordinary and familiar types were collected, and these gradually increased to the base at the Mahauwat Wâdy, whose flora has been already the subject of a special paper by Mr. Lowne. This writer gathered here, and in the neighbouring Wâdy of Zuweirah, eighty-two flowering species chiefly of the desert sorts. These are all, or almost all, either Sinaitic or occur in the Wâdy Arabah.

Leptadenia pyrotechnica Forsk., and *Ochradenus baccatus* Del., grow to a large size here. The latter was about 15 feet high, close to the Dead Sea, at the confluence of these two wadies. *Zilla myagroides* Forsk. was here in flower, bearing a pretty little blossom like our *Cakile maritima*.

During the ascent of Wady Zuweirah to the plain of South Judæa the following fresh species were collected:—*Natoceras canariense* R. Br., *Eumarthrocarpus lyratus* D.C., *Zollikoferia* sp.? (*Z. stenoccephala* Boiss.?), *Lithospermum tenuiflorum* Linn., *Heliotropium rotundifolium* Sieb., *Ballota andalata* Fres., *Archiea linearifolia* D.C., and *Plantago Loefflingii* Linn. A large bulb, *Urginea Scilla* Stein.?, now only in leaf, marks well the transition stage from the Ghôr flora to that of the Judæan wilderness. Desert species, as *Fagonia*, *Zygophylla*, *Retama*, *Acacia*, *Resedacea*, *Cucumis*, *Microhynchus*, *Damia*, *Aerua*, *Forskahlea*, and others were here for the most part taken leave of. These ascended perhaps a third part of the climb, several ceasing at about the old Saracenic Fort. Upwards, and on the Judæan plain, a great change takes place. We found ourselves ere long on rich land arousing itself to a spring growth, although the most inclement season was not yet reached. The need of water is of course everywhere apparent. Withered remains are scarcer than in the desert, and the ground is often bare for considerable spaces, or with a few early patches of species to be presently mentioned. It becomes difficult to recall the existence of the contiguous Ghôr flora with its perennial luxuriance. Hardly a bush and no trees are observed to break the monotony. Travelling still westwards, evidences of cultivation, that is to say of the soil being "scratched" and sown, appear. Soon after Bir es Seba, two days from the Ghôr, we find ourselves amongst softly swelling downs covered with sowers and ploughers, but otherwise monotonous in aspect, as the cretaceous limestone formation usually is.

The species first observed at the head of Wady Zuweirah and upwards to Bir es Seba were numerous, many of them spring Mediterranean species just opening their flowers. The following were conspicuous:—*Carrichtera Vella* D.C., *Bisutella Columba* Ten., *Eumarthrocarpus lyratus*, Del.?, *Silene dichotoma* Ehr., *S. Hassoni* Boiss., *Helianthemum Kataricum* Del., *Asragalus sanctus* Boiss., *A. alexandrinus* Boiss., *Erodium cicutarium* Linn., *Senecio coronopifolius* Del., *Scorzonera lanata* M.B., *Calendula arvensis* Linn., *Achillea santolina* Linn., *Anchusa Milleri* Willd., *Cyclamen latifolium* Sibth., *Ajuga reptans* Schreb., *Sotarcia canaliculata* Ten., *Marrubium alysson* Linn., *Salvia verbenaca* Linn., *S. controversa* Ten., *S. egyptiaca* Linn., *Eremostachys laciniata* Linn. (in leaf only), *Paronychia argentea* Lam., and *Urginea andalata* Steinb. (1). Several of these are pretty little bright-flowered yellow and blue annuals.

We were now travelling on horseback, and I had no longer the same facilities for botanising. The pace was usually too fast. My method was to keep well ahead till I reached some inviting point, and then dismount and botanise, usually holding a rein across my arm. The result was that I was usually left far behind, or in hot pursuit of the party. Sometimes I lost my way altogether. It would have needed a botanical circus

rider to get on and off his horse with comfort as fast as new flowers occurred.

Several mosses and lichens were gathered on this march. The mosses were *Tortula muralis* Linn., *Bryum atropurpureum* W. and M., and a Hepatica, *Riccia lamellosa* Raddi. The mosses are both British species.

In animal life, gazelles, mole-rats, *Spalax typhlus* Pall., and sand-rats, *Psammomys obesus* Rupp., appeared to be the most abundant. I captured examples of the latter two, which are now in the British Museum.

The mole-rat, the Asiatic representative of the English mole, though of a very different family, is a strangely ugly little animal with long protuberant teeth. Mr. Armstrong showed me a ready way of obtaining specimens, which at first sight appeared to be hopeless. His plan was to watch the freshly up-lifted heaps of soil which are raised in line at short intervals, and notice the direction the animal is burrowing in by the relative freshness of the heaps. Soon a slight movement will be observed in the freshest heap or beyond it, and on firing a charge into the ground at once, the gun about a foot from a point a few inches ahead of the moving place, the animal will be stunned and may be at once dug out, probably alive. I tried this plan twice successfully.

A buff-coloured snake, about 3 feet long, *Zamenis atrovirens* Gray, was killed in the neighbourhood of Tel Abou Hereirch. Geckos and toads were also captured. A brown and grey fox (*Vulpes nilotica*?) was seen near Bir es Seba. Laurence shot a fine wild cat (*Felis monticola* Rupp.) in a gulley near Tel Abou Hereirch. It measured 2 feet 8 inches from the tip of the nose to the tip of the tail, the tail itself being 1 foot. It was of a greyish-brown colour, brindled with sandy brown across the back and down the sides. The tip of the tail was ringed with black. This is supposed to be the cat found embalmed in Egyptian monuments. It is found along the Nile, and as far south as Abyssinia.

I spent as much time as I could in digging up bulbs. Of these there were several identifiable species, as *Xiphion palesticum* Baker, a dwarf sweet iris, with large flowers in tints of buff and French grey. *Colchicum montanum* Linn. occurred in the greatest abundance, white or pale mauve, and was very beautiful. *Urginea Scilla Sternib.* and *Asplenolobus ramosus* Linn. were most abundant, increasing westwards to Gaza. *Bellecallia flexuosa* Boiss. and *Ornithogalum umbellatum* Linn. also frequently appeared.

About Bir es Seba the birds observed were cranes, black and white storks, buzzards and kites, trumpeter bullfinches, pintail grouse, Greek partridge, black-headed gulls and lapwings, as well as several desert larks and chats. The technical names of these species will subsequently be enumerated. The trumpeting of the crane was heard frequently, usually at night.

At Tel el Millh, in a swamp, a flock of teal was flushed, and a number of the black or Sardinian starlings came to roost in the rushes. Their note is different from that of our species. A snipe handsomely marked

with white, as seen in flight, with a rich brown back, and showing vivid green tints also on the upper surface, was unfortunately missed. It uttered a peculiar quacking cry, and I had several good views of it. There were three or four birds in the marsh, and I have no doubt it was the painted snipe, *Rhycolata capensis* Linn., which has not previously been known to inhabit Palestine. It is a widely spread species in Africa.

The Cyclamen and the Colchicum are constantly exciting our admiration. In the marsh just mentioned *Spergularia marginata* Koch., *Cyperus longus* Linn., and *C. laevigatus* Linn., var. *junciformis*, were collected.

A feature noticed by all travellers is the abundance of snails on the small shrubs, chiefly on *Anabasis articulata* Boiss. The commonest of these was perhaps *Helix Sootzeni* Koch., but I also gathered *H. joppensis* Roth., *H. syriaca* Ehr., *H. protea* Zugh., *H. vestalis* Pass., *H. tuberculosa* Conrad., *H. candidissima* Drap., *H. Boissieri* Charp., and *H. cavata* Mouss. *H. cavata* and *H. Boissieri* are the finest of these species in size, the latter being a heavy solid-shelled sort. *H. tuberculosa* is trochiform, or top-shaped. This species and his flattened brother, *H. ledereri* Pfe., gathered between Gaza and Jaffa, are both scarce. They are the prettiest, being delicately mitred and foliated at the whorls.

The black-headed gulls, and no doubt others of the birds, subsist on these molluscs.

Continual evidence of wild boars occurred, and some of our party had the good luck to obtain a sight of a "sunder," or family party. They seem to feed chiefly on the bulbs, of which some large kinds are marvellously plentiful. An *Urginea* (probably *U. undulata*) was sought after especially, so that it was with difficulty roots which they had not mashed were obtained to bring home. It has since flowered, and in the absence of leaves is doubtfully referred to this species by Mr. Baker. *Urginea Scilla* covers the ground for miles, and grows sometimes to the exclusion of everything else. It appears to be a scourge to the fellahin. Great heaps of its bulbs, the size of a melon, are often met with, and lines of its growth are commonly left to mark off each cultivator's allotted space. *Asphodelus ramosus* Linn. is nearly as common. The brilliant anemone (*A. coronaria* Linn.), the "lily of the field," was picked in flower on the last day of the year. The curious stringy *Thymelæa hirsuta*, whose acquaintance I first made on the shores of Brindisi on the outward journey, is profusely common. Between Bir es Seba and Gaza the species now in growth are almost altogether of the Mediterranean type. A few desert species occur, but chiefly of a Syrian or Mesopotamian character, as *Caylusea canescens*, *Deverra tortuosa*, *Allagi maurorum*, *Peganum harmala*, *Citrullus colocynthis*, *Artemisia herba-alba*, and *Anabasis articulata*.

The universal "rimth" (*Anabasis* or *Salsola*) of the Sinai Bedouin is called by the Doheriyeh Arabs "Shegar." It may be that the Arabs put off inquiries from one whom they perceive to be unlearned in their language with trivial and unmeaning terms; but the results of my short experience would tend to show that little importance can be attached to

these local names. Different tribes and places yielded different terms, so that on comparing my collection of Arab plant-names with those given by several other writers, hardly two were identical, or even alike. In the Serbal district of Sinai, Wady Rimthi takes its name from the Anabasis.

The soft note of the trumpeter bullfinch, rising and falling as if borne on the wind, while the bird is concealed on the ground somewhere close by, often arrested my attention. It was impossible to tell whether it was ten yards or ten times that distance away.

Travelling west past Tel Abou Hercireh to Gaza, the following plants occurred in addition to those mentioned already about Bir es Seba:—*Malcolmia pulchella* Boiss., *Matthiola humilis* D.C., *Mysum Libyca* Vie., *Erucaria microcarpa* Boiss., *Capsella Byrsa-pastoris* Linn., *Polycarpon succulentum* Del., *Dianthus multipunctatus* Ser., *Silene rigidula* Sibth., *Ononis serrata* Forsk., *Hypericum tetrapterum* Fres., forma., *Erodium hirtum* F., *Bupleurum linearifolium* D.C. ?, *Carthamus glaucus* M.B., *Thrinicia tuberosa* D.C., *Tolpis altissima* Pers., *Scorzonera alexandrina* Boiss., *Mandragora officinarum* Linn., *Withania somnifera* Linn., *Echium plantagineum* Linn., *Lamium amplexicaule* Linn., *Euphorbia exigua* Linn., *Paronychia nicea* D.C., *Andropogon hirtus* Linn., and *Poa arava* Linn.

CHAPTER XI.

GAZA TO JAFFA.

AT Gaza we were kept a few days in quarantine by the Turkish authorities. This was not because we were deemed infectious (the idea was absurd), but to levy a tax on our purses. By the prompt interference of Lord Dufferin, British Ambassador at Constantinople, to whom we telegraphed, we were released in four days instead of being confined for a fortnight.

This delay was to me most valuable, as it enabled me to sort my rapidly made collections of the last few days.

On our last day, having liberty to leave quarantine ground, I gathered a good many species south of Gaza which I had not seen before. Many of these belong to well-known Mediterranean types, but there is still an important admixture of desert and Egyptian forms, belonging to a somewhat more southern group.

Gardens of fruit trees, olive groves, and enclosures hedged by the prickly pear (*Opuntia vulgaris* Linn.) reached our camp from the inland side. On the leeward we were hemmed in by high sandhills, the vanguard of an ever advancing column, driven westward by the prevailing winds, which is gradually swallowing up Gaza, old and new, as well as a long belt of coast north and south of it.

Some laborious journeys across this belt of sand, often three or four miles broad, impress them vividly on my memory. They yielded exceedingly few species, being as a rule completely barren. I may

mention *Silene succulenta* Forsk., *Scrophularia xanthoglossa* Boiss., *Euphorbia terracina* Linn., which grew well out on the dunes.

These sands are effecting a steady and enormous change along the coast. It is difficult to reach what is left of Ascalon, which remains on an insulated patch of rocky ground by the sea completely cut off inland. Little of it is left unsmothered. Ashdod is undergoing the same fate. Gaza retreats inland in front of the arenaceous sea, and it is only at intervals, or by ascending some eminence which is rarely met with, that one obtains even a view of the Mediterranean. This was to me a keen disappointment, and I sighed for the reality for a cliff-girt coast like that of north-western Donegal.

In and about the Gaza olive groves several birds familiar at home abounded. Others occurred on the plain hard by. It was refreshing to hear their well-known voices in this strange and inhospitable land. There were English sparrows, swallows, luntings, goldfinches, black redstarts, chaffinches, stonechats, willow-wrens, and chiffchaffs, blackbirds, and hooded crows. Other birds seen were Egyptian kites, buzzards (common species), "hoomey" or little southern owl, red-breasted Cairo swallows, pelicans, dunlins, calandra and crested larks, bulbuls, pied chats, and Menetries' wheatear.

At an estuary about four miles south of Gaza, and up a flat wâdy leading to it, I obtained several good plants. This would be capital ground to botanise at a later season. The following are the most interesting:—*Brassica Tournefortii* Gau., *Cratageus azarolus* Linn., *Neurada procumbens* Linn., *Ceratonia siliqua* Linn., *Astragalus aleppicus* Boiss., *A. macrocarpus* D.C. (not in fruit), *Medicago laciniata* All., *Oenonis nativis* Linn., var. *stenophylla*, *Anagyris fatida* Linn., *Acacia albida* Del., *Prosopis stephaniana* Willd., *Xanthium strumarium* Linn., *Artemisia monosperma* Del., *Centaurea arvensis* Boiss., *C. pallidissima* Del., *Atractylis prostrata* Boiss., *Linaria Halava* Forsk., *Anchusa aegyptiaca* Lehm., *Prasiacum majus* Linn., *Andrachne aspera* Linn., *Ficus sycomorus* Linn., *Ricinus communis* Linn., *Boerhavia verticillata* Poir., *Plantago albicans* Linn., *Euphorbia peploides* Gau., *Eimer spinosus* Camp., *Salsola incarnis* Forsk., *Cyperus scharnoides* Griseb., *C. rotundus* Linn., *Fimbristylis dichotoma* Rott., and *Pennisetum cenchroides* Rich. Some of these, as the castor-oil, the little anomalous desert *Neurada*, and the tropical *Boerhavia*, point to the great heat of Gaza.

The trees about Gaza are chiefly date-palms, olives, sycamore fig, caroub (*Ceratonia*) or locust-tree, and fig; a very handsome tamarisk (*T. articulata* Vahl.) reaches a height of 30 or 40 feet, and has bright green foliage very refreshing and home-like after the dull grey or lifeless green of the desert. The olives are of enormous age. They usually have unbranched trunks, 2 or 3 feet in height, then perhaps divided, and at 7 or 8 feet the leafy canopy, browsed below to a level height by cattle, begins. The average height of the tree is 20 to 25 or 30 feet. Old trees have often mere shells of their trunks remaining. I measured the two largest I saw, a few miles north of Gaza; their right

was 18 and 20 feet respectively at 2 feet from the ground, a size which was maintained, or very nearly so, till the trunk forked.

At Ascalon, which Laurence and I visited at a gallop just before dark, I gathered *Calceotome villosa* Linn. in the sands, a pretty yellow shrubby pea-flower. Ascalon is a wilderness of shifting sands. The small space of remaining earth is inhabited by a few Arabs, from whom I got my first Jewish coins. Several pillars of marble and black granite lie about the ruins of the crusading fort, but none are in position.

Frequently dogs with unmistakable traces of jackal parentage were seen along here. I was assured it is by no means uncommon for these animals to interbreed along this part of the Mediterranean seaboard.

The chief crop showing is of lentils. I saw bean-stalks a foot and a half high in the first week of January.

A few of the commonest British plants, as *Capsella Bursapastoris*, *Silene inflata*, *Convolvulus arvensis*, and *Rumex obtusifolius*, occur along here.

A handsome tree introduced from the East is very common. It is the *Melia azederach*, or Pride of India. It is deciduous, and only bearing fruit, as I saw it, along the enclosures or by the villages. *Lycium europæum* Linn., *Rubia olivieri* A. Rich., *Ephedra alata* Desv., *Asparagus aphyllus* Linn., and *A. acutifolius* Linn., are the larger plants, which help to stop up the gaps in the prickly pear fences.

At Yebdna, and thence to Jaffa, *Narcissus Tazetta* Linn. was in flower. Some damp low lying patches were white with it. Other species were *Ruta graveolens* Linn., *Erodium* sp. 1 (*E. brgoniaefolium* ?), *Retama retam* Forsk. (in flower), *Lithospermum callosum* Linn., *Echiochilon fruticosum* Desf., *Thymus capitatus* Linn., *Lacunculula stachas* Linn. and *Rhynchospora parviflora* Boiss. The Retem broom was in flower, very pretty, white variegated with purple. I found it once previously in blow in the desert.¹ *Lawsonia alba* Linn. (henna) was seen several times, but usually here (as at Akaba) either in or on the verge of enclosures. No doubt it remains from ancient gardens at Engedi, where it is, I believe, abundant. It is native much farther east.

In the gardens next the hotel at Jaffa were some very interesting plants. I did not learn their history, or who made the collection. Some of the Sinaitic and Dead Sea plants were there—the handsome trailing pea, *Dolichos lablab*, which I found in the Ghôr, a widely cultivated plant in hot countries, but perhaps originally introduced from India. The Sinaitic *Gomphocarpus*, a milky asclepiad with pods full of silk, one of the most remarkable species in the peninsula, was here also; it differed, however, from the Sinaitic plant in being shrubby and about

¹ This is the Hebrew "rothem" or "rotem," translated juniper in the Old Testament. The same name (Retama) is applied to a species of a closely allied genus, the *Spartocytisus nubigenus*, of the middle zone of vegetation of the Peak of Teneriffe, as I learn from Mr. Moseley's "Notes by a Naturalist on the Challenger," p. 5.

6 feet high, while the desert plant averaged from a foot to a foot and a half.

Ricinus communis (the castor-oil); *Echaverias*, *Lavandula Stoechas* (the handsome purple woolly lavender just mentioned), and quite a collection of *Acacias* and *Mimosas*, with oranges, bananas, indiarubber trees, fan-palms, *Eucalyptus*, *Mesembryanthemums*, and many others made up a tropical garden which will well repay the traveller's visit. I was peculiarly interested to see my *Boucerosia* from Mount Hor here, a cactus-like plant, which seems to be a new species. Can it be, like the *Dolichos*, an ancient weed of cultivation? When we let the mind go back to times of ancient civilisation, to the traffic and merchandise of pilgrims, monks, and Bedouins, of Israelites and Phœnicians, Pharaohs and Ptolemys, Greeks and Romans, Turks and Crusaders, caravans and ships laden with food, with gums, spices, fruits, and wares during the whole history of mankind, we must reflect that many plants we now view as inhabitants, especially those of any economic use, may have hailed originally from remote sources. Speculations of this kind, at once so uncertain and so unpalatable, had better perhaps not be indulged in. They can only lead to doubt and discussion. Granted that the "osher" is known by the Bedouin "Doctrine of Signatures" as a plant of domestic value, may we not theorise as to whether wandering tribes have not carried it from Midian or Nubia to Sinai? from Sinai to its far northern home in the Ghôr? and so with many others. This line of thought, which these gardens naturally produced, may, I think, except in rare instances, be better dispensed with.

The gardens at Jaffa were fully supplied with its own brand of most excellent oranges.

CHAPTER XII.

JERUSALEM.

BETWEEN Ramleh (a few miles from Jaffa) and Jerusalem, during an ascent of over 2,000 feet, many fresh species occurred. The chief change in plant life lay in the great increase of low shrubby vegetation on the limestone hills and terraces. I had little time to botanise, but with hard galloping to make up for delays, I secured several sorts in condition to be studied. An oak, *Quercus coccifera* Linn., and a handsome large-leaved arbutus in full flower, *Arbutus andrachne* Linn., are two conspicuous trees or bushes characteristic of the rocky regions above the plain of Ramleh. A large daisy, *Bellis sylvestris* Cyr., similar except in size to our own *Bellis perennis*, was in flower. The handsome locust-tree, usually here of only the stature of a bush from being cut for firing like the others, is very frequent. Its rich dark green pinnate foliage is well known to travellers in Southern Europe, where its pods are much used to feed cattle. This is supposed to be the "locust" of St. John. At Kirjath-

near this a solitary date-palm occurs, and I was informed at Jerusalem that near this a clump of native pines, *Pinus halepensis* Linn., exists. Maiden-hair, ceterach, and the sweet Cheilanthes, were the ferns gathered, chiefly amongst the limestone clefts above Babel Wad. A handsome sage, *Salvia triloba* L., was in flower, and several other labiates, as *Phlomis* sp.?, *Micromeria barbata* B. & K., *M. myrtifolia* Boiss., *M. urens* Desf., and *Teucrium polium* Linn. were collected. A bryony, *B. syriaca* Boiss., and a beautiful clematis with dull purple flowers, *C. cirrhosa* Linn., trailed along the roadside walls near the villages. The leafless Ephedra and Asparagus still help to increase the variety. The spiny-branched *Calycotome villosa* Linn., and *Anagyris fatida* Linn., yellow pea-flowered shrubs, are not uncommon. Other less important plants are—*Roseda alba* Linn., *Malcolmia crenulata* Boiss., *Thlaspi perfoliatum* Linn., *Erodium moschatum* W., *Thelypodium equicrante* Linn., *Oenanthe patris* Linn., *Inula viscosa* Boiss., *Sheardia arcensis* Linn., *Alkanna Tinctoria* Tausch., and *Onosma syriaca* Lab. Most of these are common about Jerusalem and Bethlehem.

The birds noted were almost entirely British species. Of these the wheatear had not been seen before. *Saricola lagens* Licht., and I think *S. finsechii* Heugl., were eastern chats not seen since leaving the Ghôr, but here not unfrequent.

While at Jerusalem we came in for an unusually heavy fall of snow, lasting from 20th to 25th of January. There was therefore little to be done in botany around the Holy City. Fortunately we had accomplished our pilgrimage to Jericho before the snow set in, which gave me an opportunity of comparing the northern with the southern Ghôr, or hollow of the Dead Sea.

About Jerusalem, but especially along the tiny aqueduct between the Pools of Solomon and Bethlehem, some plants were in flower. *Erodium malacoides* Linn., *E. gravinum* Linn., *Pistacia palestina* Boiss., *Sedum* sp. (*S. altissimum* Poir.?), *Tordylium brachycarpa* Boiss., *Torilistrichosperma* Spr., *T. leptophylla* Rich., *Pimpinella cretica* Poir., *Galium judaicum* Boiss., *Pisum fulvum* S. & L., *Lathyrus blepharicarpus* Boiss., *Carduus argentatus* Linn., *Urospermum picroides* Desf., *Crepis senecioides* Del., *Anchusa mulleri* Willd., *Onosma syriaca* Lab., *Hyoscyamus aureus* Linn., *Cyclamen latifolium* Sibth., *Plantago lagopus* Linn., *Viscum cruciatum* Linn., *Euphorbia aulacosperma* Boiss., *Gagea reticulata* R. & C., *Agrostis verticillata* Willd., and *Avena sterilis* Linn.; as well as some common British plants, as *Nasturtium officinale* R. Br., *Cerastium glomeratum* Thuill., *Geranium molle* Linn., *Torilis nodosa* Gert., *Rubus discolor* W. & N., *Veronica anagallis* Linn., & *V. Beccabunga* Linn., will serve to give botanists an idea of the species occurring at this season.

Jerusalem, 2,400 feet above sea-level, falls within Boissier's "Plateaux" subdivision of the Oriental region. His "Flora Orientalis" deals with the countries from Greece to India in a width of about twenty degrees of latitude north of the tropics; and he divides these into (1) Mediterranean, (2) Middle Europe, (3) Oriental, and (4) Region du Dattier [or Desert].

The Oriental is subdivided to Plateaux, Aralo-Caspian, and Mesopotamian. In the first of these subdivisions of the Oriental region, Jerusalem and Damascus and the districts around and above each of these cities are placed.

The climate of Jerusalem is milder and more Mediterranean than most parts of this sub-region. The date-palm, though not native nor able to ripen its fruit, can exist, and grows to goodly dimensions, as evidenced by one well-known tree. Others occur a little lower towards Ramleh. Here and at Damascus, as I subsequently saw, the prickly pear is naturalised. A "pipi" tree, *Casalpinia Gilliesii*, a highland species from Buenos Ayres, was amongst the few cultivated species noticed in a recognisable condition. It was in flower beneath the windows of the Mediterranean Hotel.

From an intelligent resident at Jerusalem I obtained some information of the vegetable products of its neighbourhood which may, I think, be deemed reliable, and gives an idea of the climate.

"Frost, though occurring annually for some nights usually at the end of January, rarely lasts throughout the day, and hardly penetrates the soil [where there is any].

"The sycamore fig, orange, mandarin orange, and lemon, which ripen their fruit so well at Jaffa, will not do so at Jerusalem.

"Apricots, tomatoes, grapes, figs (*?*), thrive better at Jerusalem than Jaffa. Pomegranates and nectarines do fairly well at Jerusalem.

"Bread melons [*Artocarpus integrifolia* ?] and water melons, which attain a weight of 20 to 30 pounds at Jaffa, will not ripen at Jerusalem.

"A small plum, like a greengage, succeeds better at the elevated station; but strawberries, apples, and pears have all been unsuccessfully tried.

"Olives bear well about Jerusalem, especially after a winter of snow and cold; each tree generally gives a good crop every second year. Hail sometimes damages the fruit much.

"Sesame (*Sesamum indicum*) is grown on the plains; its oil is used for cooking purposes [and I suppose for adulterating the olive oil]. The pulp is given to animals. It is a summer crop like the dhourra [*Sorghum*] after wheat and barley."

Cupressus sempervirens Linn., var. *pyramidalis*, the funereal cypress, attains a great size in the esplanade between the mosques of Omar and El Ahksa, but far finer trees were seen later at Smyrna. The "Prince of Wales tree," *Pinus halepensis* Mill., pointed out by this name as the tree the Prince camped under, is the finest tree near Jerusalem. It is about 50 feet high, and well furnished. Smaller ones occur at the Armenian convent.

An interesting plant of Jerusalem is the red-berried mistletoe, *Viscum cruciatum* Linn., parasitic on olive-trees, and known elsewhere only in southern Spain. Mr. Armstrong, who was always willing (when his duties permitted) to give me a helping hand, brought me specimens from the Valley of Jehoshaphat.

During the snow at Jerusalem a gazelle was shot within a mile or two of the city. This was, I believe, a very unusual occurrence. I saw the animal immediately after its death.

CHAPTER XIII.

JERICHO AND NORTHERN GHÔR.

On the 14th of January we went down to the Jordan Valley. Immediately after leaving Mount Olivet I found abundance of *Androsymbium palustinum* Baker (Erythrostictus Boiss.), first seen in the Arabah above the Ghôr. It is a stemless white-flowered plant, small but leafy, and with rather large flowers of no particular beauty. It belongs to the Colchicaceæ. I mention it specially because Mons. Barbey mentions that Roth found this plant close to Jerusalem, but that after careful search he (Barbey) was unable to rediscover it. I am thus able to confirm Roth's record. Mons. Barbey's visit (April 3) was perhaps too late for the species.

On descending even a slight distance to the east the climate at once improves. Bethlehem and the neighbourhood of Solomon's Pools are distinctly milder than Jerusalem. We gradually travel from mid-winter into spring. Several plants met with before as we climbed out of the Ghôr by Wâdy Zuweirah, are again in flower as we descend. Fumaria, Carrichtera, Biscutella, Malcolmia, Erucaria, may be quoted. Fresh forms occur, as *Hypocnemum procumbens* Linn., *Capsella procumbens* Linn., *Neslia paniculata* Linn., *Hippocrepis anisiliquosa* Linn., *Hymenocarpus circinnatus* Linn., *Astragalus callichrous* Boiss., *A. sanctus* Boiss, var., *Trigonella arabica* Del., *Matricaria aurea* Boiss., *Chrysanthemum coronarium* Linn., *Veronica striata* R. & S., *Aruchia cornuta* F. & N., *Asperago procumbens* Linn., *Emex spinosus* Camp., *Muscari racemosum* Mull., *Lamarcia aurea* Moench, and others. These are mostly small bright-coloured spring flowers. At about sea-level some desert species begin to occur, as *Zygophyllum album* Linn. (in flower), *Prosopis Stephaniana* Willd., *Reseda pruinoso* Del., *Rattana rattana* Forsk., *Ochradenus baccatus* Del., *Tamarix gallica* Linn. var., and a few more of the southern Ghôr plants.

We are again amongst the marls, and before long those of the 600 feet level, so conspicuous round the Dead Sea, can, as Professor Hull concludes, be traced, but evidently far more completely denuded in this moister and more fluvial district. Lower marl-terraces occur, but various searches failed to bring any more sub-fossil shells to light. Canon Tristram has gathered at 250 feet in the marls near here shells identical with those obtained by us at Ain Buwerrideh.

The flora of this part of the Jordan Valley is to a certain extent a repetition of that of the southern Ghôr, but many of the interesting species are missing, and others of more familiar types take their place. Widespread European species are much more numerous. Common

British species of *Draba*, *Capsella*, *Thlaspi*, *Nasturtium*, *Rubus*, *Helosciadium*, *Malva*, *Galium*, *Veronica*, *Mentha*, *Solanum*, *Lythrum*, *Cichorium*, *Verbena*, *Euphorbia* being all met with, in about the total of five species in the northern Ghôr to one in the southern. Nor did the season at Jericho appear to be more advanced than that at Es Safieh.

Jericho and its neighbourhood have been amply described by many able writers, and its botany has been well illustrated by Mons. Barbey in his work already referred to. This latter visitor has not, however, corrected one statement repeatedly made by various travellers, that of the ancient palm grove, extending for several miles around Jericho, there is no existing representative. There is one date-palm, 20 feet high, at Gilgal.

Of the characteristic species of the southern Ghôr growing here, I may mention *Zizyphus spina-christi* Linn., *Balanites aegyptiaca* Del., *Lacanthos acaciæ* Zucc., *Calotropis procera* Willd., and *Populus euphratica* Oliv., the latter being abundant along the Jordan. This poplar is remarkable for the extraordinary variety of shapes in its leaves, especially in young trees and saplings. In full-grown trees, like the one described at the Ghôr es Safieh, they become more uniform; ovate and slightly incised sometimes at the base, or faintly lobed in a wavy fashion. No trees were seen near Jericho in a mature condition. Tamarisk and the "zukkum," or false balm of Gilead (*Balanites*), are very abundant here. An acacia near Ain es Sultan was, I believe, *A. albida* Del., gathered previously at Gaza. It was a stunted bush, and our old friends the acacias of Sinai and Es Safieh have all disappeared except the *Prosopis Stephania*, a small ragged little shrub. This little ill-favoured acacia, which thrives best on saline wet places, bears a very peculiar pod, swollen, solid, and irregular, and so like a gall or deformity of some kind that it was not until opening it and obtaining its seeds I could believe it to be a natural growth.

Bananas, oranges, and a few sugar-canes are cultivated in the Arab gardens at Gilgal, the modern Jericho.

The ornithology of the Jericho district runs in parallel lines with the botany. The European sorts are much commoner than in the Ghôr es Safieh, and the tropical and Asiatic forms generally less so. Only one couple of sunbirds, and but a few of the "hopping-thrushes" (*Argya squamiceps*) were seen. Shrikes were few. The palm-dove and the collared turtle were not scarce, but they were not as one to twenty here compared with those of the more southern oasis. A few bulbuls (*Pycnonotus xanthopygus* H. & Ehr.), pied chats, *Saxicola lugens* Licht., and desert blackstarts, *Cercomela melanura* Temn., occurred.

On the other hand, English robins, jays, chaffinches and wheatears were seen here, though not at the Ghôr es Safieh. Blackbirds, wagtails, and stonechats were commoner, and an unexpected northern visitant, a redwing, *Turdus iliacus* Linn., was shot at Ain es Sultan. This bird has not previously been obtained in Palestine, but it is likely that the wave of unusually severe weather, about to be felt by us at Jerusalem, drove many of its companions into the country.

The river Jordan was considerably swollen, and so muddy that a plunge in its waters did not look inviting. However, Laurence and I swam it and set foot on the other side of Jordan. It was about thirty yards across, with a strong current, about enough to give equal drift and headway to a swimmer. The water was too turbid for me to learn much about its inhabitants; however I picked up two molluscs, a bivalve and a univalve (*Corbicula Sauleyi* Bourg. and *Melanopsis costata* Olic.) on the muddy edge of the stream.

We returned to Jerusalem by Marsaba, where we camped on the night of the 16th—unhappily our last experience of "tenting," the most enjoyable kind of Eastern life. Our intended expedition by Tiberias and Merom through northern Palestine ending in Beyrout was put a stop to by heavy snow. Before dismissing Jericho I have to mention the species gathered which were not previously met with:—*Ranunculus asiaticus* Linn., *Matthiola oxyceras* D.C., *Saponaria vaccaria* Linn., *Silene palastina* Boiss., *Arenaria picta* Sibth., *Rhus oxyacanthoides* Dum., *Ammi majus* Linn., *Aizoon hispanicum* Linn., *Ononis antiquorum* Linn., *Ecus contracta* Boiss., *Amorhœon Lippii* D.C., *Hedysarum cretica* Boiss., *Hagiosciris* sp.? (*H. galilæa* Boiss. ? *Picris* sp.?, *Orobanche œgyptiaca* Pers., *Linaria albifrons* Sibth., *L. micrantha* Cav., *Cuscuta* sp.? (*C. palastina* Boiss.?), *Convolvulus siculus* Linn., *Vitex agnus-castus* Linn., *Phalaris minor* Retz., *Schismus marginatus* P. de B., *Bromus meudritensis* Linn., *Kalera phleoides* Pers. Of these the *Orobanche* was a lovely bright blue species, and the *Rhus* a pretty red-berried thorn very like the hawthorn, but with flattened berries and minute flowers. This thorn has been found as far south as latitude 26° in Midian at about 4,000 feet above sea-level by Captain Burton. The *Ononis* was an erect shrub, about 5 or 6 feet high, with a few slender long spiny branches and some scattered flowers like those of our own restharrow. The *Ranunculus* is so like *Anemone coronaria* (which occurred) that it was not at first distinguished from it. Both are of a gorgeous scarlet. The *Vitex* was one of the very few northern representatives of the tropical *Verbenaceæ*. It is a straggling shrub, with dull blue flowers of no beauty, and, like many other Jericho plants, found all round the Mediterranean.

Young fragments, chiefly of *Cruciferae*, *Leguminosæ*, and *Umbelliferae*, were often picked, but for these orders the season was too little advanced.

Grasses and bulbous plants were also often too young.

On the way to Marsaba, a rough ride across many deep ravines, an interesting effect of aspect was noticeable. A slight greenish hue showed plainly on the hillsides with a northern aspect, while the others were as yet completely barren. In those places where the heavy dews of night are less rapidly dried up by the noonday sun, vegetation is no doubt always more abundant, the effect of shade also being to assist the early growth. An analogous effect was still more sharply defined in a different way on steep slopes looking southwards. These presented the usual monotonous barren chalky white appearance on riding upwards, where the eye only caught the outstanding bosses and prominences of rock and soil in the wady bed. It was difficult to recall this on looking back from

above in a commanding position. The numerous little depressions and shaded hollows with the first symptoms of incipient vegetation gave a faint green tint to the whole. The one rested the sight, the other was a painful glare. It was about the difference between tinted and plain glass spectacles.

At Marsaba there is a date-palm tied up and supported in the courtyard of the convent, which the monks relate was planted by St. Saba (A.D. 490). Without vouching for the truth of this statement, I was interested to learn that it always bears a stoneless fruit. Of the truth of the latter information I believe there is no doubt. This convent is interesting to ornithologists as the place of the discovery of Tristram's Grackle, whose acquaintance I had first made at Mount Hor. There were several about the convent during our visit.

On the 17th we reached Jerusalem. A week later we left for Beyrout, where our party divided itself, Professor Hull and his son returning homewards. Laurence and I, however, faced the snow and succeeded in crossing Lebanon and Hermon by the admirable French road to Damascus, visiting Baalbeck on the way. As I am not writing a volume of travels I will bring this part of my subject to a close. The snow lay many feet deep on these mountains reaching to Damascus and Baalbeck, so that I was unable to make any collections or observations of consequence on the natural history of this country, which is, moreover, fairly well made known by the researches of several eminent naturalists.

YOMA, OR THE DAY OF ATONEMENT,

WITH THE COMMENTARY OF RABBI OBADIAH OF BARTENORA.

CHAPTER IV.

1. HE shook¹ the box² violently and took out the lots.³ Upon one was written "for the Name." And on the other was written "for Azazel." The sagan was on his right and the chief of the house of the fathers on

¹ He seized, snatched, the box and took the lots suddenly with violence.

² (As we learn above "and a box was there." And why was it opened with violence and haste?) In order that he might not endeavour to find out by delay which was the lot for the Name, and to take it out in his right hand, for it was a happy sign when it came up in his right hand.

³ One in his right hand, and one in his left. And the goats were standing one on his right hand and one on his left, and he put the lot which came up in his right hand upon the goat on his right hand, and the lot which came up in his left hand upon the goat on his left hand.

his left. If *the lot* for the Name came up in his right hand, the sagan said to him, "my lord high priest, lift up thy right hand," and if the lot for the Name came up in his left hand, the chief of the house of the fathers said to him, "my lord high priest, lift up thy left hand." He put them upon the two goats, and said, "a sin-offering to the Lord."⁴ R. Ishmael said "it was not necessary to say 'a sin-offering'⁵ but only 'to the Lord.' And they repeated after him,⁶ 'blessed be the glorious name of His kingdom for ever and ever.'⁷"

2. He tied a crimson band⁷ upon the head of the goat which was to be sent away, and caused it to stand opposite the place whence it was to be sent away,⁸ and *the goat* which was to be slain⁹ opposite the place of its slaying. He *now* came to his bullock the second time, and laid his two hands upon it and confessed. And thus he said, "O God, I have done iniquity, I have transgressed, I have sinned¹⁰ before Thee, I and my house, and the sons of Aaron, the people of Thy holiness. O God, forgive the iniquities and the transgressions, and the sins which I have done, and transgressed, and sinned before Thee, I and my house and the sons of Aaron the people of Thy holiness, as is written in the Law of Moses Thy servant (Levit. xvi, 30), for on that day shall the *priest* make an atonement for you, to cleanse you *that* ye may be clean from all your sins before the Lord," and they said after him, "blessed be the glorious name of His kingdom for ever and ever."

3. He slew *the goat*, received the blood in the sprinkling-basin, and

4 The *Shem Hamphoresh* (which was the name spelt with *yod he*) was pronounced as it is written.

5 The decision was not according to Rabbi Ishmael.

6 When he pronounced THE NAME.

7 Wool dyed red.

8 Opposite the gate by which they caused it to go out.

9 The band of crimson was tied opposite the place of its slaying, that is to say its neck; so that it might not be changed for the goat which was to be sent away, for this had the band tied to its head and that to its neck; and neither of them were likely to be changed for another goat, for these had a crimson band tied to them, and other goats had not a crimson band tied to them.

¹⁰ The Mishna is that of Rabbi Meyer which he learns from the Scripture, as it is written (Levit. xvi, 21), "and confess over him all the iniquities of the children of Israel, and all their transgressions in all their sins." But the wise men disputed about it, and said "iniquities," they are sins of pride; "transgressions," they are rebellions; "sins," they are unintentional faults. That after confessing sins of pride and of rebellion, he should return and confess unintentional faults would be astonishing; but he said, "I have sinned, I have done iniquity, I have transgressed;" and so with David, who said, "we have sinned with our fathers, we have committed iniquity, we have done wickedly" (Ps. cvi, 6); the decision was according to the opinion of the wise men. And what was that which Moses spake (Exod. xxxiv, 7); "forgiving iniquity and transgression and sin?" Moses said thus before the holy place at the time when Israel sinned and repented, and he made their sins of pride like unintentional faults.

gave it to him who stirred it¹¹ (upon the fourth row of stones in the pavement¹² of the Temple) in order that it might not coagulate. He took the censer, went up to the top of the altar, turned the coals this way and that way, and took¹³ from the inner consumed portions and descended and put it upon the fourth row of stones in the pavement of the court.

4. On all *other* days¹⁴ he took *the coals in a censer of silver*, and emptied *them into one of gold*,¹⁵ and on this day he took *them in a censer of gold*,¹⁶ and entered with it. On all other days he took *them in a censer holding four cabs*, and emptied them into *one of three cabs*, and on this day he took the coals in a censer of three cabs and entered with it. Rabbi Jose said "on every *other* day he took *the coals in a censer containing a seah*, and emptied *them into one containing three cabs*, and on this day he took *them in a censer containing three cabs and entered with it.*" On every *other* day *the censer* was heavy¹⁷ and on this day light.¹⁸ On every *other* day its handle was short, and on this day long.¹⁹ On every *other* day the gold of which it was made was yellow (ירוק) and on this day red.²⁰ The words of Rabbi Menahem. On every *other* day a paras²¹ was offered in the morning, and a paras in the evening, and on this day he added his hands full of *incense*. On every *other* day *the incense* was finely powdered, and on this day as finely as possible.²²

¹¹ He blew, and shook, and mixed it in order that it might not be coagulated if he left it until he [the high priest] had performed the service of the incense.

¹² Each row of the stones of the pavement was called *robad*, רובד. And it is not possible to explain "the fourth row in the Temple" as the fourth row in the interior of the Temple (from the door of the Temple inwards), for it is written (Levit. xvi, 17) "and there shall be no man in the tabernacle of the congregation," &c. But the teaching "the fourth *robad* of the Temple" is the same as to say the fourth row in the court as one goes out of the Temple into the court. He counted the rows, and left it upon the fourth row, and there he who stirred it stood. It is not possible that those in the interior of the Temple are meant.

¹³ He took the coals and left the censer until he had taken a handful of incense and put it into the *kaf* (cf. Levit. xvi, 12), and afterwards he took the *kaf* and the censer into the Temple.

¹⁴ When he took coals from the second pile [on the altar, which was the pile] for the incense, to carry in to the inner altar for the morning and evening incense.

¹⁵ They did not take them with the golden one, because taking the coals bruises the instrument and wastes it, and the law is sparing of the riches of Israel.

¹⁶ In order that the high priest might not be fatigued by having to empty from one vessel to another.

¹⁷ Because its sides were thick.

¹⁸ Because its sides were thin.

¹⁹ In order that the arm of the high priest might be helped by it.

²⁰ It was of that kind of gold called *zahab parvim*, זהב פרוים, because it resembled [in colour] the blood of bulls *parim*, פרים.

²¹ Half a *maneh*.

²² As it is written (Levit. xvi, 12), "and his hands full of sweet incense

5. On every *other* day the priest went up on the east of the ascent²³ to the altar, and went down on the west, and on this day the high priest²⁴ went up in the middle and down in the middle. Rabbi Judah said "the high priest always went up in the middle and went down in the middle." On every *other* day, the high priest sanctified [washed] his hands and his feet from the laver, and on this day from the golden pitcher. Rabbi Judah said "the high priest always sanctified his hands and feet from the golden pitcher."

6. On every *other* day there were four piles there,²⁵ and on this day five: the words of Rabbi Meyer. Rabbi Jose said "on every *other* day three,²⁶ and on this day four." Rabbi Judah said on every *other* day two,²⁷ and on this day three.

beaten small." And what does this teach us? That it is said before (Exod. xxx, 36) "and thou shalt beat some of it very small," only to tell thee that the incense of the day of atonement should be as fine as possible.

²³ As Mar said, "every turn that thou makest must be only to the right hand," which is the east (Yoma 17 b), for the ascent to the altar was on the south, and therefore they went up on the east of it, in order to turn to the right.

²⁴ On account of his honour, to show his dignity, that he was as a son of the house and might go in whatever place he wished, which the other priests had not the right to do.

²⁵ On the outer altar were four מערכות (arrangements—piles) of wood upon which they lighted the fires; one large pile, on which they offered the continual sacrifice: a second pile from which they took fire for the altar of incense; and one pile for keeping up the fire, that fire should never fail there; and one pile for the members and fat of the continual sacrifice of the evening which had not been consumed in the evening, and were not burned during the night, which they burned upon this pile. And on the day of atonement they added another pile from which to take coals for the incense before and within the veil.

²⁶ For three passages are written (Levit. vi, 9), "because of the burning upon the altar all night until the morning," this was the great pile: and the fire of the altar shall be burning in it: "this was the second pile for the incense; and (v, 12) "and the fire upon the altar shall be burning in it, it shall not be put out:" this was the third pile for keeping up the fire. And Rabbi Jose did not hold that there was a fourth fire for the members and fat which had not been consumed, but thought that the members and fat which had not been consumed were burned by the side of the great pile.

²⁷ Rabbi Jehudah did not hold that there was a third pile for keeping up the fire; and the third scripture, "and the fire shall be burning upon it, it shall not be put out," he explained to mean that he who set on fire little fragments of wood in order to light the great pile did not set fire to them upon the pavement, and go up to the altar with them burning, but lighted them upon the top of the altar. The decision was according to Rabbi Jose.

CHAPTER V.

1. THEY brought out¹ to him the *kaf* [spoon, A.V.] and the censer, and he took his hands full of *incense* and put it into the *kaf*. If his hand was large, the handful was large, if small, the handful was small, and thus was its measure.² He took the censer in his right hand,³ and the *kaf* in his left hand, and went in the holy place⁴ [הַקֹּדֶשׁ] until he came to *the space* between the two vails which divided between the holy place and the most holy. *The space* between them was a cubit. Rabbi Jose said "there was only one vail there, as is said (Exodus xxvi, 33), 'and the vail shall divide unto you between the holy *place* and the most holy.'⁵ The outer one was hooked up⁶ from the south⁷ *side*, and the inner one from the north⁸ *side*. He went between them until he came to the north⁸ *side*, he turned his face to the south, and went to his left with the vail⁹ until he came to the ark.¹⁰ When he came to the ark he put the censer between the two staves, heaped up the incense upon the coals, and the whole house became filled with smoke. He went out in the same way and

¹ From the chamber of the vessels.

² As was the mode of measurement without the most holy places, so was the mode of measurement within. As without he took it by handfuls and not by a vessel, so also within, when he emptied the incense from the *kaf* into his hand, he did not empty by means of a vessel made according to the measure of his hand, but into his hand itself.

³ Because it was heavy and hot, and the *kaf* of incense lighter than it, he took the censer in his right hand and the *kaf* in his left.

⁴ He entered and went in the interior of the Temple towards the west to between the two vails. Because they doubted in the second house whether the wall which divided between the holy place and the most holy, which was in the first house and was a cubit thick, was holy, as within the veil or as without the vail, therefore they made two vails, an outer and an inner, and between them a space of a cubit to receive between them the space of the partition wall.

⁵ The Rabbis who say this dispute with R. Jose about it, and say that, "and the vail shall divide unto you" refers to the tabernacle only [not to the Temple].

⁶ The end was folded towards the outer side and held by a golden clasp, so as to be open on the south.

⁷ He entered where it was hooked up on the south, and went between them until he came to where it was hooked up on the north.

⁸ When he entered into the most holy place he turned his face towards the south, in order to go as far as the space between the staves, which was in the middle of the chamber. For the staves were long, and reached as far as the vail, one end being towards the west, and the other towards the east, and one was at the northern end of the ark, and the other at its southern end.

⁹ As he was going from north to south his left side was towards the east, and the vail being on the east, his left side was "with the vail."

¹⁰ To the place of the ark and not the ark itself, for in the second house there was no ark.

place¹¹ as he entered, and prayed a short prayer¹² in the outer house.¹³ He did not prolong his prayer lest the people should be anxious about him.¹⁴

2. After the ark was removed a stone was there from the time of the former prophets, and it was called *sheteyah*,¹⁵ foundation. It was three fingerbreadths high above the ground, and upon it he put the *cross-r.*

3. He took the blood from him who had been stirring it, entered to the place where he had *before* entered,¹⁶ and stood in the place where he had *before* stood,¹⁷ and sprinkled from it once above and seven times below. He did not intentionally sprinkle either above or below,¹⁸ but sprinkled like a person striking.¹⁹ And thus he counted:—one; one and one;²⁰ one and two; one and three; one and four; one and five; one and six; one and seven. He went out and put it upon a golden stand which was in the Temple.

4. They brought to him the goat. He slaughtered it and received its blood in the sprinkling-basin. He entered to the place where he had *before* entered, and stood in the place where he had *before* stood, and sprinkled from it once above and seven times below. And he did not intentionally sprinkle either above or below, but *sprinkled* like a person striking. And thus he counted:—one; one and one; one and two, &c. He went out and put it upon the second stand that

¹¹ He did not turn his face to go out, but went out backwards with his face towards the ark.

¹² This was the prayer, “May it be Thy will, O Lord God, that if this year be hot, it may be rainy; and let not the exercise of dominion pass from the house of Judah; and let it not be necessary for Thy people Israel to be fed the one by the other [*i.e.*, by charity], or by another people; and let not the prayer of travellers enter before Thee.” (Gloss, because they pray that rain may not fall.)

¹³ In the holy place, כִּי־הֵלֵל.

¹⁴ Lest they should say, “he is dead.”

¹⁵ Because from it the world was founded, נִשְׁתַּח; from it the Holy One, blessed be He, founded the world. שְׁתֵּיָה, *sheteyah*, is “foundation.”

¹⁶ The holy of holies.

¹⁷ Between the staves.

¹⁸ That there should be one sprinkling above on the upper border of the mercy seat, and the seven below upon the body of the ark; for the blood did not touch the mercy seat, but fell upon the ground.

¹⁹ He sprinkled like a person inflicting blows [upon the back], who begins between the shoulders and goes downwards. Thus he endeavoured that these eight sprinklings should be upon the ground in order, one under the other.

²⁰ In order that he might not count the first sprinkling which was above by itself with all the seven which were below. Sometimes he might make a mistake and count the first sprinkling with the seven, and at the first sprinkling below count two. And it does not say that he should count the sprinkling which was above with the seven which were below, and reckon as far as eight. It is intended to say that the command is to finish the sprinklings which were below within seven, and not within eight.

was in the Temple. Rabbi Judah said, "there was only one stand there." He took the blood of the bullock and put the blood of the goat²¹ *where it had stood*, and sprinkled from it upon the vail,²² which was opposite to the ark on the outer side, once above and seven times below. And he did not intentionally, &c. And thus he counted, &c. He took the blood of the goat and put the blood of the bullock²³ *where it had stood*, and sprinkled from it upon the vail which was opposite to the ark on the outer side, once above and seven times below, &c. He poured the blood of the bullock into the blood of the goat, and put the full *vessel* into the empty one.²⁴

5. He now went out to the altar which was before the Lord, that is, the golden altar, and began to purify it from above downwards.²⁵ From where did he begin? From the north-eastern corner, the north-western, the south-western, the south-eastern: the place where he began with a sin-offering on the outer altar was that where he finished with the inner altar. Rabbi Eliezer said, "he stood in his place and purified, and upon all *the corners* he put *the blood* from below upwards, except that one which was before him, upon which he put the blood from above downwards."

6. He sprinkled upon the clean *surface* of the altar seven times,²⁶ and

²¹ He agrees with the words of R. Judah, who said that there was only one stand there, and it was necessary to take away the blood of the bullock first in order to put the blood of the goat upon the stand upon which the blood of the bullock had been. The decision was not according to Rabbi Judah.

²² As it is written (Levit. xvi, 16), "and so shall he do for the tabernacle of the congregation."

²³ As it is written in reference to putting the blood upon the altar (Levit. xvi, 18), "and shall take of the blood of the bullock, and of the blood of the goat;" of the blood of both of them together.

²⁴ Again he poured the full sprinkling-basin into the empty one, in order that the bloods might be thoroughly mixed.

²⁵ This doctor thought that the priest walked to each corner in succession, and that each sprinkling was upon the corner which was before him, and near to him, and therefore took *כִּיהַטָּא וְיִוֶרֶד*, "he purified from above downwards," to mean that he made the sprinkling from above to below; for if he should sprinkle from below upwards at the corner which was before him, the blood might flow down into the middle of his hand, and soil his clothes. And Rabbi Eliezer thought that the priest stood at one corner, and from there made the sprinklings upon all the corners; for the whole altar was only a cubit square, and since three of the corners were not near to him, he could put the blood upon them from below upwards without soiling his clothes, except that corner near which he was standing, for he could not turn the tips of his fingers downwards but upwards; for if he should turn the tips of his fingers downwards and make the sprinkling from below upwards, the blood would flow down into the sleeve of his shirt. The decision was not according to Rabbi Eliezer.

²⁶ After he had completed all the sprinklings of the corners, he sprinkled upon it seven times, as it is written (Levit. xvi, 19), "and he shall sprinkle of the blood upon it." *טָהֵרוֹ*, "the clean surface," was the uncovered space upon the altar,

the remainder of the blood he poured upon the western foundation of the outer altar,²⁷ and *the blood* of the outer altar he poured upon the southern foundation. Both²⁸ became mingled in the canal and went out to the Kedron valley, and were sold to the gardeners²⁹ for manure. And they rendered themselves guilty of false dealing in reference to it.³⁰

7. All the work of the day of atonement³¹ which is prescribed in order,³² if he *wrongly* made one part to precede its fellow, it was as if he had not performed it at all [literally, as if he had done nothing]. *For example*:—if the blood of the goat preceded the blood of the bullock, he must return and sprinkle of the blood of the goat after the blood of the bullock: if the blood was poured out before he had completed the sprinklings which were within the *holy of holies* he must bring other blood and return and sprinkle afresh within the *holy of holies*, and likewise in the holy place,³³ and on the golden altar, because all the sprinklings made their own particular atonement.³⁴ Rabbi Eleazer and Rabbi Simeon said, “he began again from the place³⁵ where he had broken off.”

for he turned the ashes and coals to either side, and sprinkled upon the gold of the altar.

²⁷ The remainder of the blood of the outer sin-offerings was poured upon the southern foundation.

²⁸ The outer and the inner bloods [*i.e.*, the blood sprinkled upon the outer altar, and that sprinkled upon the inner altar] which were poured upon the altar of burnt-offering flowed down and fell from the foundation [of the altar] to the pavement [of the court] and became mingled in the canal—the conduit in the court which went out to the Kedron valley.

²⁹ The owners of gardens.

³⁰ It was unlawful to make use of it before the price had been paid.

³¹ All the services which he performed in the white garments in the holy of holies and in the holy place.

³² In our mishna.

³³ וכן בהיכל. If he had made a part of the sprinklings upon the vail, and the blood was poured out, he must bring another bullock and begin again the sprinklings upon the vail, but it was not necessary to begin again within the holy of holies.

³⁴ Therefore the atonement that was completed was completed.

³⁵ And although that particular atonement was not complete, it was not necessary to return and do what he had already done. The decision was not according to Rabbi Eleazer and Rabbi Simeon.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM SEPTEMBER 26TH TO DECEMBER 12TH, 1884, INCLUSIVE.

a denotes Annual Subscriber.

* * If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

			£	s.	d.				£	s.	d.
Rev. Dr. Adler .. ..	..	..	0	10	0	Brought forward			40	10	0
W. H. Adams, Esq. .. ..	..	..	1	1	0	Rev. C. G. Chittenden .. ..	..	..	1	1	0
Miss Alford. .. ..	..	..	1	0	0	Gen. Sir A. Cotton .. ..	..	..	0	10	6
Rev. W. Armstrong .. ..	..	..	0	10	6	W. Church, Esq. .. ..	..	..	0	10	6
R. P. Andrews, Esq. .. ..	..	..	1	0	0	Rev. A. Cornford .. ..	..	..	0	10	6
Mrs. Anderson .. ..	..	..	3	3	0	W. Cash, Esq... ..	..	..	0	10	6
Bishop of Antigua .. ..	..	..	1	1	0	Miss Clay .. ..	..	..	1	1	0
Mrs. Bowles .. ..	..	..	0	10	0	J. Caudwell, Esq. .. ..	..	..	0	10	6
Mrs. Browne .. ..	..	..	0	10	6	Rev. R. Champernowne .. ..	..	..	1	1	0
W. Beaumont, Esq. (1883-84)	..	..	2	0	0	M. W. Clark, Esq. .. ..	..	..	0	10	6
Rev. E. Bittleston .. ..	..	..	0	10	6	C. C. Cox, Esq. .. ..	..	..	1	1	0
Mrs. Bown .. ..	..	..	1	1	0	Rev. A. J. T. Cachemaillo .. ..	..	..	0	10	6
J. Bury, Esq. (1883-84)	..	..	2	2	0	J. Corry, Esq... ..	..	..	1	1	0
Mrs. Birchall .. ..	..	..	1	1	0	H. Cator, Esq... ..	..	..	1	0	0
Rev. C. W. Barclay .. ..	..	..	0	10	0	J. F. Cobb, Esq. .. ..	..	..	0	10	6
Rev. J. G. Bourne .. ..	..	..	1	1	0	Rev. W. O. Clinton .. ..	..	..	1	0	0
J. Benham, Esq. .. ..	..	..	1	1	0	C. E. Gordon Crawford, Esq.	..	..	2	0	0
R. Beck, Esq... ..	..	..	1	1	0	Rev. W. B. Caparn .. ..	..	..	0	10	0
R. Blackie, Esq. .. ..	..	..	1	1	0	Major Clark .. ..	..	..	1	1	0
Rev. H. Bothamley .. ..	..	..	1	1	0	Mrs. Davies .. ..	..	..	2	0	0
R. Bealey, Esq. .. ..	..	..	1	0	0	Mrs. Dunbar .. ..	..	..	1	1	0
Rev. J. J. Burton .. ..	..	..	1	1	0	J. Evans, Esq... ..	..	..	2	2	0
John Barclay, Esq. .. ..	..	..	1	1	0	Rev. Prof. Ellis Edwards .. ..	..	..	0	10	6
J. A. Brooke, Esq. .. ..	..	..	2	2	0	W. Q. Ewart, Esq. .. ..	..	..	1	0	0
— Butler .. ..	..	..	1	1	0	Rev. J. Emeris .. ..	..	..	1	0	0
Dr. H. Berend... ..	..	..	0	10	6	Rev. M. S. Edgell .. ..	..	..	0	10	6
Cyrus Braby, Esq. (1883-84)	..	..	1	1	0	Rev. Preb. Eddrupp .. ..	..	..	0	10	6
Rev. F. Beaumont .. ..	..	..	1	1	0	Rev. W. J. Edwards .. ..	..	..	1	1	0
Rev. C. Block .. ..	..	..	0	10	6	W. Ewart, Esq. .. ..	..	..	1	0	0
Miss Isabella Black .. ..	..	..	1	1	0	John Fair, Esq. .. ..	..	..	0	10	6
Rev. G. Bellis... ..	..	..	0	10	6	P. Forbes, Esq. .. ..	..	..	2	2	0
Thos. Barclay, Esq. .. ..	..	..	1	1	0	Mrs. Fremlin .. ..	..	..	2	0	0
Rev. J. Browell .. ..	..	..	1	1	0	Rev. A. Furneaux .. ..	..	..	1	1	0
Rev. E. F. Campbell .. ..	..	..	0	10	6	C. F. Fellowes, Esq. .. ..	..	..	5	0	0
Mrs. Cruikshank .. ..	..	..	1	0	0	W. D. Fane, Esq. .. ..	..	..	2	0	0
Rev. H. S. Callander... ..	..	..	0	10	0	W. Ferguson, Esq. .. ..	..	..	1	1	0
Rev. H. Caidel .. ..	..	..	1	1	0	Col. Fenning .. ..	..	..	1	1	0
John Cook, Esq. .. ..	..	..	1	0	0	Miss Forster .. ..	..	..	1	1	0
Sir John Coode .. ..	..	..	1	1	0	A. Fothergill, Esq. .. ..	..	..	0	10	6
Miss Capel .. ..	..	..	0	10	6	J. Flint, Esq... ..	..	..	0	10	6
Carried forward			£40	10	0	Carried forward			£83	3	0

LIST OF SUBSCRIPTIONS.

	£	s.	d.
Brought forward	83	3	0
Lewis Fry	2	2	0
Miss Frith	0	10	6
Rev. T. H. Frere	2	2	0
Rev. G. Goldberg	0	10	6
Mrs. Goldberg	0	10	6
Mrs. Gorham	0	10	0
E. W. Gere, Esq.	0	10	6
Sir F. Goldsmid (1883-84)	2	2	0
Rev. A. B. Grimaldi	0	10	0
J. J. Greaves, Esq.	1	1	0
T. Grant, Esq. (1883-84)	2	2	0
James Gwyther, Esq.	0	10	6
Rev. E. J. Gregory	0	10	6
James Gebbie, Esq.	0	10	6
R. Govett, Esq.	1	0	0
Rev. C. D. Ginsburg	1	0	0
Major Gardiner	1	1	0
Prof. Lucien Gautier	0	10	6
Miss Gotto	0	10	6
Rev. T. Grant	0	10	6
T. George, Esq.	0	10	0
Capt. R. M. Gillson	1	0	6
Mrs. Guise	1	0	0
Rev. Canon Garratt	2	2	0
Rev. W. G. Greenstreet	1	1	0
Rev. G. R. Green	1	1	0
J. V. Gregory, Esq.	0	10	6
Mrs. Gubbins	0	10	6
W. L. Grant, Esq.	0	10	6
Rev. A. G. Girdleston	0	10	6
Rev. Canon Hoare	0	10	6
Rev. W. L. Hardisty	1	1	0
Miss Harrison	1	1	0
J. Howarth, Esq.	0	10	6
W. Hobbs, Esq.	1	1	0
Miss A. Hodgson	0	10	0
J. T. Harris, Esq.	2	2	0
Mrs. Hardinge	1	0	0
Rev. W. J. Heale	1	1	0
Rev. G. Horner	2	2	0
Miss Harris	0	10	6
Rev. Canon Hopkins	0	10	6
J. Hollings, Esq.	1	1	0
A. Hine, Esq.	0	10	6
Rev. T. Helmore	1	0	0
Mrs. Hutchinson	1	1	0
Mrs. Hughes	1	1	0
G. Henry, Esq.	0	10	6
W. Henderson, Esq.	0	10	6
A. Hodgetts, Esq.	1	1	0
Rev. C. B. Hue	2	2	0
Rev. W. E. Heygate (1883-84)	1	0	0
T. J. Hankinson, Esq.	1	1	0
A. H. Hamilton, Esq.	0	5	0
Rev. Canon Badcock	1	1	0

Carried forward £134 18 6

	£	s.	d.
Brought forward	134	18	6
Prof. Hudleston (for Geologi- cal Survey)	5	0	0
Rev. J. R. Hewitson	0	10	6
Rev. L. G. Hassé	0	10	6
H. S. Hird, Esq.	0	10	6
J. Holden, Esq.	2	2	0
Ven. Archdeacon Hes.. ..	0	10	6
F. Jones, Esq.	0	10	0
Mrs. Jenings	1	0	0
N. S. Joseph, Esq. (1883-84)	2	2	0
Rev. J. F. Jeffcock (1883-84)	2	2	0
Rev. W. R. Jones	0	10	6
A. W. Jones, Esq.	5	0	0
Rev. W. Johnson	0	10	6
F. W. Hitchen Kempe, Esq.	2	2	0
Rev. J. Kitchen	0	10	6
Robert Kerr, Esq.	1	1	0
Herr Khituro	1	2	6
Mrs. B. Kinnear	1	1	0
Miss Leach	0	10	0
Rev. W. B. Lowther	0	10	6
Sydney Lawrence, Esq.	1	1	0
Hon. and Rev. A. Legge	1	1	0
Rev. Canon Lee	1	1	0
J. D. Lamb, Esq.	1	1	0
C. J. Lacy, Esq.	0	10	6
Rev. G. B. Lewis	0	10	6
W. MacArthur, Esq.	1	1	0
Rev. W. D. Moffatt	0	10	6
Miss Rose Muspratt	0	10	6
Miss Macaulay	0	10	6
Mrs. Morris	0	10	6
R. B. Mummery, Esq.	0	10	0
J. Mordy, Esq.	0	10	0
Miss Meighen	0	3	6
R. Mortan Middleton, Esq.	0	10	6
Rev. J. Martin	1	1	0
R. M. Miller, Esq. (1883-84)	1	1	0
Gen. Maitland	2	2	0
W. W. Morrell, Esq.	0	10	6
W. Mattalien, Esq. (1883-84)	1	1	0
Captain Moody	1	0	0
Rev. Dr. Moulton (1883-84)	2	2	0
Rev. Canon Musgrave	0	10	0
Miss Niel	0	10	6
Miss Newland	1	1	0
J. Newton, Esq.	0	10	6
Rev. J. Ormiston	0	10	6
P. R. Overton, Esq.	0	10	6
W. H. Owen, Esq.	1	1	0
Rev. D. Paul	1	1	0
E. Parkinson, Esq.	1	0	0
Mrs. Perry	2	0	0
E. Pewtress, Esq.	2	2	0
J. Priestley, Esq.	0	10	6

Carried forward £193 2 0

LIST OF SUBSCRIPTIONS.

	£	s.	d.		£	s.	d.
Brought forward	193	2	0	Brought forward	227	18	0
Rev. C. H. Prance (1883-84)	4	4	0	Rev. R. A. Tindall	0	10	6
Rev. J. Rowlands	1	1	0	Sir Chas. Trevelyan	1	1	0
F. Ribbitt, Esq.	0	10	6	Miss Townsend	0	10	6
Rev. G. S. Rowe	1	1	0	The Vice-Chancellor, Cam-			
J. A. Rolls, Esq.	1	1	0	bridge	0	10	6
Rev. C. L. Reynolds	1	1	0	Gen. Sir R. Wilmsham	1	1	0
Marshall Reed, Esq.	0	10	6	J. E. Wakefield, Esq. ...	1	1	0
Dr. Reynolds	0	10	6	V. A. Williamson, Esq. ..	1	1	0
Miss Rickman	2	0	0	Rev. H. H. Westmore, Esq. ...	1	1	0
Mrs. King	0	10	6	Rev. R. G. Walker	0	10	6
Rev. P. De Rivière	0	5	0	Miss Walker	1	1	0
Rev. W. H. Sewell	0	10	0	A. J. Weld, Esq.	0	10	6
Mark Stirrup, Esq.	0	10	6	F. A. White, Esq.	1	0	0
W. J. Standing, Esq.	4	4	0	W. Walker, Esq.	1	1	0
Rev. J. E. Smyth	2	2	0	Rev. G. S. Whittock	1	0	0
J. Storey, Esq. ...	1	1	0	S. Woolf, Esq.	1	1	0
Rev. C. S. Scott	0	10	6	D. M. Watson, Esq.	1	1	0
C. Samuel, Esq.	1	1	0	W. Woodall, Esq.	1	1	0
H. G. Murray Stewart, Esq. ...	2	2	0	J. H. Weldon, Esq.	1	0	0
F. J. Stevens, Esq.	0	10	6	Rev. T. Woorisall	2	2	0
Rev. T. Stephens	0	10	6	Rev. F. M. Wyndham	1	0	0
G. Shrewsbury, Esq. ...	0	10	0	J. R. Wigham, Esq.	1	1	0
F. Salley, Esq.	1	1	0	J. Hornby Wright, Esq. ..	1	1	0
F. R. Shaw, Esq.	1	1	0	T. E. Waddingham, Esq. ..	4	4	0
Miss Stephens	0	10	0	A. Westwood, Esq.	0	10	0
St. Bees College	1	1	0	Rev. J. Wigham	0	10	6
A. Trigg, Esq.	0	13	0	Miss Watson	0	10	0
J. Thompson, Esq.	1	1	0	A. J. Woothouse, Esq. ..	2	2	0
Ms. Thrupp	1	1	0	Col. Ward	1	1	0
J. W. L. Taylor, Esq. ...	1	0	0	Rev. J. O. West	0	10	6
Rev. J. Taylor	1	1	0				
Carried forward	£227	18	0	Total	£258	12	6

SUMMARY.

	£	s.	d.
Subscriptions and Donations	258	12	6
Local Societies	146	15	0
From Lectures	31	0	0
Maps, Memoirs, and Books	220	1	9
	£656	9	3

Omitted from its place—German Palestine Society .. 0 10 6

LIST OF SUBSCRIPTIONS.

LOCAL SOCIETIES.

(Acknowledged in detail under special heading).

	£	s.	d.
Aberdeen	10	8	0
Bath	1	1	0
Belfast	0	10	6
Brighton	10	5	0
Bristol and Clifton.. .. .	8	15	0
Castle Bellingham (Ireland)	6	1	10
Chelmsford	9	2	6
Cheltenham	23	10	9
Chichester	1	3	6
Cork	11	0	0
Frome	8	19	0
Lichfield	1	5	0
Manchester	37	0	0
Plymouth	6	2	11
St. Leonards	4	4	0
Sydney	4	3	0
Whithy	1	1	0
Winchester	2	2	0
	<hr/>		
	£146	15	0

ABERDEEN LADIES' ASSOCIATION.

Dec. 15, 1884.—By cash	£10	Ss.	
	£	s.	d.
Miss Fenwick Bisset, 11, Albyn Terrace.. .. .	2	0	0
M.	0	2	6
Rev. Prof. Forbes, D.D., 3, Westfield Terrace	0	10	0
Mrs. Garden, Woodthorpe Murtle	0	10	0
Colonel Kirby, 15, Dee Street	1	1	0
James Stephen, R.N., 155, Crown Street	0	10	0
David Mitchell, Esq., 24, Adelphi	0	10	6
S. J. Mitchell, Esq., 24, Adelphi	0	2	6
David Allan, Esq., Union Street	0	10	6
Mr. and Mrs. Simpson, 8, Golden Square	0	10	6
Robert Lumsden, Esq., Ferryhill House.. .. .	0	10	6
Miss Spence, 2, Castle Hill	0	10	6
Mrs. Duthie, 20, Albyn Place	0	10	0
William Hunter, Esq., 14, Adelphi	0	10	6
Miss Gordon, 35, Albyn Place	0	5	0
Rev. James Selkirk, 5, Westfield Terrace	0	10	6
Rev. Prof. Mulligan, D.D., University, Old Aberdeen	0	10	6
Mrs. Maclure, 18, Rubislaw Terrace	0	10	0
Rev. John Calder, New Manse, Old Aberdeen	0	10	6

BATH.

Nov. 10.—By cash	£1	1s.	
	£	s.	d.
Rev. Canon Brooke.. .. .	1	1	0

LIST OF SUBSCRIPTIONS.

BELFAST.

Dec. 4.—By cash	10s. 6d.
W. F. S. Corry, Esq.	£ s. d. 0 10 6

BRIGHTON.

Dec. 22.—By cash	£10 5s.
Miss Carr	£ s. d. 1 1 0
N. Turnbull, Esq.	1 1 0
Miss Cobham	1 1 0
Mademoiselle de Paris	1 1 0
Miss M. Ridding	5 0 0
Venerable Archdeacon Hannah	1 1 0

BRISTOL AND CLIFTON.

Nov. 4.—By cash	£8 15s.
Lord Rollo, Wilmington, Ryde, I.W.	£ s. d. 1 0 0
Rev. C. H. Wallace, 3, Harley Place, Clifton	1 0 0
W. F. Lavington, Esq., 107, Pembroke Road, Clifton, Bristol	1 1 0
Miss Russell, Guilford Villa, Pembroke Road	1 0 0
Miss Moor, Cossington Villa	1 0 0
C. W. Bird, Esq., Woodcote, Tyndal's Park	0 10 6
Miss Windsor Richards, 12, Princess Buildings, Clifton	0 10 0
Thomas Howard, Esq., Bryn-y-Mor, Weston-super-Mare	0 10 6
Rev. R. W. Raban, 16, Apsley Road, Clifton	0 10 6
Mrs. Thompson, Clifton	0 10 0
The Misses Mills, Frederick Place	0 10 6
Miss Ware, Penavon	0 5 0
Rev. Canon Mather, St. Paul's Lodge	0 5 0
Miss Douglas, 5, Gloucester Row.	0 5 0
Rev. J. H. Clark, 66, Pembroke Road	0 5

CASTLE BELLINGHAM (IRELAND.)

Nov. 18.—By cash.	£6 1s. 10d.
Lady Bellingham	£ s. d. 0 10 0
T. K. Garstin, Esq.	1 0 0
Rev. Richard Quin.	0 10 0
Dowager Lady Rathdonnell	1 0 0
Rev. Canon Shaw	1 0 0
Mrs. Smith	0 10 6
Collection at Drawing-Room Meeting at Drumcar	1 18 0
Collection at Drawing-Room Meeting at Castle Belling- ham	0 6 4

LIST OF SUBSCRIPTIONS.

CHELMSFORD.

Nov. 10, 1884.—By cash	..	..	..	..	..	£9 2s. 6d.
						£ s. d.
Miss Straight	..	..	..	..	..	0 5 0
Miss Seabrook	..	..	..	..	..	0 10 6
Rev. H. F. Johnson	..	..	..	..	..	0 10 6
— Codd, Esq.	..	..	..	..	..	1 1 0
— Elwell, Esq.	..	..	..	..	..	0 10 6
Mr. Coleman	..	..	..	..	..	1 1 0
Mr. J. S. Reeve	..	..	..	..	..	0 10 6
Miss Mark	..	..	..	..	..	0 10 6
Ditto Collecting Card	..	..	..	..	..	0 10 0
W. Perry, Esq.	..	..	..	..	..	2 2 0
W. Holgate, Esq.	..	..	..	..	..	1 1 0
Mr. R. H. Crabb	..	..	..	..	..	1 1 0

CHELTONHAM.

Nov. 24.—By cash..	..	..	..	..	..	£23 10s 9d.
						£ s. d.
						1883.
Miss Birchall	..	..	..	..	..	1 1 0
Rev F. Poynder	..	..	..	..	..	0 10 0
						£1 11 6
						1884.
Dr. Thorp	..	..	..	..	..	1 1 0
Sir Brook Kay, Bart. (don.)	..	..	..	..	..	3 3 0
Earl of Ducie	..	..	..	..	..	5 0 0
Rev. J. Cardew	..	..	..	..	..	1 0 0
Dr. E. T. Wilson	..	..	..	..	..	0 10 0
Rev. T. Cardew (don.)	..	..	..	..	..	1 0 0
Rev. W. Hutchinson	..	..	..	..	..	0 10 6
W. H. Gwinnett, Esq.	..	..	..	..	..	1 1 0
C. Dobell, Esq.	..	..	..	..	..	1 1 0
Miss Ward	..	..	..	..	..	0 10 0
The Misses Robinson	..	..	..	..	..	0 5 0
Miss Stokes	..	..	..	..	..	0 10 0
John Walker, Esq.	..	..	..	..	..	1 1 0
Mr. Litton	..	..	..	..	..	1 1 0
Rev. Canon Bell	..	..	..	..	..	1 1 0
J. Middleton, Esq.	..	..	..	..	..	0 10 0
Rev. F. Poynder	..	..	..	..	..	0 10 6
Rev. Dr. McCulloch	..	..	..	..	..	0 10 6
Mrs. Wakefield	..	..	..	..	..	1 1 0
Rev. R. Chamney	..	..	..	..	..	1 1 0

LIST OF SUBSCRIPTIONS.

CHICHESTER.

Dec. 5.—By cash	£1 3s. 6d.
	£ s. d.
Mrs. Campbell	0 10 6
Mrs. B. Pigott	0 10 6
Miss Elliott	0 2 6

COUNTY AND CITY OF CORK.

Oct. 30.—By cash	£11
	£ s. d.
O'Donovan.. .. .	2 0 0
Rev. Horace T. Fleming	0 10 0
Mrs. Hunt	1 0 0
Miss Hunt	1 0 0
Mrs. Maunsell	1 0 0
Mr. Pigott	1 0 0
Henry S. Perry, Esq. (Hon. Sec.)	1 0 0
Captain Perry	1 0 0
Mr. J. Seymour Romilly	0 10 0
Miss Perry Shears	1 0 0
Miss Reeves.. .. .	1 0 0

FROME.

Nov. 28.—By cash	£8 19s.
	£ s. d.
F. C. Cockey, Esq.	0 5 0
H. Cockey, Esq.	0 10 6
G. A. Daniel, Esq.	0 10 6
Rev. W. E. Daniel	0 10 6
E. Flatman, Esq.	0 10 0
Rev. J. Horton	0 10 6
Mr. Holroyd	1 0 0
H. C. Houston, Esq.	0 10 6
Mrs. Le Gros	0 10 6
C. W. Le Gros, Esq.	0 5 0
Mrs. Parsons	0 2 6
Miss Sewell	0 10 6
J. Tanner, Esq.	1 1 0
H. Thompson, Esq.	0 10 6
Miss Thompson	0 10 6
Mr. Tonkin	0 10 6
J. W. D. T. Wickham, Esq.	0 10 6

LIST OF SUBSCRIPTIONS.

MANCHESTER.

	£	s.	d.
Oct. 3.—By cheque	2	2	0
„ 9.— „	5	15	6
Dec. 27.— „	4	14	6
Nov. 11.— „	7	5	6
„ 16.— „	4	14	6
„ 16.— „	10	16	6
„ 19.— „	1	11	6
	<hr/>		
	£37	0	0
Remitted previously	34	13	0
	<hr/>		
Total for 1884 to December 19	£71	13	0

	£	s.	d.		£	s.	d.
aRev. W. Laycock	0	10	6	aRev. J. W. Consterdine	0	10	6
aG. Gauthorp, Esq.	0	10	6	aJohn Grafton, Esq.	1	1	0
aJoseph Yates, Esq.	1	1	0	aJoseph Rice, Esq.	1	1	0
aRev. A. E. Robinson	1	1	0	aRev. A. McLaren, D.D.	1	1	0
aJames Heelis, Esq.	1	1	0	aRev. W. H. Rogers, D.D.	1	1	0
aJ. R. Barlow, Esq.	0	10	6	Henry Lowe, Esq.	1	1	0
aJ. A. Eastwood, Esq.	0	10	6	aJ. A. Beith, Esq.	1	1	0
aC. G. Rockwood, Esq.	0	10	6	aRev. Canon Stowell	0	10	6
aRichard Taylor, Esq.	1	1	0	aThomas Hargreaves, Esq.	0	10	6
aPrincipal Greenwood	1	1	0	aJabez Johnson, Esq.	1	1	0
aJ. W. Keeling, Esq.	1	1	0	aRev. G. W. Reynolds	0	10	6
aRev. T. H. Guest	0	10	6	aJames Parlant, Esq.	1	1	0
aJ. B. Lee, Esq.	0	10	6	aR. Milne Redhead, Esq. (two			
aJohn Napier, Esq.	1	1	0	years)	4	0	0
aRev. Canon J. Davenport Kelly	0	10	6	aOliver Heywood, Esq.	2	2	0
aRev. E. C. Hore	0	10	6	aC. J. Heywood, Esq.	1	1	0
aRev. A. Haworth	0	10	6	aRev. Canon Tonge	0	10	6
aRev. J. Chippendale	1	1	0	aVen. Archdeacon Anson	1	1	0
aMrs. Ryder Richardson	1	1	0	aMisses Sharp	1	1	0
aRev. G. Barwell	1	1	0	aRev. T. N. Farthing	0	10	6
aRev. H. D. Rawnsley	0	10	0				

PLYMOUTH.

Dec. 23.—By cash.	£3	3s.	
	£	s.	d.
Captain Inskip, R.N.	0	10	6
E. James, Esq.	0	10	6
Miss Bragge	0	10	6
H. Greenway, Esq.	0	10	6
J. N. Bennett, Esq.	0	10	6
John Shelly, Esq.	0	10	6

LIST OF SUBSCRIPTIONS.

PLYMOUTH.

Oct. 6.—By cash	£2 19s. 11d
	£ s. d.
Mr. W. W. Anthony	0 2 6
Mrs. Guswell	0 2 6
Mr. W. J. White	0 2 6
Mr. Thos. Goard	0 5 0
Mr. W. Short	0 2 0
Mr. H. A. Woodhouse	0 5 0
Mrs. H. A. Woodhouse	0 5 0
Mr. William King	0 2 6
Mr. Thos. Pitts, jun.	0 5 0
Mr. Wm. Angear	0 5 0
Mr. W. T. Hutchens	0 5 0
Mr. D. McK	0 2 6
Mr. Wm. Babb	0 5 0
Mr. Harkeet.	0 2 6
Miss E. P. Martin	0 2 0
“Unclaimed Balances”	0 5 11

ST. LEONARDS.

Nov. 10.—By cash	£1 4s.
	£ s. d.
Rev. C. R. Howell (1883-84)	2 2 0
Rev. John Back	1 1 0
Miss Back	1 1 0

SYDNEY.

Dec. 3.—By cash.. .. .	£1 3s.
	£ s. d.
Rev. James Cameron, M.A., Richmond, N.S.W. ..	1 1 0
James Comrie, Esq., Northfield, Kurragong Heights, N.S.W.	1 1 0
John S. Adam, Esq., The Lea, Croydon, N.S.W. ..	1 1 0
Rev. Colin Stewart, M.A., 333, Bourke Street, Sydney..	1 1 0
Rev. R. Steel, D.D., St. Leonards, Sydney	1 1 0

WHITBY.

Oct. 22.—By cash	£1 1s.
	£ s. d.
John Brewster	1 1 0

LIST OF SUBSCRIPTIONS.

WINCHESTER.

Dec. 12.—By cash ..	..	..	..	..	..	£2	2s.	
						£	s.	d.
Mrs. Walsh ..	..	..	..	..	..	1	1	0
Miss Harden ..	..	..	..	..	..	0	10	6
Rev. G. Richardson	..	..	..	..	..	0	10	6

LECTURES BY REV. HENRY GEARY, M.A.

(Omitted in June Quarterly Statement.)

						£	s.	d.
May 15.—Christ's Hospital ..	..	..	..	..	..	10	10	0
Nov. 14.—Uxbridge (two lectures)	..	..	..	..	..	10	0	6
„ 20.—Acton ..	..	..	..	..	..	8	8	3
„ 28.—Dorking (two lectures) ..	..	..	..	..	..	16	15	9
Dec. 5.—Winchester (two lectures)	..	..	..	..	..	17	17	6
„ 7 and 11.—Willesden (sermon and lecture)	4	0	0

LECTURES BY REV. JAMES NEIL.

Dec. 12.—By cash	30	0	0
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(Details will be published in April.)

ERRATA.

- October Number.—For W. Collins, read B. H. Collins.
 „ „ —For Miss Brownhead, read Miss Bromehead.
 April, 1883.—For Miss Bown, read Mrs. Bown.

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FROM DECEMBER 12TH, 1884, TO MARCH 12TH, 1885, INCLUSIVE.

a denotes Annual Subscriber.

* If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

	£	s.	d.		£	s.	d.
<i>a</i> Rev. J. D. Addison	0	10	0	Brought forward	33	15	10
<i>a</i> G. Aimer, Esq.	0	10	6	<i>a</i> Rev. E. Bittleston	0	10	6
<i>a</i> T. S. Aldis, Esq.	1	1	0	<i>a</i> Mrs. Birkbeck.. ..	1	1	0
<i>a</i> J. S. Alexander, Esq.	1	1	0	<i>a</i> F. E. Blackstone, Esq.	1	1	0
<i>a</i> H. Alexander, Esq.	1	1	0	<i>a</i> Miss Blandy	0	10	6
<i>a</i> Mrs. Alleard	0	10	6	<i>a</i> Rev. A. A. Bonar	1	0	0
<i>a</i> R. G. Allen, Esq.	0	10	6	<i>a</i> Rev. A. K. Boustead.. ..	0	10	0
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<i>a</i> S. Allport, Esq.	0	5	0	<i>a</i> Mrs. Bowron	0	10	6
<i>a</i> C. J. Angus, Esq.	0	10	0	<i>a</i> Rev. W. Brewster	1	1	0
Anonymous	0	9	10	Miss E. Bridges	5	0	0
Anonymous	0	10	6	<i>a</i> Rev. W. G. Bridges	0	10	6
Anonymous	0	10	0	<i>a</i> J. S. Broad, Esq. (1884-85)..	1	1	0
W. Appleford, Esq.	1	1	0	<i>a</i> Mrs. Brock	0	10	6
<i>a</i> Rev. R. Appleton	1	1	0	<i>a</i> Rev. R. Brown	0	10	6
<i>a</i> C. Ashmead, Esq.	0	10	6	<i>a</i> Miss Brown	0	10	0
<i>a</i> Mrs. Reirson Arbuthnot	2	2	0	<i>a</i> J. Brown, Esq.	1	1	0
<i>a</i> T. H. Aston, Esq.	0	5	0	<i>a</i> Rev. C. G. Browne	0	10	6
<i>a</i> Miss Badcock	0	10	6	<i>a</i> W. Brown, Esq.	2	0	0
<i>a</i> Wm. C. Badger	0	10	6	<i>a</i> E. Button, Esq.	0	10	6
<i>a</i> Wm. G. Bain	0	10	6	<i>a</i> R. Burlingham, Esq.	1	1	0
<i>a</i> Mrs. Bankes	0	10	6	<i>a</i> R. Scott Burn, Esq.	2	2	0
<i>a</i> T. Barclay, Esq.	1	1	0	<i>a</i> James Burnley, Esq.	1	1	0
<i>a</i> Lady K. R. Barker	1	1	0	<i>a</i> Rev. H. Caddell	1	1	0
<i>a</i> Mrs. F. A. Barstow	0	10	6	<i>a</i> Miss Camidge	1	1	0
<i>a</i> Mrs. A. Barwell	1	0	0	<i>a</i> Rev. E. Carlyon	0	10	0
<i>a</i> M. Batendall, Esq.	1	1	0	<i>a</i> Rev. A. Carr	1	1	0
<i>a</i> C. Bayne, Esq. (1884-85)	2	2	0	<i>a</i> Rev. W. Carr	1	1	0
<i>a</i> Rev. D. A. Beaufort	1	1	0	<i>a</i> Mrs. Cash	0	10	6
<i>a</i> Miss Beaufort.	1	1	0	<i>a</i> A. Cates, Esq.	2	2	0
<i>a</i> W. P. Beley, Esq.	0	10	6	<i>a</i> Rev. J. H. Carr	0	10	0
<i>a</i> Rev. J. Bell	0	10	6	<i>a</i> J. Fenn Clark, Esq.	1	1	6
<i>a</i> Rev. W. R. Bell	0	10	6	<i>a</i> Gen. Clarke	0	10	0
<i>a</i> Thomas Berry, Esq.	1	1	0	<i>a</i> Miss Clendenning	0	10	0
<i>a</i> Zephania Beveridge, Esq.	2	0	0	<i>a</i> J. Challinor, Esq.	1	1	0
<i>a</i> A. F. Burton, Esq.	1	1	0	Miss Chamberlain	0	10	0
<i>a</i> John Bawley, Esq.	1	1	0	<i>a</i> Rev. G. Christian	1	1	0
<i>a</i> W. Barnon, Esq.	0	10	6	Very Rev. Dean Church	1	0	0
<i>a</i> G. Bickerton, Esq.	1	0	0	<i>a</i> J. F. Cobb, Esq.	0	10	6
<i>a</i> J. Binney, Esq.	1	1	0	<i>a</i> Rev. J. B. Colville	0	10	6
<i>a</i> Rev. A. J. Binnie	0	10	6	<i>a</i> F. M. Corfe, Esq.	1	1	0
Carried forward	£33	15	10	Carried forward	£72	11	4

LIST OF SUBSCRIPTIONS.

	£	s.	d.		£	s.	d.
Brought forward	72	11	4	Brought forward	132	1	4
aMiss M. A. Corrie	1	1	0	aRev. R. W. Fiske	0	10	0
aMiss G. M. Corrie	1	1	0	aR. Foster, Esq.	0	10	0
aMrs. Corsbie	1	1	0	aRev. A. M. Foster	1	1	0
aGen. Sir A. Cotton	1	0	0	aRev. T. J. Fowler	1	1	0
aGen. Cooke	1	0	0	aRev. F. H. Freeth	1	1	0
aR. H. Cooke, Esq.	1	1	0	aMrs. Fremlin	2	0	0
aRev. Canon Coulson	1	1	0	aD. W. Freshfield, Esq. ..	1	1	0
aJ. C. Courthope	1	1	0	aLewis Fry	1	1	0
aH. Courtier, Esq.	0	10	6	aA. Fuller, Esq.	0	10	0
aSir John Cowell	2	0	0	aMiss Garnett	1	1	0
aGen. Cracklow	2	2	0	aMiss Garrat	1	1	0
aR. Crewdson, Esq.	1	1	0	aMrs. E. George	0	10	0
aMrs. Crewdson	1	1	0	aRev. T. J. Goadby	0	10	0
aA. Crosbie, Esq.	0	10	6	aMrs. Goddard.. ..	0	10	0
aRev. Dr. H. Crosbie	1	0	0	aA. R. Granville, Esq. ..	0	10	0
aMiss F. M. Cross	0	10	6	aN. E. Green, Esq.	0	10	0
aR. Cudworth, Esq.	1	1	0	aMiss Grover	1	1	0
aJ. Culross, Esq.	0	10	6	aRev. W. Newton Guinness ..	0	10	0
aDr. E. Cumming	0	10	6	aLieut. T. W. Guise	1	0	0
aJ. A. Dalton, Esq.	0	10	6	aRev. C. Gutch (1884-85) ..	1	1	0
aRev. T. Dalton	1	1	0	aCapt. R. M'Gillson	1	1	0
aJ. H. Dalzell, Esq.	1	1	0	aRev. H. H. Halford	0	10	0
aW. R. Davies, Esq.	1	1	0	aMiss Halton	0	10	0
aC. Davies, Esq.	1	0	0	aGen. Halliday.. ..	1	1	0
aRev. Preb. Davey	0	10	6	aRev. G. Hamilton	1	1	0
aG. Dartnell, Esq.	0	10	6	aCapt. Hankey.. ..	0	10	0
aMiss Deacon	2	0	0	aT. J. Hankinson, Esq. ..	1	1	0
aH. W. Devenish	0	10	6	aMiss C. Hardy	1	0	0
aRev. W. W. Dickenson ..	2	2	0	aG. Hardy, Esq.	1	1	0
aA. Dodgson, Esq.	0	10	6	aMiss Harris	1	1	0
aRev. J. D. Dodgson	0	10	6	aRev. S. H. Harrison	1	1	0
aR. D. Robinson Douglas, Esq.	1	1	0	aMiss Harrison.. ..	1	1	0
aBishop of Dover	1	1	0	aRev. A. A. Harland	0	10	0
aMiss Downward	1	0	0	aRev. L. G. Hassè	0	10	0
aMiss Drabwell.. ..	0	10	6	aRev. R. M. Hawkins.. ..	1	1	0
aMrs. Drummond	1	1	0	aT. G. Hawley, Esq.	1	0	0
aE. A. Drummond, Esq. ..	3	3	0	aRev. S. T. Hawtrey	2	2	0
aCapt. Drummond	1	0	0	aRev. Canon Hayhurst	1	0	0
aMiss Du Buisson	0	10	6	aMiss Heath	1	1	0
aDr. Duncan	1	1	0	aRev. A. Henderson	0	13	6
aM. Dutan	1	1	0	aRev. J. Hewetson	1	0	0
aRev. Preb. Eddrup	0	10	6	aRev. W. E. Heygate	0	10	0
aT. Eden, Esq.	1	1	0	aB. A. Heywood, Esq. . . .	1	1	0
aRev. M. S. Edgell	0	10	0	aA. H. Heywood, Esq. . . .	5	5	0
aG. T. Edwards, Esq. . . .	0	10	6	aE. Hill, Esq.	1	0	0
aRev. H. T. Ellacombe	1	1	0	aRev. Melsup Hill	1	1	0
aMrs. Josiah Evans	2	0	0	aJ. Hilton, Esq.	3	0	0
aMiss A. Everard	1	1	0	aMrs. Hinde	2	2	0
aMiss Ewart	1	1	0	aRev. H. Hall-Houghton ..	10	0	0
aW. Ewen, Esq.	1	1	0	aMiss A. Hoare	1	1	0
aRev. T. F. Farrer	5	0	0	aS. H. Hodgson, Esq. . . .	1	1	0
aRev. A. R. Faussett	1	1	0	aRev. C. H. Hole	1	1	0
aRev. Dr. Fearon	1	1	0	aMrs. E. T. Holland	0	10	0
aRev. G. H. Feilding	0	10	6	aRev. J. F. Hort	2	2	0
aColonel Fenning	1	1	0	aMrs. Huish	1	1	0

Carried forward £132 1 4

Carried forward £199 15 10

LIST OF SUBSCRIPTIONS.

	£	s.	d.
Brought forward	199	15	10
Mr. F. Hutchinson, Esq.	1	1	0
Dr. Hutchinson	1	1	0
Rev. T. S. Hutchinson	1	1	0
Mrs. Hutchinson	1	0	0
Rev. W. Inge	1	1	0
J. L. Jardine	1	1	0
Mrs. Johnson	1	1	0
T. B. Kane, Esq.	0	10	6
Miss Kelly	0	10	6
Mrs. C. Kemble (1884)	1	1	0
T. J. Kent, Esq.	2	2	0
R. L. Kirby, Esq.	0	10	6
Wm. Kitchener	1	0	0
Rev. T. Ladds	1	1	0
A. Laing, Esq.	0	10	0
Rev. R. Lang	0	10	6
G. H. Lawrence, Esq.	1	1	0
R. D. Leader, Esq.	0	10	6
H. Leask, Esq.	0	10	6
A. H. S. Leicester, Esq.	1	1	0
W. H. Leighton, Esq.	2	2	0
Rev. J. Leishman	1	0	0
Mons. L'Evesque	0	5	6
A. M. Lindsay, Esq.	0	10	0
Wm. W. R. Linton	1	1	0
Rev. J. Little	1	0	0
Abson of Lichfield	2	2	0
Mons. Lortet, Esq.	0	12	6
Lady Low	1	0	0
A. Lupton, Esq.	1	1	0
G. Moingay, Esq.	1	1	0
Wm. F. A. Maitland	2	2	0
H. J. Manton, Esq.	1	1	0
Rev. J. Marshall	1	1	0
H. F. Martin, Esq.	1	1	0
H. B. Martin, Esq.	2	2	0
Miss Martin	1	1	0
W. S. Martyn	1	1	0
H. T. Martyn	0	10	6
A. McArthur, Esq., M.P.	1	1	0
Rev. D. Macaulay	0	10	6
Rev. F. McCready	1	1	0
John McGregor, Esq.	2	2	0
W. McIndoe, Esq.	0	5	0
T. McKinnel, Esq.	1	1	0
Rev. A. McKinnal (1884-85)	2	2	0
Rev. S. R. Macphail	0	10	6
Miss Macpherson	0	10	6
Miss McWhirter	0	10	6
Rev. R. Macpherson	0	10	6
Wm. P. Meeson	0	10	6
H. Mellors, Esq.	1	1	0
Rev. A. Melville	1	0	0
Rev. P. O. B. Methuen	0	10	6
Rev. A. Miller	0	10	6

Carried forward £253 12 4

	£	s.	d.
Brought forward	253	12	4
Mr. M. Miller, Esq.	0	10	6
Miss Mills	1	1	0
Mitchell Library	0	10	6
W. R. Mitchell, Esq.	0	10	6
Bishop of Moray and Ross	1	1	0
Rev. J. H. Moore	1	0	0
Rev. W. Bramley-More	0	10	6
H. Morris, Esq.	1	0	0
Rev. A. M. Morrison	5	0	0
H. J. Morton, Esq.	1	1	0
Rev. W. Morton	0	10	6
Sir W. Muir	1	1	0
Miss Mullholland	1	1	0
Rev. G. H. Mullins	1	1	0
Miss Murdoch	1	1	0
Rev. F. U. Murray	1	1	0
Rev. V. Musgrave	1	0	0
Bishop of Nelson	1	1	0
Sir C. Nicholson	1	1	0
H. S. Noblett, Esq.	0	10	6
Mrs. Norriss	2	2	0
Mrs. Nutter	1	1	0
Dr. Ogle	1	1	0
F. R. Ohlson, Esq.	1	1	0
Mrs. Ormond	0	10	6
Lady A. Onslow	2	2	0
T. Osborne, Esq.	1	0	0
Rev. H. Osgood	0	10	6
W. D. Paine, Esq.	2	2	0
Paisley Institute	1	1	0
Mrs. Paley	0	10	6
Gen. Parker	1	1	0
C. Eyre Parker, Esq.	1	1	0
Miss Peard	1	1	0
Rev. Canon Pearson	1	0	0
H. F. Pease, Esq.	1	1	0
Miss Peckover	0	10	0
D. M. Peebles, Esq.	1	0	0
Miss Petit	1	1	0
H. Peto, Esq.	2	0	0
F. W. Pinney, Esq.	1	1	0
W. Piteairn, Esq.	0	10	0
T. H. Plowes, Esq.	1	1	0
Herr von Pochhammer, Esq.	1	0	0
Rev. R. Powell	0	10	6
S. F. Pownall, Esq.	1	1	0
Rev. F. Poynder	0	10	6
Rev. W. Lance	1	0	0
Rev. T. Price	0	10	6
T. Prince, Esq.	1	1	0
John Pritchett, Esq.	0	10	6
Rev. W. H. Proby	1	1	0
Rev. Y. R. Purcell	0	10	6
"R."	0	10	6
W. Ragget, Esq.	0	5	6

Carried forward £259 5 4

LIST OF SUBSCRIPTIONS.

	£	s.	d.		£	s.	d.
Brought forward	309	5	4	Brought forward	308	1	10
aSurz.-Gen. Ranking ..	1	1	0	aRev. A. Thompson ..	1	1	0
aW. R. Reeves, Esq. ..	0	10	0	aRev. J. H. Thomson ..	0	10	6
aReligious Tract Society ..	5	5	0	aMiss Tolson ..	1	1	0
aRev. A. M. Rendell ..	1	1	0	aH. B. Tomkins, Esq. ...	1	0	6
aRev. C. J. Reynolds (1883-85)	2	2	0	aMrs. F. W. Tremlett ..	0	10	0
aH. Richardson, Esq. ..	1	1	0	aJ. A. Trench, Esq. ..	0	10	6
aRev. O. M. Ridley ..	0	10	0	aRev. Canon Trotter ..	0	10	6
aRev. O. M. Ridley ..	0	10	6	F. F. Tuckett, Esq. ..	1	1	0
aRev. T. Rigaud ..	0	10	0	F. F. Tuckett, Esq. (don.)	1	0	0
aThos. Roberts, Esq. ..	0	10	6	aMrs. W. Tufnell ..	1	1	0
aMrs. Roscoe ..	1	1	0	aA. J. Tufnell, Esq. ..	0	10	6
aRev. W. Rorison (1884)	1	0	0	aMiss Tufnell ..	0	10	6
aJ. Rountree, Esq. (1883-85)	1	1	0	aMrs. Tufnell ..	0	10	6
aRev. Dr. Russell ..	0	10	6	aR. Turnbull, Esq. ..	0	10	6
aRev. J. C. Rust ..	0	5	0	aUnion Theological Seminary	0	10	6
aRev. J. Ruthven ..	0	10	6	aJ. Vavasseur, Esq. ..	1	1	0
aW. H. Rylands, Esq. ...	1	1	0	aJ. E. Wade, Esq. ..	2	0	0
aSamuel Bros. ..	1	1	0	aC. J. Wake, Esq. ..	0	10	6
aMiss Sargent ..	0	10	6	aJ. E. Wakefield, Esq.	1	1	0
aMiss Sawyer ..	0	10	6	dMiss Wakeham ..	5	5	0
aRev. Canon Searth ..	1	1	0	aJ. H. Waldon, Esq. ..	1	0	0
aMiss E. Secretan ..	0	10	6	aRev. W. H. Walford ..	2	2	0
aRev. H. Segar ..	0	10	6	aRev. T. G. Walten ..	1	1	0
aRev. E. J. Selwyn (1883-85)	3	3	0	aR. Waterfall, Esq. ..	0	10	6
aA. Smith, Esq. ..	0	10	6	aJoseph Watts, Esq. ..	0	10	6
aCol. Smyth ..	1	1	0	aMiss D. Way ..	1	11	6
aR. J. Snape, Esq. ..	1	1	0	aMrs. Wedgwood ..	2	0	0
aDr. A. Socin ..	0	10	6	aMrs. Welland ..	1	0	0
aE. Stanford, Esq. ..	10	10	0	aRev. A. T. White ..	1	0	0
aRev. B. L. Stanhope ..	1	1	0	aN. C. White ..	1	1	0
aRev. T. Stenhouse ..	0	10	6	aJohn Whitehead, Esq.	1	0	0
aT. Sterry, Esq. ..	1	1	0	aW. Wickes, Esq. ..	0	10	6
aRev. E. C. Stewart ..	1	1	0	aRev. F. E. Wigram ..	5	5	0
aEugene Stock, Esq. ..	0	10	6	aGen. Sir R. W. Wilbraham	1	1	0
aH. Stokes, Esq. ..	0	10	0	aMrs. Wilkinson ..	0	10	6
aRev. R. A. H. Stroud ..	0	10	0	aRev. Prof. Williams ..	0	10	6
aMiss S. Strutt. ..	1	0	0	aMiss Williams ..	1	1	0
aC. E. Stuart, Esq. ..	1	1	0	aC. Wilson, Esq. ..	2	0	0
aColonel Stuart ..	1	1	0	aMrs. Wilson ..	0	10	6
aH. Studdert, Esq. ..	1	11	6	aW. Wilson, Esq. ..	0	10	6
aMiss Styan ..	1	1	0	aJ. G. Wilson, Esq. (1883-84)	2	2	0
aMiss Sutherland ..	0	10	6	aRev. H. Wilson ..	0	10	6
aMartin Sutton, Esq. ..	1	1	0	aJ. W. Wilson, Esq. ..	1	1	0
aRev. Canon Swayne (1884-85)	2	2	0	aH. K. Wood, Esq. ..	1	1	0
aR. Taylor, Esq. ..	1	1	0	aW. C. Wood, Esq. (1884-85)	2	2	0
aMiss Taylor ..	1	1	0	aRev. Dr. Wray ..	1	1	0
aJ. F. Taylor, Esq. ..	0	10	6	aDr. Aldis Wight (1883-85)	6	6	0
aTheological Seminary, Roches-				aRev. W. H. Wright ..	0	10	6
ter (U.S.A.) ..	0	10	6	aMiss Young ..	0	10	6
aJ. D. Thomas, Esq. ..	0	10	6	aMrs. B. Young ..	1	1	0
aE. Thomas, Esq. ..	1	1	0	aW. B. Young, Esq. ..	1	1	0
Carried forward	£368	1	10	Total	£431	0	4

LIST OF SUBSCRIPTIONS.

LOCAL SOCIETIES.

(Acknowledged in detail under special heading).

	£	s.	d.
Aberdeen	21	2	0
Bishops Waltham	2	2	0
Bodmin	1	1	0
Bolton	2	12	6
Brighton	14	17	0
Cardiff	14	3	6
Dunfermline	8	12	6
Glasgow	1	15	0
Hitchin	5	5	0
Lancaster	1	0	6
Manchester	20	9	6
Montreal (Canada)	2	18	0
Newport (Mon.)	3	13	6
Reading	1	1	0
Scarborough	2	10	0
Shrewsbury	1	1	0
Sydney	6	1	0
Tunbridge Wells	4	13	0
Weston-super-Mare	8	7	0
Whithy	2	0	0
Woodstock (Ontario, Canada)	1	1	0
	£126	5	0

ABERDEEN LADIES ASSOCIATION.

	£	s.	d.
March 13, 1885.—By cash.		21	2s.
Misses Fiddes, Union Street	0	5	0
Misses Miller, 158, Crown Street	0	10	0
Rev. John Davidson, D.D., Manse, Inverurie	0	10	0
Mrs. Hargrave, 38, India Street, Edinburgh	0	10	6
Mrs. Ogilvie Forbes, Boyndlie House, Frasersburg	0	5	0
Mr. Corbet, Bielside, Cults	0	5	0
Mr. Anderson, Murtle Cottage	0	5	0
Rev. Alex. Bannatyne, 5, Rubislaw Place	0	10	6
Dr. Edmond, of Kingswells	1	0	0
Francis Ogston, Esq., M.D., 13, Albyn Terrace	0	10	6
Dr. and Mrs. Dyce Davidson, 224, Union Street	0	10	6
Robert Smith, Esq., Glenmillan	0	10	6
J. Murray Garden, Esq., Maryfield	1	1	0
Andrew Murray, jun., Esq., 103, Union Street	0	10	6
Robert Gerard, Esq., 99, Union Street	0	10	6
George Milne, Esq., McCombie's Court	0	10	6
George Jamieson, Esq., 19, Queen's Road	0	10	6
Mrs. Yeats, Beaconhill	1	1	0
Alex. D. Milne, Esq., 40, Albyn Place	0	10	6
James Chambers, Esq., Westburn	0	5	0
Wm. Smart, Esq., 131, Union Street	0	10	6
Alexander Cochran, Esq., 152, Union Street	0	5	0

LIST OF SUBSCRIPTIONS.

	£	s.	d.
Rev. J. Mitchell, Mitford	0	5	0
Charles J. Burnett, Esq., Old Aberdeen	0	10	6
Wm. Stephenson, Esq., M.D., 297, Union Street	0	10	6
Dr. Stewart, Heathcot	0	10	6

COLLECTED BY MRS. DOAK.

John Crombie, Esq., Balgowrie	1	1	0
George Thompson, Esq., Pitmedden	1	0	0
David Stewart, Esq., 293, Union Street	1	0	0
Theodore Crombie, Esq., 18, Albyn Place	1	0	0
George Thompson, Esq., Yoct, Aberdeen	1	0	0
James Rose, Esq., 5, Rubislaw Terrace	0	10	6
Mrs. Stephen Thompson, London	0	10	6
Alexander Webster, Esq., 40, King Street	0	10	6
Wm. Henderson, Esq., Devanah	0	10	6
Mr. and Mrs. Doak, 15, Queen's Road	0	10	6
Miss Johnston	0	5	0
Miss Mary Forbes, Freshfield Cottage, Cults	0	10	0

BISHOPS WALTHAM.

March 10.—By cash	£2	2s.	
Rev. A. B. Burton, Westmere Rectory, Petersfield	0	10	6
Rev. W. G. Medlicott, Swanmore Vicarage, Bishops Waltham	0	10	6
Rev. H. R. Fleming, Corkampton Vicarage, Bishops Waltham	0	10	6
Mr. James Padbury, Bishops Waltham	0	10	6

BODMIN.

Feb. 11.—By cash	£1	1s.	
Samuel Hicks, Esq.	0	10	6
J. S. Pethybridge, Esq.	0	10	6

BOLTON.

Feb. 26.—By cash	£1	12s.	6d.
Rev. S. F. Maynard	2	2	0
T. Stubbs, Esq.	0	10	6

LIST OF SUBSCRIPTIONS.

BRIGHTON.

	£	s.	d.
Miss Bovill	1	1	0
J. Lowe Reid, Esq.	2	2	6
Miss Ridding	5	0	0
Somers Clarke, Esq.	1	1	0
G. N. Winter, Esq.	1	1	0
Rev. R. Hudson	0	10	0
Rev. F. T. Hill	1	0	0
H. C. Malden, Esq.	1	1	0
Rev. D. Robertson	1	1	0
Mrs. Soames	1	0	0

CARDIFF.

Jan. 12.—By cash	£14	3s.	6d.
	£	s.	d.
Rees Jones, Esq., Hulswell Terrace	1	1	0
Messrs. Powell, Dufflyn Steam Coal Co.	1	1	0
Bickerton Prute, Esq.	0	10	6
Messrs. Thomas & Riches	1	1	0
Messrs. Coffin & Co.	1	1	0
John Fry, Esq.	1	1	0
C. M. Jacob, Esq.	1	1	0
John Cory, Esq.	2	2	0
Richard Cory, Esq.	1	1	0
Messrs. D. Davis & Sons	1	1	0
Messrs. Jones, Hearn & Ingram	1	1	0
Messrs. Nixon's Navigation Co.	1	1	0
E. R. Moxey, Esq.	1	1	0

DUNFERMLINE.

PER REV. ANDREW GRAHAM, CROSSGATES.

Feb. 27.—By cash	£8	12s.	6d.
	£	s.	d.
Thomas Alexander, Esq.	1	0	0
George Birrell, Esq.	0	7	0
Rev. James Brown, Lochgelly	0	5	0
William Glass, Esq.	0	5	0
Rev. A. Graham, Crossgates	0	5	0
William Inglis, Esq.	0	10	6
Daniel Lamond, Esq.	0	5	0
John Landale, Esq.	1	0	0
James MacFarlane, Esq.	0	10	6
Messrs. W. & J. McLaren.	0	10	6
Rev. Dr. Mitchell	0	2	6
William Reid, Esq.	0	5	0
John Ross, Esq.	0	10	6
Rev. James Shiach.	0	5	0
Patrick F. Soutar, Esq.	0	10	6
John Stevenson, Esq.	0	10	6
Andrew Wallace, Esq.	1	0	0

LIST OF SUBSCRIPTIONS.

SUBSCRIPTIONS RECEIVED IN EDINBURGH DURING THE YEAR 1884.

	£	s.	d.		£	s.	d.
John Watson, Esq.	1	1	0	Brought forward	35	12	6
Adam Skirving, Esq.	1	0	0	John Moir, M.D.	1	1	0
R. Gibson, Esq.	1	0	0	Douglas Maclagan, Esq.	1	1	0
Major-Gen. J. G. R. Forlong. .	1	0	0	Miss Mackenzie.	2	0	0
John Hoyes, Esq.	2	0	0	Mrs. Edmond	0	5	0
Mrs. Hoyes	1	0	0	John Turnbull, Esq.	1	0	0
Rev. D. R. H. Stevenson	0	10	0	William Lyon, Esq.	1	0	0
Mrs. Gallaway	1	1	0	Messrs. Andrew Usher & Co. . . .	0	10	6
Miss Crooks	1	0	0	William Dickson, Esq.	1	1	0
Miss McMicking	1	1	0	Mrs. Miller	0	10	0
Mrs. Mill	1	0	0	Rev. Dr. Teape.	0	10	0
W. G. Dickson, Esq.	1	0	0	Major G. A. Agnew	1	1	0
Mrs. Mackintosh	0	10	0	P. Mill, Esq.	1	1	0
Miss Gall	0	2	0	J. P. B., Esq.	1	0	0
Rev. G. B. Carr	0	5	0	Rev. A. Lake	0	10	0
Rev. Wm. Balfour	0	10	6	Rev. D. McDougall	0	10	0
Robt. R. Kalley, Esq.	0	10	0	R. M. Smith, Esq.	1	1	0
J. J. Rogerson, Esq.	1	0	0	James Steuart, W.S.	0	10	6
Mrs. A Stewart.	0	10	6	John Maenair, Esq.	0	10	0
W. F. Burnley, Esq.	1	0	0	Dean Montgomery	0	5	0
W. J. Ford, Esq.	1	1	0	John Kennedy, Esq.	1	0	0
Messrs. Gall & Inglis	1	0	0	Mrs. Wood	0	5	0
Union Hall Religious Mutual Improvement Association	0	10	6	Sir James Falshaw, Bart.	1	0	0
Edward Caird, Esq.	1	1	0	John Scott Moncrieff, Esq.	0	10	0
Misses Mune	0	10	0	Miss Buchanan.	0	2	0
Findlay Anderson, Esq.	1	0	0	Alex. Padon, Esq.	0	10	0
Wm. Bryce, M.D.	1	1	0	J. R. Stewart, Esq.	0	10	0
W. Inglis, Esq.	0	5	0	Messrs. Thomas Nelson & Sons	1	0	0
T. B. Johnston, Esq.	1	1	0	Robt. Younger, Esq.	0	10	0
Rev. C. G. Scott	1	0	0	Mrs. Colonel MacDougal	1	0	0
Miss M. C. Scott	1	0	0	W. J. Duncan, Esq.	1	1	0
John A. Howden	1	1	0	Rev. D. Simpson	0	10	0
Miss P. M. Ker	0	10	0	William Robson, Esq.	0	5	0
Misses Stevenson	1	0	0	J. Balfour Melville, Esq.	0	10	0
Mrs. Geo. Brown	0	10	0	David S. Dickson, W.S.	0	10	0
Miss E. Hunter	0	10	0	Horatius Bonar, W.S.	0	10	6
James Sime, Esq.	1	0	0	Mrs. Hunter	0	2	0
Rev. Dr. Andrew Thomson	0	5	0	Thomas A. G. Balfour, M.D.	0	5	0
Patrick Guthrie, Esq.	0	5	0	Rev. J. C. Macphail	0	5	0
Mrs. Maitland	0	5	0	G. C. J. C.	10	0	0
Mrs. and Miss Paterson	0	10	0	Rev. J. H. Wilson, D.D.	0	5	0
Rev. Dr. Alex. Whyte.	1	0	0	J. T. Wilson, Esq.	0	10	0
David Jeffrey, Esq.	1	0	0	Bishop of Edinburgh	0	5	0
Messrs. Scott Brothers.	0	5	0	John. M. McCandlish, Esq.	2	0	0
Prof. A. R. Simpson	1	1	0	A. Elliot, Esq.	0	10	0
				J. Thin, Esq.	0	10	0
Carried forward	£35	12	6		£75	8	6

LIST OF SUBSCRIPTIONS.

EDINBURGH LADIES' AUXILIARY.

COLLECTED BY MISS DALGLEISH, 8, ATHOLL CRESCENT, EDINBURGH, 1885.

	£	s.	d.
John J. Dalgleish, Esq.	0	10	6
Mrs. Dalgleish	0	10	6
Miss Dalgleish	0	10	6
Dr. Craig MacLagan	0	10	6
Mrs. Hastie	1	0	0
John Macfie, Esq.	0	10	6
Mrs. Harvie Brown	0	10	6
C. A. McVean, Esq.	0	10	6
Dr. Duncan	1	1	0
Rev. Dr. Stuart	0	10	6
Laurence Dalgleish, Esq.	0	10	6
Mrs. Lang and Miss Duncan	0	7	6
	<hr/>		
	£7	3	0

GLASGOW.

Feb. 9.—By cash	£1	15s.
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Rev. Prof. Robertson	£	s. d.
Rev. D. Winter	1	0 0
	0	15 0

HITCHIN.

Feb. 5.—By cash	£5	5s.
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J. Gatward, Esq.	£	s. d.
J. Pollard, Esq. (Local Sec.)	0	10 6
T. Priest, Esq.	0	10 6
W. Ransom, Esq.	1	1 0
T. Seeborn, Esq.	1	1 0
Mrs. Smyth.	0	10 6
J. H. Tuke, Esq.	1	1 0

LANCASTER.

Feb. 25.—By cash	10s.	6d.
	<hr/>	
Mrs. Pattinson	£	s. d.
Miss Clayton	0	10 6
	0	10 0

LIST OF SUBSCRIPTIONS.

MANCHESTER.

	£	s.	d.
Jan. 8.—By cheque	3	10	0
„ 20.— „	7	10	6
Mar. 16.— „	9	9	0
	<hr/>		
	£20	9	6
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	£	s.	d.
aR. W. Barnes, Esq.	0	10	6
aF. W. Grafton, Esq., M.P.	2	2	0
aW. Slater, Esq., jun.	1	1	0
aG. Robinson, Esq.	1	1	0
aJohn Robinson, Esq.	2	2	0
aMrs. Cruso.	1	1	0
aG. H. Goldsmith, Esq.	1	1	0
aJames Barlow, Esq.	1	1	0
aJ. R. Barlow, Esq.	1	1	0
aW. H. Houldsworth, Esq.	1	1	0
aWalter Bellhouse, Esq.	1	1	0
aErnest Bellhouse, Esq.	1	1	0
aT. Rymer, Esq.	1	1	0
aEdward Hardeastle, Esq.	1	1	0
aRev. W. J. Smith	0	10	6
aH. Calvert, Esq.	0	10	6
aRev. W. Symonds.	0	10	6
aR. Baxendall, Esq.	1	1	0
aMiss Lees	0	10	6
aJohn Krauss	1	1	0

ERRATA.

January No.—*For* Rev. Dr. McLaren £1 1s. *read* £1.

MONTREAL, CANADA.

Feb. 11.—By cash	£2	18s.
	£	s.
Miss Hall	2	2 0
A. Munister, Esq., Toronto	0	4 0
F. E. Grafton, Esq.	0	12 0

NEWPORT (MON.).

Jan. 12.—By cash	£3	13s.	6d.
	£	s.	d.
Rev. William Hughes, Ebbw Vale Parsonage	0	10	6
Rev. John Morgan, Nantyglo Vicarage	0	10	6
Rev. Canon Edwards, Caerleon Vicarage	0	10	6
The Right Hon. Lord Tredegar	1	1	0
F. L. Justice, Esq., Newport (Mon.)	0	10	6
H. J. Davis, Esq.	0	10	6

LIST OF SUBSCRIPTIONS.

READING.

Jan. 10, 1885.—By cash	£1	1s.
	£	s. d.
H. B. Blandy, Esq.	0	10 6
Mrs. Blandy	0	10 6

SCARBOROUGH.

1884.

Jan. 1, 1885.—By cash	£2	10s.
	£	s. d.
Miss Hebden	1	0 0
Miss Harris Tindall	0	10 0
J. H. Phillips (1885)	0	10 0
Scarborough Philological Society	0	10 0

SHREWSBURY.

Jan. 8.—By cash	£1	1s.
	£	s. d.
Rev. Canon Butler	1	1 0

SYDNEY, NEW SOUTH WALES.

Jan. 5.—By cash	£5.	
Feb. 16.—By cash	£1 1s.	
	£	s. d.
Lady Allen, Toxlett Park, Glebe Point, Sydney	1	1 0
Mrs. Allen, senior, Sydney	1	1 0
Mr. W. B. Boyce, Sydney	1	1 0
Mrs. Hugh Dixon, Holden Street, Ashfield, N.S.W.	1	1 0
Rev. F. Hibbard, N.S.W.	1	1 0
G. R. Harrison	1	1 0

TUNBRIDGE WELLS.

March 17.—By cash	£4	13s.
	£	s. d.
Rev. H. J. Rhodes	1	1 0
W. F. Browell, Esq.	1	1 0
Miss Gordon	0	10 0
Mrs. F. Skipwith	1	0 0
George Bartramly, Esq.	1	1 0

LIST OF SUBSCRIPTIONS.

WESTON-SUPER-MARE.

Dec. 30, 1884.—By cash						£8	7s.	
						£	s.	d.
Church Institute .. .. .	..	..	..	..	..	0	10	6
Miss M. S. Tomkins .. .. .	..	..	..	..	..	0	10	6
Rev. H. G. Tomkins .. .. .	..	..	..	..	..	0	10	6
Miss Rodham .. .. .	..	..	..	..	..	0	10	6
Mrs. Cookson .. .. .	..	..	..	..	..	0	10	6
Rev. M. O. Stevens .. .. .	..	..	..	..	..	0	10	6
Rev. J. B. Bartlet .. .. .	..	..	..	..	..	0	5	0
Miss Wills .. .. .	..	..	..	..	..	0	10	0
Mrs. Temple .. .. .	..	..	..	..	..	0	5	0
Rev. U. Smith Tomkins .. .. .	..	..	..	..	..	0	10	6
Miss Haslewood .. .. .	..	..	..	..	..	0	5	0
Miss Lunell .. .. .	..	..	..	..	..	0	10	6
Rev. D. W. Weeler .. .. .	..	..	..	..	..	0	10	6
Rev. T. Birkett .. .. .	..	..	..	..	..	0	10	0
Miss McAdam .. .. .	..	..	..	..	..	0	2	6
Dr. Roxburg .. .. .	..	..	..	..	..	0	5	0
Mrs. Hugh Matheson .. .. .	..	..	..	..	..	0	5	0
Major-Gen. Davidson, R.E. .. .. .	..	..	..	..	..	0	10	6
Rev. Prebendary Hunt .. .. .	..	..	..	..	..	0	10	6

WHITBY.

Feb. 9.—By cash						£2.		
						£	s.	d.
E. W. Chapman, Esq. .. .. .	..	..	..	..	..	2	0	0

WOODSTOCK (ONTARIO, CANADA).

Feb. 25.—By cash						£1	1s.	
						£	s.	d.
Mrs. C. Beard .. .. .	..	..	..	..	..	1	1	0

SUMMARY OF LECTURES.

By Rev. H. GEARY.

1885.						£	s.	d.
Jan 15.—Ware .. .. .	..	..	..	..	..	11	4	7
" 21.—Stamford Hill .. .. .	..	..	..	..	..	8	6	3
" 22.—St. Mark's, Windsor (two lectures) .. .. .	..	..	..	..	..	13	4	3
Feb. 5.—Winchester College .. .. .	..	..	..	..	..	15	0	0
" 19.—Canterbury (two lectures) .. .. .	..	..	..	..	..	10	8	0
Mar. 5.—St. Saviour's, Eastbourne .. .. .	..	..	..	..	..	7	7	4
" 17.—Chiselhurst .. .. .	..	..	..	..	..	12	2	2
" 19.—} Hastings and St. Leonards .. .. .	..	..	..	..	..	19	10	3
" 20.—}	..	..	..	..	..

LIST OF SUBSCRIPTIONS.

SUPPLEMENTARY LIST.

CARDIFF.

For year 1884.

March 23.—By cash	£1 11s. 6d.
John Moore, Esq., 18, Windsor Place	£ s. d. 0 10 6

For year 1885.

James McCreath, Esq., Glasgow	1 1 0
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DARLINGTON.

By cash	£26 11 6
Arthur Pease, Esq., M.P.	£ s. d. 10 0 0
Sir J. W. Pease, Bart., M.P.	5 0 0
H. F. Pease, Esq.	1 1 0
Mrs. Gurney Pease... .. .	10 0 0
Miss Prideaux	0 10 6

LEEDS.

Sir Edward Baines.. .. .	£ s. d. 1 1 0
Frederick Baines, Esq.	1 1 0
William Baxter, Esq.	0 10 6
J. Billbrough, Esq.	0 10 6
A. Kemp Brown, Esq.	0 10 6
Right Rev. Bishop Cornthwaite, D.D.	1 1 0
Rev. Dr. Conder	0 10 6
Mrs. Crawford	1 1 0
The Misses Crowther	1 1 0
J. W. Embleton, Esq.	1 1 0
J. G. Goole, Esq., Nottingham	1 1 0
Miss Harris, Oxtou Hall	1 1 0
Mrs. Harvey	1 1 0
Rev. W. A. Hayes, Dromore I.	1 0 0
Rev. John Hey, York	1 1 0
John Holmes, Esq.	0 10 6
John Jowitt, Esq.	1 1 0
Sir Charles H. Lowther, Bart.	2 2 0
Miss Maude, Knowsthorp	1 0 0
Henry Nelson, Esq.	1 1 0
Rev. H. Bickersteth Ottley, Horsham	1 1 0
Rev. Dr. Rooke, Rawdon College.	2 2 0
Charles Ryder, Esq.	1 1 0
Mrs. H. Scatcherd, East Keswick.	0 10 6
Mrs. Tweedale	1 1 0
J. W. Willans, Esq.	0 10 6
Rev. J. G. Wood	1 1 0

LIST OF SUBSCRIPTIONS.

NEWPORT (MON.)

For year 1884.

March 23.—By cash	..	..	..	..	..	£2	16s.	6d.
						£	s.	d.
Octavius Morgan, Esq., The Friars	..	..	..	..	..	1	0	0
William Graham, Esq., Oakfield, Clysha Park	0	10	6

For year 1885.

Thomas Cordes, Esq., Bryn Glâs..	1	1	0
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SUMMARY.

						£	s.	d.
Subscriptions and Donations	431	0	4
Local Societies	126	5	0
From Lectures	21	16	4
Maps, Memoirs, and Books	147	11	0
						<hr/>		
						£726	12	8
						<hr/>		

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- ALLOA : Rev. Alexander Bryson and Rev. Daniel M'Lean.
ABERDEEN : Rev. Prof. Milligan, D.D. *Hon. Sec.* Ladies' Association, Miss Mary Forbes.
ADELAIDE : Rev. W. R. Fletcher.
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BOLTON : George Monk, Esq.
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BRIGHTON : Rev. C. E. Douglass.
BURNLEY : Alfred Strange, Esq.
BURY : *Hon. Treas.*—Rev. Canon J. Hornby ; *Hon. Sec.*—Rev. D. Wainsley.
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CARDIFF : W. Adams, Esq., Cambridge House, Park Place, Cardiff.
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CHESTER : Rev. J. Davidson.
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CITY AND COUNTY OF CORK : H. S. Perry, Esq., Monkstown.
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COLCHESTER : Rev. N. P. Gepp.
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DEVONPORT : J. Venning, Esq.

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F.R.S.E., and T. B. Johnston, Esq., F.R.G.S., 16, So. St. Andrew Street.
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FALMOUTH, for the County of Cornwall : A. Lloyd Fox.
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MARGATE : Rev. G. Collis.
MARKET HARBOUROUGH : Joseph Nunnally, Esq.
MELTON MOWBRAY : Rev. Arthur M. Rendel.
MELROSE : Ralph Dunn, Esq.

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PWLLHeli : Rev. Owen Jones.
RAMSGATE : Rev. F. Gell.
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RICHMOND, SURREY :
RIPON : J. W. Weight, Esq.
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RYDE : E. Knocker, Esq.
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SHREWSBURY : Rev. C. H. Drinkwater.
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WINDSOR : Rev. Stephen Hawtrey.
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WORCESTER : Rev. Francis J. Eld.
YEovil : Rev. Abel Phillips, Holy Trinity Vicarage.

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 ,, Mr. Albert Thompson, 24, Elliot Street.
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YORK : Mr. William Sessions.

ERRATUM.

Mr. R. Laurence's determination of the height of the Watershed in the Arabah, as given in "Mount Seir," p. 85, should have been 705 feet, instead of the two stated.

E. H.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM MARCH 17TH TO JUNE 17TH, 1885, INCLUSIVE.

a denotes Annual Subscriber.

* * * If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly statement*.

	£	s.	d.		£	s.	d.
<i>a</i> Rev. Canon Allen	1	1	0	Brought forward	41	5	0
<i>a</i> Rev. W. Allan	1	1	0	<i>a</i> Mrs. Groer (1885-85)	1	1	0
<i>a</i> Rev. Sir Talbot Baker, Bart.	1	1	0	<i>a</i> Rev. E. Greig (1884-85)	2	2	0
<i>a</i> E. S. Barker, Esq.	0	10	6	<i>a</i> J. P. Griffiths (1884-85)	1	1	0
<i>a</i> Dr. T. Barlow	1	1	0	<i>a</i> A. Cust Gwynne, Esq., M.D.	0	10	6
<i>a</i> Rev. J. A. Bastow	0	10	6	<i>a</i> C. Hill, Esq.	1	1	0
<i>a</i> Rev. W. C. Bishop	1	1	0	<i>a</i> Miss Hindmarsh	0	10	6
<i>a</i> J. S. Blackett, Esq.	0	10	6	<i>a</i> H. Hitchcock, Esq.	1	0	0
<i>a</i> E. R. Blackett, Esq.	0	10	6	<i>a</i> Prof. Huddleston	1	1	0
<i>a</i> Mrs. Blackett	0	10	6	<i>a</i> Thos. Hughes, Esq.	0	10	0
<i>a</i> Rev. W. H. Blamire	2	2	0	<i>a</i> Miss Hutchinson	1	1	0
<i>a</i> Rev. Dr. Bonar	1	0	0	<i>a</i> Miss Jones	0	10	6
<i>a</i> John Bonar, Esq.	0	10	0	<i>a</i> Rev. O. Jones	0	10	6
<i>a</i> James Bonar, Esq.	0	10	0	<i>a</i> H. D. Jones, Esq.	0	10	6
<i>a</i> Miss Brocklehurst	5	0	0	<i>a</i> G. A. King, Esq.	0	10	6
<i>a</i> Dr. Brodie	1	1	0	<i>a</i> J. Kirkpatrick, Esq.	1	0	0
<i>a</i> D. Bumstead, Esq.	0	10	6	<i>a</i> E. W. Knocker, Esq.	1	1	0
<i>a</i> Rev. C. Burrough	1	1	0	<i>a</i> T. J. Lambert, Esq.	0	10	6
<i>a</i> W. Butler, Esq.	0	10	6	<i>a</i> Rev. Canon Lee	1	1	0
<i>a</i> W. Cairns, Esq.	1	1	0	<i>a</i> Gen. Sir J. H. Lefroy	1	1	0
<i>a</i> Grevill J. Chester, Esq.	0	10	6	<i>a</i> Rev. J. A. Leicester	1	11	6
<i>a</i> W. T. Church, Esq.	1	1	0	<i>a</i> Rev. R. Lovett	0	10	6
<i>a</i> Rev. S. Churchill	0	10	6	<i>a</i> G. H. Mann, Esq.	0	10	6
<i>a</i> Rev. C. P. Clarke	1	1	0	<i>a</i> Col. Mainguy	1	1	0
<i>a</i> A. W. Cobham, Esq.	1	1	0	<i>a</i> D. McBrayne, Esq.	0	10	6
<i>a</i> Per Rev. H. Cocks	3	1	0	<i>a</i> J. McCorkell, Esq.	1	1	0
<i>a</i> J. Cowie, Esq.	0	10	6	<i>a</i> A. McVicker, Esq.	0	10	6
<i>a</i> Rev. J. N. Dalton	1	1	0	<i>a</i> J. Melrose, Esq.	2	2	0
<i>a</i> Rev. W. W. Dalton, D.D.				<i>a</i> J. Melrose, Esq. (don.)	1	7	0
(1884-85)	3	3	0	<i>a</i> James Miller, Esq.	1	1	0
<i>a</i> Mrs. Dawes	1	1	0	<i>a</i> Mrs. Mitchell	1	1	0
<i>a</i> Rev. J. Dymock	0	5	0	<i>a</i> Rev. F. R. Napier	1	1	0
<i>a</i> F. Faithfull, Esq.	0	10	0	<i>a</i> Rev. J. Neil	2	2	0
<i>a</i> C. A. Flint, Esq.	1	1	0	<i>a</i> Mrs. Newcomb	0	2	6
<i>a</i> Rev. D. Forbes	0	10	6	<i>a</i> W. O. Newnham, Esq.	2	2	0
<i>a</i> Bishop of Fredericton	1	1	0	<i>a</i> E. A. Nicholson, Esq.	0	10	6
<i>a</i> Miss S. S. Fripp	0	10	6	<i>a</i> H. A. Norman, Esq.	2	2	0
<i>a</i> Lord Justice Fry	1	1	0	<i>a</i> R. M. Norman, Esq.	1	1	0
<i>a</i> J. Gamble, Esq.	0	10	6	<i>a</i> Herr Olseen, Esq.	0	2	6
<i>a</i> E. W. Gere, Esq.	0	10	6	<i>a</i> Miss Orlebar	1	1	0
<i>a</i> Rev. R. B. Girdleston	1	1	0	<i>a</i> W. H. Owen, Esq.	1	1	0
Carried forward	£41	5	0	Carried forward	£50	10	6

LIST OF SUBSCRIPTIONS

	£	s.	d.		£	s.	d.
Brought forward	80	10	6	Brought forward	94	8	0
aDr. Penhall	1	1	0	aW. Smith, Esq.	0	10	0
aCaptain Phipps	1	1	0	aG. J. Philip Smith, Esq.	1	0	0
aJ. R. Pilling, Esq.	0	10	6	aJ. Spencer, Esq. (1884-85)	1	0	0
aW. Piper, Esq. (1881-85)	2	2	0	aRev. W. J. Stracey	1	1	0
aRev. T. Prescott	0	10	6	aJ. G. Strickland, Esq.	1	1	0
aRev. E. S. Prout	0	10	6	aE. Strickland, Esq.	0	10	6
aCol. Puget	0	10	6	aH. C. Stuart, Esq.	1	1	0
aT. Pullman, Esq.	1	1	0	aRev. Isaac Taylor	0	10	6
aR. Rutherford, Esq.	0	10	6	aRev. E. J. Tyser	1	1	0
aL'Abbe de St. Aignan	0	5	0	aRev. J. Walther	0	10	6
aJ. A. Saunders, Esq.	0	10	6	aG. F. Watts, Esq.	1	1	0
aRev. Prof. Sayce	1	1	0	aMiss D. Way	1	1	0
aThe Misses Scott	1	1	0	aR. T. Webb, Esq.	1	1	0
aRev. J. K. Scott	0	10	6	aC. Whitwell, Esq.	0	10	6
aMiss Sharp	0	10	6	aH. B. S. Woodhouse, Esq.	1	1	0
aR. Sheels, Esq.	0	10	6	aMrs. Woodhouse	0	10	6
aLord Sidmouth	1	1	0	aLady A. C. W. Wynn	0	10	6
aRev. A. C. Smith	0	10	0				
Carried forward	£94	8	0	Total	£108	9	0

LOCAL SOCIETIES.

(Acknowledged in detail under special heading).

	£	s.	d.
Bath	0	10	6
Brighton	1	11	6
Cambridge	1	1	0
Cardiff and Newport	4	3	0
Darlington	26	11	6
Edinburgh	60	0	0
Glasgow	0	10	6
Guildford	4	13	0
Leamington	1	11	6
Leeds	25	0	0
Leicester	1	10	0
Lincoln	1	1	0
Manchester	3	3	0
Norwich	18	18	0
Ontario	1	16	0
	£152	0	6

BATH.

March 17.—By cash	10s.	6d.
	£	s.
Mrs. Archard	0	10
		d.
	6	

LIST OF SUBSCRIPTIONS.

BRIGHTON ASSOCIATION.

April 9.—By cash	£1 11s. 6d.
Rev. T. Calvert	£ s. d.
Rev. C. E. Douglas	0 10 6
	1 1 0

CAMBRIDGE.

April 22.—By cash	£1 1s.
The Rev. Master of Clare.. .. .	£ s. d.
	1 1 0

CARDIFF.

For year 1884.

March 23.—By cash	£1 11s. 6d.
John Moore, Esq., 18, Windsor Place	£ s. d.
	0 10 6

For year 1885.

James McCreath, Esq., Glasgow	1 1 0
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NEWPORT (MON.).

For year 1884.

March 23.—By cash	£2 16s. 6d.
Octavius Morgan, Esq., The Friars	£ s. d.
William Graham, Esq., Oakfield, Clysha Park	1 0 0
	0 10 6

For year 1885.

Thomas Cordes, Esq., Bryn Glâs.. .. .	1 1 0
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DARLINGTON.

March 30.—By cash	£26 11s. 6d.
Arthur Pease, Esq., M.P.	£ s. d.
Mrs. Gurney Pease.. .. .	10 0 0
Sir J. W. Pease, Bart., M.P.	0 10 6
H. F. Pease, Esq.	5 0 0
Miss Prideaux	1 1 0
	0 10 6

LIST OF SUBSCRIPTIONS.

SUBSCRIPTIONS RECEIVED IN EDINBURGH DURING THE YEAR 1884.

April 2.—By cash £60.

			£	s.	d.				£	s.	d.
John Watson, Esq.	1	1	0	John Moir, M.D.	1	1	0	1	1	0	
Adam Skirving, Esq.	1	0	0	Douglas MacLagan, Esq.	1	1	0	1	1	0	
R. Gibson, Esq.	1	0	0	Miss Mackenzie.. ..	2	0	0	2	0	0	
Major-Gen. J. G. R. Forlong..	1	0	0	Mrs. Edmond	0	5	0	0	5	0	
John Hoyes, Esq.	2	0	0	John Turnbull, Esq.	1	0	0	1	0	0	
Mrs. Hoyes	1	0	0	William Lyon, Esq.	1	0	0	1	0	0	
Rev. D. R. H. Stevenson	0	10	0	Messrs. Andrew Usher & Co. ..	0	10	6	0	10	6	
Mrs. Gallaway	1	1	0	William Dickson, Esq.	1	1	0	1	1	0	
Miss Crooks	1	0	0	Mrs. Miller	0	10	0	0	10	0	
Miss McMicking	1	1	0	Rev. Dr. Teape.. ..	0	10	0	0	10	0	
Mrs. Mill	1	0	0	Major G. A. Agnew	1	1	0	1	1	0	
W. G. Dickson, Esq.	1	0	0	P. Mill, Esq.	1	1	0	1	1	0	
Mrs. Mackintosh	0	10	0	J. P. B., Esq.	1	0	0	1	0	0	
Miss Gall	0	2	0	Rev. A. Luke	0	10	0	0	10	0	
Rev. G. B. Carr	0	5	0	Rev. D. McDougall	0	10	6	0	10	6	
Rev. Wm. Balfour	0	10	6	R. M. Smith, Esq.	1	1	0	1	1	0	
Robt. R. Kalley, Esq.	0	10	0	James Steuart, W.S.	0	10	6	0	10	6	
J. J. Rogerson, Esq.	1	0	0	John Macnair, Esq.	0	10	0	0	10	0	
Mrs. A Stewart. . . .	0	10	6	Dean Montgomery	0	5	0	0	5	0	
W. F. Burnley, Esq.	1	0	0	John Kennedy, Esq.	1	0	0	1	0	0	
W. J. Ford, Esq.	1	1	0	Mrs. Wood	0	5	0	0	5	0	
Messrs. Gall & Inglis	1	0	0	Sir James Falshaw, Bart.	1	0	0	1	0	0	
Union Hall Religious Mutual Improvement Association ..	0	10	6	John Scott Moncrieff, Esq. ..	0	10	0	0	10	0	
Edward Caird, Esq.	1	1	0	Miss Buchanan.. ..	0	2	6	0	2	6	
Misses Mune	0	10	0	Alex. Padon, Esq.	0	10	0	0	10	0	
Findlay Anderson, Esq.	1	0	0	J. R. Stewart, Esq.	0	10	0	0	10	0	
Wm. Bryce, M.D.	1	1	0	Messrs. Thomas Nelson & Sons	1	0	0	1	0	0	
W. Inglis, Esq. . . .	0	5	0	Robt. Younger, Esq.	0	10	0	0	10	0	
T. B. Johnston, Esq.	1	1	0	Mrs. Colonel MacDougall ..	1	0	6	1	0	6	
Rev. C. G. Scott	1	0	0	W. J. Duncan, Esq.	1	1	0	1	1	0	
Miss M. C. Scott	1	0	0	Rev. D. Simpson	0	10	6	0	10	6	
John A. Howden	1	1	0	William Robson, Esq.	0	5	0	0	5	0	
Miss P. M. Ker	0	10	0	J. Balfour Melville, Esq. ..	0	10	6	0	10	6	
Misses Stevenson	1	0	0	David S. Dickson, W.S.	0	10	6	0	10	6	
Mrs. Geo. Brown	0	10	0	Horatius Bonar, W.S. . . .	0	10	6	0	10	6	
Miss E. Hunter	0	10	0	Mrs. Hunter	0	2	6	0	2	6	
James Sime, Esq.	1	0	0	Thomas A. G. Balfour, M.D. . .	0	5	0	0	5	0	
Rev. Dr. Andrew Thomson ..	0	5	0	Rev. J. C. Macphail	0	5	0	0	5	0	
Patrick Guthrie, Esq. . . .	0	5	0	G. C. J. C.	10	0	0	10	0	0	
Mrs. Maitland	0	5	0	Rev. J. H. Wilson, D.D.	0	5	0	0	5	0	
Mrs. and Miss Paterson	0	10	0	J. T. Wilson, Esq.	0	10	0	0	10	0	
Rev. Dr. Alex. Whyte.. ..	1	0	0	Bishop of Edinburgh	0	5	0	0	5	0	
David Jeffrey, Esq.	1	0	0	John M. McCandlish, Esq. ..	2	0	0	2	0	0	
Messrs. Scott Brothers.. ..	0	5	0	A. Elliot, Esq.	0	10	0	0	10	0	
Prof. A. R. Simpson	1	1	0	J. Thin, Esq.	0	10	0	0	10	0	

GLASGOW.

April 21.—By cash.. .. .	10s.	6d.	
	£	s.	d.
J. Honeyman, Esq. . . .	0	10	6

LIST OF SUBSCRIPTIONS.

GUILDFORD.

April 8.—By cash £4 13s.

LEAMINGTON.

May 15.—By cash £1 11s. 6d.

	£	s.	d.
Rev. J. W. Johnson	0	10	6
Miss Brandt.	0	10	6
Miss Gotto	0	10	6

LEEDS.

May 22.—By cash £25.

	£	s.	d.
Sir Edward Baines.	1	1	0
Frederick Baines, Esq.	1	1	0
William Baxter, Esq.	0	10	6
J. Bilbrough, Esq.	0	10	6
A. Kemp Brown, Esq.	0	10	6
Right Rev. Bishop Cornthwaite, D.D.	1	1	0
Rev. Dr. Conder	0	10	6
Mrs. Crawford	1	1	0
The Misses Crowther	1	1	0
F. Davidson, Esq.	2	2	0
J. W. Embleton, Esq.	1	1	0
J. G. Goode, Esq., Nottingham	1	1	0
Miss Harris, Oxtou Hall	1	1	0
Mrs. Harvey	1	1	0
Rev. W. A. Hayes, Dromore I.	1	0	0
Rev. John Hey, York	1	1	0
John Holmes, Esq.	0	10	6
John Jowitt, Esq.	1	1	0
Sir Charles H. Lowther, Bart.	2	2	0
Miss Maude, Knowsthorp	1	0	0
Henry Nelson, Esq.	1	1	0
Rev. H. Bickersteth Ottery, Horsham	1	1	0
Rev. Dr. Rooke, Rawdon College.	2	2	0
Charles Ryder, Esq.	1	1	0
Mrs. H. Scatcherd, East Keswick.	0	10	6
Mrs. Tweedale	1	1	0
J. W. Williams, Esq.	0	10	6
Rev. J. G. Wood	1	1	0

LEICESTER.

May 5.—By cash £1 10s.

	£	s.	d.
Rev. A. A. Isaacs	0	10	0
Miss Chamberlain	0	10	0
Rev. J. W. Willis	0	10	0

LIST OF SUBSCRIPTIONS.

LINCOLN.

April 13.—By cash	..	..	..	..	..	10s. 6d.
Miss Waldo Sibthorpe	..	..	..	..	..	£ s. d. 0 10 6

MANCHESTER.

May 15.—By cheque	..	..	..	..	..	£ s. d. 2 2 0
June 2.— „	..	..	..	..	..	1 1 0
						<u>£3 3 0</u>
W. Gray, Esq.	..	..	..	..	..	£ s. d. 1 1 0
aRev. W. F. Birch..	..	..	..	..	..	1 1 0
aGt. Wilson Rigg, Esq.	..	..	..	..	..	0 10 6
aMrs. Gillmore	..	..	..	..	..	0 10 6

NORWICH.

SUBSCRIPTIONS FOR 1885.

June 16.—By cash..	..	..	..	..	..	£18 18s.
The Very Rev. The Deau of Norwich	..	..	..	..	..	£ s. d. 2 2 0
Rev. W. N. Ripley..	..	..	..	..	..	2 2 0
Rev. Hinds Howell	..	..	..	..	..	0 10 6
Rev. R. B. P. Kidd	..	..	..	..	..	0 10 6
Rev. Henry Petley ..	..	..	..	..	..	0 10 6
Rev. F. Hildyard ..	..	..	..	..	..	0 10 6
Mrs. Hildyard	..	..	..	..	..	0 10 6
G. C. Eaton, Esq. ..	..	..	..	..	..	0 10 6
Rev. R. W. Kennion	..	..	..	..	..	1 1 0
Rev. W. Hudson ..	..	..	..	..	..	0 10 6
Mrs. Hudson	..	..	..	..	..	0 10 6
J. J. Winter, Esq. ..	..	..	..	..	..	1 1 0
C. R. Gilman, Esq... ..	..	..	..	..	..	1 1 0
E. K. Harvey, Esq.	..	..	..	..	..	1 1 0
H. S. Patteson, Esq.	..	..	..	..	..	1 1 0
Rev. W. R. Collett..	..	..	..	..	..	1 1 0
Mrs. James Colman	..	..	..	..	..	1 1 0
Public Library ..	..	..	..	..	..	0 10 6
Rev. C. R. Manning	..	..	..	..	..	0 10 6
Robert Geldart, Esq.	..	..	..	..	..	0 10 6
Charles Dix, Esq. ..	..	..	..	..	..	0 10 6
Rev. W. F. Greeney	..	..	..	..	..	0 10 6
Rev. G. A. Crookshank	..	..	..	..	..	0 10 6

LIST OF SUBSCRIPTIONS.

ONTARIO, CANADA.

April 8.—By cash	£1 16s.
Rev. W. Edwards	£ s. d.
Rev. W. Williams	0 3 0
Hon. A. Vidal	0 12 0
	1 1 0

SUMMARY OF LECTURES.

BY REV. H. GEARY.

1885.	£ s. d.
April 16.—Dover	10 16 6

SUMMARY.

Donations and Subscriptions.. .. .	£ s. d.
Local Societies	108 9 0
Maps and Memoirs	152 0 6
Books	119 16 1
Lectures	92 11 4
	9 1 6
	£481 18 5

SUPPLEMENTARY LIST.

STROUD, GLOUCESTERSHIRE.

June 22, 1885.—By cash	£5 5s.
J. H. Carpenter, Esq., Cainscross, near Stroud	£ s. d.
S. J. Coley, Esq., High Street, Stroud.	0 10 6
W. H. C. Fisher, Esq., Roweroft, Stroud	0 10 6
James Harper, Esq., Ebley, near Stroud	0 10 6
Thomas Lancaster, Esq., Bownham House, near Stroud	0 10 6
Sir W. H. Marling, Bart., Stanley House, near Stroud	7 1 0
T. S. Osborne, Esq., Lower Street, Stroud	1 1 0
Rev. Joseph Wilkinson, Brimsecombe, near Stroud	0 10 6
	0 10 6

ERRATA.

For Miss Garratt £1 1s., *read* Miss Garratt 10s. 6d.; Mrs. Germon 10s. 6d.
 For T. H. Plowes, *read* John H. Plowes.
 For J. H. Waldon, *read* J. H. Weldon.

LIST OF HONORARY SECRETARIES AND LOCAL ASSOCIATIONS.

- ALLOA : Rev. Alexander Bryson and Rev. Daniel M'Lean.
- ABERDEEN : Rev. Prof. Milligan, D.D. *Hon. Sec.* Ladies' Association, Miss Mary Forbes.
- ADELAIDE : Rev. W. R. Fletcher.
- AMBLESIDE : Rev. H. B. Rawnsley, Wray Vicarage.
- ANSTRUTHER : W. H. Mackintosh, Esq.
- ARBROATH : T. B. F. Webster, Esq.
- AYR : Robert Murdoch, Esq.
- BASINGSTOKE : Rev. W. Marriner.
- BATH : Rev. T. P. Methuen.
- BEDFORD : Rev. Canon Haddock.
- BELFAST : Rev. the President of Queen's College.
- BIRKENHEAD : Rev. J. T. Kingsmill, St. Aidan's College.
- BIRMINGHAM : Rev. F. Dell.
- BISHOP'S WALTHAM : Rev. H. R. Fleming.
- BLACKBURN : Herbert Birch, Esq., and Rev. A. B. Grosart.
- BLAIRGOWRIE : W. S. Soutar, Esq.
- BODMIN : S. Hicks, Esq.
- BOLTON : George Monk, Esq.
- BRECON : Richard Mills, Esq.
- BRIGHTON : Rev. O. E. Douglass.
- BURNLEY : Alfred Strange, Esq.
- BURY : *Hon. Treas.*—Rev. Canon J. Hornby ; *Hon. Sec.*—Rev. D. Walmsley.
- CAMBRIDGE : W. M. Hicks, Esq., M.A., St. John's College ; G. T. Bettany, Esq., M.A., Gonville and Caius.
- CANADA : Toronto.—Subscriptions are received by the Hon. G. W. Allan.
- CASTLE BELLINGHAM (IRELAND) : Rev. F. G. McClintock.
- CARDIFF : W. Adams, Esq., Cambridge House, Park Place, Cardiff.
- CHELMSFORD : Rev. E. Nathaniel Powell.
- CHELTENHAM : Dr. E. Wilson.
- CHESTER : Rev. J. Davidson.
- CHIPPENHAM : A. T. Keary, Esq.
- CITY AND COUNTY OF COBK : H. S. Perry, Esq., Monkstown.
- CLIFTON and BRISTOL : Rev. C. H. Wallace.
- COLCHESTER : Rev. N. P. Gepp.
- CROYDON : J. W. Janson, Esq.
- DARLINGTON : J. P. Pritchett, Esq.
- DEVONPORT : J. Venning, Esq.

LOCAL ASSOCIATIONS.

- DUBLIN : Denis Crofton, Esq., and Rev. G. T. Stokes.
DUNDEE : *Hon. Treas.*—Alex. Scott, Esq.
DUNFERMLINE : Rev. A. Graham, Crossgates.
EASTBOURNE : Rev. H. R. Whelpton.
EDINBURGH : Rev. W. Lindsay Alexander, D.D., William Dickson, Esq.,
F.R.S.E., and T. B. Johnston, Esq., F.R.G.S., 16, So. St. Andrew Street.
EPSOM : Miss Hislop.
EXETER : Rev. Prebendary Acland, Broad Clyst, and Rev. W. David.
FAIRFIELD : S. J. A. Barrow-Clough.
FALMOUTH, for the County of Cornwall : A. Lloyd Fox.
FROME : C. W. Le Gros, Esq.
GAZA : J. G. Pickard, Esq.
GLASGOW : Rev. W. P. Dickson, D.D., Rev. Donald Macleod, D.D., A. B.
M'Grigor, Esq., LL.D., and James Andrew Allan, Esq.
GREENOCK : Edward Blackmore, Esq.
- GUILDFORD : Colonel Pask.
HASTINGS : J. E. Liddiard, Esq.
HEREFORD : Rev. F. S. Stooke-Vaughan.
HERTFORD : W. M. Armstrong, Esq.
HITCHIN : J. Pollard, Esq.
HOLYHEAD : Rev. W. R. Jones.
HUDDERSFIELD : Henry Barker, Esq.
HULL : J. P. Bell, Esq., M.D.
IPSWICH :
- IRELAND :—DUBLIN : *Hon. Secs.*—Rev. G. T. Stokes, Blackrock ; Denis Crofton,
Esq. *Treasurers.*—The Munster Bank.
JERUSALEM : Dr. Chaplin.
KENDAL : Robert Somervell, Esq.
KIRKCALDY : John Barnett, Esq.
LANCASTER : Rev. J. Bone.
LARKHALL : Rev. William Findlay, A.M.
LEAMINGTON : Rev. J. Johnson, M.A.
LEDBURY : Rev. F. Salter Stooke-Vaughan.
LEEDS : Edward Atkinson, Esq., F.R.C.S.
LEICESTER : Rev. A. A. Isaacs, M.A.
LEWES : Rev. Cecil Blaker.
LICHFIELD : Herbert M. Morgan, Esq. *Hon. Sec. Ladies' Association*, Mrs.
Bagnall.
LINCOLN : Rev. A. R. Maddison.
LIVERPOOL : Ven. Archdeacon Bardsley.
LONDONDERY : James McCorkell, Esq., Queen Street.
- MANCHESTER : Rev. W. F. Birch, and Rev. Canon Cranc. *Treasurer.*—Olive
Heywood, Esq., Manchester and Salford Bank, St. Ann's Street.
MANSFIELD : W. Gouk, Esq.
MARGATE : Rev. G. Collis.
MARKET HARBOROUGH : Joseph Nunnally, Esq.
MELTON MOWBRAY : Rev. Arthur M. Rendel.
MELROSE : Ralph Dunn, Esq.

LOCAL ASSOCIATIONS.

- MONTROSE : Mr. Mackie.
MORPETH : Dr. Robinson.
NORWICH : Rev. W. F. Creeny.
OXFORD : Rev. Canon Girdlestone.
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aHenry Prigg, Esq. ..	0	10	6	aW. E. Stevenson, Esq. ..	1	1	0
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aRev. D. Paul ..	1	0	0	aG. Doyle Smith, Esq. ..	1	1	0
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aJ. Robertson, Esq. ..	0	10	0	aMiss Watson ..	0	10	0
aT. Roberts, Esq. ..	0	10	6	aRev. C. H. Waller ..	2	10	0
aMarshall Reed, Esq. ..	0	12	0	aW. Winsford, Esq. ..	0	10	6
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aRev. G. H. Scott ..	0	10	0	aF. D. Ward, Esq. (1883-85)	1	11	6
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aProf. Sanday ..	1	1	0	aRev. Dr. Wilson ..	1	0	0
aRev. R. Shepherd ..	0	5	0	aMrs. Wright ..	1	1	0
Carried forward	£104	19	6	Total	£118	18	6

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	£	s.	d.
Adelaide	5	4	6
Ayr	2	16	8
Bath	8	6	6
Belfast	1	11	6
Brighton	1	1	0
Burnley	2	0	0
Epsom	1	11	6
Glasgow	3	2	0
Ledbury	5	5	0
Manchester	6	6	0
Scarborough.. .. .	0	10	6
Stroud	5	5	0
	£43	6	2
By Lecture Account	£6	7s.	4d.

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1885.		£	s.	d.
September	1.—Ambleside	7	6	3
"	3.—Keswick	3	1	11
"	4.—Moffat	2	10	9
"	7.—Helmsburgh	6	15	0
"	8.—Rothsay	2	3	8
"	11.—Dunoon	3	7	0
"	14.—Largs	3	1	0

By REV. H. GEARY.

1885.		£	s.	d.
July 16.—	St. John's Hall, Highbury	3	3	0

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John Stuart, Esq., Helmsburgh	0	10	6
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July 14.—By cash £5 4s. 6d.

AYR.

September 25.—By cash	£2	16s.	8d.
	£	s.	d.
Miss Aytoun.. .. .	0	10	0
D. Currie, Esq.	0	5	0
Campbell Douglas, Esq.	0	10	6
J. Flint, Esq.	0	10	6
R. D. Murdoch, Esq.	1	1	0

BATH.

July 3.—By cash	£8	6s.	6d.
	£	s.	d.
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Rev. T. P. Methuen	1	1	0
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Rev. H. H. Winwood	0	10	6

BELFAST.

September 14.—By cash	£1	11s.	6d.
	£	s.	d.
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Rev. Dr. Porter	1	1	0

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August 31.—By cash	£1 1s.
Rev. W. S. Fowler	£ s. d. 1 1 0

BURNLEY.

September 10.—By cash	£2.
Rev. F. J. Grant	£ s. d. 0 10 0
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GLASGOW.

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July 15.—By cash	£5 15s.
Miss A. A. Davies, Leominster (1884-85)	£ s. d. 2 2 2
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September 14.—By cheque.. .. .	£4 14s. 6d.
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SCARBOROUGH.

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